

HP-2010  
Supersedes HP-2006

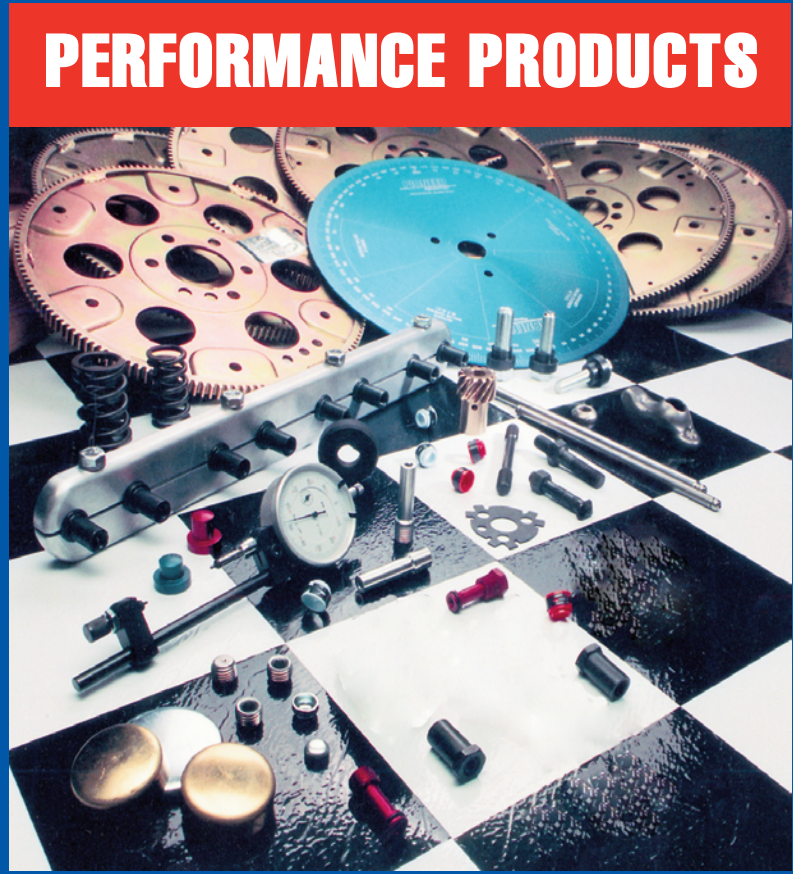
# **PIONEER Inc**

**Automotive Products**

HP-2010

**PIONEER Inc**  
Automotive Products

PERFORMANCE PRODUCTS



## **PERFORMANCE PRODUCTS**



**PIONEER Inc**  
Automotive Products



*"Proud of the past...committed to the future"  
is a slogan which accurately reflects Pioneer's heritage and its future.*

Pioneer, Inc. was founded in 1946 by the late Herman A. Shields, who owned a successful automotive parts manufacturer's representative firm in his hometown of Meridian, Mississippi. He formed the company to service the needs of his clutch remanufacturer customers. His goal was simple: Supply the needed, hard-to-find parts for these businesses.

Little did he know that the company he founded would become a leading supplier of high quality components to the automotive parts aftermarket. For over 30 years under the guidance of the Shields family, Pioneer growth was based upon the twin cornerstones of customer service and reputation of the "Source for hard-to-find parts."

In 1979, Pioneer was purchased by The Barnes Group (Bristol, Connecticut) and the company became known as Pioneer/Barnes. During the Barnes Group's ownership, Pioneer purchased a 10-acre parcel in the G.V. (Sonny) Montgomery Industrial Park and built an 86,000 sq. ft. corporate head-quarters and distribution center on the site.

The product line expanded dramatically during the Barnes years, adding operating cables, flywheels, ring gears, shop supplies and performance parts to the company's mix, while further expanding the clutch, engine parts and water pump lines. Additionally, Pioneer added regional warehouses in Mt. Laurel, New Jersey and Cerritos, California to provide improved delivery service to its East and West Coast customers.

Additionally, Pioneer has made major commitments to its total quality assurance programs. These quality performance processes have been adapted to order taking and filling, distribution and inventory controls, further improving fill rates and on-time delivery.

The distribution facilities have also undergone modernization. In 1995, the Meridian facility's distribution center was expanded, bringing the warehousing space to over 200,000 sq. ft.

In May, 2000, Pioneer bought the new clutch business of L&S and through this acquisition have added New Clutch Kits to form a "5 Star" line-up which includes Powertrain, Transmission Parts, Engine and Transmission Mounts, and Harmonic Balancers...giving Pioneer a strong and competitive package of Driveline related products.

In August 1, 2010 Industrias Automotrices Lodi S.A. de C.V. purchased the company from Doron Arad. Pioneer continues its focus on product line expansion and making major investments in product tooling.

*For over 60 years, the Pioneer story has been unique. Pioneer's growth has been based upon the philosophy of Herman Shields that success must be based upon customer service and satisfaction. Pioneer's Mission Statement reflects that philosophy:*

*"We are committed to the success of our customers. Our mission will be to provide customers with quality product and superior service. We believe the dedication of our employees and business partners is our most valued resource."*

*While the philosophy may seem passé in today's business environment, it has served Pioneer well through over six decades.*

## GUARANTEE

*All parts are guaranteed against defects in material and workmanship for a period of one year from the date of the original consumer purchase.*

*"Our obligation under this guarantee is limited to replacement of the defective part or, at our option, repayment of the purchase price, conditioned in either case upon the return of the part to us with an explanation of the circumstances and conditions under which failure occurred. We neither assume nor authorize any other person to assume for us any other liability. IN NO EVENT WILL PIONEER BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES, including claims for labor charges, transportation, or loss of revenue."*

*The information listed herein is correct to the best of our knowledge and belief, having been compiled from reliable and official sources of information. However, WE CANNOT ASSUME ANY RESPONSIBILITY FOR POSSIBLE ERROR.*

*Thank you,  
Pioneer, Inc. Automotive Products*

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# HOW TO USE THIS CATALOG:

- Applications for all product (except tools) can be quickly referenced in the Application Matrix.
  - Locate engine manufacturer, year and displacement.
  - Product is divided by two categories; Short Block Components and Cylinder Head Components, listed alphabetically.

Most specifications are listed however; if more information is required, see Product Section.

- Each Product Section Includes:
  - Product Descriptions
  - Illustrations
  - Applications
  - Specifications

Locate the appropriate Product Section by identifying the product's three digit catalog code and following the sequence.

*Example: Information for #810010 Valve Spring would be located in the Product Section under heading #810, page 89.*

## Table of Contents & Index:

Items are listed alphabetically by product description.

<i>Table of Contents</i> .....	<b>2 - 3</b>
<i>Index</i> .....	<b>156-157</b>
<i>Promotional Items</i> .....	<b>158</b>

## QUICK REFERENCE:

<b>Table of Contents</b> .....	<b>pages</b>	<b>2-3</b>
<b>TECHFORUM SECTION</b> .....	<b>pages</b>	<b>4-18</b>
Detailed product information and engine assembly tips.		
<b>APPLICATION MATRIX</b> .....	<b>pages</b>	<b>19-88</b>
Product application information (except tools) listed by engine manufacturer, year and displacement. <b>NEW! ITEMS</b> are noted in bold print		
<b>PRODUCT SECTION</b> .....	<b>pages</b>	<b>89-126</b>
Descriptions, illustrations and specifications <b>NEW! ITEMS</b> are noted in bold print		
<b>ENGINE BUILDER'S TOOLS &amp; EQUIPMENT</b> .....	<b>pages</b>	<b>127-142</b>
Popular engine assembly items.		
<b>NUMERICAL LISTING</b> .....	<b>pages</b>	<b>143-155</b>
Popularity coding and new items noted.		
<b>INDEX</b> .....	<b>pages</b>	<b>156-157</b>

# Table of Contents

## a

Adjustable Timing Indicator - Cat. Code #839	106
Adjusters, Rocker Arm - Cat. Code #850	108
Adjusters, Valve Spring- Cat. Code# 819	97
Aluminum Roller Rocker Arms- Cat. Code #818	96
Auto Transmission Pan Bolt Kit- Cat. Code #859	116
Auto Transmission Pan Stud Kit-Cat. Code #859	115

## b

Balancer - Cat. Code # 872	121-122
Balancer Bolt Kits - Cat. Code #859	116
Banner - Cat. Code #890	158
Bellhousing Bolt Kit- Cat. Code #854	112
Bellhousing Dowel Kit-Cat. Code #839	104
Bolts:	
Auto Trans Pan - Cat. Code #859	116
Balancer- Cat. Code #859	121-122
Bellhousing- Cat. Code #854	112
Cam Gear- Cat. Code #839	103
Connecting Rod-Cat. Code #853	111
Cylinder Head-Cat. Code #851	108
Flexplate-Cat. Code #859	117
Flywheel-Cat. Code #859	117
Front Timing Cover (Hex) - Cat. Code #859	116
Header-12 Pt. - Cat. Code #854	112
Header - Hex Head - Cat. Code #859	117
Main Bolt Kits- Cat. Code# 855	113
Oil Pan Kits (12 Point) - Cat. Code #854	112
Oil Pan Kits (Hex) - Cat. Code # 859	115
Oil Pump, Cat. Code #854	112
Pressure Plate Kits- Cat. Code #859	118
Torque Converter, Cat. Code #859	117
Transmission- Cat. Code# 859	118
Brass Expansion Plug Kits- Cat. Code #830	100
Brass Freeze Plug Kits- Cat. Code #830	100
Bronze Distributor Gear- Cat. Code #839	102
Bronze Towershaft Bushing-Cat. Code 839#	101
Bushings, Pilot- Cat. Code #873	123

## c

Cam Correct - Cat. Code #839	105
Cam Gear Bolts- Cat. Code #839	103
Cam Gear Locking Plate w/ Bolts-Cat. Code #839	103
Cam Sprocket Dowel - Cat. Code #839	101
Camshaft Thrust Button, Cat. Code #839	102
Clutch Cable and Quadrant Kit, Mustang - Cat. Code #839	107
Clutch Cables, Mustang - Cat. Code #839	107
Clutch Pilot Bushings, Roller- Cat. Code #873	123
Clutch Quadrant, Mustang - Cat. Code #839	107
Connecting Rod Bolt Kits- Cat. Code #853	111
Crank Flange Hubs - Cat. Code #872	121
Crankshaft Woodruff Keys- Cat. Code #839	102
Cylinder Head Stud Kits- Cat. Code #851	109

## d

Decimal Equivalents Chart-	18
Degree Wheel Kit- Cat. Code #890	124
Degree Wheel Pointer Kit - Cat. Code #890	125
Distributor Gear, Bronze- Cat. Code #839	102
Distributor Hold Down Clamp - Cat. Code #839	107
Distributor Shaft Bushing- Cat. Code #839	101
Dowel Pins- Cat. Code #839	101
Dowel Pins, Bellhousing to Block- Cat. Code #839	104
Drill Bushing - Cat. Code #839	105

## e

Engine Builder's Tools & Equipment	127-142
Expansion Plug Kits, Brass- Cat. Code #830	100

## f

Flat Washers- Cat. Code #852	110
Flange Nuts, Kits-Cat. Code #852	109
Flexplates, Heavy Duty- Cat. Code #871	118-119
Flexplate Bolt Kits- Cat. Code #859	117
Flywheel, Auto Trans. - Cat. Code #871	118-119
Flywheel Bolt Kits- Cat. Code #859	117
Freeze Plug Kits, Brass-Cat. Code #830	100
Front Timing Cover Bolts Kits (Hex) - Cat. Code #859	116
Front Timing Cover Stud Kits- Cat. Code #859	114
Fuel Pump Block Off Plates- Cat. Code #839	104
Fuel Pump Mounting Plate - Cat. Code #839	105
Fuel Pump Push Rods- Cat. Code #839	104

## g

### Gears:

Cam Gear Locking Plate w/ Bolts- Cat. Code #839	103
Distributor, Bronze- Cat. Code #839	102
Gauge, Push Rod- Cat. Code #890	123
Guide Plates-Cat. Code #821	99
Guides, Valve- Cat. Code #813	92
Girdle, Rocker Stud - Cat. Code #823	99

## h

Harmonic Balancers - Cat. Code #872	121-122
Harmonic Balancer Bolt Kit- Cat. Code #859	116
Harmonic Balancer Repair Sleeves- Cat. Code #835	100
Head Bolt Kits- Cat. Code #851	108
Head Bolt Washer Kits- Cat. Code #852	110
Head Stud Kits- Cat. Code #851	109
Header Bolt Kits (12 Point) - Cat. Code #854	112
Header Bolt Kits (Hex) - Cat. Code #859	117
Hex Nuts:	
Connecting Rod- Cat. Code #853	109
Serrated Flange- Cat. Code #852	109

## i-j-k

Inserts, Valve Spring- Cat. Code #819	97
Keys, Valve-Cat. Code #816	95

## l

Lifter Valley Screen Kit - Cat. Code #839	106
Lifter Valley Vent Tubes - Cat. Code #839	105
Lifters, Valve- Cat. Code #812	91
Locks, Valve- Cat. Code #816	95
Long Slot Rocker Arms- Cat. Code #818	96

(Continued on next page)



# Table of Contents

## m

### Machining Tools:

Oil Seal- Cat. Code #890	123
Valve Spring Seat- Cat. Code #890	123
Magnetic Oil Drain Plug- Cat. Code #859	114
Main Bolt Cap Conversion- Cat. Code #839	103
Main Bolt Kit-Cat. Code #855	113
Main Stud Kits-Cat. Code #855	113
Metric Conversion Chart	18

## n

Nuts, Connecting Rod- Cat. Code #852	109
Nut, 12 Point- Cat. code #852	110
Numerical List	143-155

## O

Oil Drain Plugs, Magnetic- Cat. Code #859	114
Oil Pan Bolt Kits (12 Point) - Cat. Code #854	112
Oil Pan Bolt Kits (Hex) - Cat. Code #859	115
Oil Pan Stud Kit, Cat. Code #859	114
Oil Pumps- Cat. Code #836	100
Oil Pump Bolt Kits- Cat. Code #854	112
Oil Pump Pick Up Retainer - Cat. Code #839	106
Oil Pump Screens- Cat. Code #837	101
Oil Pump Shafts- Cat. Code #838	101
Oil Pump Stud Kit- Cat. Code #859	117
Oil Restrictor Kit- Cat. Code #839	104
Oil Seal Tools- Cat. Code #890	125
Oil Seals, Valve Stem - Cat. Code #811	90

## p-q

Pilot Bushings, Roller-Cat. Code #873	123
Posi-Locks, Rocker Arm - Cat. Code #850	108
Pressure Plate Bolt Kit-Cat. Code #859	118
Push Rods- Cat. Code #815	93-94
Push Rod, Fuel Pump- Cat. Code #839	104
Push Rod, Gauge Kit- Cat. Code #890	123
Push Rod, Guide Plates- Cat. Code #821	99

## r

Restrictor, Oil Kit- Cat. Code #839	104
Retainers, Valve Spring- Cat. Code #817	95
Rocker Arms:	
Adjusters-Cat. Code #850	108
Balls- Cat. Code #822	99
Kits- Cat. Code #818	96
Stamped Steel-Cat. Code #818	96
Stud Girdle - Cat. Code #823	99
Stud Kits-Cat. Code #850	107
Rod Bolt Kits, Connecting- Cat. Code #853	111
Rod Nuts, Kits- Cat. Code #852	109
Rod Nut, 12 Point- Cat. Code #852	110
Rod Bolt Stretch Gauge - Cat. Code #890	124

## S

Screens, Oil Pump- Cat. Code #837	101
Seals, Valve Stem - Cat. Code #811	90
Seats, Valve-Cat. Code #814	92
Serrated Flange Nuts- Cat. Code #852	109
Shims, Valve Spring - Cat. Code #819	97
Stickers - Cat. Code #800	158
Spring, Valve- Cat. Code #810	89
Stainless Steel Valves- Cat. Code #820	98
Stainless Steel Washers, Kits- Cat. Code #852	110
Stud Kits:	
Auto Trans Pan- Cat. Code #859	115
Cylinder Head- Cat. Code #851	109
Front Timing Cover- Cat. Code #859	114
Main - Cat. Code #855	113
Oil Pan- Cat. Code #859	114
Oil Pump- Cat. Code #859	117
Rocker Arm-Cat. Code #850	107
Valve Cover- Cat. Code #859	115

## t-u

TechForum	4-18
Thrust Button, Camshaft- Cat. Code #839	102
Timing Cover Bolt Kit (Hex) - Code #859	116
Timing Cover Dowel Kit - Cat. Code #839	101
Timing Cover Stud Kit- Cat. Code #859	114
Timing Indicators - Cat. Code #839	106
Torque Converter Bolt Kits- Cat. Code #859	117
Tower, Distributor Shaft Bushing- Catalog Code #839	101
Transmission Bolt Kit- Cat. Code #859	118
Twelve (12) Point Nut-Cat. Code #852	110

## V

### Valve :

Cover Stud Kits- Cat. Code #859	115
Guides- Cat. Code #813	92
Keys- Cat. Code #816	95
Lifters- Cat. Code #812	91
Locks- Cat. Code #816	95
Seats- Cat. Code #814	92
Springs- Cat. Code #810	89
Stainless Steel- Cat. Code #820	98
Valve Spring:	
Adjusters- Cat. Code #819	97
Inserts- Cat. Code #819	97
Machining Tools-Cat. Code #890	123
Retainers- Cat. Code #817	95
Shims- Cat. Code #819	97
Valve Stem Oil Seals- Cat. Code #811	90
Valve Stem Oil Seal Tools- Cat. Code #890	125
Valve Train Checking Spring	124

## W-X-y-z

Washers, Flat- Cat. Code #852	110
Washers, Stainless Steel, Kits- Cat. Code #852	110
Washers, Head Bolt, Kits- Cat. Code #852	110
Woodruff Keys- Cat. Code #839	102

# FASTENER FACTS

## What makes Pioneer Performance Fasteners the best?

### *The Right Material*

Many fasteners used in performance engines (including connecting rod bolts, and head and main studs and bolts) are subject to extremely high stresses during operation. That's why Pioneer Performance fasteners are 100% U.S. manufactured from an aircraft quality 8740 combination of chrome, nickel and molybdenum alloy steel material. The nickel alloy increases the strength and toughness of the material, improves elastic ratios and gives greater hardenability and higher impact and fatigue resistance than are possible with carbon steels. Chromium is primarily a hardening element and frequently used with toughening elements such as nickel to produce superior mechanical properties. Molybdenum in alloy steels reduces susceptibility to temper embrittlement and contributes to the abilities of these steels to retain strength at elevated temperatures.

### *The Right Tensile Strength*

Tensile strength is probably the single most important mechanical property in a fastener. A higher tensile strength fastener allows installation with a higher pre-load, meaning you can use that fastener in a higher service load application without exceeding the pre-load and causing lift-off, a leading cause of fatigue failure. But a tensile strength that is too high (in excess of 200,000 PSI) can result in a reduction in the ductility and toughness of the fastener—the ability of the material to “deform” plastically, without fracture. This causes brittleness that can lead to failure. For this reason, Pioneer Performance Products developed the ultimate tensile strength standard of 180,000 PSI to 200,000 PSI to ensure the ductility and toughness of our fasteners.

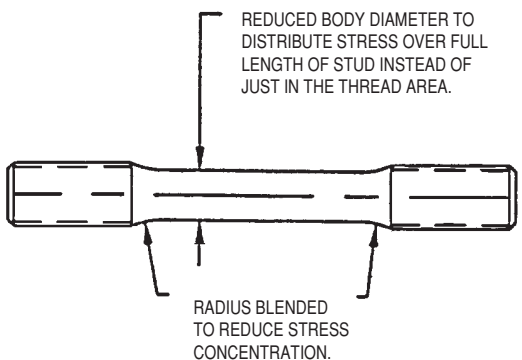
### *The Right Fatigue Strength*

Another highly desirable mechanical property is fatigue strength, which increases with tensile strength. Think of it this way: A part breaks when a force equal to the tensile strength of the material is applied. But it will also break when exposed to **repeated or fluctuating stresses** having a maximum value less than the tensile strength. Fatigue strength is proportional to a material's hardness and tensile strength (unless a super alloy material is used.)

In addition to high tensile and fatigue strength, Pioneer Performance fasteners have MIL S 8879 UNJ or MJ type threads which are rolled after heat treating. Rolling the threads into the shank of the bolt/stud compresses the thread area material back into the thread itself, and leaves a radiused (rounded) thread root runout adding strength and reducing the fracture potential. Cold forming the under-head radius, rather than grinding, does much the same as rolling the threads. Grinding removes material and modifies the grain structure of the radius area, weakening it. Cold forming doesn't change the molecular structure of the head or shank, rather it presses additional material into the shank/head junction, strengthening this critical area. Rolling the threads after heat treating and cold forming the under-head radius both contribute to the fasteners fatigue life. As a final-procedure all of Pioneer Performance Premium Fasteners undergo a black oxide coating process which aids in resisting corrosion and provides a professional appearance.

# HEAD / MAIN STUD FACTS

# V1.2



Normal cut threads remove material from the root radius area, changing the molecular structure, and leaves a "wedge" shape, prone to stress fractures, cracking.

### CUT THREADS



### PIONEER'S UNJ-FORMED THREADS

Pioneer's UNJ-rolled threads compress material into the bottom and sides of the thread - resisting stress fractures, cracking.



During every step of the manufacturing process (from material selection to final quality inspection) Pioneer Performance stops at nothing to bring you the finest head and main stud kits. Pioneer Performance studs are heat treated to a minimum of 180,000 PSI. After heat treating, the studs are centerless ground and the threads are rolled. During the grinding process we also grind the area between the threads (a procedure not performed by many of our competitors).

Why grinding? Because fatigue failures often start at geometric stress concentrations such as threads, notches, holes and other disruptions of the surface transverse to the loading of the part. All fasteners are designed to stretch a certain amount when installed properly. On a threaded stud with a full size body, the smallest stress area (or area exposed with the highest loads) is the threaded area. For example, when preloading (torquing) this type of stud in an engine block (as when installing cylinder head studs) the "stretch" occurs in the threaded portion of the stud. Should the head gasket "take set" and if the stud was not "stretched" to compensate for the gasket set, then the fastener loses its pre-load and a blown head gasket can be the result.

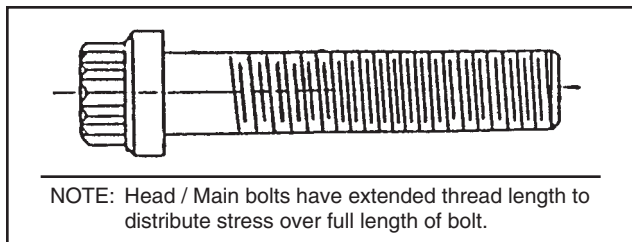
To move the pre-load stresses into an unnotched or unthreaded area of the stud, Pioneer grinds the center of the bodies below the stress area of the threads. This allows fatigue (bending and tension loading) when torquing to be absorbed in the smooth, notch-free surface of a smaller stress area rather than the exposed threads. Simply, when an "under-cut" stud is pre-loaded the stretch is distributed over the entire length of the stud and not just in the threaded area, which results in a higher clamping load of the fastener. This design is especially beneficial when using head studs with high compression engines that are prone to gasket failure.



Pioneer Performance Head and Main Studs are specifically designed to exclude a shouldered stop at the threaded areas. Our fastener engineers feel a shouldered head stud if improperly pre-loaded could cause a possible over-stressed area which could lead to cylinder head or engine block warpage and/or a blown head gasket. Consult Pioneer's pre-load (torque) recommendation sheet for installation procedures.

## HEAD / MAIN BOLT FACTS

V1.3



Pioneer Performance 12 Pt. Head and Main Bolts are manufactured from the same materials and go through some of the same manufacturing processes as our head and main studs. These include 8740 chrome-moly-nickel material, heat treating to 180,000 PSI, centerless grinding, thread rolling after heat treating and cold-forming of the underhead radius.

Head and Main Bolts feature an extended thread area which distributes pre-load (torque) stretch over the entire length of the fastener thereby increasing the clamping load. Extending the threads accomplishes the same results as "under-cutting" studs but is a more cost effective process, therefore lowering the cost of the part. Reduced size 1/2" diameter 12 Pt. Heads improve wrenching speed and provide clearance in tight areas such as cylinder heads with large diameter valve springs.

- 12- POINT FASTENER FACTS

V1.4

- OIL PAN, TIMING COVER, VALVE COVER STUDS
- NUTS AND WASHERS

- 12-POINT FASTENER FACTS

For applications that require frequent disassembly and assembly, such as intake manifolds, exhaust headers, oil pans and timing covers, Pioneer Performance offers hi-tensile 12 pt. fasteners in black oxide or stainless steel finish. Reduced size 12 pt. heads provide wrenching clearance and better gripping for torquing components such as exhaust headers. Heat treating to 180,000 PSI decreases chances of bolts overstretching after repeated tear downs and assembly. Stainless Steel fasteners are type 410 material and are rust and corrosion resistant and preferred for marine applications. Black oxide coated oil pan and timing cover bolts feature an integral head and washer face with hardened serrations to keep bolts from loosening during operation.

100% U.S. made

- OIL PAN, TIMING COVER, VALVE COVER STUDS

These studs feature radiused or "bullet tipped" ends to aid in removal and installation of oil pan, timing cover and valve covers. High strength alloy steel and heat treated to 180,000 PSI, kits include hi-tensile hex nuts with hardened serrations to prevent loosening of these critical components during operation.

100% U.S. made

- NUTS AND WASHERS

Pioneer Performance Head and Main Stud/Bolt Kits include the necessary washers and hex or 12 Pt. nuts for one application. Nuts are 100% U.S. made from high strength carbon steel, heat treated to 180,000 PSI and feature a rich, black oxide coating for corrosion resistance and a professional appearance. Extra thick washers are 100% U.S. made from aircraft quality chrome-moly steel, parallel ground and chamfered, hardened and black oxide coated.

## CONNECTING ROD BOLT FACTS

V1.5

Due to the severe cycling loads imposed on connecting rods and their fasteners (as the crankshaft rotates and flexes the big end of the rod and bolts) Pioneer Performance gives particular attention to head design and shape, material selection, tensile testing, and finishing. Premium Performance Connecting Rod Bolts are 100% U.S. manufactured from 8740 chrome-moly material, heat treated to 180,000 PSI and feature rolled threads after heat treating. Rod bolt heads are cold formed instead of ground which adds approximately three times the fatigue life versus rod bolts that are ground (which leaves a disrupted grain structure under the head which is susceptible to fracture). Head designs match O.E. specifications which increases the bearing surface to prevent brinelling into the connecting rod and causing loss of clamp load. Knurling tolerances are kept to a minimum to ensure a tight fit in the connecting rod. Pioneer Premium Connecting Rod Bolts have a dimple in each end for installing an 1/8" ball bearing to measure rod bolt stretch with calipers or a stretch gauge which is the recommended method of measuring torque. Hi-tensile 180,000 PSI rod nuts are included in each kit and all parts feature a rich, black oxide finish for corrosion resistance and a professional appearance.



TODD STEWART

D.I.R.T. MODIFIED

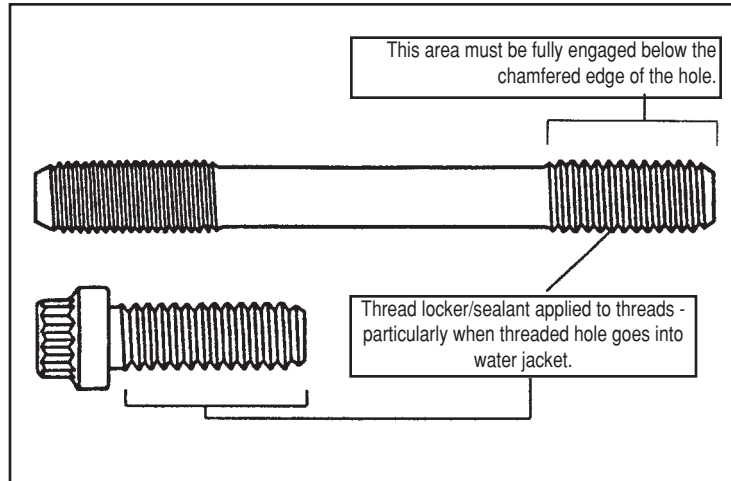


# PRE-LOAD (Torque) RECOMMENDATIONS FOR V2.1 HEAD / MAIN / STUDS / BOLTS

## 180,000 PSI TENSILE STRENGTH

Actual torque value can be inaccurate when pre-loading a fastener due to friction, which is also inconsistent. Make sure all parts are clean, there are no burrs in the tapped holes and the threads are properly lubricated to reduce the amount of friction encountered during pre-load (torquing) of the fastener.

1. Clean and inspect all hardware prior to installation, looking for obvious defects or shipping damage, plus proper fit, length and dimension.
2. To ensure proper thread engagement and accurate torque readings clean and re-tap ALL bolt threads in the block. Re-tap with a bottoming tap for best assembly.
3. If the fastener will be threaded into a water jacket, use Pioneer Thread Lock No. T-51404, coating the block threads of the bolt/stud liberally. If studs are used, screw the studs into the block "hand tight only" ensuring that all threads are engaged past the chamfered edges of the holes (or in the case of "blind holes" until the stud bottoms out). Pioneer Stud Lock No. T-51414 may be used if permanent mounting of the studs is preferred.
4. Install main caps or cylinder heads, check for binding or misalignment and lubricate the threads, nuts and washers with 30-W motor oil prior to preloading. Be sure to install washer with chamfered side up when using bolts and chamfered side down when using studs with nuts. Also, any identification markings, notches, etc. on the face of the nut should face up. Failure to do so will affect preload.



## PRELOAD (TORQUE) RECOMMENDATIONS:

Tensile strength is probably the single most important mechanical property in a fastener. A higher tensile strength fastener allows installation with a higher preload, meaning you can use that fastener in a higher service load application without exceeding the preload and causing lift off--a leading cause of fatigue failure.

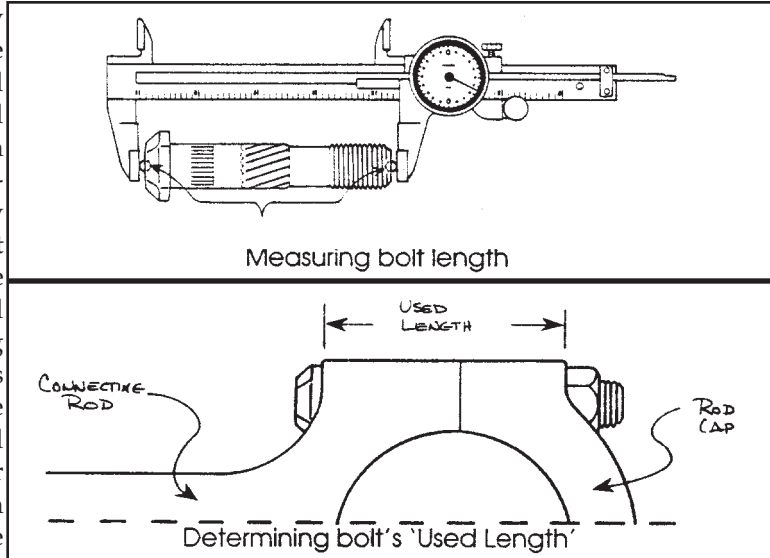
Recommended torque values are based on 75% of the fasteners yield strength, that is to properly pre-load the fastener, it is recommended that it be pre-stressed or pre-loaded (torqued) to 75% of yield using a 30W motor oil as a lubricant. Stud torque values are based on the coarse thread yield strength and with torque being applied by the nut to the fine thread. Also, all cylinder boring/honing and main aligning operations should be performed with fasteners installed and pre-loaded to recommended specifications. Use O.E. Manufacturer's torque sequence when preloading fasteners.

3/8" Dia. Stud	. . . . .	.57 Ft. Lbs.
7/16" Dia. Stud	. . . . .	.68 Ft. Lbs.
1/2" Dia. Stud	. . . . .	.130 Ft. Lbs.
9/16" Dia. Stud	. . . . .	.184 Ft. Lbs.
3/8" Dia. Bolt	. . . . .	.53 Ft. Lbs.
7/16 Dia. Bolt	. . . . .	.84 Ft. Lbs.

## CONNECTING ROD BOLTS PRE-LOAD PROCEDURE

V2.2

Just as you can break a piece of wire by continually bending (flexing) it at one point, so it is with a connecting rod bolt. By subjecting the bolt to repeated loading and unloading during rotation of the crankshaft, an improperly pre-loaded (torqued) rod bolt can fail. By "stretching" (pre-loading) the bolt beyond the expected loads to be encountered in use, the bolt and crank/rod assembly will have a long service life. For the engine builder's convenience, Pioneer's Performance fastener engineers have determined suggested torque specifications for our connecting rod bolts; however, certain issues must be addressed to achieve accuracy when measuring torque. Care



should be taken that all bolts and nuts are properly lubricated, and that no surface imperfections and markings exist on mating surfaces which could cause an inaccurate torque reading. It is for this reason that Pioneer Performance recommends measuring rod bolt stretch when pre-loading connecting rod bolts. Please see the following steps regarding measuring rod bolt stretch:

1. Check all parts (including the bolts and nuts) for imperfections, burrs; and that there is proper clearance for the bolt's underhead radius.
2. Put a small dab of grease on the dimples on the bolt end and head. Put a 1/8" ball bearing in each dimple.
3. Using a micrometer, caliper, or stretch gauge, measure the overall length of the bolt. (See top illustration).
4. Determine the "used length" of the bolt by assembling the rod and cap, and measuring the length from the underhead to where the bolt emerges from the cap — usually the mating surface of the nut. (Bottom illustration).

5. Pioneer recommends 0.003" of preload per inch of used length, which is added to the overall length.

**Example:** A 2-1/2" bolt has a used length of 2". Its proper preload length would be  
 $2" \times 0.003" = 0.006" + 2.500" = 2.506"$  preload stretched length.

6. Coat the threads with a moly-base assembly lube and install the rod cap. Tighten the rod bolts carefully, monitoring the length with calipers or micrometer until the proper stretch length is reached.

**REMEMBER** – When finished remove the ball bearings from the ends of the bolts.

7. Resizing the rod is recommended when new rod bolts are used. Follow these same procedures.

As mentioned earlier, measuring rod bolt stretch is the preferred method of pre-loading a connecting rod bolt. But for installers who opt to use the torque measurement procedure, the following are recommended torque values for Pioneer Performance connecting rod bolts using standard (non-locking) style nuts only.

### Correct Torque Values (using a moly-based assembly lubricant on threads)

5/16" - 24 Ft. Lb.	3/8" - 43 Ft. Lb.
11/32" - 32 Ft. Lb.	7/16" - 68 Ft. Lb.
9mm - 36 Ft. Lb.	

## PERFORMANCE VALVE SPRINGS

V3.1



As a leading supplier of valve springs to O.E. and Performance engine builders for more than 30 years, we've built our reputation on quality. Pioneer Performance valve springs are manufactured from high quality chrome silicon, shot peened, heat treated and heat set and are inspected during every step of the manufacturing cycle so that from receipt of raw material to coiling, grinding, heat treatment and final inspection, you get the kind of quality you expect from Pioneer. Single valve springs are supplied with a damper to remove harmonics, while dual springs feature an interference fit to dampen harmonics.

Valve spring and related valve train/engine failure are common in high performance engines. Most failures can be traced to misapplication, improper installation or incorrect valve lash. Other causes can be improper cam lobe design, excessive rpm and overheating due to inadequate oil pressure to the valve springs. Pioneer Performance Products recommends periodic checking of pressures of high performance valve springs to ensure peak performance and to avoid potential failures. Always consult the camshaft manufacturer's recommendations for the correct valve spring pressure and installed height before ordering. High performance valve spring installation should always be performed by a professional machinist or engine builder.

Refer to the following guide lines concerning high performance valve spring installation.

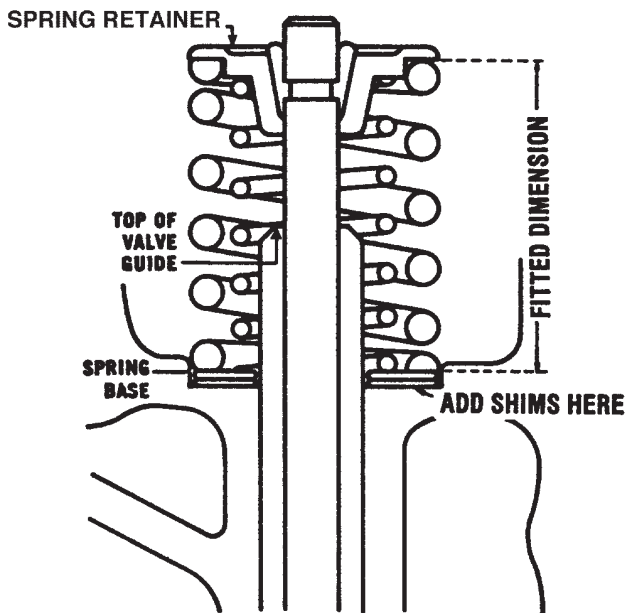


Fig.1

ALLOW  $\frac{1}{16}$ -INCH TO  $\frac{1}{8}$ -INCH SAFETY MARGIN AT FULL VALVE LIFT SO THAT RETAINER CANNOT STRIKE GUIDE

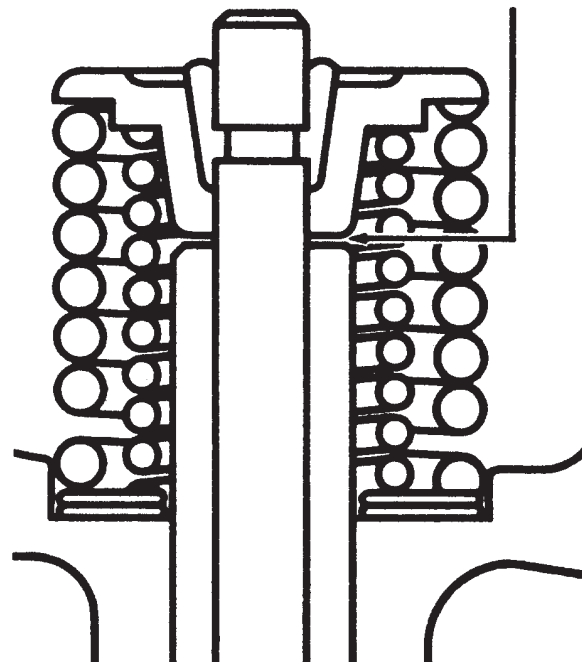


Fig.2

## PERFORMANCE VALVE SPRINGS - Cont'd.

### Check for Retainer to Valve Guide Clearance:

When setting the installed height on valve springs, always check the service manual (for stock springs) or the camshaft manufacturer's specs. (for performance valve springs). If measured spring height is shorter than specified install shims under the spring (as shown in Fig. 1) or change valve spring retainer obtain the correct height. However be certain that you do not add so many shims as to eliminate the recessed spring seat which locates the spring to the cyl. head, otherwise the spring can "walk around" on the head altering spring pressure.

If measured spring height is taller than the spec., machining of the spring seat in the cyl. head, different retainers or different valve springs will be required. (Note: Exercise caution when machining spring seat as removal of too much material can weaken seat and cause cracks into the water jacket).

With the rocker arms and push rods installed, rotate the engine slowly by hand until first and intake and then an exhaust valve are fully compressed. At maximum spring compression, there should be at least .060" and as much as .120" clearance between the bottom of the retainer and the top of the valve guide/oil seal (see Fig. 2). If there is not enough clearance, the top of the guide will have to be machined (see Pioneer Valve Guide Machining tools #890001-890004). Clearance between the valve spring retainer and rocker arm can also be checked during this operation. This is best checked with valve closed. If the retainer contacts the underside of the rocker arm at anytime, the retainer must be changed or the rocker arm geometry will have to be adjusted with different rockers, different length push rods or valves.

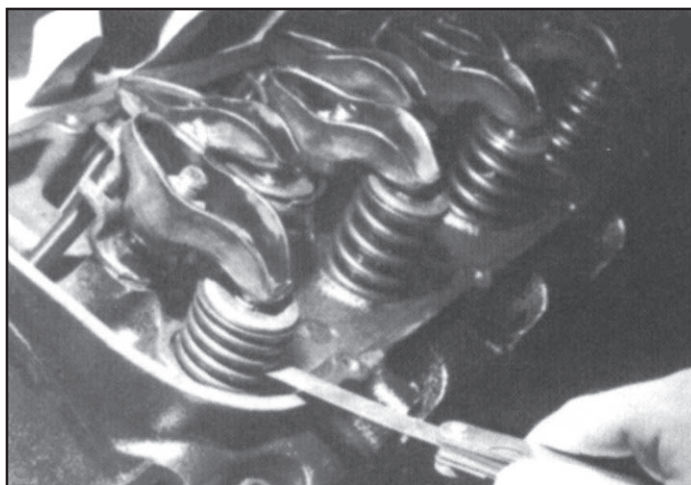


Fig.3

### Check for Valve Spring Coil Bind:

To check for valve spring coil bind, rotate the engine by hand slowly to obtain maximum spring compression with an intake and exhaust spring, separately. Use a .010" clearance feeler gauge to check the full circumference between each coil as coil bind usually occurs on one side of the spring only (see Fig. 3). On a five coil spring a minimum total clearance of .050" is required or .010" per coil. A six coil spring requires a total minimum clearance of .060" or .010" per coil. If you have less than the total minimum clearance allowed or outright coil bind, recheck spring installed height and remove shims, change retainer or machine valve seat as required.

## PERFORMANCE VALVE SPRINGS - Cont'd.

### Rocker Arm to Stud Clearance:

Engines equipped with ball-stud rocker arms instead of shaft-mounted rocker arms may experience interference between the slot in the bottom of the rocker arm and the stud which supports the rocker arm. This usually occurs only with very high-lift cams. Rocker arm/stud interference can be detected by placing wire solder (or a straightened paper clip) between stud and rocker arm (see Fig. 4). Check on the valve side of the stud with the valve open and on the pushrod side with the valve closed, rotating the engine slowly by hand through a full open-and-close cycle of the valve. Check both intake and exhaust valves. If clearance is insufficient, the wire or solder will be pinched or cut off. Grind additional clearance required in the rocker arm or change to a long slot rocker if one is available.

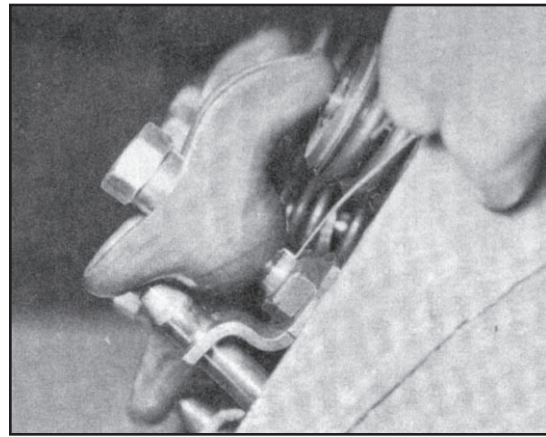


Fig. 4

### Valve to Piston Clearance:

The high lift and long duration of performance cams may cause interference between valves and pistons. That interference can lead to very serious and costly damage from bent valves, and/or cracked or broken pistons.

Pioneer Performance recommends a simple procedure to determine the clearance between valves and the piston. All that is required is some modeling clay and a steel machinist's rule, or caliper.

After the cam has been installed, and the cam timing set, place a 1/4" thick strip of modeling clay over the top of the piston, in the valve pocket area. Cover the valve faces and the clay with engine oil to prevent sticking.

Then, install the head gasket and the head. Tighten the bolts surrounding the cylinder where the clay has been installed, to the standard torque specifications. There is no need to install and torque the bolts for the other cylinders.

Install the lifters, pushrods and rockers for the cylinder that's being checked. Adjust the valve lash to normal specifications. Then slowly rotate the engine by hand for two complete crank revolutions. If you encounter resistance, STOP! Don't try to force it! Go on to the next steps.

Remove the rocker arms, pushrods and the head. On the piston top, you will have an impression of the combustion chamber, with indentations made by the valves. Carefully strip the clay from the piston top.

Cut through the clay at the deepest point of the valve head impressions. You will then have a cross-section of the combustion chamber. Using the machinist's rule or caliper, measure the clay at the thinnest point to determine the basic clearance figure. (See Fig. 5)

There must be a minimum of 0.080" for the intake valve, and 0.100" for the exhaust valve. The exhaust valve requires additional clearance to compensate for the greater heat expansion. Note: If you are using aluminum rods, add an additional 0.030" clearance to these minimums to compensate for rod stretch.

It is also advisable to check for valve-to-block interference. While a rare occurrence, it can occur when using racing cams with very high lifts, and/or oversized valves.

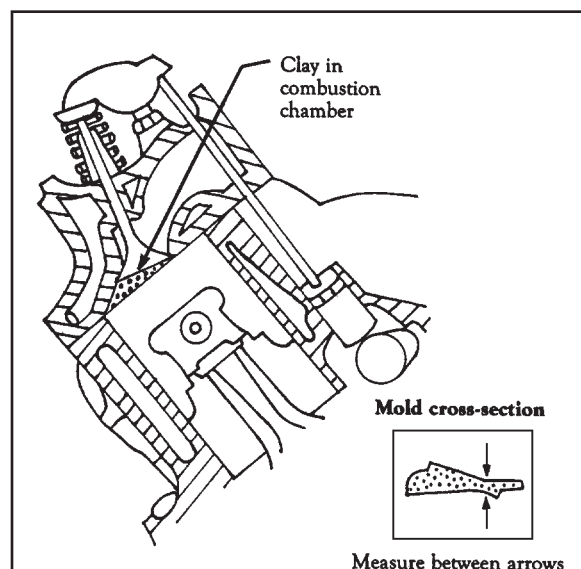


Fig. 5



## STAINLESS STEEL VALVES

V3.2

Pioneer Performance Products offers an excellent stainless steel valve for high performance engines that do not require nimonic or inconel materials (used in high temperature or exotic fuel applications) and where stock lengths will suffice. While there are several valve manufacturers offering a stainless steel valve that appears to match the quality of Pioneer's valves, sometimes a lesser quality of stainless steel is used to lower the cost. These valves may perform fine in a street or mild performance engine, however, Pioneer specifies that its stainless steel valves be manufactured from SAE EV8 (21-4N) material which is the highest grade of stainless steel available in the world.



Pioneer uses only 21-4N material in both the intake and exhaust valves because of its vastly superior yield and tensile strength at higher temperatures (in excess of 1400°F) and the stresses of rapid open/close cycles and extreme valve spring pressures encountered in high performance usage.

Pioneer Performance intake and exhaust valves are a 1-piece forging and are heat treated for maximum strength and hardness to withstand the harsh beating of radical camshafts and related valve train parts. We apply hardened stellite (58-60 Rc) to the valve stem tip for high wear resistance. The valve stem is hard chromed to further reduce friction and wear and is single grooved for added strength at the valve lock/retainer area. Valves are swirl polished for increased gas flow and the under-heads are dished for weight savings.

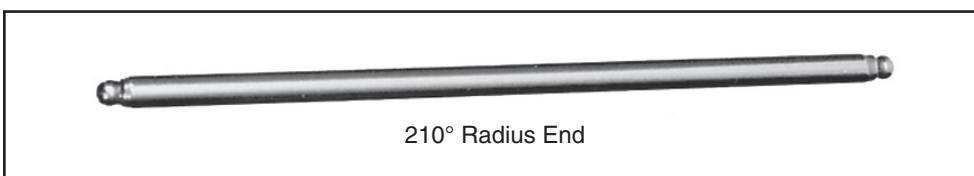
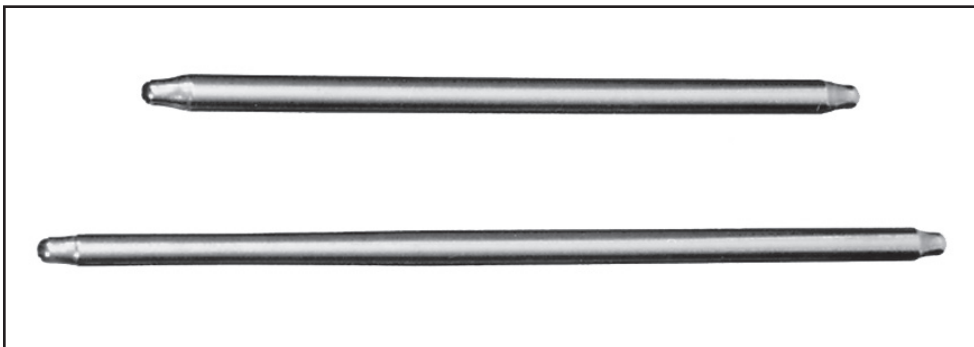
**“Race-Proven in the field, consider Pioneer Performance for a “true” Stainless Steel Valve.”**



**COMPETITIVE  
EDGE RACING  
SCHOOL**

## PUSH RODS

V3.3



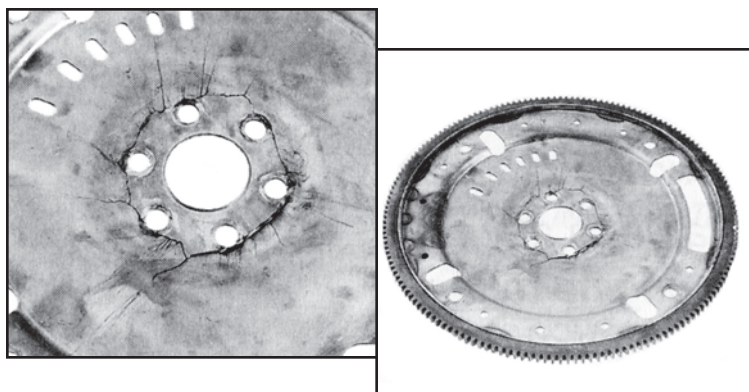
Pioneer Performance offers several different push rod designs, each with specific operating ranges. These push rods will give the customer the desired performance and durability at the right price. O.E. Replacement Type Push Rods (#815194-815199) are manufactured from 1010 steel tubing and are recommended for stock rebuilds or for mild performance applications where open spring pressures do not exceed 300 lbs. Most applications are hardened for use with guide plates. Chrome Moly Push Rods (#815200-815216) are manufactured from 4130 chrome-moly steel tubing and are designed for street and racing engines with open valve spring pressures of 400-600 lbs. These push rods use the standard O.E. ends and are available for a wide range of GM and Ford engines in 5/16", 3/8", and 7/16" diameters and are guide plate compatible.

For applications requiring higher open pressures (from 600 to 800 lb.), Pioneer recommends the use of the premium 210° end design push rod. The one-piece units are #815007-815027. The one-piece units are made from 4130 chrome-moly steel, hardened to Rockwell C59-62, and are available in varying lengths (for obtaining proper valve train geometry), 5/16" or 3/8" diameters for Ford, Small-and Big-Block Chevy.

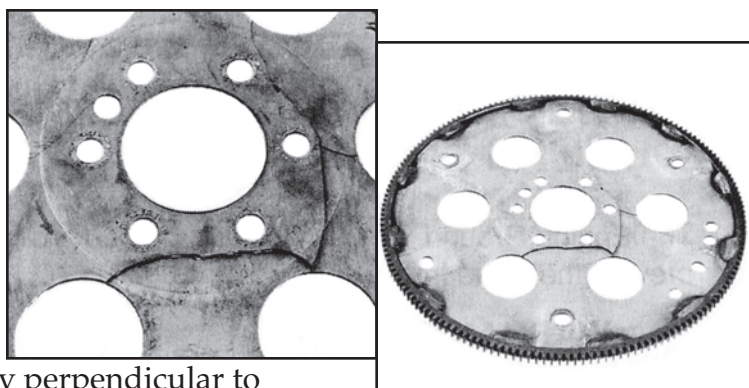
Determining the proper length is also critical in selection of the correct push rod. Pioneer's Push Rod Length Gauge Kit (#890100) has four gauges to accurately determine push rod lengths from 7.5" to 11.5", which will allow you to dial-in the valve train to match the camshaft. NOTE: During this operation, be sure to also check for spring coil bind, retainer interference, rocker to stud clearance, and for valve/piston interference.

## REPLACING A DAMAGED FLYWHEEL ASSEMBLY? V3.4

*Is it cracked around the crankshaft or torque converter bolt hole pattern?*



*Notice that most Flywheel Assemblies fail due to installation error and/or balance problems that could be within the engine or transmission. Below are some but not all, of the causes:*



1. Not installing Flywheel Assembly perpendicular to crankshaft flange.
2. An out of balanced engine and/or torque converter.
3. Worn front pump bushing. (See Pioneer's TR-2001 Transmission Catalog for all your bushing needs.)
4. Too much end play on the crankshaft due to excessive thrust bearing wear.
5. Not torquing bolts to proper specification and in proper sequence. (See your maintenance manual for proper torque specification.)
6. A bad starter drive can cause teeth on ring gear to wear rapidly or break off. Also, teeth can chip or break when engine is running and starter is engaged.
7. On some GM applications special shims are needed to properly align starter with flywheel ring gear teeth. In such cases where shims are needed and not used, damage to ring gear will occur.

**WARNING** – WARRANTY IS VOIDED IF FLYWHEEL ASSEMBLY IS BROKEN AROUND THE CRANKSHAFT AND/OR TORQUE CONVERTER BOLT HOLE PATTERN.



# Pioneer Balancer Construction

## METALLURGY

### Street

OEM style balancers are usually manufactured from cast iron. Not all cast iron is created equal and, to save cost, some aftermarket balancers use regular "gray" cast iron, which has limited strength and is prone to cracking.

All Pioneer street balancers are manufactured exclusively from high-strength S.G. iron (also known as nodular iron), which is the same material used in most crankshafts. This high-grade iron has much greater resistance to cracking than the cheaper gray iron.

### Race

Pioneer race balancers are manufactured from solid billet steel bar stock to AUG 1045 specifications. Steel is stronger and more wear-resistant than aluminum alloy used in some products. Wear resistance is critical in the oil seal and crank nose area.

While alloy is a lighter base material, careful design of the damper can minimize the weight variance when using the stronger steel base material.

## DAMPENING MATERIAL

All Pioneer balancers use a rubber formula that has been developed specifically for high-stress applications. The formula is exceptionally resistant to aging and gives excellent control of elasticity in the pressure bonding process employed.

## ASSEMBLY

In most balancers, pre-extruded strip or o-rings are used as dampening material, which is assembled using various methods that resist inertia ring dislocation with varying degrees of success. Common assembly methods include straight press insertion with or without metal knurling to assist rubber to metal grip and "cold bonding," i.e. gluing the rubber in. Curing of the adhesive is sometimes accelerated by "post press vulcanization" similar to cooking the rubber and adhesive in an oven.

These methods generally have limited bond strength and resistance to spinning under high torque forces. The action of the inertia ring can also degrade the rubber metal contact particularly when the metal surfaces are knurled.

SFI ring retention devices, such as retaining lips and circlips are critical for safety, using these methods as there is effectively no other force holding the components together other than interference fit.

Pressure bonding - The most time-consuming and secure method of damper assembly used by prestige and performance carmakers such as Mercedes Benz, BMW and Porsches. Damper components assembled are chemically primed and assembled in highly accurate pre-heated steel press dies. Specifically formulated rubber is injected into purpose built 100 ton bonding presses and cured in the mold until optimum strength is achieved. This method gives unrivaled rubber-to-metal bonding strength, resistance to ring dislocation and control of rubber duro or elasticity. All Pioneer balancers are assembled using state-of-the-art pressure bonding methods.

## BALANCE



Assembly of balancers can result in severe run out conditions and eccentricity of rings and centres. One crude method of correcting this problem is to machine the balancer all over after assembly, but this only disguises any misalignment in the rubber and ring.

Pioneer balancers are assembled with extremely accurate tooling making post-press machining unnecessary and every balancer is dynamically balanced at the factory for total peace of mind.

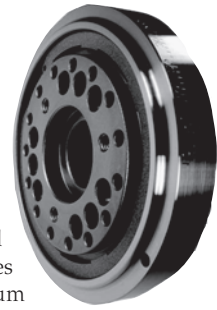
All counterweighted Pioneer race balancers have milled counterweights as close to factory balance specifications as possible. Integral counterweights are more secure than bolt-in alternatives used by some manufacturers.

## DIMENSIONS

The dimensions of Pioneer Performance Balancers are designed to fit original accessory pulleys and provide correct interference fit on OEM crank snouts. All critical dimensions are listed against each application using the following reference points.

(Continued on next page)

# Street and Race Balancer Facts



The purpose of a harmonic balancer is to dampen the crankshaft torsional vibration, which is the bending and twisting of the crankshaft during the power strokes. Most balancer designs control (or balance) these harmful vibrations (harmonics) by utilizing the stretch and rebound of an elastomer (synthetic rubber) ring sandwiched between the balancer's hub and outer inertia ring.

Pioneer Performance Street and Race harmonic balancers are of an elastomer design, which has been widely used by the o.e. engine manufacturers for years and by several high performance aftermarket suppliers in the industry. However, this is where the similarity ends between Pioneer balancers and our competitors. Review the following facts concerning the design and manufacturing processes of Pioneer Performance Street and Race balancers and compare with the competition:

## ELASTOMER DESIGN VS. VISCOUS (FLUID FILLED):

Harmonic balancers were designed by the o.e. engine manufacturers to control crankshaft vibrations. Crankshaft vibrations also effect valve train and ignition timing and can cause failure of other critical engine components. The two popular designs of aftermarket harmonic balancers are elastomer and viscous (fluid filled).

Elastomer design balancers consist of a hub and an inertia ring with an energy-absorbing element sandwiched between the two. This energy absorbing matter is usually constructed of rubber or a synthetic compound. A fluid filled balancer uses a silicon gel in which the inertia ring rotates for dampening performance. Unfortunately, the rotation of the inertia ring and the resulting drag on the silicon gel can create heat, which in turn can significantly alter the viscosity and dampening properties of the silicon gel. In environments such as endurance racing, this change in fluid characteristics will severely limit the inertia action of the ring and the resulting dampening effect on the crankshaft. In extreme cases, the inertia ring can cease rotating altogether and turn the ring into a counterweight, which could result in crank failure. Also, some lesser costs viscous balancers have experienced sealing problems with the silicon actually leaking out of the balancer assembly. Finally, the complexity of a viscous balancer tends to make it significantly heavier than an elastomer design, which is always a consideration by high performance engine builders.

The design and the considerable weight reduction of a high quality elastomer balancer have proven to perform sufficiently in all forms of racing plus the cost for a Pioneer elastomer design balancer is considerably less than a viscous balancer.

## ELASTOMER (RUBBER) TECHNOLOGY:

Many aftermarket manufacturers use synthetic dampening materials to reduce cost. Pioneer Performance balancers use a natural-based rubber compound that is extremely resistant to heat and attack from chemicals and oil, which eventually break down inferior materials and lead to balancer failure. The rubber compound used in Pioneer balancers has exceptional resistance to collapse under compression and excellent "memory" meaning assembly tension between the rubber insert and hub and inertia ring is maintained for maximum resistance to inertia ring dislocation over an extremely long balancer life.

## MACHINING AND ASSEMBLY:

Most aftermarket suppliers use pre-extruded strips or o-rings as the dampening material and common assembly methods include straight press insertion with or without metal knurling to grip the rubber and "cold bonding," which amounts to simply gluing the rubber into the assembly. Curing of the adhesive is sometimes accelerated by "post-press vulcanization," which is similar to cooking the rubber and adhesive in an oven. These methods generally have limited bond strength and resistance to spinning under high torque forces. The action of the inertia ring can also degrade the rubber to metal contact particularly when the metal surfaces are knurled.

Pioneer Performance Street and Race Balancers are assembled with a unique process that actually bonds the dampening rubber between

the hub and inertia ring. The hub and inertia ring are machined and chemically primed and assembled in highly accurate pre-heated steel press dies. The specifically formulated rubber compound is injected into purpose-built 100 ton bonding presses and cured in the mold until optimum strength is achieved. This "pressure bonding" method gives superb rubber-to-metal bonding strength, resistance to ring dislocation and control of rubber elasticity. To test the strength of a bonded balancer, torque loads are applied to the hub to test for inertia ring slip or dislocation. Most rubber inserted balancers fail before the standard 400 ft. lbs. load is reached. Pioneer Performance bonded balancers achieve over 1000 ft. lbs. before component separation. Incidentally, this type of bonding is used by some of the prestigious and performance oriented o.e. carmakers, such as Mercedes Benz and BMW.

## BALANCE:

Most competitors' balancers are actually machined after assembly to disguise run out and concentricity in the assembly. The rubber insert will usually defect during this machining process and the run out remains, which leads to vibration in service. Pioneer Performance balancers do not require this form of correction. After assembly, every balancer is spin tested and balanced to tolerances tighter than o.e. specifications. Also, counterweighted street and race balancers have integral counter weights milled into the hubs versus competitors' bolt on weights, which are subject to become loose during operation.

As you can see, not all elastomer designed harmonic balancers are created equal.

## INSTALLATION INSTRUCTIONS:

All balancers are designed to be installed with a standard OEM length bolt, torqued to the vehicle manufacturers specifications. After market high tensile balancer bolts are recommended for race applications and are available from Pioneer.

- Please use a purpose built balancer removal and installation tool to avoid damage to the balancer and crankshaft.
- After removal of the old balancer inspect your crankshaft for burrs nicks & keyway damage, use a fine file to clean up any damage.
- Stone or file a slight radius to break the sharp edge on the end of the crankshaft snout.
- Inspect crankshaft key for damage and replace if necessary.
- Use an anti-seize lubricant on the crank snout before installing your new balancer.
- Correct interference fit between the balancer hub and crankshaft is essential to transmit vibration to the balancer assembly.

Recommended Interference Fit is as follows:

.7510" - 1.0000"	---	.0008" - .0012"
1.0010" - 1.2500"	---	.0009" - .0013"
1.2510" - 1.3750"	---	.0010" - .0014"
1.3760" - 1.6000"	---	.0011" .0015"
1.6010" - 2.0000"	---	.0013" .0017"

- The crank O.D. must be checked with a micrometer and the balancer I.D. with a bore gauge to verify correct interference fit.
- Balancer bores are manufactured at bottom tolerance to accommodate variation in aftermarket crankshaft diameters. Your balancer I.D. may require honing to achieve the correct interference fit.



# CONVERSION TABLE

## Inch Fractions and Decimals to Metric Equivalents

INCHES		MM	INCHES		MM	INCHES		MM	INCHES		MM
Fractions	Decimals		Fractions	Decimals		Fractions	Decimals		Fractions	Decimals	
—	.0004	.01	—	.4331	11	31/32	.96875	24.606	1-7/8	1.875	47.625
—	.004	.10	7/16	.4375	11.113	—	.9843	25	—	1.8898	48
—	.01	.25	29/64	.4531	11.509	1	1.000	25.4	1-29/32	1.9062	48.419
1/64	.0156	.396	15/32	.46875	11.906	—	1.0236	26	—	1.9291	49
—	.0197	.50	—	.4724	12	1-1/32	1.0312	26.194	1-15/16	1.9375	49.213
—	.0295	.75	31/64	.48437	12.303	1-1/6	1.062	26.988	—	1.9685	50
1/32	.03125	.794	—	.492	12.5	—	1.063	27	1-31/32	1.969	50.006
—	.0394	1	1/2	.500	12.700	1-3/32	1.094	27.781	2	2.000	50.800
3/64	.0469	1.191	—	.5118	13	—	1.1024	28	—	2.0079	51
—	.059	1.5	33/64	.5156	13.097	1-1/8	1.125	28.575	—	2.0472	52
1/16	.0625	1.588	17/32	.53125	13.494	—	1.1417	29	2-1/16	2.062	52.388
5/64	.0781	1.984	35/64	.54687	13.891	1-5/32	1.156	29.369	—	2.0866	53
—	.0787	2	—	.5512	14	—	1.1811	30	2-1/8	2.125	53.975
3/32	.094	2.381	9/16	.5625	14.288	1-3/16	1.1875	30.163	—	2.126	54
—	.0984	2.5	—	.571	14.5	1-7/32	1.219	30.956	—	2.165	55
7/64	.1093	2.776	37/64	.57812	14.684	—	1.2205	31	2-3/16	2.1875	55.563
—	.1181	3	—	.5906	15	1-1/4	1.250	31.750	—	2.2047	56
1/8	.1250	3.175	19/32	.59375	15.081	—	1.2598	32	—	2.244	57
—	.1378	3.5	39/64	.60937	15.478	1-9/32	1.281	32.544	2-1/4	2.250	57.150
9/64	.1406	3.572	5/8	.6250	15.875	—	1.2992	33	—	2.2835	58
5/32	.15625	3.969	—	.6299	16	1-5/16	1.312	33.338	2-5/16	2.312	58.738
—	.1575	4	41/64	.6406	16.272	—	1.3386	34	—	2.3228	59
11/64	.17187	4.366	—	.6496	16.5	1-11/32	1.344	34.131	—	2.3622	60
—	.177	4.5	21/32	.65625	16.669	1-3/8	1.375	34.925	2-3/8	2.375	60.325
3/16	.1875	4.763	—	.6693	17	—	1.3779	35	—	2.4016	61
—	.1969	5	43/64	.67187	17.066	1-13/32	1.406	35.719	2-7/16	2.438	61.913
13/64	.2031	5.159	11/16	.6875	17.463	—	1.4173	36	—	2.4409	62
—	.2165	5.5	45/64	.7031	17.859	1-7/16	1.438	36.513	—	2.4803	63
7/32	.21875	5.556	—	.7087	18	—	1.4567	37	2-1/2	2.500	63.500
15/64	.23437	5.953	23/32	.71875	18.256	1-15/32	1.469	37.306	—	2.5197	64
—	.2362	6	—	.7283	18.5	—	1.4961	38	—	2.559	65
1/4	.2500	6.350	47/64	.73437	18.653	1-1/2	1.500	38.100	2-9/16	2.562	65.088
—	.2559	6.5	—	.7480	19	1-17/32	1.531	38.894	—	2.5984	66
17/64	.2656	6.747	3/4	.7500	19.050	—	1.5354	39	2-5/8	2.625	66.675
—	.2756	7	49/64	.7656	19.447	1-9/16	1.562	39.688	—	2.638	67
9/32	.28125	7.144	25/32	.78125	19.844	—	1.5748	40	—	2.6772	68
—	.2953	7.5	—	.7874	20	1-19/32	1.594	40.481	2-11/16	2.6875	68.263
19/64	.29687	7.541	51/64	.79687	20.241	—	1.6142	41	—	2.7165	69
5/16	.3125	7.938	13/16	.8125	20.638	1-5/8	1.625	41.275	2-3/4	2.750	69.850
—	.3150	8	—	.8268	21	—	1.6535	42	—	2.7559	70
21/64	.3281	8.334	53/64	.8281	21.034	1-21/32	1.6562	42.069	—	2.7953	71
—	.335	8.5	27/32	.84375	21.431	1-11/16	1.6875	42.863	2-13/16	2.8125	71.438
11/32	.34375	8.731	55/64	.85937	21.828	—	1.6929	43	—	2.8346	72
—	.3543	9	—	.8662	22	1-23/32	1.719	43.656	—	2.8740	73
23/64	.35937	9.128	7/8	.8750	22.225	—	1.7323	44	2-7/8	2.875	73.025
—	.374	9.5	57/64	.8906	22.622	1-3/4	1.750	44.450	—	2.9134	74
3/8	.3750	9.525	—	.9055	23	—	1.7717	45	2-15/16	2.9375	74.613
25/64	.3906	9.922	29/32	.90625	23.019	1-25/32	1.781	45.244	—	2.9527	75
—	.3937	10	59/64	.92187	23.416	—	1.8110	46	—	2.9921	76
13/32	.4062	10.319	15/16	.9375	23.813	1-13/16	1.8125	46.038	3	3.000	76.200
—	.413	10.5	—	.9449	24	1-27/32	1.844	46.831	—	—	—
27/64	.42187	10.716	61/64	.9531	24.209	—	1.8504	47	—	—	—

# APPLICATION MATRIX SECTION

19

## BUICK



**231 A, B, G, 2, 3, 7, 8, 9, C, L**  
6 Cyl. (3.8L)

**1975-97**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Cam Button Kits	839008	1	O.E. Replacement
Main Stud Kits	855001	1	Stage I & II (2 Bolt, 1977-85)
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (12 Pt. Hi-Tensile)	854006	1	12 Pt. 5/16" x 9/16" (14)
Pilot Bushings	873001	1	
Pilot Bushings (Roller)	873008	1	Roller Bearing
Woodruff Key Kits	839009	1	Short, 3/16" x 3/4"
	839010	1	Long, 3/16" x 1-3/8"
<b>CYLINDER HEAD COMPONENTS</b>			
Head Stud Kits	851001	1	Stage I (1977-85)
	851002	1	Stage II (1977-85)
Push Rods (Chrome Moly)	815214	16	Except 1986 "3" Engine
Valve Guides	813001	A/R	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.250 Length
	813106	A/R	Manganese Bronze, .343 I.D., .502 O.D., 2.500 Length
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
Valve Springs	810106	12	Single w/ Damper w/ Hydraulic lifters (max valve lift .480)
Valve Spring Insert Kits	819001	1	1.250 x .812 x .060
	819002	1	1.250 x .812 x .030
	819003	1	1.250 x .812 x .015
	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817100	1	Use w/Spring #810106, w/1.700" installed height
	817108	1	Use w/Spring #810106, w/+.075" installed height
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
	811005	1	All Viton, .343 Stem, .530 Guide
	811006	1	SVR, .343 Stem, .500 Guide (Red)
	811007	1	SVR, .343 Stem, .530 Guide (Orange)



**350 H, J, X**  
8 Cyl. (5.7L)

**1968-81**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Pilot Bushings	873001	1	
Pilot Bushings (Roller)	873008	1	Roller Bearing
Woodruff Key Kits	839010	1	Long, 3/16" x 1-3/8"
<b>CYLINDER HEAD COMPONENTS</b>			
Valve Seats	814004	8	Exh. - High Chrome, 1.375 I.D., 1.625 O.D., .2187 Depth 45° Seat Angle, 1.625 Counter Bore Size
Valve Springs	810204	16	Dual w/ Hydraulic lifters (max. valve lift .490)
	810205	16	Dual w/ Mechanical lifters (max. valve lift .510)
Valve Stem Seal Kits	811002	1	All Teflon, .375 Stem, .530 Guide
	811004	1	All Teflon, .375 Stem, .500 Guide
	811008	1	SVR, .375 Stem, .530 Guide (Lt. Blue)

## CHEVROLET



**173 W, X, Z, 1**  
6 Cyl. (2.8L)

**1980-92**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Connecting Rod Nuts	852007	12	9mm Hex
Dowel Pin Kits	839006	1	Head to block
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
<b>CYLINDER HEAD COMPONENTS</b>			
Push Rod Guide Plate Kits	821001	1	
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
Valve Seats	814010	6	Exh. - High Chrome, 1.4375 I.D., 1.6875 O.D., .2187 Depth 45° Seat Angle, 1.687 Counter Bore Size
Valve Springs	810101	12	Single w/ Damper w/ Hydraulic lifters (max. valve lift .490)
Valve Spring Insert Kits	819001	1	1.250 x .812 x .060
	819002	1	1.250 x .812 x .030
	819003	1	1.250 x .812 x .015
	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817100	1	Use w/Spring #810101, w/1.700" installed height
	817108	1	Use w/Spring #810101, w/+.075" installed height
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
	811005	1	All Viton, .343 Stem, .530 Guide
	811006	1	SVR, .343. Stem, .500 Guide (Red)
	811007	1	SVR, .343 Stem, .530 Guide (Orange)



**200**  
6 Cyl. (3.3L)

**1978-79**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Bellhousing Bolt Kits (12 Pt. Hi-Tensile)	854019	1	3/8"-16 x 1-1/2"
Cam Button Kits	839028	1	.670 Length
	839029	1	.850 Length
	839038	1	Roller, .795 Length
Cam Correct	839043	1	Kit w/Drill Jig
	839045	1	Replacement Spring Shoe w/Hardware
Cam Gear Bolts	839037	1	Pkg. 3 /Card
Cam Gear Lock Plates	839030	1	w/Bolts
Connecting Rod Nuts	852001	12	3/8"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853005	1	3/8" Diameter, Premium Performance
	853204	1	3/8" Diameter, Standard Performance
Distributor Gears (Bronze)	839013	1	.500 Diameter Shaft
	839014	1	w/O.E. .491 Dia. Shaft
Distributor Hold Down Clamp (Chrome)	839062	1	
Dowel Pin Kits	839004	1	Head to block
	839047	1	Cam Sprocket Dowel
Flexplates (SFI Certified)	871001	1	14.13" Dia. w/o Weight
	871004	1	12.85" Dia. w/o Weight
Flexplate Bolt Kits	859022	1	7/16"-20 x 11/16"
Flywheel Bolt Kits	859026	1	7/16"-20 x 1"
Fuel Pump Mounting Plate	839050	1	
Fuel Pump Block Off Kits	839033	1	
Harmonic Balancer Bolt Kit	859012	1	
	859045	1	1 Piece Chrome Moly
<b>NEW!</b> 859047	859047	1	<b>12 Pt. Chrome Moly</b>

## CHEVROLET – Cont'd.



**200 - Cont'd.**  
6 Cyl. (3.3L)

**1978-79**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS - Cont'd.</b>			
Harmonic Balancers	872001	1	6 1/4 " Dia. Street
	872002	1	7" Dia. Street
	872003	1	8" Dia. Street
	872021	1	6 1/4" Dia. Race
	872022	1	7" Dia. Race
	872023	1	8" Dia. Race
Harmonic Balancer Repair Sleeves	835011	1	
Lifter Valley Vent Tube Kit	839042	1	
Lifter Valley Screen Kit	839055	1	
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (Hex Head)	859017	1	Hex Head - 1/4" x 7/16" (14) & 5/16" x 9/16" (4)
Oil Pan Stud Kit (Hi-Tensile)	859008	1	
Oil Pump (High Volume)	836021	1	Increased pressure & volume, includes screen assembly (May require oil pan modification)
Oil Pump Bolt Kits (12 Pt. Hi-Tensile)	854021	1	7/16"-14 x 2", 12 Pt.
Oil Pump Intermediate Shafts	838005	1	w/Steel Shaft Guide
Oil Pump Pick Up Retainer	839061	1	w/ 5/8" dia. tube
Oil Pump Screens	837012	1	
Oil Pump Stud Kit	859039	1	3.120 Length
Pilot Bushings	873001	1	
Pilot Bushings (Roller)	873008	1	Roller Bearing
Timing Cover Bolt Kits (Hex Head)	859021	1	Hex Head 1/4" x 1/2" (10)
Timing Cover Stud Kit (Hi-Tensile)	859011	1	
Timing Indicator (adjustable)	839051	1	w/ 6 1/4" balancer
Timing Indicator (adjustable)	839052	1	w/ 7" balancer
Timing Indicator (adjustable)	839053	1	w/ 8" balancer
Woodruff Key Kits	839009	1	Short, 3/16" x 3/4"
	839010	1	Long, 3/16" x 1-3/8"
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852100	26	7/16" I.D. x 13/16" O.D. x .120 Head Bolt Washer, Premium
	852112	26	7/16" I.D. x 3/4" O.D. x .065 Head Bolt Washer, Economy
Header Bolt Kits (12 Pt. Hi-Tensile)	854023	1	3/8"-16 x 3/4", 12 Pt.(12 Bolt Kit)-Universal
	859040	1	3/8"-16 x 3/4", Hex Head (12 Bolt Kit)-Universal
Head Bolt Kits	851204	1	w/O.E. Cast Iron and Aluminum Cylinder Heads
Head Stud Kits	851024	1	w/O.E. Cast Iron and Aluminum Cylinder Heads
Head Bolt Washer Kits	852096	1	Economy, 7/16" I.D. x 3/4" O.D. (34 pcs. skin pkg.)
	852098	1	Premium, 7/16" I.D. x 13/16" O.D. (34 pcs. skin pkg.)
Push Rods (chrome moly)	815205	12	7.794 O.A.L.
	815215	12	.100 Longer
	815216	12	3/8" Diameter, 7.794 O.A.L.
Push Rods (One-Piece)	815007	A/R	5/16" Diameter, 7.800 O.A.L.
	815008	A/R	5/16" Diameter, 7.850 O.A.L.
	815009	A/R	5/16" Diameter, 7.900 O.A.L.
	815010	A/R	5/16" Diameter, 7.950 O.A.L.
	815192	1	.100 Longer
Push Rod Kits (O.E. Replacement)	815194	1	
Push Rod Guide Plate Kits	821002	1	5/16", Flat
	821004	1	5/16", Step
	821005	1	3/8" Step
Rocker Arm Ball/Fulcrum Kits	822001	1	
Rocker Arm Fasteners (Posi-Locks)	850008	1	3/8" Stud w/O.E. Rockers
	850010	1	7/16" Stud w/O.E. Rockers
	850012	1	7/16" Stud, Aluminum Roller Rockers
	850017	A/R	Use w/Stud Girdle and Roller Rockers w/3/8" Rocker Studs (Pkg. 8/Card)
	850018	A/R	Use w/Stud Girdle and Roller Rockers w/3/8" Rocker Studs (Pkg. 2/Card)
	850019	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 8/Card)
	850020	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 2/Card)
	850022	A/R	7/16" Stud, Aluminum Roller Rockers (Pkg. 2/Card)

## CHEVROLET – Cont'd.



**200 - Cont'd.**  
6 Cyl. (3.3L)

**1978-79**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS - Cont'd.</b>			
Rocker Arm Fasteners (Rocker Studs)	850001	1	7/16" x 3/8" w/O Jam Nut
	850003	1	7/16" x 7/16", 2.540 O.A.L.
	850006	1	7/16" x 3/8", 2.400 O.A.L.
	850013	1	7/16" x 3/8", 2.500 O.A.L.
	850014	1	7/16" x 7/16", 2.650 O.A.L.
Rocker Arm Kits (Stamped Steel Long Slot)	818001	A/R	Long Slot Stamped Steel 1.5 ratio, non-self aligning (Pkg. 4/Card)
	818015	A/R	Long Slot Stamped Steel 1.6 ratio, non self-aligning (Pkg. 4/Card)
	818016	A/R	Long Slot Stamped Steel 1.5 ratio, 7/16" stud, non-self aligning (Pkg. 4/Card)
	818017	A/R	Long Slot Stamped Steel 1.6 ratio, 7/16" stud, non-self aligning (Pkg. 4/Card)
Valve Guides	813001	A/R	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.250 Length
	813108	A/R	Manganese Bronze, 343 I.D., .502 O.D., 2.125 Length
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
Valve Cover Stud Kits (Hi-Tensile)	859031	1	Use w/ Stamped Steel Valve Covers
Valve Lifters	812002	12	w/ Hydraulic lifters
	812003	12	Anti-Pump Up
	812026	12	Mechanical
Valve Springs	810101	12	Single w/ Damper w/ Hydraulic lifters (max. valve lift .490)
Valve Spring Insert Kits	819001	1	1.250 x .812 x .060
	819002	1	1.250 x .812 x .030
	819003	1	1.250 x .812 x .015
	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817100	1	Use w/Spring #810101, w/1.700" installed height
	817108	1	Use w/Spring #810101, w/+.075" installed height
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
	811005	1	All Viton, .343 Stem, .530 Guide
	811006	1	SVR, .343 Stem, .500 Guide (Red)
	811007	1	SVR, .343 Stem, .530 Guide (Orange)



**229**  
6 Cyl. (3.8L)

**1980-84**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Bellhousing Bolt Kits (12 Pt. Hi-Tensile)	854019	1	3/8"-16 x 1-1/2"
Cam Button Kits	839028	1	.670 Length
	839029	1	.850 Length
	839038	1	Roller, .795 Length
Cam Correct	839043	1	Kit w/Drill Jig
	839045	1	Replacement Spring Shoe w/Hardware
Cam Gear Bolts	839037	1	Pkg. 3 Per Card
Cam Gear Lock Plates	839030	1	w/Bolts
Connecting Rod Nuts	852001	12	3/8"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853005	1	3/8" Diameter, Premium Performance
	853204	1	3/8" Diameter, Standard Performance
Distributor Gears (Bronze)	839013	1	.500 Diameter Shaft
	839014	1	w/O.E. .491 Dia. Shaft
Distributor Hold Down Clamp (Chrome)	839062	1	
Dowel Pin Kits	839004	1	Head to block
	839047	1	Cam Sprocket Dowel
Flexplates (SFI Certified)	871001	1	14.13" Dia. w/o Weight
	871004	1	12.85" Dia. w/o Weight
Flexplate Bolt Kits	859022	1	7/16"-20 x 11/16"
Flywheel Bolt Kits	859026	1	7/16"-20 x 1"



## CHEVROLET – Cont'd.



**229 - Cont'd.**  
6 Cyl. (3.3L)

**1980-84**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION	
<b>SHORT BLOCK COMPONENTS - Cont'd.</b>				
Fuel Pump Mounting Plate	839050	1		
Fuel Pump Block Off Kits	839033	1		
Harmonic Balancers	872001	1	6 1/4" Dia. Street	
	872002	1	7" Dia. Street	
	872003	1	8" Dia. Street	
	872021	1	6 1/4" Dia. Race	
	872022	1	7" Dia. Race	
	872023	1	8" Dia. Race	
	Harmonic Balancer Bolt Kit	859012	1	
859045		1	1 Piece Chrome Moly	
	<b>NEW!</b>	859047	1	<b>12 Pt. Chrome Moly</b>
Harmonic Balancer Repair Sleeves	835011	1		
Lifter Valley Screen Kit	839055			
Lifter Valley Vent Tube Kit	839042	1		
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip	
	859001	1	1/2"-20 x .800 Long	
Oil Pan Bolt Kits (Hex Head)	859017	1	Hex Head 1/4" x 7/16" (14) & 5/16" x 9/16" (4)	
Oil Pan Stud Kit (Hi-Tensile)	859008	1		
Oil Pumps (High Volume)	836021	1	Increased pressure & volume, includes screen assembly(May require oil pan modification)	
Oil Pump Bolt Kits (12 Pt. Hi-Tensile)	854021	1	7/16"-14 x 2", 12 Pt.	
Oil Pump Intermediate Shafts	838005	1	w/Steel Shaft Guide	
Oil Pump Pick Up Retainer	839061	1	w/ 5/8" Dia. Tube	
Oil Pump Screens	837012	1		
Oil Pump Stud Kit	859039	1	3.120 Length	
Pilot Bushings	873001	1		
Pilot Bushings (Roller)	873008	1	Roller Bearing	
Timing Cover Bolt Kits (Hex Head)	859021	1	Hex Head 1/4" x 1/2" (10)	
Timing Cover Stud Kit (Hi-Tensile)	859011	1		
Timing Indicator (adjustable)	839051	1	w/ 6 1/4" Balancer	
Timing Indicator (adjustable)	839052	1	w/ 7" Balancer	
Timing Indicator (adjustable)	839053	1	w/ 8" Balancer	
Woodruff Key Kits	839009	1	Short, 3/16" x 3/4"	
	839010	1	Long, 3/16" x 1-3/8"	
<b>CYLINDER HEAD COMPONENTS</b>				
Flat Washers (Hi-Tensile)	852100	26	7/16" I.D. x 13/16" O.D. x .120 Head Bolt Washer, Premium	
	852112	26	7/16" I.D. x 3/4" O.D. x .065 Head Bolt Washer, Economy	
Header Bolt Kits (12 Pt. Hi-Tensile)	854014	1	3/8"-16 x 3/4" Stainless Steel (12 Bolt Kit)-Universal	
	854023	1	3/8"-16 x 3/4", 12 Pt.(12 Bolt Kit)-Universal	
	859040	1	3/8"-16 x 3/4", Hex Head (12 Bolt Kit)-Universal	
	851204	1	w/O.E. Cast Iron and Aluminum Cylinder Heads	
Head Bolt Kit	851204	1	w/O.E. Cast Iron and Aluminum Cylinder Heads	
Head Stud Kits	851024	1	w/O.E. Cast Iron and Aluminum Cylinder Heads	
Head Bolt Washer Kits	852096	1	Economy, 7/16" I.D. x 3/4" O.D. (34 pcs. skin pkg.)	
	852098	1	Premium, 7/16" I.D. x 13/16" O.D. (34 pcs. skin pkg.)	
Push Rods (Chrome Moly)	815205	12	7.794 O.A.L.	
	815215	12	.100 Longer	
	815216	12	3/8" Diameter, 7.794 O.A.L.	
	815007	A/R	5/16" Diameter, 7.800 O.A.L.	
Push Rods (One-Piece)	815008	A/R	5/16" Diameter, 7.850 O.A.L.	
	815009	A/R	5/16" Diameter, 7.900 O.A.L.	
	815010	A/R	5/16" Diameter, 7.950 O.A.L.	
	835192	1	.100 Longer	
	815194	1		
Push Rod Kits (O.E. Replacement)	815194	1		
Push Rod Guide Plate Kits	821002	1	5/16", flat	
	821004	1	5/16", step	
	821005	1	3/8", step	
	822001	1		
Rocker Arm Ball/Fulcrum Kits	822001	1		
Rocker Arm Fasteners (Posi-Locks)	850008	1	3/8" Stud w/O.E. Rockers	
	850010	1	7/16" Stud w/O.E. Rockers	
	850012	1	7/16" Stud, Aluminum Roller Rockers	
	850017	A/R	Use w/Stud Girdle & Roller Rockers w/3/8" Rocker Studs (Pkg. 8/Cd)	

## CHEVROLET – Cont'd.



**229 - Cont'd.**  
6 Cyl. (3.3L)

**1980-84**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS - Cont'd.</b>			
Rocker Arm Fasteners (Posi-Locks) - Cont'd.	850018	A/R	Use w/Stud Girdle & Roller Rockers w/3/8" Rocker Studs (Pkg. 2/Cd)
	850019	A/R	Use w/Stud Girdle & Roller Rockers w/7/16" Rocker Studs (Pkg. 8/Cd)
	850020	A/R	Use w/Stud Girdle & Roller Rockers w/7/16" Rocker Studs (Pkg. 2/Cd)
	850022	A/R	7/16" Stud, Aluminum Roller Rockers (Pkg. 2/Card)
Rocker Arm Fasteners (Rocker Studs)	850001	1	7/16" x 3/8" w/O Jam Nut
	850003	1	7/16" x 7/16", 2.540 O.A.L.
	850006	1	7/16" x 3/8", 2.400 O.A.L.
	850013	1	7/16" x 3/8", 2.500 O.A.L.
	850014	1	7/16" x 7/16", 2.650 O.A.L.
Rocker Arm Kits (Stamped Steel Long Slot)	818001	A/R	Long Slot Stamped Steel 1.5 ratio, non-self aligning (Pkg. 4/Cd)
	818015	A/R	Long Slot Stamped Steel 1.6 ratio, non self-aligning (Pkg. 4/Cd)
	818016	A/R	Long Slot Stamped Steel 1.5 ratio, 7/16" stud, non-self aligning (Pkg. 4/Cd)
	818017	A/R	Long Slot Stamped Steel 1.6 ratio, 7/16" stud, non-self aligning (Pkg. 4/Cd)
Valve Guides	813001	A/R	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.250 Length (Pkg. 4/Cd)
	813108	A/R	Manganese Bronze, 343 I.D., .502 O.D., 2.125 Length (Pkg. 4/Cd)
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
Valve Cover Stud Kits (Hi-Tensile)	859031	1	Use w/ Stamped Steel Valve Covers
Valve Lifters	812002	12	w/ Hydraulic lifters
	812003	12	Anti-Pump Up
	812026	12	Mechanical
Valve Seats	814030	6	Exh. - High Chrome, 1.3125 I.D., 1.5625 O.D., .250 Depth 45° Seat Angle, 1.562 Counter Bore Size
Valve Springs	810101	12	Single w/ Damper w/ Hydraulic lifters (max. valve lift .490)
Valve Spring Insert Kits	819001	1	1.250 x .812 x .060
	819002	1	1.250 x .812 x .030
	819003	1	1.250 x .812 x .015
	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup Type insert)
Valve Spring Insert Kits	819001	1	1.250 x .812 x .060
	819002	1	1.250 x .812 x .030
	819003	1	1.250 x .812 x .015
	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817100	1	Use w/Spring #810101, w/1.700" installed height
	817108	1	Use w/Spring #810101, w/+.075" installed height
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
	811005	1	All Viton, .343 Stem, .530 Guide
	811006	1	SVR, .343 Stem, .500 Guide (Red)
	811007	1	SVR, .343 Stem, .530 Guide (Orange)



**230**  
6 Cyl. (3.8L)

**1963-70**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Bellhousing Bolt Kits (12 Pt. Hi-Tensile)	854019	1	3/8"-16 x 1-1/2"
Connecting Rod Nuts	852003	12	11/32"-24
Connecting Rod Nut Kits	852014	1	11/32"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853004	1	11/32" Diameter, Premium Performance
	853201	1	11/32" Diameter, Standard Performance
Dowel Pin Kits	839004	1	Head to block

## CHEVROLET – Cont'd.



**230 - Cont'd.**  
6 Cyl. (3.3L)

**1963-70**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS - Cont'd.</b>			
Flexplates (SFI Certified)	871001	1	14.13" Dia. w/o Weight
	871004	1	12.85" Dia. w/o Weight
Flexplate Bolt Kits	859022	1	7/16"-20 x 11/16"
Flywheel Bolt Kits	859026	1	7/16"-20 x 1"
Harmonic Balancer Repair Sleeves	835011	1	
Main Stud Kits	855002	1	
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Pilot Bushings	873001	1	
Pilot Bushings (Roller)	873008	1	Roller Bearing
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
Torque Converter Bolt Kits	859035	1	G.M. TH400, 3/8"-16 x 1/2"
	859036	1	G.M. TH350, Powerglide, 3/8"-24 x 1/2" w/ Ny-Lock Nuts
Transmission Bolt Kits	859014	1	7/16" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16-18/24 x 1 5/16", Powerglide & Turbo 350,400
	859034	1	Bolt Kit, Hex Head, 5/16"-18 x 3/4"
Woodruff Key Kits	839009	1	Short, 3/16" x 3/4"
	839010	1	Long, 3/16" x 1-3/8"
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852100	14	7/16" I.D. x 13/16" O.D. x .120 Head Bolt Washer, Premium
	852112	14	7/16" I.D. x 3/4" O.D. x .065 Head Bolt Washer, Economy
Head Stud Kits	851003	1	
Head Bolt Washer Kits	852096	1	Economy, 7/16" I.D. x 3/4" O.D. (34 pcs. skin pkg.)
	852098	1	Premium, 7/16" I.D. x 13/16" O.D. (34 pcs. skin pkg)
Rocker Arm Fasteners (Posi-Locks)	850008	1	3/8" Stud w/O.E. Rockers
Rocker Arm Fasteners (Rocker Studs)	850001	1	7/16" x 3/8" w/O Jam Nut
	850006	1	7/16" x 3/8", 2.400 O.A.L.
	850013	1	7/16" x 3/8", 2.500 O.A.L.
Valve Guides	813001	A/R	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.250 Length
	813108	A/R	Manganese Bronze, 343 I.D., .502 O.D., 2.125 Length
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
Valve Lifters	812002	12	w/ Hydraulic lifters
	812003	12	Anti-Pump Up
	812026	12	Mechanical
Valve Seats	814030	6	Exh. - High Chrome, 1.3125 I.D., 1.5625 O.D., .250 Depth 45° Seat Angle, 1.562 Counter Bore Size
Valve Springs	810101	12	Single w/ Damper w/ Hydraulic lifters (max. valve lift .490)
Valve Spring Insert Kits	819001	1	1.250 x .812 x .060
Valve Spring Retainer Kits	817100	1	Use w/Spring #810101 w/1.700" Installed Height
	819002	1	1.250 x .812 x .030
	819003	1	1.250 x .812 x .015
	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
	811005	1	All Viton, .343 Stem, .530 Guide
	811006	1	SVR, 343 Stem, .500 Guide (Red)
	811007	1	SVR, .343 Stem, .530 Guide (Orange)
Valves (Stainless Steel)	820120	6	Intake, 1.72" Head Dia.

## CHEVROLET – Cont'd.



**250**  
**6 Cyl. (4.1)**

**1966-79**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Bellhousing Bolt Kits (12 Pt. Hi-Tensile)	854019	1	3/8"-16 x 1-1/2"
Connecting Rod Nuts	852003	12	11/32"-24
Connecting Rod Nut Kits	852014	1	11/32"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853004	1	11/32" Diameter, Premium Performance
	853201	1	11/32" Diameter, Standard Performance
Dowel Pin Kits	839004	1	Head to block
Flexplates (SFI Certified)	871001	1	14.13" Dia. w/o Weight
	871004	1	12.85" Dia. w/o Weight
Flexplate Bolt Kits	859022	1	7/16"-20 x 11/16"
Flywheel Bolt Kits	859026	1	7/16"-20 x 1"
Harmonic Balancer Repair Sleeves	835011	1	
Main Stud Kits	855002	1	
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Pilot Bushings	873001	1	
Pilot Bushings (Roller)	873008	1	Roller Bearing
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
Torque Converter Bolt Kits	859035	1	G.M. TH400, 3/8"-16 x 1/2"
	859036	1	G.M. TH350, Powerglide, 3/8"-24 x 1/2" w/ Ny-Lock Nuts
Transmission Bolt Kits	859014	1	7/16" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16-18/24 x 1 5/16", Powerglide & Turbo 350,400
	859034	1	Bolt Kit w/ Hex Head, Powerglide & Turbo 350,400
Woodruff Key Kits	839009	1	Short, 3/16" x 3/4"
	839010	1	Long, 3/16" x 1-3/8"
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852100	14	7/16" I.D. x 13/16" O.D. x .120 Head Bolt Washer, Premium
	852112	14	7/16" I.D. x 3/4" O.D. x .065 Head Bolt Washer, Economy
Head Stud Kits	851003	1	
Head Bolt Washer Kits	852096	1	Economy, 7/16" I.D. x 3/4" O.D. (34 pcs. skin pkg.)
	852098	1	Premium, 7/16" I.D. x 13/16" O.D. (34 pcs. skin pkg.)
Rocker Arm Fasteners (Posi-Locks)	850008	1	3/8" Stud w/O.E. Rockers
Rocker Arm Fasteners (Rocker Studs)	850001	1	7/16" x 3/8" w/O Jam Nut
	850006	1	7/16" x 3/8", 2,400 O.A.L.
	850013	1	7/16" x 3/8", 2,500 O.A.L.
	850014	1	7/16" x 3/8", 2,400 O.A.L.
Valve Guides	813001	A/R	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.250 Length
	813108	A/R	Manganese Bronze, 343 I.D., .502 O.D., 2.125 Length
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
Valve Lifters	812002	12	w/ Hydraulic lifters
	812003	12	Anti-Pump Up
	812026	12	Mechanical
Valve Springs	810101	12	Single w/ Damper w/ Hydraulic lifters (max. valve lift .490)
Valve Spring Insert Kits	819001	1	1.250 x .812 x .060
	819002	1	1.250 x .812 x .030
	819003	1	1.250 x .812 x .015
	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817100	1	Use w/Spring #810101, w/1.700" installed height
	817108	1	Use w/Spring #810101, w/+.075" taller height
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811005	1	All Viton, .343 Stem, .500 Guide
	811006	1	SVR, .343 Stem, .500 Guide (Red)
	811007	1	SVR, .343 Stem, .530 Guide (Orange)
Valves (Stainless Steel)	820120	6	Intake, 1.72" Head Dia.



## CHEVROLET – Cont'd.



**262 Z**  
**6 Cyl. (4.3L)**

**1985-98**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Bellhousing Bolt Kits (12 Pt. Hi-Tensile)	854019	1	3/8"-16 x 1-1/2"
Cam Button Kits	839028	1	.670 Length
	839029	1	.850 Length
	839038	1	.795 Length (Roller)
Cam Correct	839043	1	Kit w/Drill Jig
	839045	1	Replacement Spring Shoe w/Hardware
Cam Gear Bolts	839037	1	Pkg. 3 Per Card
Cam Gear Lock Plates	839030	1	w/Bolts, except Factory Roller
Connecting Rod Nuts	852001	12	3/8"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
Distributor Gears (Bronze)	839013	1	.500 Diameter Shaft
	839014	1	w/O.E. .491 Diameter Shaft
Distributor Hold Down Clamp (Chrome)	839062	1	
Dowel Pin Kits	839004	1	Head to block
	839032	1	Bellhousing to Block, Extra Long
	839047	1	Cam Sprocket Dowel
Flexplate Bolt Kits	859022	1	7/16"-20 x 11/16" (Prior to 1986)
	859029	1	1986-97 w/1 Pc. Rear Seal, 7/16"-20 x 11/16"
Flexplates (SFI Certified)	871001	1	14.13" Dia. w/o Weight, (Prior to 1986)
	871004	1	12.85" Dia. w/o Weight, (prior to 1986)
	871006	1	14.13" Dia. w/Weight, 1986-97
	871010	1	12.85" Dia. w/Weight, 1986-97
Flywheel Bolt Kits	859026	1	7/16"-20 x 1", (prior to 1986)
	859030	1	1986-97 w/ 1 Pc. Rear Seal, 7/16"-20 x 1"
Fuel Pump Block Off Kits	839033	1	
Fuel Pump Mounting Plate	839050	1	
Harmonic Balancers	872001	1	6 1/4" Dia. Street
	872002	1	7" Dia. Street
	872003	1	8" Dia. Street
	872021	1	6 1/4" Dia. Race
	872022	1	7" Dia. Race
	872023	1	8" Dia. Race
	<b>NEW! 872060</b>	<b>1</b>	<b>6-1/4" Dia. Race w/Big Block Snout</b>
	<b>NEW! 872061</b>	<b>1</b>	<b>7" Dia. Race w/Big Block Snout</b>
Harmonic Balancer Bolt Kit	859013	1	
	859045	1	1 Piece Chrome Moly
	<b>NEW! 859047</b>	<b>1</b>	<b>12 Pt. Chrome Moly</b>
Harmonic Balancer Repair Sleeves	835011	1	
Lifter Valley Screen Kit	839055	1	
Lifter Valley Vent Tube Kit	839042	1	
Main Bolt Kits	855205	1	2 Bolt
	855206	1	4 Bolt
Main Stud Kits	855023	1	2 Bolt
	855024	1	4 Bolt
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (Hex Head)	859017	1	Hex Head (Prior to 1986) 1/4" x 7/16" (14) & 5/16" x 9/16" (4)
Oil Pan Stud Kit (Hi-Tensile)	859008	1	
Oil Pumps (High Volume)	836021	1	Increased pressure and volume, includes screen assembly (1985-94) (May require oil pan modification)
Oil Pump Bolt Kits (12 Pt. Hi-Tensile)	854021	1	7/16"-14 x 2", 12 Pt.
Oil Pump Intermediate Shafts	838005	1	w/Steel Shaft Guide (1985-96)
Oil Pump Pick Up Retainer	839061	1	w/ 5/8" Dia. Tube
Oil Pump Screens	837012	1	1985-94
Oil Pump Stud Kit	859039	1	3.120 Length
Oil Restrictor Kits	839031	1	Prior to 1986
	839041	1	1986 -97 and Bow Tie Blocks
Pilot Bushings	873001	1	
Pilot Bushings (Roller)	873008	1	Roller Bearing
Timing Cover Bolt Kits (Hex Head)	859021	1	Hex Head 1/4" x 1/2" (10)
Timing Cover Stud Kit (Hi-Tensile)	859011	1	

(See **PRODUCT SECTION** for description and specifications.)

(Application Matrix Section - Continued on next page)

## CHEVROLET – Cont'd.



**262 Z - Cont'd.**  
6 Cyl. (4.3L)

1985-98

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS - Cont'd.</b>			
Timing Indicator (adjustable)	839051	1	w/ 6 1/4" Balancer
Timing Indicator (adjustable)	839052	1	w/ 7" Balancer
Timing Indicator (adjustable)	839053	1	w/ 8" Balancer
Woodruff Key Kits	839009	1	Short, 3/16" x 3/4"
	839010	1	Long, 3/16" x 1-3/8"
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852100	12	7/16" I.D. x 13/16" O.D. x .120 Head Bolt Washer, Premium
	852112	12	7/16" I.D. x 3/4" O.D. x .065 Head Bolt Washer, Economy
Header Bolt Kits (12 Pt. Hi-Tensile)	854014	1	3/8"-16 x 3/4" Stainless Steel (12 Bolt Kit)-Universal
	854023	1	3/8"-16 x 3/4", 12 Pt.(12 Bolt Kit)-Universal
	859040	1	3/8"-16 x 3/4", Hex Head (12 Bolt Kit)-Universal
Head Bolt Kit	851204	1	w/O.E. Cast Iron and Aluminum Cylinder Heads
Head Stud Kit	851024	1	w/O.E. Cast Iron and Aluminum Cylinder Heads
Head Bolt Washer Kits	852096	1	Economy, 7/16" I.D. x 3/4" O.D. (34 pcs. skin pkg.)
	852098	1	Premium, 7/16" I.D. x 13/16" O.D. (34 pcs. skin pkg.)
Push Rods (Chrome Moly)	815205	12	Except Factory Roller, 7.794 O.A.L.
	815215	12	.100 Longer
	815216	12	3/8" Diameter, 7.794 O.A.L.
Push Rods (One-Piece)	815007	A/R	5/16" Diameter, 7.800 O.A.L.
	815008	A/R	5/16" Diameter, 7.850 O.A.L.
	815009	A/R	5/16" Diameter, 7.900 O.A.L.
	815010	A/R	5/16" Diameter, 7.9500 O.A.L.
	815192	1	.100 longer
Push Rod Kits (O.E. Replacement)	815193	1	w/Factory Roller Lifters
	815194	1	
Push Rod Guide Plate Kits	821002	1	5/16", flat
	821004	1	5/16", step
	821005	1	3/8", step
Rocker Arm Ball/Fulcrum Kits	822001	1	
Rocker Arm Fasteners (Posi-Locks)	850008	1	3/8" Stud w/O.E. Rockers
	850010	1	7/16" Stud w/O.E. Rockers
	850012	1	7/16" Stud, Aluminum Roller Rockers
	850017	A/R	Use w/Stud Girdle and Roller Rockers w/3/8" Rocker Studs (Pkg. 8/Cd.)
	850018	A/R	Use w/Stud Girdle and Roller Rockers w/3/8" Rocker Studs (Pkg. 2/Cd.)
	850019	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 8/Cd.)
	850020	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 2/Cd.)
	850022	A/R	7/16" Stud, Aluminum Roller Rockers (Pkg. 2/Card)
Rocker Arm Fasteners (Rocker Studs)	850001	1	7/16" x 3/8" w/o Jam Nut
	850003	1	7/16" x 7/16", 2.540 O.A.L.
	850006	1	7/16" x 3/8", 2.400 O.A.L.
	850013	1	7/16" x 3/8", 2.500 O.A.L.
	850014	1	7/16" x 7/16", 2.650 O.A.L.
Rocker Arm Kits (Stamped Steel Long Slot)	818001	A/R	Long Slot Stamped Steel -1.5 ratio, non-self aligning (Pkg. 4/Cd.)
	818015	A/R	Long Slot Stamped Steel -1.6 ratio, non self-aligning (Pkg. 4/Cd.)
	818016	A/R	Long Slot Stamped Steel -1.5 ratio, 7/16" stud, non-self aligning (Pkg. 4/Cd.)
	818017	A/R	Long Slot Stamped Steel -1.6 ratio, 7/16": stud, non-self aligning (Pkg. 4/Cd.)
	818019	A/R	Long Slot Stamped Steel 1.5 ratio, 3/8" stud, self aligning (Pkg.4/Cd.)
	818020	A/R	Long Slot Stamped Steel 1.6 ratio, 3/8" stud, self aligning (Pkg.4/Cd.)
Valve Guides	813001	A/R	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.250 Length
	813108	A/R	Manganese Bronze, 343 I.D., .502 O.D., 2.125 Length
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
	816175	1	11/32" Single Groove, Machined 10°
Valve Cover Stud Kits (Hi-Tensile)	859031	1	Use w/ Stamped Steel Valve Covers (Except Center Bolt Valve/Cover)
Valve Lifters	812002	12	w/ Hydraulic lifters (Except O.E. Roller)
	812003	12	Anti-Pump Up (Except O.E. Roller)
	812026	12	Mechanical (Except O.E. Roller)
Valve Seats	814030	6	Exh. - High Chrome, 1.3125 I.D., 1.5625 O.D., .250 Depth 45° Seat Angle, 1.562 Counter Bore Size

# APPLICATION MATRIX SECTION

29

## CHEVROLET – Cont'd.



**262 Z - Cont'd.**  
6 Cyl. (4.3L)

**1985-98**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION	
<b>CYLINDER HEAD COMPONENTS - Cont'd.</b>				
Valve Springs	810010	12	Single w/Damper w/Hydraulic Flat Tappet Lifters, except Vortec/LT1 (max valve lift .490)	
	810107	12	Single w/Damper w/Mechanical Flat Tappet/Hydraulic Roller Lifters, except Vortec/LT1 (Max. Valve Lift.550)	
	810108	12	Single w/Damper w/Mechanical Flat Tappet/Hydraulic Roller Lifters, except Vortec/LT1 (Max. Valve Lift .600)	
	810109	12	Single Conical w/Hydraulic Roller Lifters-Retro Fit for Vortec/LT1 (Max Valve lift .500)	
	810201	12	Dual w/ Mechanical Flat Tappet Lifters (Max. Valve Lift. 590)	
	810206	12	Dual w/ Mechanical Roller Lifters (Max Valve Lift .590)	
	810207	12	Dual w. Mechanical Roller Lifters (max. Valve Lift .610)	
	<b>NEW!</b> 810210	<b>16</b>	<b>Dual w/Damper w/Mech. Flat Tappet/Hyd. Roller Lifters (Max. Valve Lift .590)</b>	
	Valve Spring Insert Kits	819001	1	1.250 x .812 x .060
		819002	1	1.250 x .812 x .030
819003		1	1.250 x .812 x .015	
819007		1	1.437 x .645 x .060	
819008		1	1.437 x .645 x .030	
819009		1	1.437 x .645 x .015	
819021		1	1.460 x .565 x .060 (Cup type insert)	
Valve Spring Retainer Kits	817100	1	Use w/Spring #810010, w/1.700 installed height	
	817102	1	Use w/Spring #810210, w/+.040" installed height	
	817104	1	Use w/Spring #810201, w/+.100" installed height	
	817108	1	Use w/Spring #810010, 810107, 810108 w/+.075" installed height	
	817110	1	10°. Use w/Spring #810201, 810206, 810207 w/+.100 installed height	
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick	
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide	
	811003	1	All Teflon, .343 Stem, .500 Guide	
	811005	1	All Viton, .343 Stem, .530 Guide	
	811006	1	SVR .343 Stem, .500 Guide (Red)	
	811007	1	SVR .343 Stem, 530 Guide (Orange)	
	Valves (Stainless Steel)	820120	6	Intake, 1.72" Head Dia.
820320		8	Intake, 2.02" Head Dia., w/undercut Stem	
820321		8	Intake, 2.02" Head Dial., w/undercut Stem, +.100 longer than stock)	
820322		8	Intake, 2.05 Head Dia., w/undercut Stem	
820326		8	Exhaust, 1.60 Head Dia., w/undercut Stem	



**283**  
8 Cyl. (4.6L)

**1957-67**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Bellhousing Bolt Kits (12 Pt. Hi-Tensile)	854019	1	3/8"-16 x 1-1/2"
Cam Button Kits	839028	1	.670 Length
	839029	1	.850 Length
	839038	1	Roller, .795 Length
Cam Correct	839043	1	Kit w/Drill Jig
	839045	1	Replacement Spring Shoe w/Hardware
Cam Gear Bolts	839037	1	Pkg. 3/Card
Cam Gear Lock Plates	839030	1	w/Bolts
Connecting Rod Nuts	852001	16	3/8"-24
	852003	16	11/32"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
	852014	1	11/32"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853004	1	11/32" Diameter, Premium Performance
	853005	1	3/8" Diameter, Premium Performance
	853201	1	11/32" Diameter, Standard Performance
	853204	1	3/8" Diameter, Standard Performance
Distributor Gears (Bronze)	839013	1	.500 Diameter Shaft
	839014	1	w/O.E. .491 Dia. Shaft
Distributor Hold Down Clamp (Chrome)	839062	1	

## CHEVROLET – Cont'd.



**283 - Cont'd.**  
8 Cyl. (4.6L)

1957-67

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS - Cont'd.</b>			
Dowel Pin Kits	839004	1	Head to block
	839032	1	Bell Housing to Block, Extra Long
	839047	1	Cam Sprocket Dowel
	839059	1	Timing Cover Dowel
Expansion Plug Kits (Brass)	830001	1	Brass
Flexplate Bolt Kits	859022	1	7/16"-20 x 11/16"
Flexplates (SFI Certified)	871001	1	14.13" Dia. w/o Weight
	871004	1	12.85" Dia. w/o Weight
Flywheel Bolt Kits	859026	1	7/16"-20 x 1"
Fuel Pump Mounting Plate	839050		
Fuel Pump Block Off Kits	839033	1	
Fuel Pump Push Rod Kits	839035	1	Steel Billet Camshaft
	839036	1	Cast Billet Camshaft
Harmonic Balancers	872001	1	6 1/4" Dia. Street
	872002	1	7" Dia. Street
	872003	1	8" Dia. Street
	872021	1	6 1/4" Dia. Race
	872022	1	7" Dia Street
	872023	1	8" Dia Street
	<b>NEW! 872060</b>	1	<b>6-1/4" Dia. Race w/Big Block Snout</b>
	<b>NEW! 872061</b>	1	<b>7" Dia. Race w/Big Block Snout</b>
Harmonic Balancer Bolt Kit	859012	1	
	859045	1	1 Piece Chrome Moly
	<b>NEW! 859047</b>	1	<b>12 Pt. Chrome Moly</b>
Harmonic Balancer Repair Sleeves	835011	1	
Lifter Valley Vent Tube Kit	839042	1	
Lifter Valley Screen kit	839055	1	
Main Stud Kits	855021	1	Small Journal (2 Bolt)
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (Hex Head)	859017	1	Hex Head - 1/4" x 7/16" (14) & 5/16" x 9/16" (4)
Oil Pan Stud Kit (Hi-Tensile)	859008	1	
Oil Pumps (High Volume)	836021	1	Increased pressure and volume, includes screen assembly (May require oil pan modification)
Oil Pump Bolt Kits (12 Pt. Hi-Tensile)	854021	1	7/16"-14 x 2", 12 Pt.
Oil Pump Intermediate Shafts	838005	1	w/Steel Shaft Guide
Oil Pump Pick Up Retainer	839061	1	w/ 5/8" dia. tube
Oil Pump Screens	837012	1	
Oil Pump Stud Kit	859039	1	3.120 Length
Oil Restrictor Kits	839031	1	
Pilot Bushings	873001	1	
Pilot Bushings (Roller)	873008	1	Roller Bearing
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
Timing Cover Bolt Kits (Hex Head)	859021	1	Hex Head 1/4" x 1/2" (10)
Timing Cover Stud Kit (Hi-Tensile)	859011	1	
Timing Indicator (adjustable)	839051	1	w/6 1/4" balancer
Timing Indicator (adjustable)	839052	1	w/7" balancer
Timing Indicator (adjustable)	839053	1	w/8" balancer
Torque Converter Bolt Kits	859035	1	G.M. TH400, 3/8"-16 x 1/2"
	859036	1	G.M. TH350, Powerglide, 3/8"-24 x 1/2" w/ Ny-Lock Nuts
Transmission Bolt Kits	859014	1	7/16" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", Powerglide & Turbo 350,400
	859034	1	Bolt Kit w/Hex Head, Powerglide & Turbo 350,400
Woodruff Key Kits	839009	1	Short, 3/16" x 3/4"
	839010	1	Long, 3/16" x 1-3/8"



## CHEVROLET – Cont'd.



**283 - Cont'd.**  
**8 Cyl. (4.6L)**

**1957-67**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852100	34	7/16" I.D. x 13/16" O.D. x .120 Head Bolt Washer, Premium
	852112	34	7/16" I.D. x 3/4" O.D. x .065 Head Bolt Washer, Economy
Header Bolt Kits (12 Pt. Hi-Tensile)	854014	1	3/8"-16 x 3/4" Stainless Steel (12 Bolt Kit)-Universal
	854023	1	3/8"-16 x 3/4", 12 Pt. (12 Bolt Kit)-Universal
	859040	1	3/8"-16 x 3/4", Hex Head (12 Bolt)-Universal
Head Bolt Kit	851200	1	w/O.E. Cast Iron and Aluminum, AFR, Brodirx-8, -10, -11, -11xb, Dart stock replacement cyl. heads
Head Stud Kits	851004	1	w/O.E. Cast Iron and Aluminum, AFR, Brodirx -8,-10,-11,-11XB Brownfield, Dart (stock replacement) Cylinder Heads
	851018	1	w/O.E. Cast Iron and Aluminum, AFR, Brodirx -8,-10,-11,-11XB Brownfield, Dart (Stock Replacement) Cyl. Heads w/12 Pt. Nuts
	851019	1	w/ Chevy 18° High Port Cyl. Heads, 7/16" Studs, 12 Pt.
	851023	1	w/Dart II Cyl. Heads
	851026	1	w/Dart II and Pontiac Motorsports #10033867 Cylinder Heads with 12 Pt. Nuts
Head Bolt Washer Kits	852096	1	Economy, 7/16" I.D. x 3/4" O.D. (34 pcs. skin pkg.)
	852098	1	Premium, 7/16" I.D. x 13/16" O.D. (34 pcs. skin pkg.)
Push Rods (Chrome Moly)	815205	16	7.794 O.A.L.
	815215	16	.100 Longer
	815216	16	3/8" Diameter, 7.794 O.A.L.
Push Rods (One-Piece)	815007	A/R	5/16" Diameter, 7.800 O.A.L.
	815008	A/R	5/16" Diameter, 7.850 O.A.L.
	815009	A/R	5/16" Diameter, 7.900 O.A.L.
	815010	A/R	5/16" Diameter, 7.950 O.A.L.
	815192	1	.100 longer
Push Rod Kits (O.E. Replacement)	815194	1	
Push Rod Guide Plate Kits	821002	1	5/16", flat
	821004	1	5/16", step
	821005	1	3/8", step
Rocker Arm Ball/Fulcrum Kits	822001	1	
Rocker Arm Fasteners (Posi-Locks)	850008	1	3/8" Stud w/O.E. Rockers
	850010	1	7/16" Stud w/O.E. Rockers
	850012	1	7/16" Stud, Aluminum Roller Rockers
	850017	A/R	Use w/Stud Girdle and Roller Rockers w/ 3/8" Rocker Studs (Pkg. 8/Cd.)
	850018	A/R	Use w/Stud Gridle and Roller Rockers w/3/8" Rocker Studs (Pkg. 2/Cd.)
	850019	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 8/Cd.)
	850020	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 2/Cd.)
	850022	A/R	7/16" Stud, Aluminum Roller Rockers (Pkg. 2/Card)
Rocker Arm Fasteners (Rocker Studs)	850001	1	7/16" x 3/8" w/o Jam Nut
	850003	1	7/16" x 7/16", 2.540 O.A.L.
	850006	1	7/16" x 3/8", 2.400 O.A.L.
	850013	1	7/16" x 3/8", 2.500 O.A.L.
	850014	1	7/16" x 7/16", 2.650 O.A.L.
Rocker Arm Kits (Stamped Steel Long Slot)	818001	A/R	Long Slot Stamped Steel (1.5 ratio, non-self aligning) Pkg. 4/CD
	818015	A/R	Long Slot Stamped Steel (1.6 ratio, non self-aligning) Pkg. 4/CD
	818016	A/R	Long Slot Stamped Steel (1.5 ratio, 7/16" stud, non-self aligning) Pkg. 4/CD
	818017	A/R	Long Slot Stamped Steel (1.6 ratio, 7/16" stud, non-self aligning) Pkg. 4/CD
Rocker Stud Girdle	823001	1	O.E. Design Heads w/3/8" Rocker Studs
Valve Guides	813001	A/R	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.250 Length
	813002	A/R	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.375 Length
	813102	A/R	Manganese Bronze, .343 I.D., .502 O.D., 2.375 Length
	813108	A/R	Manganese Bronze, 343 I.D., .502 O.D., 2.125 Length
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
	816175	1	11/32" Single Groove, Machined 10°
Valve Cover Stud Kits (Hi-Tensile)	859031	1	Use w/ Stamped Steel Valve Covers
Valve Lifters	812002	16	w/ Hydraulic lifters
	812003	16	Anti-Pump Up
	812026	16	Mechanical
Valve Seats	814030	8	Exh. - High Chrome, 1.3125 I.D., 1.5625 O.D., .250 Depth 45° Seat Angle, 1.562 Counter Bore Size

## CHEVROLET – Cont'd.



**283 - Cont'd.**  
8 Cyl. (4.6L)

**1957-67**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS - Cont'd.</b>			
Valve Springs	810010	16	Single w/Damper, w/Hydraulic Lifters, max. valve lift .490
	810107	16	Single w/Damper w/Mechanical Lifters (max. valve lift .550)
	810108	16	Single w/damper w/ mechanical lifters (Max. valve lift .600)
	810201	16	Dual w/ Mechanical lifters, max. valve lift .590
	810206	16	Dual w/Mech. Roller Lifters, max. valve lift .590
	810207	16	Dual w/Mech. Roller Lifters (Max valve lift .610)
	<b>NEW! 810210</b>	<b>16</b>	<b>Dual w/Damper w/Mech. Flat Tappet/Hyd. Roller Lifters (Max. Valve Lift .590)</b>
Valve Spring Insert Kits	819001	1	1.250 x .812 x .060
	819002	1	1.250 x .812 x .030
	819003	1	1.250 x .812 x .015
	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
	817100	1	Use w/Spring #810010, w/1.700" installed height
Valve Spring Retainer Kits	817102	1	Use w/Spring #810210, w/+.040" installed height
	817104	1	Use w/Spring #810201, 810207 w/+.100" installed height
	817108	1	Use w/ spring #810010, 810107, 810108 w/ + .75" installed height
	817110	1	10°, Use w/Spring #810201, 810206, 810207 w/+.100" installed height
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
	811005	1	All Viton, .343 Stem, .530 Guide
	811006	1	SVR, .343 Stem, .500 Guide (Red)
	811007	1	SVR, .343 Stem, .530 Guide (Orange)
	811007	1	SVR, .343 Stem, .530 Guide (Orange)
Valves (Stainless Steel)	820120	8	Intake, 1.72" Head Dia.
	820320	8	Intake, 2.02 Head Dia., w/undercut stem
	820321	8	Intake, 2.02 Head Dia., w/undercut stem, + .100 longer than stock
	820322	8	Intake, 2.05 Head Dia., w/undercut stem)
	820326	8	Exhaust, 1.60 Head Dia., w/undercut stem



**302**  
8 Cyl. (5.0L)

**1967-69**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Bellhousing Bolt Kits (12 Pt. Hi-Tensile)	854019	1	3/8"-16 x 1-1/2"
Cam Button Kits	839028	1	.670 Length
	839029	1	.850 Length
	839038	1	Roller, .795 Length
Cam Correct	839043	1	Kit w/Drill Jig
	839045	1	Replacement Spring Shoe w/Hardware
Cam Gear Bolts	839037	1	Pkg. 3 /Card
Cam Gear Lock Plates	839030	1	w/Bolts
Connecting Rod Nuts	852001	16	3/8"-24
	852003	16	11/32"-24
	852012	1	3/8"-24 (16 pcs. skin pkg.)
Connecting Rod Nut Kits	852014	1	11/32"-24 (16 pcs. skin pkg.)
	853004	1	11/32" Diameter, Premium Performance
Connecting Rod Bolt Kits	853005	1	3/8" Diameter, Premium Performance
	853201	1	11/32" Diameter, Standard Performance
	853204	1	3/8" Diameter, Standard Performance
	839013	1	.500 Diameter Shaft
Distributor Gears (Bronze)	839014	1	w/O.E. .491 Dia. Shaft
	839062	1	
Distributor Hold Down Clamp (Chrome)	839004	1	Head to block
Dowel Pin Kits	839032	1	Bell Housing to Block, Extra Long
	839047	1	Cam Sprocket Dowel
	839059	1	Timing Cover Dowel

## CHEVROLET – Cont'd.



**302 - Cont'd.**  
8 Cyl. (5.0L)

**1967-69**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS - Cont'd.</b>			
Expansion Plug Kits (Brass)	830001	1	Brass
Flexplate Bolt Kits	859022	1	7/16"-20 x 11/16"
Flexplates (SFI Certified)	871001	1	14.13" Dia. w/o Weight
	871004	1	12.85" Dia. w/o Weight
Flywheel Bolt Kits	859026	1	7/16"-20 x 1"
Fuel Pump Block Off Kits	839033	1	
Fuel Pump Mounting Plate	839050	1	
Fuel Pump Push Rod Kits	839035	1	Steel Billet Camshaft
	839036	1	Cast Billet Camshaft
Harmonic Balancers	872001	1	6 1/4" Dia. Street
	872002	1	7" Dia. Street
	872003	1	8" Dia. Street
	872021	1	6 1/4" Dia. Race
	872022	1	7" Dia. Race
	872023	1	8" Dia. Race
	<b>NEW! 872060</b>	1	<b>6-1/4" Dia. Race w/Big Block Snout</b>
	<b>NEW! 872061</b>	1	<b>7" Dia. Race w/Big Block Snout</b>
Harmonic Balancer Bolt Kit	859012	1	
	859045	1	1 Piece Chrome Moly
	<b>NEW! 859047</b>	1	<b>12 Pt. Chrome Moly</b>
Harmonic Balancer Repair Sleeves	835011	1	
Lifter Valley Vent Tube Kit	839042	1	
Lifter Valley Screen kit	839055	1	
Main Stud Kits	855021	1	Small Journal (2 Bolt)
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (Hex Head)	859017	1	Hex Head 1/4" x 7/16" (14) & 5/16" x 9/16" (4)
Oil Pan Stud Kit (Hi-Tensile)	859008	1	
Oil Pumps (High Volume)	836021	1	Increased pressure and volume, includes screen assembly (May require oil pan modification)
Oil Pump Bolt Kits (12 Pt. Hi-Tensile)	854021	1	7/16"-14 x 2", 12 Pt.
Oil Pump Intermediate Shafts	838005	1	w/Steel Shaft Guide
Oil Pump Pick Up Retainer	839061	1	w/5/8" dia. tube
Oil Pump Screens	837012	1	
Oil Pump Stud Kit	859039	1	3.120 Length
Oil Restrictor Kits	839031	1	
Pilot Bushings	873001	1	
Pilot Bushings (Roller)	873008	1	Roller Bearing
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
Timing Cover Bolt Kits (Hex Head)	859021	1	Hex Head 1/4" x 1/2" (10)
Timing Cover Stud Kit (Hi-Tensile)	859011	1	
Timing Indicator (adjustable)	839051	1	w/ 6 1/4" balancer
Timing Indicator (adjustable)	839052	1	w/ 7" balancer
Timing Indicator (adjustable)	839053	1	w/ 8" balancer
Torque Converter Bolt Kits	859035	1	G.M. TH400, 3/8"-16 x 1/2"
	859036	1	G.M. TH350, Powerglide, 3/8"-24 x 1/2" w/ Ny-Lock Nuts
Transmission Bolt Kits	859014	1	7/16" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", Powerglide & Turbo 350,400
	859034	1	Bolt Kit w/Hex Head, Powerglide & Turbo 350,400
Woodruff Key Kits	839009	1	Short, 3/16" x 3/4"
	839010	1	Long, 3/16" x 1-3/8"
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852100	34	7/16" I.D. x 13/16" O.D. x .120 Head Bolt Washer, Premium
	852112	34	7/16" I.D. x 3/4" O.D. x .065 Head Bolt Washer, Economy
Header Bolt Kits (12 Pt. Hi-Tensile)	854014	1	3/8"-16 x 3/4" Stainless Steel (12 Bolt Kit)-Universal
	854023	1	3/8"-16 x 3/4", 12 Pt.(12 Bolt Kit)- Universal
	859040	1	3/8"-16 x 3/4", Hex Head (12 Bolt Kit)-Universal
Head Bolt Kit	851200	1	w/O.E. Cast Iron and Aluminum, AFR, Brodix-8, -10, -11, -11xb, Dart stock replacement cylinder heads

## CHEVROLET – Cont'd.



**302 - Cont'd.**  
8 Cyl. (5.0L)

1967-69

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS - Cont'd.</b>			
Head Stud Kits	851004	1	w/O.E. Cast Iron and Aluminum, AFR, Brodix -8,-10,-11,-11XB Brownfield, Dart (stock replacement) Cylinder Heads
	851018	1	w/O.E. Cast Iron and Aluminum, AFR, Brodix -8,-10,-11,-11XB Brownfield, Dart (Stock Replacement) Cyl. Heads w/12 Pt. Nuts
	851019	1	w/Chevy 18° High Port Cyl. Heads w/7/16" Studs w/12 Pt Nuts
	851023	1	w/Dart II Cyl. Heads
	851026	1	w/Dart II and Pontiac Motorsports #10033867 Cylinder Heads with 12 Pt. Nuts
Head Bolt Washer Kits	852096	1	Economy, 7/16" I.D. x 3/4" O.D. (34 pcs. skin pkg.)
	852098	1	Premium, 7/16" I.D. x 13/16" O.D. (34 pcs. skin pkg.)
Push Rods (Chrome Moly)	815205	16	7.794 O.A.L.
	815215	16	.100 Longer
	815216	16	3/8" Diameter, 7.794 O.A.L.
Push Rods (One-Piece)	815007	A/R	5/16" Diameter, 7.800 O.A.L.
	815008	A/R	5/16" Diameter, 7.850 O.A.L.
	815009	A/R	5/16" Diameter, 7.900 O.A.L.
	815010	A/R	5/16" Diameter, 7.950 O.A.L.
	815192	1	.100 longer
Push Rod Kits (O.E. Replacement)	815194	1	
Push Rod Guide Plate Kits	821002	1	5/16", flat
	821004	1	5/16", step
	821005	1	3/8", step
Rocker Arm Ball/Fulcrum Kits	822001	1	
Rocker Arm Fasteners (Posi-Locks)	850008	1	3/8" Stud w/O.E. Rockers
	850010	1	7/16" Stud, w/O.E. Rockers
	850012	1	7/16" Stud, Aluminum Roller Rockers
	850017	A/R	Use w/Stud Girdle and Roller Rockers w/3/8" Rocker Studs (Pkg. 8/Cd)
	850018	A/R	Use w/Stud Girdle and Roller Rockers w/3/8" Rocker Studs (Pkg. 2/Cd)
	850019	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 8/Cd)
	850020	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 2/Cd)
	850022	A/R	7/16" Stud, Aluminum Roller Rockers (Pkg. 2/Card)
Rocker Arm Fasteners (Rocker Studs)	850001	1	7/16" x 3/8" w/o Jam Nut
	850003	1	7/16" x 7/16", 2.540 O.A.L.
	850006	1	7/16" x 3/8", 2.400 O.A.L.
	850013	1	7/16" x 3/8", 2.500 O.A.L.
	850014	1	7/16" x 7/16", 2.650 O.A.L.
Rocker Arm Kits (Roller)	818003	A/R	Alum. Roller, 3/8" stud, 1.5 ratio, non self-aligning (Pkg. 4/Card)
	818004	A/R	Alum. Roller, 7/16" stud, 1.5 ratio, non self-aligning (Pkg. 4/Card)
	818006	A/R	Alum. Roller, 3/8" stud, 1.6 ratio, non self-aligning (Pkg. 4/Card)
	818007	A/R	Alum. Roller, 7/16" stud, 1.6 ratio, non self-aligning (Pkg. 4/Card)
Rocker Arm Kits (Stamped Steel Long Slot)	818001	A/R	Long Slot Stamped Steel 1.5 ratio, non-self aligning (Pkg. 4/Card)
	818015	A/R	Long Slot Stamped Steel 1.6 ratio, non self-aligning (Pkg. 4/Card)
	818016	A/R	Long Slot Stamped Steel 1.5 ratio, 7/16" stud, non-self aligning (Pkg. 4/Card)
	818017	A/R	Long Slot Stamped Steel 1.6 ratio, 7/16" stud, non-self aligning (Pkg. 4/Card)
Rocker Stud Girdle	823001	1	O.E. Design Heads w/3/8" Rocker Studs
Valve Cover Stud Kits (Hi-Tensile)	859031	1	Use w/ Stamped Steel Valve Covers
Valve Guides	813001	A/R	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.250 Length
	813108	A/R	Manganese Bronze, 343 I.D., .502 O.D., 2.125 Length
Valve Lifters	812002	16	w/ Hydraulic lifters
	812003	16	Anti-Pump Up
	812026	16	Mechanical
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
	816175	1	11/32" Single Groove, Machined 10°
Valve Seats	814030	8	Exh. - High Chrome, 1.3125 I.D., 1.5625 O.D., .250 Depth 45° Seat Angle, 1.562 Counter Bore Size
Valve Springs	810010	16	Single w/Damper, w/Hydraulic Lifters, max. valve lift .490
	810107	16	Single w/Damper max. valve lift .550 w/mechanical lifters
	810108	16	Single w/Damper w/ mechanical lifters (Max. Valve lift .600)
	810201	16	Dual w/ Mechanical lifters max. valve lift .590
	810206	16	Dual w/Mech. Roller Lifters max. valve lift .590
	810207	16	Dual w/Mech. Roller Lifters (Max. Valve lift .610)
	<b>NEW! 810210</b>	<b>16</b>	<b>Dual w/Damper w/Mech. Flat Tappet/Hyd. Roller Lifters (Max. Valve Lift .590)</b>



# APPLICATION MATRIX SECTION

35

## CHEVROLET – Cont'd.



**302 - Cont'd.**  
8 Cyl. (5.0L)

**1967-69**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS - Cont'd.</b>			
Valve Spring Insert Kits	819001	1	1.250 x .812 x .060
	819002	1	1.250 x .812 x .030
	819003	1	1.250 x .812 x .01
	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817100	1	Use w/Spring #810010, w/1.700" installed height
	817102	1	Use w/Spring #810210, w/+.040" installed height
	817104	1	Use w/Spring #810207, 810201 w/ +.100" installed height
	817108	1	Use w/Spring# 810010, 810107, 810108 w/ +.75" installed height
	817110	1	10°. Use w/Spring #810201, #810206, 810207 w/+.100 installed height
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
	811005	1	All Viton, .343 Stem, .530 Guide
	811006	1	SVR, .343 Stem, .500 Guide (Red)
	811007	1	SVR, .343 Stem, .530 Guide (Orange)
Valves (Stainless Steel)	820120	8	Intake, 1.72" Head Dia.
	820320	8	Intake, 2.02 Head Dia., w/undercut stem
	820321	8	Intake, 2.02 Head Dia., w/undercut stem, +.100 longer than stock
	820322	8	Intake, 2.05 Head Dia., w/undercut stem
	820326	8	Exhaust, 1.60 Head Dia., w/undercut stem



**305**  
8 Cyl. (5.0L)

**1976-98**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Bellhousing Bolt Kits (12 Pt. Hi-Tensile)	854019	1	3/8"-16 x 1-1/2"
Cam Button Kits	839028	1	.670 Length
	839029	1	.850 Length
	839038	1	Roller, .795 Length
Cam Correct	839043	1	Kit w/Drill Jig
	839045	1	Replacement Spring Shoe w/Hardware
Cam Gear Bolts	839037	1	Pkg. 3 /Card
Cam Gear Lock Plates	839030	1	w/Bolts, except Factory Roller
Connecting Rod Nuts	852001	16	3/8"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853005	1	3/8" Diameter, Premium Performance
	853204	1	3/8" Diameter, Standard Performance
Distributor Gears (Bronze)	839013	1	.500 Diameter Shaft
	839014	1	w/O.E. .491 Dia. Shaft
Distributor Hold Down Clamp (Chrome)	839062	1	
Dowel Pin Kits	839004	1	Head to block
	839032	1	Bell Housing to Block, Extra Long
	839047	1	Cam Sprocket Dowel
	839059	1	Timing Cover Dowel
Expansion Plug Kits (Brass)	830001	1	Brass
Flexplate Bolt Kits	859022	1	7/16"-20 x 11/16", Prior to 1986
	859029	1	1986-97 w/1 Pc. Rear Seal, 7/16"-20 x 11/16"
Flexplates (SFI Certified)	871001	1	14.13" Dia. w/o Weight, Prior to 1986
	871004	1	12.85" Dia. w/o Weight, Prior to 1986
	871006	1	14.13" Dia. w/Weight, 1986-97
	871010	1	12.85" Dia. w/Weight, 1986-97
Flywheel Bolt Kits	859026	1	7/16"-20 x 1", (prior to 1986)
	859030	1	1986-97 w/ 1 Pc. Rear Seal, 7/16"-20 x 1"
Fuel Pump Mounting Plate	839050	1	
Fuel Pump Block Off Kits	839033	1	

(See **PRODUCT SECTION** for description and specifications.)

(Application Matrix Section - Continued on next page)

## CHEVROLET – Cont'd.



**305 - Cont'd.**  
8 Cyl. (5.0L)

1976-98

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS - Cont'd.</b>			
Fuel Pump Push Rod Kits	839035	1	Steel Billet Camshaft
	839036	1	Cast Billet Camshaft
Harmonic Balancers	872001	1	6 1/4" Dia. Street
	872002	1	7" Dia. Street
	872003	1	8" Dia. Street
	872021	1	6 1/4" Dia. Race
	872022	1	7" Dia. Race
	872023	1	8" Dia. Race
	<b>NEW! 872060</b>	1	<b>6-1/4" Dia. Race w/Big Block Snout</b>
	<b>NEW! 872061</b>	1	<b>7" Dia. Race w/Big Block Snout</b>
Harmonic Balancer Bolt Kit	859012	1	
	859045	1	1 Piece Chrome Moly
	<b>NEW! 859047</b>	1	<b>12 Pt. Chrome Moly</b>
Harmonic Balancer Repair Sleeves	835011	1	
Lifter Valley Vent Tube Kit	839042	1	
Lifter Valley Screen kit	839055	1	
Main Bolt Kits	855200	1	2-Bolt
	855201	1	4-Bolt
Main Stud Kits	855003	1	4-Bolt
	855004	1	2-Bolt
Oil Filter Adapter	839049		
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (Hex Head)	859017	1	Hex Head (Prior to 1986) 1/4" x 7/16" (14) & 5/16" x 9/16" (4)
Oil Pan Stud Kit (Hi-Tensile)	859008	1	
Oil Pumps (High Volume)	836021	1	Increased pressure and volume, includes screen assembly (1976-94) (May require oil pan modification)
Oil Pump Bolt Kits (12 Pt. Hi-Tensile)	854021	1	7/16"-14 x 2", 12 Pt.
Oil Pump Intermediate Shafts	838005	1	w/Steel Shaft Guide
Oil Pump Pick Up Retainer	839061	1	w/ 5/8" dia. tube
Oil Pump Screens	837012	1	1976-94
Oil Pump Stud Kit	859039	1	3.120 Length
Oil Restrictor Kits	839031	1	Prior to 1986
	839041	1	1986-98 & Bow Tie Blocks
Pilot Bushings	873001	1	
Pilot Bushings (Roller)	873008	1	Roller Bearing
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
Timing Cover Bolt Kits (Hex Head)	859021	1	Hex Head 1/4" x 1/2" (10)
Timing Indicator (adjustable)	839051	1	w/ 6 1/4" balancer
Timing Indicator (adjustable)	839052	1	w/ 7" balancer
Timing Indicator (adjustable)	839053	1	w/ 8" balancer
Timing Cover Stud Kit (Hi-Tensile)	859011	1	
Torque Converter Bolt Kits	859035	1	G.M. TH400, 3/8"-16 x 1/2"
	859036	1	G.M. TH350, Powerglide, 3/8"-24 x 1/2" w/ Ny-Lock Nuts
Transmission Bolt Kits	859014	1	7/16" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24, 1 5/16", Powerglide & Turbo 350,400
	859034	1	Bolt Kit w/Hex Head, Powerglide & Turbo 350,400
Woodruff Key Kits	839009	1	Short, 3/16" x 3/4"
	839010	1	Long, 3/16" x 1-3/8"
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852100	16	7/16" I.D. x 13/16" O.D. x .120 Head Bolt Washer, Premium
	852112	16	7/16" I.D. x 3/4" O.D. x .065 Head Bolt Washer, Economy
Header Bolt Kits (12 Pt. Hi-Tensile)	854014	1	3/8"-16 x 3/4" Stainless Steel (12 Bolt Kit)-Universal
	854023	1	3/8"-16 x 3/4", 12 Pt.(12 Bolt Kit)-Universal
	859040	1	3/8"-16 x 3/4", Hex Head (12 Bolt Kit)-Universal
Head Bolt Kit	851200	1	w/O.E. Cast Iron and Aluminum, AFR, Brodix -8, -10, -11, -11xb, Dart stock replacement cylinder heads

## CHEVROLET – Cont'd.



**305 - Cont'd.**  
8 Cyl. (5.0L)

**1976-98**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS - Cont'd.</b>			
Head Stud Kit	851004	1	w/O.E. Cast Iron and Aluminum, AFR, Brodix -8,-10,-11,-11XB Brownfield, Dart (stock replacement) Cylinder Heads
	851018	1	w/O.E. Cast Iron and Aluminum, AFR, Brodix -8,-10,-11,-11XB Brownfield, Dart (Stock Replacement) Cyl. Heads w/12 Pt. Nuts
	851019	1	w/Chevy 18° High Port Cyl. Heads w/7/16" Studs w/12 Pt
	851023	1	w/Dart II Cyl. Heads
	851026	1	w/Dart II and Pontiac Motorsports #10033867 Cylinder Heads with 12 Pt. Nuts
	Head Bolt Washer Kits	852096	1
852098		1	Premium, 7/16" I.D. x 13/16" O.D. (34 pcs. skin packaged)
Push Rods (Chrome Moly)	815205	16	Except Factory Roller, 7.794 O.A.L.
	815215	16	.100 Longer
	815216	16	3/8" Diameter, 7.794 O.A.L.
Push Rods (One-Piece)	815007	A/R	5/16" Diameter, 7.800 O.A.L.
	815008	A/R	5/16" Diameter, 7.850 O.A.L.
	815009	A/R	5/16" Diameter, 7.900 O.A.L.
	815010	A/R	5/16" Diameter, 7.950 O.A.L.
	815192	1	.100 longer
Push Rod Kits (O.E. Replacement)	815194	1	Except Factory Roller
	815193	1	w/Factory Roller Lifters
Push Rod Guide Plate Kits	821002	1	5/16", flat
	821004	1	5/16", step
	821005	1	3/8", step
Rocker Arm Ball/Fulcrum Kits	822001	1	
Rocker Arm Fasteners (Posi-Locks)	850008	1	3/8" Stud w/O.E. Rockers
	850010	1	7/16" Stud w/O.E. Rockers
	850012	1	7/16" Stud, Aluminum Roller Rockers
	850017	A/R	Use w/Stud Girdle and Roller Rockers w/3/8" Rocker Studs (Pkg. 8/Card)
	850018	A/R	Use w/ Stud Girdle and Roller Rockers w/ 3/8" Rocker Studs (Pkg. 2/Card)
	850019	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 8/Card)
	850020	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 2/Card)
Rocker Arm Fasteners (Rocker Studs)	850022	A/R	7/16" Stud, Aluminum Roller Rockers (Pkg. 2/Card)
	850001	1	7/16" x 3/8" w/o Jam Nut
	850003	1	7/16" x 7/16", 2.540 O.A.L.
	850006	1	7/16" x 3/8", 2.400 O.A.L.
	850013	1	7/16" x 3/8", 2.500 O.A.L.
Rocker Arm Kits (Stamped Steel Long Slot)	850014	1	7/16" x 7/16", 2.650 O.A.L.
	818001	A/R	Long Slot Stamped Steel 1.5 ratio, non-self aligning (Pkg. 4/Card)
	818015	A/R	Long Slot Stamped Steel 1.6 ratio, non self-aligning (Pkg. 4/Card)
	818016	A/R	Long Slot Stamped Steel 1.5 ratio, 7/16: stud, non-self aligning) Pkg. 4/Card
Rocker Stud Girdle	818017	A/R	Long Slot Stamped Steel 1.6 ratio, 7/16" stud, non-self aligning) Pkg. 4/Card
	818019	A/R	Long Slot Stamped Steel - 1.5 ratio, 3/8" stud, self aligning (pkg. 4/Card)
	818020	A/R	Long Slot Stamped Steel - 1.6 ratio, 3/8" stud, self aligning (pkg. 4/Card)
	823001	1	O.E. Design Heads w/3/8" Rocker Studs
Valve Guides	813001	A/R	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.250 Length
	813002	A/R	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.375 Length
	813102	A/R	Manganese Bronze, .343 I.D., .502 O.D., 2.375 Length
	813108	A/R	Manganese Bronze, .343 I.D., .502 O.D., 2.125 Length
Valve Lifters	812002	1	w/ Hydraulic Lifters, Except O.E. Roller
	812003	1	Anti-Pump Up, Except O.E. Roller
	812026	1	Mechanical, Except O.E. Roller
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
	816175	1	11/32" Single Groove, Machined 10°
Valve Cover Stud Kits (Hi-Tensile)	859031	1	Use w/ Stamped Steel Valve Covers (Except Center Bolt Valve Covers)
Valve Seats	814030	8	Exh., High Chrome, 1.3125 I.D., 1.5625 O.D., .250 Depth 45° Seat Angle, 1.562 Counter Bore Size

## CHEVROLET – Cont'd.



**305 - Cont'd.**  
8 Cyl. (5.0L)

**1976-98**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION	
<b>CYLINDER HEAD COMPONENTS - Cont'd.</b>				
Valve Springs	810010	16	Single w/Damper w/Hydraulic Flat Tappet Lifters, except Vortec/LT1 (max valve lift .490)	
	810107	16	Single w/Damper w/Mechanical Flat Tappet/Hydraulic Roller Lifters, except Vortec/LT1 (Max. Valve Lift.550)	
	810108	16	Single w/Damper w/Mechanical Flat Tappet/Hydraulic Roller Lifters, except Vortec/LT1 (Max. Valve Lift .600)	
	810109	16	Single Conical w/Hydraulic Roller Lifters-Retro Fit for Vortec/LT1 (Max Valve lift .500)	
	810201	16	Dual w/ Mechanical Flat Tappet Lifters (Max. Valve Lift. 590)	
	810206	16	Dual w/ Mechanical Roller Lifters (Max Valve Lift .590)	
	810207	16	Dual w. Mechanical Roller Lifters (max. Valve Lift .610)	
	<b>NEW! 810210</b>	<b>16</b>	<b>Dual w/Damper w/Mech. Flat Tappet/Hyd. Roller Lifters (Man. Valve Lift .590)</b>	
	Valve Spring Insert Kits	819001	1	1.250 x .812 x .060
		819002	1	1.250 x .812 x .030
819003		1	1.250 x .812 x .015	
819007		1	1.437 x .645 x .060	
819008		1	1.437 x .645 x .030	
819009		1	1.437 x .645 x .015	
819021		1	1.460 x .565 x .060 (Cup type insert)	
Valve Spring Retainer Kits	817100	1	Use w/Spring #810010, w/1.700" installed height	
	817102	1	Use w/Spring #810210, w/+.040" installed height	
	817104	1	Use w/Spring #810201 w/+.100" installed height	
	817108	1	Use w/Spring #810010, 810107, 810107, w/+.075" installed height	
	817110	1	10° Use w/Spring #810201, 810206, 810207 w/+.100" installed height	
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick	
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide	
	811003	1	All Teflon, .343 Stem, .500 Guide	
	811005	1	All Viton, .343 Stem, .530 Guide	
	811006	1	SVR, .343 Stem, .500 Guide (Red)	
	811007	1	SVR, .343 Stem, .530 Guide (Orange)	
	Valves (Stainless Steel)	820120	8	Intake, 1.72" Head Dia.
820320		8	Intake, 2.02 Head Dia., w/undercut stem	
820321		8	Intake, 2.02 Head Dia., w/undercut stem, +.100 longer than stock	
820322		8	Intake, 2.05 Head Dia., w/undercut stem	
820326		8	Exhaust, 1.60 Head Dia., w/undercut stem	



**307**  
8 Cyl. (5.0L)

**1968-73**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Bellhousing Bolt Kits (12 Pt. Hi-Tensile)	854019	1	3/8"-16 x 1-1/2"
Cam Button Kits	839028	1	.670 Length
	839029	1	.850 Length
	839038	1	Roller, .795 Length
Cam Correct	839043	1	Kit w/Drill Jig
	839045	1	Replacement Spring Shoe w/Hardware
Cam Gear Bolts	839037	1	Pkg. 3 /Card
Cam Gear Lock Plates	839030	1	w/Bolts
Connecting Rod Nuts	852001	16	3/8"-24
	852003	16	11/32"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
	852014	1	11/32"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853004	1	11/32" Diameter, Premium Performance
	853005	1	3/8" Diameter, Premium Performance
	853201	1	11/32" Diameter, Standard Performance
	853204	1	3/8" Diameter, Standard Performance
Distributor Gears (Bronze)	839013	1	.500 Diameter Shaft
	839014	1	w/O.E. .491 Dia. Shaft
Distributor Hold Down Clamp (Chrome)	839062	1	



## CHEVROLET – Cont'd.



**307 - Cont'd.**  
8 Cyl. (5.0L)

**1968-73**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS - Cont'd.</b>			
Dowel Pin Kits	839004	1	Head to block
	839032	1	Bell Housing to Block, Extra Long
	839047	1	Cam Sprocket Dowel
	839059	1	Timing Cover Dowel
Expansion Plug Kits (Brass)	830001	1	Brass
Flexplate Bolt Kits	859022	1	7/16"-20 x 11/16"
Flexplates (SFI Certified)	871001	1	14.13" Dia. w/O Weight
	871004	1	12.85" Dia. w/O Weight
Flywheel Bolt Kits	859026	1	7/16"-20 x 1"
Fuel Pump Mounting Plate	839050	1	
Fuel Pump Block Off Kits	839033	1	
Fuel Pump Push Rod Kits	839035	1	Steel Billet Camshaft
	839036	1	Cast Billet Camshaft
Harmonic Balancers	872001	1	6 1/4" Dia. Street
	872002	1	7" Dia. Street
	872003	1	8" Dia. Street
	872021	1	6 1/4" Dia. Race
	872022	1	7" Dia. Race
	872023	1	8" Dia. Race
	<b>NEW! 872060</b>	<b>1</b>	<b>6-1/4" Dia. Race w/Big Block Snout</b>
	<b>NEW! 872061</b>	<b>1</b>	<b>7" Dia. Race W/Big Block Snout</b>
Harmonic Balancer Bolt Kit	859012	1	
	859045	1	1 Piece Chrome Moly
	<b>NEW! 859047</b>	<b>1</b>	<b>12 Pt. Chrome Moly</b>
Harmonic Balancer Repair Sleeves	835011	1	
Lift Valley Vent Tube Kit	839042	1	
Lifter Valley Screen kit	839055	1	
Main Stud Kits	855021	1	Small Journal (2 Bolt)
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (Hex Head)	859017	1	Hex Head 1/4" x 7/16" (14) & 5/16" x 9/16" (4)
Oil Pan Stud Kit (Hi-Tensile)	859008	1	
Oil Pumps (High Volume)	836021	1	Increased pressure and volume, includes screen assembly (May require oil pan modification)
Oil Pump Bolt Kits (12 Pt. Hi-Tensile)	854021	1	7/16"-14 x 2", 12 Pt.
Oil Pump Intermediate Shafts	838005	1	w/Steel Shaft Guide
Oil Pump Pick Up Retainer	839061	1	w/ 5/8" dia. tube
Oil Pump Screens	837012	1	
Oil Pump Stud Kit	859039	1	3.120 Length
Oil Restrictor Kits	839031	1	
Pilot Bushings	873001	1	
Pilot Bushings (Roller)	873008	1	Roller Bearing
Timing Cover Bolt Kits (Hex Head)	859021	1	Hex Head 1/4" x 1/2" (10)
Timing Cover Stud Kit (Hi-Tensile)	859011	1	
Timing Indicator (adjustable)	839051	1	w/ 6 1/4" balancer
Timing Indicator (adjustable)	839052	1	w/ 7" balancer
Timing Indicator (adjustable)	839053	1	w/ 8" balancer
Torque Converter Bolt Kits	859035	1	G.M. TH400, 3/8"-16 x 1/2"
	859036	1	G.M. TH350, Powerglide, 3/8"-24 x 1/2" w/ Ny-Lock Nuts
Transmission Bolt Kits	859014	1	7/16" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24, 1 5/16", Powerglide & Turbo 350,400
	859034	1	Bolt Kit w/Hex Head, Powerglide & Turbo 350,400
Woodruff Key Kits	839009	1	Short, 3/16" x 3/4"
	839010	1	Long, 3/16" x 1-3/8"

## CHEVROLET – Cont'd.



**307**  
8 Cyl. (5.0L)

**1968-73**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852100	32	7/16" I.D. x 13/16" O.D. x .120 Head Bolt Washer, Premium
	852112	32	7/16" I.D. x 3/4" O.D. x .065 Head Bolt Washer, Economy
Header Bolt Kits (12 Pt. Hi-Tensile)	854014	1	3/8"-16 x 3/4" Stainless Steel (12 Bolt Kit)-Universal
	854023	1	3/8"-16 x 3/4", 12 Pt.(12 Bolt Kit)-Universal
	859040	1	3/8"-16 x 3/4", Hex Head (12 Bolt Kit)-Universal
Head Bolt Kits	851200	1	w/O.E. Cast Iron and Aluminum, AFR, Brodirx -8, -10, -11, -11xb, Dart Stock replacement cylinder heads
Head Stud Kit	851004	1	w/O.E. Cast Iron and Aluminum, AFR, Brodirx -8,-10,-11,-11XB Brownfield, Dart (stock replacement) Cylinder Heads
	851018	1	w/O.E. Cast Iron and Aluminum, AFR, Brodirx -8,-10,-11,-11XB Brownfield, Dart(Stock Replacement)Cyl. Heads w/12 Pt. Nuts
	851019	1	w/Chevy 18° High Port Cyl. Heads w/7/16" Studs w/12 Pt Nuts
	851023	1	w/Dart II Cyl. Heads
	851026	1	w/Dart II and Pontiac Motorsports #10033867 Cylinder Heads with 12 Pt. Nuts
Head Bolt Washer Kits	852096	1	Economy, 7/16" I.D. x 3/4" O.D. (34 pcs. skin pkg.)
	852098	1	Premium, 7/16" I.D. x 13/16" O.D. (34 pcs. skin packaged)
Push Rods (Chrome Moly)	815205	16	7.794 O.A.L.
	815215	16	.100 Longer
	815216	16	3/8" Diameter, 7.794 O.A.L.
Push Rods (One-Piece)	815007	A/R	5/16" Diameter, 7.800 O.A.L.
	815008	A/R	5/16" Diameter, 7.850 O.A.L.
	815009	A/R	5/16" Diameter, 7.900 O.A.L.
	815010	A/R	5/16" Diameter, 7.950 O.A.L.
	815192	1	.100 longer
Push Rod Kits (O.E. Replacement)	815194	1	
Push Rod Guide Plate Kits	821002	1	5/16", flat
	821004	1	5/16", step
	821005	1	3/8", step
Rocker Arm Ball/Fulcrum Kits	822001	1	
Rocker Arm Fasteners (Posi-Locks)	850008	1	3/8" Stud w/O.E. Rockers
	850010	1	7/16" Stud w/O.E. Rockers
	850012	1	7/16" Stud, Aluminum Roller Rockers
	850017	A/R	Use w/Stud Girdle and Roller Rockers w/3/8" Rocker Studs (Pkg. 8/Card)
	850018	A/R	Use w/ Stud Girdle and Roller Rockers w/ 3/8" Rocker Studs (Pkg. 2/Card)
	850019	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 8/Card)
	850020	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 2/Card)
	850022	A/R	7/16" Stud, Aluminum Roller Rockers (Pkg. 2/Card)
Rocker Arm Fasteners (Rocker Studs)	850001	1	7/16" x 3/8" w/o Jam Nut
	850003	1	7/16" x 7/16", 2.540 O.A.L.
	850006	1	7/16" x 3/8", 2.400 O.A.L.
	850013	1	7/16" x 3/8", 2.500 O.A.L.
	850014	1	7/16" x 7/16", 2.650 O.A.L.
Rocker Arm Kits (Stamped Steel Long Slot)	818001	A/R	Long Slot Stamped Steel 1.5 ratio, non-self aligning) (Pkg. 4/Card)
	818015	A/R	Long Slot Stamped Steel 1.6 ratio, non self-aligning) (Pkg. 4/Card)
	818016	A/R	Long Slot Stamped Steel 1.5 ratio, 7/16: stud, non-self aligning (Pkg. 4/Card)
	818017	A/R	Long Slot Stamped Steel 1.6 ratio, 7/16" stud, non-self aligning (Pkg. 4/Card)
Rocker Stud Girdle	823001	1	O.E. Design Heads w/3/8" Rocker Studs
Valve Guides	813001	A/R	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.250 Length
	813108	A/R	Manganese Bronze, 343 I.D., .502 O.D., 2.125 Length
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
	816175	1	11/32" Single Groove, Machined 10°
Valve Cover Stud Kits (Hi-Tensile)	859031	1	Use w/ Stamped Steel Valve Covers
Valve Lifters	812002	16	w/ Hydraulic lifters
	812003	16	Anti-Pump Up
	812026	16	Mechanical
Valve Seats	814030	8	Exh., High Chrome, 1.3125 I.D., 1.5625 O.D., .250 Depth 45° Seat Angle, 1.562 Counter Bore Size

## CHEVROLET – Cont'd.



**307 - Cont'd.**  
8 Cyl. (5.0L)

**1968-73**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION	
<b>CYLINDER HEAD COMPONENTS - Cont'd.</b>				
Valve Springs	810010	16	Single w/Damper, w/Hydraulic Lifters, (max. valve lift .490)	
	810107	16	Single w/Damper w/mechanical lifters (max. valve lift .550)	
	810108	16	Single w/ damper w/ mechanical lifters (max valve lift .600)	
	810201	16	Dual w/ Mechanical lifters (max. valve lift .590)	
	810206	16	Dual w/Mech. Roller Lifters (max. valve lift .590)	
	810207	16	Dual w/mech. roller lifters (max. valve lift .610)	
Valve Spring Insert Kits	<b>NEW! 810210</b>	<b>16</b>	<b>Dual w/Damper w/Mech. Flat Tappet/Hyd. Roller Lifters (Max Lift .590)</b>	
	819001	1	1.250 x .812 x .060	
	819002	1	1.250 x .812 x .030	
	819003	1	1.250 x .812 x .015	
	819007	1	1.437 x .645 x .060	
	819008	1	1.437 x .645 x .030	
	819009	1	1.437 x .645 x .015	
	819021	1	1.460 x .565 x .060 (Cup type insert)	
	Valve Spring Retainer Kits	817100	1	Use w/Spring #810010, w/1.700" installed height
		817102	1	Use w/Spring #810210, w/+.040" installed height
817104		1	Use w/Spring #810201, w/+.100" installed height	
817108		1	Use w/Spring #810010, 810107, 810108, w/+.075" installed height	
817110		1	10° Use w/Spring #810201, 810206, 810207 w/+.100" installed height	
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick	
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide	
	811003	1	All Teflon, .343 Stem, .500 Guide	
	811005	1	All Viton, .343 Stem, .530 Guide	
	811006	1	SVR, .343 Stem, .500 Guide (Red)	
	811007	1	SVR, .343 Stem, .530 Guide (Orange)	
Valves (Stainless Steel)	820120	8	Intake, 1.72" Head Dia.	
	820320	8	Intake, 2.02 Head Dia., w/undercut stem	
	820321	8	Intake, 2.02 Head Dia., w/undercut stem, +.100 longer than stock	
	820322	8	Intake, 2.05 Head Dia., w/undercut stem	
	820326	8	Exhaust, 1.60 Head Dia., w/undercut stem	



**327**  
8 Cyl. (5.4L)

**1962-69**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Bellhousing Bolt Kits (12 Pt. Hi-Tensile)	854019	A/R	3/8"-16 x 1-1/2"
Cam Button Kits	839028	1	.670
	839029	1	.850
	839038	1	Roller, .795 Length
Cam Correct	839043	1	Kit w/Drill Jig
	839045	1	Replacement Spring Shoe w/Hardware
Cam Gear Bolts	839037	1	Pkg. 3 /Card
Cam Gear Lock Plates	839030	1	w/Bolts
Connecting Rod Nuts	852001	16	3/8"-24
	852003	16	11/32"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
	852014	1	11/32"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853004	1	11/32" Diameter, Premium Performance
	853005	1	3/8" Diameter, Premium Performance
	853201	1	11/32" Diameter, Standard Performance
	853204	1	3/8" Diameter, Standard Performance
Distributor Gears (Bronze)	839013	1	.500 Diameter Shaft
	839014	1	w/O.E. .491 Dia. Shaft
Distributor Hold Down Clamp (Chrome)	839062	1	

## CHEVROLET – Cont'd.



**327 - Cont'd.**  
8 Cyl. (5.4L)

1962-69

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS - Cont'd.</b>			
Dowel Pin Kits	839004	1	Head to block
	839032	1	Bell Housing to Block, Extra Long
	839047	1	Cam Sprocket Dowel
	839059	1	Timing Cover Dowel
Expansion Plug Kits (Brass)	830001	1	Brass
Flexplate Bolt Kits	859022	1	7/16"-20 x 11/16"
Flexplates (SFI Certified)	871001	1	14.13" Dia. w/o Weight
	871004	1	12.85" Dia. w/o Weight
Flywheel Bolt Kits	859026	1	7/16"-20 x 1"
Fuel Pump Mounting Plate	839050	1	
Fuel Pump Block Off Kits	839033	1	
Fuel Pump Push Rod Kits	839035	1	Steel Billet Camshaft
	839036	1	Cast Billet Camshaft
Harmonic Balancers	872001	1	6 1/4" Dia. Street
	872002	1	7" Dia. Street
	872003	1	8" Dia. Street
	872021	1	6 1/4" Dia. Race
	872022	1	7" Dia. Race
	872023	1	8" Dia. Race
	<b>NEW!</b> 872060	1	<b>6-1/4" Dia. Race w/Big Block Snout</b>
	<b>NEW!</b> 872061	1	<b>7" Dia. Race w/Big Block Snout</b>
Harmonic Balancer Bolt Kit	859012	1	
	859045	1	1 Piece Chrome Moly
	<b>NEW!</b> 859047	1	<b>12 Pt. Chrome Moly</b>
Harmonic Balancer Repair Sleeves	835011	1	
Lifter Valley Vent Tube Kit	839042	1	
Lifter Valley Screen kit	839055	1	
Main Stud Kits	855021	1	Small Journal (2 Bolt)
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (Hex Head)	859017	1	Hex Head 1/4" x 7/16" (14) & 5/16" x 9/16" (4)
Oil Pan Stud Kit (Hi-Tensile)	859008	1	
Oil Pumps (High Volume)	836021	1	Increased pressure and volume, includes screen assembly (May require oil pan modification)
Oil Pump Bolt Kits (12 Pt. Hi-Tensile)	854021	1	7/16"-14 x 2", 12 Pt.
Oil Pump Intermediate Shafts	838005	1	w/Steel Shaft Guide
Oil Pump Pick Up Retainer	839061	1	w/ 5/8" dia. tube
Oil Pump Screens	837012	1	
Oil Pump Stud Kit	859039	1	3.120 Length
Oil Restrictor Kits	839031	1	
Pilot Bushings	873001	1	
Pilot Bushings (Roller)	873008	1	Roller Bearing
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
Timing Cover Bolt Kits (Hex Head)	859021	1	Hex Head 1/4" x 1/2" (10)
Timing Cover Stud Kit (Hi-Tensile)	859011	1	
Timing Indicator (adjustable)	839051	1	w/ 6 1/4" balancer
Timing Indicator (adjustable)	839052	1	w/ 7" balancer
Timing Indicator (adjustable)	839053	1	w/ 8" balancer
Torque Converter Bolt Kits	859035	1	G.M. TH400, 3/8"-16 x 1/2"
	859036	1	G.M. TH350, Powerglide, 3/8"-24 x 1/2" w/ Ny-Lock Nuts
Transmission Bolt Kits	859014	1	7/16" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24, 1 5/16", Powerglide & Turbo 350,400
	859034	1	Bolt Kit w/Hex Head, Powerglide & Turbo 350,400
Woodruff Key Kits	839009	1	Short, 3/16" x 3/4"
	839010	1	Long, 3/16" x 1-3/8"

## CHEVROLET – Cont'd.



**327 Cont'd.**  
8 Cyl. (5.4L)

**1962-69**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852100	34	7/16" I.D. x 13/16" O.D. x .120 Head Bolt Washer, Premium
	852112	34	7/16" I.D. x 3/4" O.D. x .065 Head Bolt Washer, Economy
Header Bolt Kits (12 Pt. Hi-Tensile)	854014	1	3/8"-16 x 3/4" Stainless Steel (12 Bolt Kit)-Universal
	854023	1	3/8"-16 x 3/4", 12 Pt.(12 Bolt Kit)-Universal
	859040	1	3/8"-16 x 3/4", Hex Head (12 Bolt Kit)-Universal
Head Bolt Kit	851200	1	w/O.E. Cast Iron and Aluminum, AFR, Brodix -8, -10, -11, -11xb, Dart Stock replacement cylinder heads
Head Stud Kits	851004	1	w/O.E. Cast Iron and Aluminum, AFR, Brodix -8,-10,-11,-11XB Brownfield, Dart (stock replacement) Cylinder Heads
	851018	1	w/O.E. Cast Iron and Aluminum, AFR, Brodix -8,-10,-11,-11XB Brownfield, Dart(Stock Replacement)Cyl. Heads w/12 Pt. Nuts w/Chevy 18° High Port Cyl. Heads w/7/16" Studs w/12 Pt Nuts
	851019	1	w/Dart II Cyl. Heads
	851023	1	w/Dart II and Pontiac Motorsports #10033867, Cylinder Heads with 12 Pt. Nuts
	851026	1	Economy, 7/16" I.D. x 3/4" O.D. (34 pcs. skin pkg.)
Head Bolt Washer Kits	852096	1	Premium, 7/16" I.D. x 13/16" O.D. (34 pcs. skin pkg.)
	852098	1	
Push Rods (Chrome Moly)	815205	16	7.794 O.A.L.
	815215	16	.100 Longer
	815216	16	3/8" Diameter, 7.794 O.A.L.
Push Rods (One-Piece)	815007	A/R	5/16" Diameter, 7.800 O.A.L.
	815008	A/R	5/16" Diameter, 7.850 O.A.L.
	815009	A/R	5/16" Diameter, 7.900 O.A.L.
	815010	A/R	5/16" Diameter, 7.950 O.A.L.
	815192	1	.100 longer
Push Rod Kits (O.E. Replacement)	815194	1	
Push Rod Guide Plate Kits	821002	1	5/16", flat
	821004	1	5/16", step
	821005	1	3/8", step
Rocker Arm Ball/Fulcrum Kits	822001	1	
Rocker Arm Fasteners (Posi-Locks)	850008	1	3/8" Stud w/O.E. Rockers
	850010	1	7/16" Stud w/O.E. Rockers
	850012	1	7/16" Stud, Aluminum Roller Rockers
	850017	A/R	Use w/Stud Girdle and Roller Rockers w/3/8" Rocker Studs (Pkg. 8/Card)
	850018	A/R	Use w/ Stud Girdle and Roller Rockers w/ 3/8" Rocker Studs (Pkg. 2/Card)
	850019	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 8/Card)
	850020	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 2/Card)
	850022	A/R	7/16" Stud, Aluminum Roller Rockers (Pkg. 2/Card)
Rocker Arm Fasteners (Rocker Studs)	850001	1	7/16" x 3/8" w/O Jam Nut
	850003	1	7/16" x 7/16", 2.540 O.A.L.
	850006	1	7/16" x 3/8", 2.400 O.A.L.
	850013	1	7/16" x 3/8", 2.500 O.A.L.
	850014	1	7/16" x 7/16", 2.650 O.A.L.
Rocker Arm Kits (Stamped Steel Long Slot)	818001	A/R	Long Slot Stamped Steel 1.5 ratio, non-self aligning (Pkg. 4/Card)
	818015	A/R	Long Slot Stamped Steel 1.6 ratio, non self-aligning (Pkg. 4/Card)
	818016	A/R	Long Slot Stamped Steel 1.5 ratio, 7/16: stud, non-self aligning (Pkg. 4/Card)
	818017	A/R	Long Slot Stamped Steel 1.6 ratio, 7/16" stud, non-self aligning (Pkg. 4/Card)
Rocker Stud Girdle	823001	1	O.E. Design Heads w/3/8" Rocker Studs
Valve Guides	813001	A/R	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.250 Length
	813002	A/R	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.375 Length
	813102	A/R	Manganese Bronze, .343 I.D., .502 O.D., 2.375 Length
	813108	A/R	Manganese Bronze, .343 I.D., .502 O.D., 2.125 Length
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
	816175	1	11/32" Single Groove, Machined 10°
Valve Cover Stud Kits (Hi-Tensile)	859031	1	Use w/ Stamped Steel Valve Covers
Valve Lifters	812002	16	w/ Hydraulic lifters
	812003	16	Anti-Pump Up
	812026	16	Mechanical
Valve Seats	814030	8	High Chrome, 1.3125 I.D., 1.5625 O.D., .250 Depth 45° Seat Angle, 1.562 Counter Bore Size



## CHEVROLET – Cont'd.



**327 - Cont'd.**  
8 Cyl. (5.4L)

1962-69

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS - Cont'd.</b>			
Valve Springs	810010	16	Single w/Damper, w/Hydraulic Lifters, (max. valve lift .490)
	810107	16	Single w/Damper w/mechanical lifters (max. valve lift .550)
	810108	16	Single w/ damper w/ mechanical lifters (max valve lift .600)
	810201	16	Dual w/ Mechanical lifters (max. valve lift .590)
	810206	16	Dual w/Mech. Roller Lifters (max. valve lift .590)
	810207	16	Dual w/mech.roller lifters (max. valve lift .610)
	<b>NEW! 810210</b>	<b>16</b>	<b>Dual w/Damper w/Mech. Flat Tappet/Hyd. Roller Lifters (Max. Valve Lift .590)</b>
Valve Spring Insert Kits	819001	1	1.250 x .812 x .060
	819002	1	1.250 x .812 x .030
	819003	1	1.250 x .812 x .015
	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817100	1	Use w/Spring #810010, w/1.700" installed height
	817102	1	Use w/Spring #810210, w/+.040" installed height
	817104	1	Use w/Spring #810201 w/+.100" installed height
	817108	1	Use w/Spring #810010, 810107, 810107, w/+.075" installed height
	817110	1	10° Use w/Spring #810201, 810206, 810207 w/+.100" installed height
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
	811005	1	All Viton, .343 Stem, .530 Guide
	811006	1	SVR, .343 Stem, .500 Guide (Red)
	811007	1	SVR, 343 Stem, .530 Guide (Orange)
Valves (Stainless Steel)	820120	8	Intake, 1.72" Head Dia.
	820320	8	Intake, 2.02 Head Dia., w/undercut stem
	820321	8	Intake, 2.02 Head Dia., w/undercut stem, +.100 longer than stock
	820322	8	Intake, 2.05 Head Dia., w/undercut stem
	820326	8	Exhaust, 1.60 Head Dia., w/undercut stem



**350**  
8 Cyl. (5.7L)

1967-98

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Bellhousing Bolt Kits (12 Pt. Hi-Tensile)	854019	1	3/8"-16 x 1-1/2"
Cam Button Kits	839028	1	.670 Length
	839029	1	.850 Length
	839038	1	Roller, .795 Length
Cam Correct	839043	1	Kit w/Drill Jig
	839045	1	Replacement Spring Shoe w/Hardware
Cam Gear Bolts	839037	1	Pkg. 3 /Card
Cam Gear Lock Plates	839030	1	w/Bolts, except Factory Roller
Connecting Rod Nuts	852001	16	3/8"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853005	1	3/8" Diameter, Premium Performance (Except LT1 w/ powdered metal rods)
	853204	1	3/8" Diameter, Standard Performance (Except LT1 w/ powdered metal rods)
Distributor Gears (Bronze)	839013	1	.500 Diameter Shaft
	839014	1	w/O.E. .491 Dia. Shaft
Distributor Hold Down Clamp (Chrome)	839062	1	
Dowel Pin Kits	839004	1	Head to block
	839032	1	Bell Housing to Block, Extra Long
	839047	1	Cam Sprocket Dowel
	839059	1	Timing Cover Dowel
Expansion Plug Kits (Brass)	830001	1	Brass
Flexplate Bolt Kits	859022	1	7/16"-20 x 11/16", Prior to 1986
	859029	1	1986-97 w/ 1 Pc. Rear Seal, 7/16"-20 x 11/16"

## CHEVROLET – Cont'd.



**350 - Cont'd.**  
8 Cyl. (5.7L)

**1967-98**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS - Cont'd.</b>			
Flexplates (SFI Certified)	871001	1	14.13" Dia. w/o Weight, (Prior to 1986)
	871004	1	12.85" Dia. w/o Weight, (Prior to 1986)
	871006	1	14.13" Dia. w/Weight, 1986-97
	871010	1	12.85" Dia. w/Weight, 1986-97
Flywheel Bolt Kits	859026	1	7/16"-20 x 1", (Prior to 1986)
	859030	1	1986-97 w/ 1 Piece Rear Seal, 7/16"-20 x 1"
Fuel Pump Mounting Plate	839050	1	
Fuel Pump Block Off Kits	839033	1	
Fuel Pump Push Rod Kits	839035	1	Steel Billet Camshaft
	839036	1	Cast Billet Camshaft
Harmonic Balancers	872001	1	6 1/4" Dia. Street
	872002	1	7" Dia. Street
	872003	1	8" Dia. Street
	872013	1	LT1 1993-1997 Street
	872021	1	6 1/4" Dia. Race
	872022	1	7" Dia. Race
	872023	1	8" Dia. Race
	872043	1	LT1 1993-97 Race (Use w/ 872015, 872016 or 872049 hub)
	872044	1	LT1 1993-97 Race w/ 10% u.d. (Use w/ 872015, 872016 or 872049 hub)
	<b>NEW!</b> 872060	1	<b>6-1/4" Dia. Race w/Big Block Snout</b>
	<b>NEW!</b> 872061	1	<b>7" Dia. Race w/Big Block Snout</b>
Harmonic Balancer Bolt Kit	859012	1	
	859045	1	1 Piece Chrome Moly
	<b>NEW!</b> 859047	1	<b>12 Pt. Chrome Moly</b>
Harmonic Balancer Crank Flange Hubs	872015		LT1 F-Body 1993-95 and Corvette 1992-95 - 3.516 O.A.L.
	872016		LT1 Caprice 1993-95 -4.09 O.A.L.
	872049		LT1 F-Body 1996-97 and Corvette 1996-3.417 O.A.L.
Harmonic Balancer Repair Sleeves	835011	1	
Lifter Valley Screen kit	839055	1	
Lifter Valley Vent Tube Kit	839042	1	
Main Bolt Kits	855200	1	2-Bolt
	855201	1	4-Bolt
Main Caps (4-Bolt Conversion)	839020	1	4-Bolt Main Cap, O.E. Replacement
	839021	1	4-Bolt Main Cap, Conversion
	839022	1	4-Bolt Main Cap, Conversion (22° angle)
Main Stud Kits	855003	1	4-Bolt
	855004	1	2-Bolt
Oil Filter Adapter	839049	1	
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (Hex Head)	859017	1	Hex Head (Prior to 1986) 1/4" x 7/16" (14) & 5/16" x 9/16" (4)
Oil Pan Stud Kit (Hi-Tensile)	859008	1	
Oil Pumps (High Volume)	836021	1	Increased pressure and volume, includes screen assembly (1967-94) (May require oil pan modification)
Oil Pump Bolt Kits (12 Pt. Hi-Tensile)	854021	1	7/16"-14 x 2", 12 Pt.
Oil Pump Intermediate Shafts	838005	1	w/Steel Shaft Guide (1967-96)
Oil Pump Pick Up Retainer	839061	1	w/ 5/8" dia. tube
Oil Pump Screens	837012	1	1967-94
Oil Pump Stud Kit	859039	1	3.120 Length
Oil Restrictor Kits	839031	1	Prior to 1986
	839041	1	1986-98 and Bow Tie Blocks
Pilot Bushings	873001	1	
Pilot Bushings (Roller)	873008	1	Roller Bearing
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
Timing Cover Bolt Kits (Hex Head)	859021	1	Hex Head 1/4" x 1/2" (10)
Timing Cover Stud Kit (Hi-Tensile)	859011	1	
Timing Indicator (adjustable)	839051	1	w/ 6 1/4" balancer
Timing Indicator (adjustable)	839052	1	w/ 7" balancer
Timing Indicator (adjustable)	839053	1	w/ 8" balancer
Torque Converter Bolt Kits	859035	1	G.M. TH400, 3/8"-16 x 1/2"
	859036	1	G.M. TH350, Powerglide, 3/8"-24 x 1/2" w/ Ny-Lock Nuts

## CHEVROLET – Cont'd.



**350 - Cont'd.**  
8 Cyl. (5.7L)

1967-98

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS - Cont'd.</b>			
Transmission Bolt Kits	859014	1	7/16" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", Powerglide & Turbo 350,400
	859034	1	Bolt Kit w/Hex Head, Powerglide & Turbo 350,400
Woodruff Key Kits	839009	1	Short, 3/16" x 3/4"
	839010	1	Long, 3/16" x 1-3/8"
	<b>NEW! 839065</b>	<b>1</b>	<b>1993-97 LT1 / LS1, Short, 3/16" x 23/32"</b>
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852100	34	7/16" I.D. x 13/16" O.D. x .120 Head Bolt Washer, Premium
	852112	34	7/16" I.D. x 3/4" O.D. x .065 Head Bolt Washer, Economy
Header Bolt Kits (12 Pt. Hi-Tensile)	854014	1	3/8"-16 x 3/4" Stainless Steel (12 Bolt Kit)-Universal
	854023	1	3/8"-16 x 3/4", 12 Pt.(12 Bolt Kit)-Universal
Head Bolt Kit	859040	1	3/8"-16 x 3/4", Hex Head (12 Bolt Kit)-Universal
	851200	1	w/O.E. Cast Iron and Aluminum, AFR, Brodirx -8, -10, -11, -11xb, Dart Stock replacement cylinder heads
Head Stud Kits	851004	1	w/O.E. Cast Iron and Aluminum, AFR, Brodirx -8,-10,-11,-11XB Brownfield, Dart (stock replacement) Cylinder Heads
	851018	1	w/O.E. Cast Iron and Aluminum, AFR, Brodirx -8,-10,-11,-11XB Brownfield, Dart(Stock Replacement)Cyl. Heads w/12 Pt. Nuts
	851019	1	w/Chevy 18° High Port Cyl. Heads w/7/16" Studs w/12 Pt Nuts
	851023	1	w/Dart II Cyl. Heads
	851026	1	w/Dart II and Pontiac Motorsports #10033867 Cylinder Heads with 12 Pt. Nuts
Head Bolt Washer Kits	852096	1	Economy, 7/16" I.D. x 3/4" O.D. (34 pcs. skin pkg.)
	852098	1	Premium, 7/16" I.D. x 13/16" O.D. (34 pcs. skin pkg.)
Push Rods (Chrome Moly)	815205	16	Except Factory Roller, 7.794 O.A.L.
	815215	16	.100 Longer
	815216	16	3/8" Diameter, 7.794 O.A.L.
Push Rods (One-Piece)	815007	A/R	5/16" Diameter, 7.800 O.A.L.
	815008	A/R	5/16" Diameter, 7.850 O.A.L.
	815009	A/R	5/16" Diameter, 7.900 O.A.L.
	815010	A/R	5/16" Diameter, 7.950 O.A.L.
	815192	1	.100 longer
Push Rod Kits (O.E. Replacement)	815194	1	Except Factory Roller
	815193	1	W/Factory Roller Lifters
Push Rod Guide Plate Kits	821002	1	5/16", flat
	821004	1	5/16", step
	821005	1	3/8", step
Rocker Arm Ball/Fulcrum Kits	822001	1	
Rocker Arm Fasteners (Posi-Locks)	850008	1	3/8" Stud w/O.E. Rockers
	850010	1	7/16" Stud w/O.E. Rockers
	850012	1	7/16" Stud, Aluminum Roller Rockers
	850017	A/R	Use w/Stud Girdle and Roller Rockers w/3/8" Rocker Studs (Pkg. 8/Card)
	850018	A/R	Use w/ Stud Girdle and Roller Rockers w/ 3/8" Rocker Studs (Pkg. 2/Card)
	850019	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 8/Card)
	850020	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 2/Card)
	850022	A/R	7/16" Stud, Aluminum Roller Rockers (Pkg. 2/Card)
Rocker Arm Fasteners (Rocker Studs)	850001	1	7/16" x 3/8" w/O Jam Nut
	850003	1	7/16" x 7/16", 2.540 O.A.L.
	850006	1	7/16" x 3/8", 2.400 O.A.L.
	850013	1	7/16" x 3/8", 2.500 O.A.L.
	850014	1	7/16" x 7/16", 2.650 O.A.L.
Rocker Arm Kits (Stamped Steel Long Slot)	818001	A/R	Long Slot Stamped Steel 1.5 ratio, non-self aligning (Pkg. 4/Card)
	818015	A/R	Long Slot Stamped Steel 1.6 ratio, non self-aligning (Pkg. 4/Card)
	818016	A/R	Long Slot Stamped Steel 1.5 ratio, 7/16: stud, non-self aligning (Pkg. 4/Card)
	818017	A/R	Long Slot Stamped Steel 1.6 ratio, 7/16" stud, non-self aligning (Pkg. 4/Card)
	818019	A/R	Long slot stamped steel - 1.5 ratio, 3/8" stud, self aligning (Pkg. 4/Card)
	818020	A/R	Long slot Stamped Steel - 1.6 ratio, 3/8" stud, self aligning (Pkg. 4/Card)
Rocker Stud Girdle	823001	1	O.E. Design Heads w/3/8" Rocker Studs

# APPLICATION MATRIX SECTION

47

## CHEVROLET – Cont'd.



**350 - Cont'd.**  
8 Cyl. (5.7L)

**1967-98**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS - Cont'd.</b>			
Valve Guides	813001	A/R	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.250 Length
	813108	A/R	Manganese Bronze, 343 I.D., .502 O.D., 2.125 Length
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
	816175	1	11/32" Single Groove, Machined 10°
Valve Cover Stud Kits (Hi-Tensile)	859031	1	Use w/ Stamped Steel Valve Covers (Except Center Bolt Valve Covers)
Valve Lifters	812002	16	w/ Hydraulic lifters, Except O.E. Roller
	812003	16	Anti-Pump Up, Except O.E. Roller
	812026	16	Mechanical, Except O.E. Roller
Valve Seats	814030	8	High Chrome, 1.3125 I.D., 1.5625 O.D., .250 Depth
Valve Springs	810010	16	Single w/Damper w/Hydraulic Flat Tappet Lifters, except Vortec/LT1 (max valve lift .490)
	810107	16	Single w/Damper w/Mechanical Flat Tappet/Hydraulic Roller Lifters, except Vortec/LT1 (Max. Valve Lift .550)
	810108	16	Single w/Damper w/Mechanical Flat Tappet/Hydraulic Roller Lifters, except Vortec/LT1 (Max. Valve Lift .600)
	810109	16	Single Conical w/Hydraulic Roller Lifters-Retro Fit for Vortec/LT1 (Max Valve lift .500)
	810201	16	Dual w/ Mechanical Flat Tappet Lifters (Max. Valve Lift .590)
	810206	16	Dual w/ Mechanical Roller Lifters (Max Valve Lift .590)
	810207	16	Dual w. Mechanical Roller Lifters (max. Valve Lift .610)
	<b>NEW! 810210</b>	<b>16</b>	<b>Dual w/Damper w/Mech. Flat Tappet/Hyd. Roller Lifters (Max. Valve Lift .590)</b>
Valve Spring Insert Kits	819001	1	1.250 x .812 x .060
	819002	1	1.250 x .812 x .030
	819003	1	1.250 x .812 x .015
	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817100	1	Use w/Spring #810010, w/1.700" installed height
	817102	1	Use w/Spring #810210, w/+.040" installed height
	817104	1	Use w/Spring #810201 w/+.100" installed height
	817108	1	Use w/Spring #810010, 810107, 810108, w/+.075" installed height
	817110	1	10° Use w/Spring #810201, 810206, 810207 w/+.100" installed height
	817111	1	7° use w/ spring #810109 w/1.700" installed height
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
	811005	1	All Viton, .343 Stem, .530 Guide
	811006	1	SVR, .343 Stem, .500 Guide (Red)
	811007	1	SVR, .343 Stem, .530 Guide (Orange)
Valves (Stainless Steel)	820120	8	Intake, 1.72" Head Dia.
	820320	8	Intake, 2.02 Head Dia., w/undercut stem
	820321	8	Intake, 2.02 Head Dia., w/undercut stem, +.100 longer than stock
	820322	8	Intake, 2.05 Head Dia., w/undercut stem
	820326	8	Exhaust, 1.60 Head Dia., w/undercut stem



**350**  
8 Cyl. (5.7L) GEN 111— LS1 / LS2 / LS6

**1997-08**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Dowel Pin Kits	<b>NEW! 839005</b>	<b>1</b>	<b>Head to Block</b>
	839032	1	Bell Housing to Block, Extra Long
Harmonic Balancers	872012	1	7.50" dia Camaro, Firebird, GTO, Street
	872041	1	7.50" dia. Camaro, Firebird, GTO, Race
	872042	1	6.81" dia Camaro, Firebird, GTO w/ 10% U.D. Race
	872047	1	7.50" dia Corvette / SSR Race
	872050	1	7.24" dia Corvette / SSR w/10% U.D. Race
	872055	1	6.22" dia Camaro, Firebird /GTO w/25% U.D. Race
	872058	1	7.24" dia. Corvette / SSR w/25% U.D. Race
	<b>NEW! 872063</b>	<b>1</b>	<b>7.50" dia. Corvette/SSR w/8 rib pulley for super charger conversion</b>
Harmonic Balancer Bolt Kit	<b>NEW! 859049</b>	<b>1</b>	<b>12 Pt. Chrome Moly</b>
Woodruff Key Kits	<b>NEW! 839065</b>	<b>1</b>	<b>1997 LS1, Short, 3/16" x 23/32"</b>

## CHEVROLET – Cont'd.

**350 - Cont'd.****1997-08****8 Cyl. (5.7L) GEN 111— LS1 / LS2 / LS6**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
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**CYLINDER HEAD COMPONENTS**

Valve Locks	816176	1	8mm Single Groove, Machined w/ Stock Angle
Valve Springs	810109	16	Single Conical w/ hydraulic roller lifters (max. valve lift .625)
Valve Spring Retainer Kit	817109	1	Use w/ Spring #810109 w/ 1.800" installed height

**396****1965-70****8 Cyl. (6.6L)****SHORT BLOCK COMPONENTS**

Bellhousing Bolt Kits (12 Pt. Hi-Tensile)	854019	1	3/8"-16 x 1-1/2"
Cam Button Kits	839029	1	.850 Length
	839039	1	Roller, .945 Length
Cam Gear Bolts	839037	1	Pkg. 3 /Card
Cam Gear Lock Plates	839030	1	w/Bolts
Connecting Rod Nuts	852001	16	3/8"-24
	852004	16	7/16"-20
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
	852015	1	7/16"-20 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853006	1	7/16" Diameter, Premium Performance
	853007	1	3/8" Diameter, Premium Performance
	853205	1	7/16" Diameter, Standard Performance
Distributor Gears (Bronze)	839013	1	.500 Diameter Shaft
	839014	1	w/O.E. .491 Dia. Shaft
Distributor Hold Down Clamp (Chrome)	839062	1	
Dowel Pin Kits	839005	1	Head to block
	839032	1	Bell Housing to Block, Extra Long
	839047	1	Cam Sprocket Dowel
	839059	1	Timing Cover Dowel
Expansion Plug Kits (Brass)	830002	1	Brass
Flexplate Bolt Kits	859022	1	7/16"-20 x 11/16"
Flexplates (SFI Certified)	871001	1	14.13" Dia. w/O Weight
	871004	1	12.85" Dia. w/O Weight
Flywheel Bolt Kits	859026	1	7/16"-20 x 1"
Fuel Pump Block Off Kits	839034	1	
Fuel Pump Push Rod Kits	839035	1	Steel Billet Camshaft
	839036	1	Cast Billet Camshaft
Harmonic Balancers	872005	1	8" dia. Street
	872046	1	7" dia. Race
	872025	1	8" dia. Race
Harmonic Balancer Bolt Kit	859013	1	
	859046	1	1 piece chrome moly
Harmonic Balancer Repair Sleeves	835013	1	
Lifter Valley Vent Tube Kit	839042	1	
Main Caps	839056	1	4-bolt main cap, conversion
Main Stud Kits	855005	1	(4 Bolt)
	855006	1	(2 Bolt)
	855007	1	(4 Bolt) Aluminum Block
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Filter Adapter	839049	1	
Oil Pan Bolt Kits (Hex Head)	859018	1	Hex Head 1/4" x 7/16" (2) & 5/16" x 9/16" (20)
Oil Pan Stud Kit (Hi-Tensile)	859009	1	
Oil Pump Bolt Kits (12 Pt. Hi-Tensile)	854022	1	7/16"-14 x 2-1/2", 12 Pt.
Oil Pump Intermediate Shafts	838013	1	w/Steel Shaft Guide
Oil Pump Stud Kit	859039	1	3.120 Length
Oil Restrictor Kits	839031	1	
Pilot Bushings	873001	1	
Pilot Bushings (Roller)	873008	1	Roller Bearing
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
Timing Cover Bolt Kits (Hex Head)	859021	1	Hex Head 1/4" x 1/2" (10)



## CHEVROLET – Cont'd.



**396 - Cont'd.**  
8 Cyl. (6.6L)

**1965-70**

### SHORT BLOCK COMPONENTS - Cont'd.

Timing Cover Stud Kit (Hi-Tensile)	859011	1	
Timing Indicator (adjustable)	839054	1	w/ 8" balancer
Timing Indicator (adjustable)	839058	1	w/ 7" balancer
Torque Converter Bolt Kits	859035	1	G.M. TH400, 3/8"-16 x 1/2"
	859036	1	G.M. TH350, Powerglide, 3/8"-24 x 1/2" w/ Ny-Lock Nuts
Transmission Bolt Kits	859014	1	7/16" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", Powerglide & Turbo 350,400
	859034	1	Bolt Kit w/Hex Head, Powerglide & Turbo 350,400
Woodruff Key Kits	839009	1	Short, 3/16" x 3/4"
	839010	1	Long, 3/16" x 1-3/8"

### CYLINDER HEAD COMPONENTS

Flat Washers (Hi-Tensile)	852100	32	7/16" I.D. x 13/16" O.D. x .120 Head Bolt Washer, Premium
	852112	32	7/16" I.D. x 3/4" O.D. x .065 Head Bolt Washer, Economy
Header Bolt Kits (12 Pt. Hi-Tensile)	854015	1	3/8"-16 x 3/4" Stainless Steel (16 Bolt Kit)-Universal
	859041	1	3/8"-16 x 3/4", Hex Head (16 Bolt Kit)-Universal
Head Bolt Kit	851201	1	w/O.E. Cast Iron, Aluminum, and Early Bow Tie Cylinder Heads
Head Stud Kits	851005	1	w/O.E. Cast Iron, Aluminum, Early Bow Tie Cylinder Heads
	851006	1	Aluminum Block w/O.E. Aluminum Cylinder Heads
Head Bolt Washer Kits	852096	1	Economy, 7/16" I.D. x 3/4" O.D. (34 pcs. skin pkg.)
	852098	1	Premium, 7/16" I.D. x 13/16" O.D. (34 pcs. skin pkg.)
Push Rods (Chrome Moly)	815200	8	Intake, 3/8" Diameter, 8.280 O.A.L.
	815201	8	Exhaust, 3/8" Diameter, 9.252 O.A.L.
	815203	8	Intake, 7/16" Diameter, 8.280 O.A.L.
	815204	8	Exhaust, 7/16" Diameter, 9.252 O.A.L.
Push Rods (One-Piece)	815026	A/R	3/8" Diameter, 8.680 O.A.L.
	815027	A/R	3/8" Diameter, 9.650 O.A.L.
Push Rod Kits (O.E. Replacement)	815195	1	5/16" Diameter
Push Rod Guide Plate Kits	821008	1	3/8"
	821009	1	7/16"
Rocker Arm Ball/Fulcrum Kits	822002	1	
Rocker Arm Fasteners (Posi-Locks)	850010	1	7/16" Stud w/O.E. Rockers
	850012	A/R	7/16" Stud, Aluminum Roller Rockers (Pkg. 2/Card)
	850019	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 8/Card)
	850020	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 2/Card)
	850022	A/R	7/16" Stud, Aluminum Roller Rockers (Pkg. 2/Card)
Rocker Arm Fasteners (Rocker Studs)	850003	1	7/16" x 7/16", 2.540 O.A.L.
	850014	1	7/16" x 7/16", 2.650 O.A.L.
Rocker Arm Kits (Stamped Steel Long Slot)	818002	A/R	Long Slot Stamped Steel (Pkg. 4/Card)
Valve Guides	813109	A/R	Manganese Bronze, .3735 I.D., .625 O.D., 2.4218 Length
	813110	A/R	Manganese Bronze, .374 I.D., .6205 O.D., 2.5625 Length
Valve Lock Kits	816003	1	3/8" Single Groove, O.E. Stamped
	816141	1	3/8" Single Groove, Machined
	816142	1	3/8" Single Groove, Machined, Use w/817107 Retainer.
Valve Cover Stud Kits (Hi-Tensile)	859032	1	Use w/ Stamped Steel Valve Covers
Valve Lifters	812002	16	w/ Hydraulic lifters
	812003	16	Anti-Pump Up
	812026	16	Mechanical
Valve Springs	810011	16	Single w/ Damper w/ Hydraulic Lifters (max. valve lift .540)
	810202	16	Dual w/ Mechanical lifters (max. valve lift .630)
	810209	16	Dual w/ Damper w/Mechanical Roller Lifters (max valve lift .680)
Valve Spring Insert Kits	819010	A/R	1.480 x .703 x .060
	819011	A/R	1.480 x .703 x .030
	819012	A/R	1.480 x .703 x .015
	819013	A/R	1.500 x .645 x .060
	819014	A/R	1.500 x .645 x .030
	819015	A/R	1.500 x .645 x .015
	819016	A/R	1.640 x .635 x .015
	819018	A/R	1.520 x 1.031 x .060 (Cup type insert)
	819019	A/R	1.530 x .645 x .060 (Cup type insert)
	819020	1	1.520 x .625 x .300 (Cup type Replaces Exhaust Valve Rotator)
	819022	1	1.550 x .565 x .060 (Cup type insert)

## CHEVROLET – Cont'd.



**396 - Cont'd.**  
8 Cyl. (6.6L)

1965-70

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS - Cont'd.</b>			
Valve Spring Retainer Kits	817105	1	Use w/Spring #810011
	817107	1	Use w/Spring #810202 & 810209 w/816142 Valve lock
Valve Stem Seal Kits	811002	A/R	All Teflon, .375 Stem, .530 Guide
	811008	1	SVR, .375 Stem, .530 Guide (Lt. Blue)
Valves (Stainless Steel)	820108	A/R	Intake, 2.06" Head Dia.
	820110	A/R	Intake, 2.19" Head Dia.
	820112	A/R	Exhaust, 1.725" Head Dia.
	820114	A/R	Exhaust, 1.88" Head Dia.



**400 SMALL BLOCK**  
8 Cyl. (6.6L)

1970-76

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Bellhousing Bolt Kits (12 Pt. Hi-Tensile)	854019	1	3/8"-16 x 1-1/2"
Cam Button Kits	839028	1	.670 Length
	839029	1	.850 Length
	839038	1	Roller, .795 Length
Cam Correct	839043	1	Kit w/Drill Jig
	839045	1	Replacement Spring Shoe w/Hardware
Cam Gear Bolts	839037	1	Pkg. 3 /Card
Cam Gear Lock Plates	839030	1	w/Bolts
Connecting Rod Nuts	852001	16	3/8"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853008	1	3/8" Diameter, Premium Performance
Distributor Gears (Bronze)	839013	1	.500 Diameter Shaft
	839014	1	w/O.E. .491 Dia. Shaft
Distributor Hold Down Clamp (Chrome)	839062	1	
Dowel Pin Kits	839004	1	Head to block
	839032	1	Bell Housing to Block, Extra Long
	839047	1	Cam Sprocket Dowel
	839059	1	Timing Cover Dowel
Expansion Plug Kits (Brass)	830017	1	Brass
Flexplate Bolt Kits	859022	1	7/16"-20 x 11/16"
Flexplates (SFI Certified)	871002	1	14.13" Dia. w/Weight
Flywheel Bolt Kits	859026	1	7/16"-20 x 1"
Fuel Pump Mounting Plate	839050	1	
Fuel Pump Block Off Kits	839033	1	
Fuel Pump Push Rod Kits	839035	1	Steel Billet Camshaft
	839036	1	Cast Billet Camshaft
Harmonic Balancers	872004	1	8" Dia. Street
	872048	1	7" Dia. Race
	872024	1	8" Dia. Race
	<b>NEW! 872060</b>	1	<b>6-1/4" Dia. Race w/Big Block Snout</b>
	<b>NEW! 872061</b>	1	<b>7" Dia. Race w/Big Block Snout</b>
Harmonic Balancer Bolt Kit	859012	1	
	859045	1	1 Piece Chrome Moly
	<b>NEW! 859047</b>	1	<b>12 Pt. Chrome Moly</b>
Harmonic Balancer Repair Sleeves	835011	1	
Lifter Valley Screen kit	839055	1	
Lifter Valley Vent Tube Kit	839042	1	
Main Bolt Kits	855200	1	2-Bolt
	855201	1	4-Bolt
Main Stud Kits	855003	1	4-Bolt
	855004	1	2-Bolt
Main Caps (4-Bolt Conversion)	839023	1	4-Bolt Main Cap, Conversion (18° angle)
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Filter Adapter	839049	1	
Oil Pan Bolt Kits (Hex Head)	859017	1	Hex Head 1/4" x 7/16" (14) & 5/16" x 9/16" (4)

## CHEVROLET – Cont'd.



**400 SMALL BLOCK - Cont'd.**  
8 Cyl. (6.6L)

**1970-76**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS - Cont'd.</b>			
Oil Pan Stud Kit (Hi-Tensile)	859008	1	
Oil Pump (High Volume)	836021	1	Increased pressure and volume, includes screen assembly (May require oil pan modification)
Oil Pump Bolt Kits (12 Pt. Hi-Tensile)	854021	1	7/16"-14 x 2", 12 Pt.
Oil Pump Intermediate Shafts	838005	1	w/Steel Shaft Guide
Oil Pump Pick Up Retainer	839061	1	w/ 5/8" dia. tube
Oil Pump Screens	837012	1	
Oil Pump Stud Kit	859039	1	3.120 Length
Oil Restrictor Kits	839031	1	
Pilot Bushings	873001	1	
Pilot Bushings (Roller)	873008	1	Roller Bearing
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
Timing Cover Bolt Kits (Hex Head)	859021	1	Hex Head 1/4" x 1/2" (10)
Timing Cover Stud Kit (Hi-Tensile)	859011	1	
Timing Indicator (adjustable)	839052	1	w/ 7" balancer
Timing Indicator (adjustable)	839053	1	w/ 8" balancer
Torque Converter Bolt Kits	859035	1	G.M. TH400, 3/8"-16 x 1/2"
	859036	1	G.M. TH350, Powerglide, 3/8"-24 x 1/2" w/ Ny-Lock Nuts
Transmission Bolt Kits	859014	1	7/16" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859034	1	Bolt Kit w/ Hex Head, Powerglide & Turbo 350,400
	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", Powerglide & Turbo 350,400
Woodruff Key Kits	839009	1	Short, 3/16" x 3/4"
	839010	1	Long, 3/16" x 1-3/8"
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852100	34	7/16" I.D. x 13/16" O.D. x .120 Head Bolt Washer, Premium
	852112	34	7/16" I.D. x 3/4" O.D. x .065 Head Bolt Washer, Economy
Header Bolt Kits (12 Pt. Hi-Tensile)	854014	1	3/8"-16 x 3/4" Stainless Steel (12 Bolt Kit)-Universal
	854023	1	3/8"-16 x 3/4", 12 Pt.(12 Bolt Kit)-Universal
	859040	1	3/8"-16 x 3/4", Hex Head (12 Bolt Kit)-Universal
Head Bolt Kit	851200	1	w/O.E. Cast Iron and Aluminum, AFR, Brodix -8, -10, -11, -11xb, Dart Stock replacement cylinder heads
Head Stud Kits	851004	1	w/O.E. Cast Iron and Aluminum, AFR, Brodix -8,-10,-11,-11XB Brownfield, Dart (stock replacement) Cylinder Heads
	851018	1	w/O.E. Cast Iron and Aluminum, AFR, Brodix -8,-10,-11,-11XB Brownfield, Dart(Stock Replacement)Cyl. Heads w/12 Pt. Nuts
	851019	1	w/Chevy 18° High Port Cyl. Heads w/7/16" Studs w/12 Pt Nuts
	851023	1	w/Dart II Cyl. Heads
	851026	1	w/Dart II and Pontiac Motorsports #10033867 Cylinder Heads with 12 Pt. Nuts
Head Bolt Washer Kits	852096	1	Economy, 7/16" I.D. x 3/4" O.D. (34 pcs. skin pkg.)
	852098	1	Premium, 7/16" I.D. x 13/16" O.D. (34 pcs. skin pkg.)
Push Rods (Chrome Moly)	815205	16	7.794 O.A.L.
	815215	16	.100 Longer
	815216	16	3/8" Diameter, 7.794 O.A.L.
Push Rods (One-Piece)	815007	A/R	5/16" Diameter, 7.800 O.A.L.
	815008	A/R	5/16" Diameter, 7.850 O.A.L.
	815009	A/R	5/16" Diameter, 7.900 O.A.L.
	815010	A/R	5/16" Diameter, 7.950 O.A.L.
	815192	1	.100 longer
Push Rod Kits (O.E. Replacement)	815194	1	
Push Rod Guide Plate Kits	821002	1	5/16", flat
	821004	1	5/16", step
	821005	1	3/8", step
Rocker Arm Ball/Fulcrum Kits	822001	1	

## CHEVROLET – Cont'd.



**400 SMALL BLOCK - Cont'd.**  
8 Cyl. (6.6L)

1970-76

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS - Cont'd.</b>			
Rocker Arm Fasteners (Posi-Locks)	850008	1	3/8" Stud w/O.E. Rockers
	850010	1	7/16" Stud w/O.E. Rockers
	850012	1	7/16" Stud, Aluminum Roller Rockers
	850017	A/R	Use w/Stud Girdle and Roller Rockers w/3/8" Rocker Studs (Pkg. 8/Card)
	850018	A/R	Use w/ Stud Girdle and Roller Rockers w/ 3/8" Rocker Studs (Pkg. 2/Card)
	850019	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 8/Card)
	850020	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 2/Card)
Rocker Arm Fasteners (Rocker Studs)	850022	A/R	7/16" Stud, Aluminum Roller Rockers (Pkg. 2/Card)
	850001	1	7/16" x 3/8" w/O Jam Nut
	850003	1	7/16" x 7/16", 2.540 O.A.L.
	850006	1	7/16" x 3/8", 2.400 O.A.L.
	850013	1	7/16" x 3/8", 2.500 O.A.L.
Rocker Arm Kits (Stamped Steel Long Slot)	850014	1	7/16" x 7/16", 2.650 O.A.L.
	818001	A/R	Long Slot Stamped Steel (1.5 ratio, non-self aligning (Pkg. 4/Card)
	818015	A/R	Long Slot Stamped Steel (1.6 ratio, non self-aligning (Pkg. 4/Card)
	818016	A/R	Long Slot Stamped Steel (1.5 ratio, 7/16: stud, non-self aligning (Pkg. 4/Card)
	818017	A/R	Long Slot Stamped Steel (1.6 ratio, 7/16" stud, non-self aligning (Pkg. 4/Card)
Rocker Stud Girdle	823001	1	O.E. Design Heads w/3/8" Rocker Studs
Valve Guides	813001	A/R	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.250 Length
	813108	A/R	Manganese Bronze, 343 I.D., .502 O.D., 2.125 Length
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
	816175	1	11/32" Single Groove, Machined 10°
Valve Cover Stud Kits (Hi-Tensile)	859031	1	Use w/ Stamped Steel Valve Covers
Valve Lifters	812002	16	w/ Hydraulic lifters
	812003	16	Anti-Pump Up
	812026	16	Mechanical
Valve Seats	814030	8	Exh., High Chrome, 1.3125 I.D., 1.5625 O.D., .250 Depth
			45° Seat Angle, 1.562 Counter Bore Size
Valve Springs	810010	16	Single w/Damper, w/Hydraulic Lifters, (max. valve lift .490)
	810107	16	Single w/Damper w/mechanical lifters (max. valve lift .550)
	810108	16	Single w/ damper w/ mechanical lifters (max valve lift .600)
	810201	16	Dual w/ Mechanical lifters (max. valve lift .590)
	810206	16	Dual w/Mech. Roller Lifters (max. valve lift .590)
	810207	16	Dual mech. roller lifters (max. valve lift .610)
	<b>NEW! 810210</b>	<b>16</b>	<b>Dual w/Damper w/Mech. Flat Tappet/Hyd. Roller Lifters (Max Valve Lift .590)</b>
Valve Spring Insert Kits	819001	1	1.250 x .812 x .060
	819002	1	1.250 x .812 x .030
	819003	1	1.250 x .812 x .015
	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
	817100	1	Use w/Spring #810010, w/1.700" installed height
	817102	1	Use w/Spring #810210, w/+.040" installed height
817104	1	Use w/Spring #810201, w/+.100" installed height	
Valve Spring Retainer Kits	817108	1	Use w/Spring #810010, 810107, 810107, w/+.075" installed height
	817110	1	10° Use w/Spring #810201, 810206, 810207 w/+.100" installed height
	816180	1	11/32", .080 Thick
	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
Valve Stem Lash Cap Kit	811005	1	All Viton, .343 Stem, .530 Guide
	811006	1	SVR, .343 Stem, .500 Guide (Red)
	811007	1	SVR, .343 Stem, .530 Guide (Orange)
	820120	8	Intake, 1.72" Head Dia.,
	820320	8	Intake, 2.02 Head Dia., w/undercut stem
Valves (Stainless Steel)	820321	8	Intake, 2.02 Head Dia., w/undercut stem, +.100 longer than stock
	820322	8	Intake, 2.05 Head Dia., w/undercut stem
	820326	8	Exhaust, 1.60 Head Dia., w/undercut stem

## CHEVROLET – Cont'd.



**427**  
**8 Cyl. (7.0L)**

**1966-96**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Bellhousing Bolt Kits (12 Pt. Hi-Tensile)	854019	1	3/8"-16 x 1-1/2"
Cam Button Kits	839029	1	.850 Length
	839039	1	Roller, 945 Length
Cam Gear Bolts	839037	1	Pkg. 3 /Card
Cam Gear Lock Plates	839030	1	w/Bolts
Connecting Rod Nuts	852001	16	3/8"-24
	852004	16	7/16"-20
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
	852015	1	7/16"-20 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853006	1	7/16" Diameter, Premium Performance
	853007	1	3/8" Diameter, Premium Performance
	853205	1	7/16" Diameter, Standard Performance
Distributor Gears (Bronze)	839013	1	.500 Diameter Shaft
	839014	1	w/O.E. .491 Diameter Shaft
Distributor Hold Down Clamp (Chrome)	839062	1	
Dowel Pin Kits	839005	1	Head to block
	839032	1	Bell Housing to Block, Extra Long
	839047	1	Cam Sprocket Dowel
	839059	1	Timing Cover Dowel
Expansion Plug Kits (Brass)	830002	1	Brass (Prior to 1991)
	830019	1	Brass, 1991-1996
Flexplate Bolt Kits	859022	1	7/16"-20 x 11/16" (Prior to 1991)
	859029	1	1991-96 w/1 Piece Rear Seal, 7/16"-20 x 11/16"
Flexplates (SFI Certified)	871001	1	14.13" Dia. w/O Weight (Prior to 1991)
	871004	1	12.85" Dia. w/O Weight (Prior to 1991)
Flywheel Bolt Kits	859026	1	7/16"-20 x 1" (Prior to 1991)
	859030	1	1991-96 w/ 1 Pc. Rear Seal, 7/16"-20 x 1"
Fuel Pump Block Off Kits	839034	1	
Fuel Pump Push Rod Kits	839035	1	Steel Billet Camshaft
	839036	1	Cast Billet Camshaft
Harmonic Balancers	872005	1	8" Dia. Street
	872046	1	7" Dia. Race
	872025	1	8" Dia. Race
Harmonic Harmonic Balancer Bolt Kit	859013	1	
Harmonic Balancer Repair Sleeves	835013	1	
	859046	1	1 piece chrome moly
Lifter Valley Vent Tube Kit	839042	1	
Main Caps	839056	1	4-bolt main cap, conversion
Main Stud Kits	855005	1	4-Bolt
	855006	1	2-Bolt
	855007	1	4-Bolt Aluminum Block
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Filter Adapter	839049	1	
Oil Pan Bolt Kits (Hex Head)	859018	1	Hex Head (Prior to 1991) 1/4" x 7/16" (2) & 5/16" x 9/16" (20)
Oil Pan Stud Kit (Hi-Tensile)	859009	1	
Oil Pump Bolt Kits (12 Pt. Hi-Tensile)	854022	1	7/16"-14 x 2-1/2", 12 Pt.
Oil Pump Intermediate Shafts	838013	1	w/Steel Shaft Guide
Oil Pump Stud Kit	859039	1	3.120 Length
Oil Restrictor Kits	839031	1	Prior to 1991)
	839041	1	1991-96 & Bow Tie Blocks
Pilot Bushings	873001	1	
Pilot Bushings (Roller)	873008	1	Roller Bearing
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
Timing Cover Bolt Kits (Hex Head)	859021	1	Hex Head 1/4" x 1/2" (10)
Timing Cover Stud Kit (Hi-Tensile)	859011	1	
Timing Indicator (adjustable)	839054	1	w/ 8" balancer
Timing Indicator (adjustable)	839058	1	w/ 7" balancer
Torque Converter Bolt Kits	859035	1	G.M. TH400, 3/8"-16 x 1/2"
	859036	1	G.M. TH350, Powerglide, 3/8"-24 x 1/2" w/ Ny-Lock Nuts
Transmission Bolt Kits	859014	1	7/16" x 1-1/2" N.C.-Universal (manual trans.)

(See **PRODUCT SECTION** for description and specifications.)

(Application Matrix Section - Continued on next page)



## CHEVROLET – Cont'd.



**427**  
8 Cyl. (7.0L)

**1966-96**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS - Cont'd.</b>			
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", Powerglide & Turbo 350,400
	859034	1	Bolt Kit w/Hex Head, Powerglide & Turbo 350,400
Woodruff Key Kits	839009	1	Short, 3/16" x 3/4"
	839010	1	Long, 3/16" x 1-3/8"
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852100	32	7/16" I.D. x 13/16" O.D. x .120 Head Bolt Washer, Premium
	852112	32	7/16" I.D. x 3/4" O.D. x .065 Head Bolt Washer, Economy
Header Bolt Kits (12 Pt. Hi-Tensile)	854015	1	3/8"-16 x 3/4" Stainless Steel (16 Bolt Kit)-Universal
	859041	1	3/8"-16 x 3/4", Hex Head (16 Bolt Kit)-Universal
Head Bolt Kits	851201	1	w/O.E. Cast Iron, Aluminum, and Early Bowtie Cylinder Heads
Head Stud Kits	851005	1	w/O.E. Cast Iron, Aluminum, Early Bowtie Cylinder Heads
	851006	1	Aluminum Block w/O.E. Aluminum Cylinder Heads
Head Bolt Washer Kits	852096	1	Economy, 7/16" I.D. x 3/4" O.D. (34 pcs. skin pkg.)
	852098	1	Premium, 7/16" I.D. x 13/16" O.D. (34 pcs. skin packaged)
Push Rods (Chrome Moly)	815200	8	Intake, 3/8" Diameter, 8.280 O.A.L. (Prior to 1991)
	815201	8	Exhaust, 3/8" Diameter, 9.252 O.A.L. (Prior to 1991)
	815203	8	Intake, 7/16" Diameter, 8.280 O.A.L. (Prior to 1991)
	815204	8	Exhaust, 7/16" Diameter, 9.252 O.A.L. (Prior to 1991)
	815210	8	Intake, Heavy Duty Truck 3/8" Diameter, 8.680 O.A.L. (Prior to 1991)
	815211	8	Exhaust, Heavy Duty Truck, 3/8" Diameter, 9.652 O.A.L. (Prior to 1991)
Push Rods (One-Piece)	815026	A/R	3/8" Diameter, 8.680 O.A.L.
	815027	A/R	3/8" Diameter, 9.650 O.A.L.
Push Rod Kits (O.E. Replacement)	815195	1	5/16" Diameter Except Heavy Duty Truck (Prior to 1991)
Push Rod Guide Plate Kits	821008	1	3/8" (Prior to 1991)
	821009	1	7/16" (Prior to 1991)
Rocker Arm Ball/Fulcrum Kits	822002	1	Prior to 1991
Rocker Arm Fasteners (Posi-Locks)	850010	1	7/16" Stud w/O.E. Rockers
	850012	1	7/16" Stud, Aluminum Roller Rockers
	850019	A/R	Use w/Stud Girdle & Roller Rockers w/7/16" Rocker Studs (Pkg. 8/Card)
	850020	A/R	Use w/Stud Girdle & Roller Rockers w/7/16" Rocker Studs (Pkg. 2/Card)
	850022	A/R	7/16" Stud, Aluminum Roller Rockers (Pkg. 2/Card)
Rocker Arm Fasteners (Rocker Studs)	850003	1	7/16" x 7/16", 2.540 O.A.L.
	850014	1	7/16" x 7/16", 2.650 O.A.L.
Rocker Arm Kits (Stamped Steel Long Slot)	818002	A/R	Long Slot Stamped Steel (Prior to 1991) (Pkg. 4/Box)
Valve Guides	813109	A/R	Manganese Bronze, .3735 I.D., .625 O.D., 2.4218 Length
	813110	A/R	Manganese Bronze, .374 I.D., .6205 O.D., 2.5625 Length
Valve Lock Kits	816003	1	3/8" Single Groove, O.E. Stamped
	816141	1	3/8" Single Groove, Machined
	816142	1	3/8" Single Groove, Machined, Use w/817107 Retainer.
Valve Cover Stud Kits (Hi-Tensile)	859032	1	Use w/ Stamped Steel Valve Covers
Valve Lifters	812002	16	w/ Hydraulic lifters
	812003	16	Anti-Pump Up
	812026	16	Mechanical
Valve Springs	810011	16	Single w/ Damper w/ Hydraulic Flat Tappet Lifters (max. valve lift .540)
	810202	16	Dual w/ Mechanical Flat Tappet Lifters (max. valve lift .630)
	810209	16	Dual w/ Damper w/Mechanical Roller Lifters (max valve lift .680)
Valve Spring Insert Kits	819010	1	1.480 x .703 x .060
	819011	1	1.480 x .703 x .030
	819012	1	1.480 x .703 x .015
	819013	1	1.500 x .645 x .060
	819014	1	1.500 x .645 x .030
	819015	1	1.500 x .645 x .015
	819016	1	1.640 x .635 x .015
	819018	1	1.520 x 1.031 x .060 (Cup type insert)
	819019	1	1.530 x .645 x .060 (Cup type insert)
	819020	1	1.520 x .625 x .300 (Cup Type Replaces Exhaust Valve Rotator)
	819022	1	1.550 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817105	1	Use w/Spring #810011, 810209
	817107	1	Use w/Spring #810202, w/816142 Valve lock
Valve Stem Seal Kit	811002	1	All Teflon, .375 Stem, .530 Guide
	811008	1	SVR, .375 Stem, .530 Guide (Lt. Blue)

## CHEVROLET – Cont'd.



**427 – Cont'd.**  
8 Cyl. (7.0L)

**1966-96**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS - Cont'd.</b>			
Valves (Stainless Steel)	820108	8	Intake, 2.06" Head Dia.
	820110	8	Intake, 2.19" Head Dia.
	820112	8	Exhaust, 1.725" Head Dia.
	820114	8	Exhaust, 1.88" Head Dia.



**454 - 502**  
8 Cyl. (7.4L)

**1970-97**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Bellhousing Bolt Kits (12 Pt. Hi-Tensile)	854019	1	3/8"-16 x 1-1/2"
Cam Button Kits	839029	1	.850 Length
	839039	1	Roller, .945 Length
Cam Gear Bolts	839037	1	Pkg. 3 /Card
Cam Gear Lock Plates	839030	1	w/Bolts
Connecting Rod Nuts	852001	16	3/8"-24
	852004	16	7/16"-20
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
	852015	1	7/16"-20 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853006	1	7/16" Diameter, Premium Performance
	853007	1	3/8" Diameter, Premium Performance
	853205	1	7/16" Diameter, Standard Performance
Distributor Gears (Bronze)	839013	1	.500 Diameter Shaft
	839014	1	w/O.E. .491 Diameter Shaft
Distributor Hold Down Clamp (Chrome)	839062	1	
Dowel Pin Kits	839005	1	Head to block
	839032	1	Bell Housing to Block, Extra Long
	839047	1	Cam Sprocket Dowel
	839059	1	Timing Cover Dowel
Expansion Plug Kits (Brass)	830002	1	Brass (Prior to 1991)
	830019	1	Brass, 1991-97
Flexplate Bolt Kits	859022	1	7/16"-20 x 11/16" (Prior to 1991)
	859029	1	1991-97 w/1 Pc. Rear Seal, 7/16"-20 x 11/16"
Flexplates (SFI Certified)	871003	1	14.13" Dia. w/Weight (Prior to 1991)
	871008	1	1991-97 - 454 w/Cast Iron Crankshaft, 14.13" Dia. w/weight
Flywheel Bolt Kits	859026	1	7/16"-20 x 1" (Prior to 1991)
	859030	1	1991-97 w/1 Pc. Rear Seal, 7/16"-20 x 1"
Fuel Pump Block Off Kits	839034	1	
Fuel Pump Push Rod Kits	839035	1	Steel Billet Camshaft
	839036	1	Cast Billet Camshaft
Harmonic Balancers	872006	1	8" Dia. Street
	872026	1	8" Dia. Race
Harmonic Balancer Bolt Kit	859013	1	
	859046	1	1 piece chrome moly
Harmonic Balancer Repair Sleeves	835013	1	
Lifter Valley Vent Tube Kit	839042	1	
Main Caps	839056	1	4-bolt main cap, conversion
Main Stud Kits	855005	1	4-Bolt
	855006	1	2-Bolt
	855007	1	4-Bolt Aluminum Block
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Filter Adapter	839049	1	
Oil Pan Bolt Kits (Hex Head)	859018	1	Hex Head (Prior to 1991) 1/4" x 7/16" (2) & 5/16" x 9/16" (20)
Oil Pan Stud Kit (Hi-Tensile)	859009	1	
Oil Pump Bolt Kits (12 Pt. Hi-Tensile)	854022	1	7/16"-14 x 2-1/2", 12 Pt.
Oil Pump Intermediate Shafts	838013	1	w/Steel Shaft Guide (1970-96)
Oil Pump Stud Kit	859039	1	3.120 Length
Oil Restrictor Kits	839031	1	Prior to 1991
	839041	1	1991-97 and Bow Tie Blocks

## CHEVROLET – Cont'd.



454 - 502 – Cont'd.  
8 Cyl. (7.4L)

1970-97

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS - Cont'd.</b>			
Pilot Bushings	873001	1	
Pilot Bushings (Roller)	873008	1	Roller Bearing
Timing Cover Bolt Kits (Hex Head)	859021	1	Hex Head 1/4" x 1/2" (10)
Timing Cover Stud Kit (Hi-Tensile)	859011	1	
Timing Indicator (adjustable)	839054	1	w/ 8" balancer
Timing Indicator (adjustable)	839058	1	w/ 7" balancer
Torque Converter Bolt Kits	859035	1	G.M. TH400, 3/8"-16 x 1/2"
	859036	1	G.M. TH350, Powerglide, 3/8"-24 x 1/2" w/ Ny-Lock Nuts
Transmission Bolt Kits	859014	1	7/16" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", Powerglide & Turbo 350, 400
	859034	1	Bolt Kit w/ Hex Head, Powerglide & Turbo 350,400
Woodruff Key Kits	839009	1	Short, 3/16" x 3/4"
	839010	1	Long, 3/16" x 1-3/8"
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852100	32	7/16" I.D. x 13/16" O.D. x .120 Head Bolt Washer, Premium
	852112	32	7/16" I.D. x 3/4" O.D. x .065 Head Bolt Washer, Economy
Header Bolt Kits (12 Pt. Hi-Tensile)	854015	1	3/8"-16 x 3/4" Stainless Steel (16 Bolt Kit)-Universal
	859041	1	3/8"-16 x 3/4", Hex Head (16 Bolt Kit)-Universal
Head Bolt Kit	851201	1	w/O.E. Cast Iron, Aluminum, and Early Bowtie Cylinder Heads
Head Stud Kits	851005	1	w/O.E. Cast Iron, Aluminum, Early Bowtie Cylinder Heads
	851006	1	Aluminum Block w/O.E. Aluminum Cylinder Heads
Head Bolt Washer Kits	852096	1	Economy, 7/16" I.D. x 3/4" O.D. (34 pcs. skin pkg.)
	852098	1	Premium, 7/16" I.D. x 13/16" O.D. (34 pcs. skin pkg.)
Push Rods (Chrome Moly)	815200	8	Intake, 3/8" Diameter, 8.280 O.A.L. (Prior to 1991)
	815201	8	Exhaust, 3/8" Diameter, 9.252 O.A.L. (Prior to 1991)
	815203	8	Intake, 7/16" Diameter, 8.280 O.A.L. (Prior to 1991)
	815204	8	Exhaust, 7/16" Diameter, 9.252 O.A.L. (Prior to 1991)
	815218	8	Intake, 3/8" diameter, 7.635 O.A.L. (1991-later)
	815219	8	Exhaust 3/8" diameter, 8.595 O.A.L. (1991-later)
Push Rods (One-Piece)	815026	A/R	3/8" Diameter, 8.680 O.A.L.
	815027	A/R	3/8" Diameter, 9.650 O.A.L.
Push Rod Kits (O.E. Replacement)	815195	1	5/16" Diameter (Prior to 1991)
Push Rod Guide Plate Kits	821008	1	3/8" (Prior to 1991)
	821009	1	7/16" (Prior to 1991)
Rocker Arm Ball/Fulcrum Kits	822002	1	Prior to 1991
Rocker Arm Fasteners (Posi-Locks)	850010	1	7/16" Stud w/O.E. Rockers
	850012	1	7/16" Stud, Aluminum Roller Rockers
	850019	A/R	Use w/Stud Girdle & Roller Rockers w/7/16" Rocker Studs (Pkg. 8/Card)
	850020	A/R	Use w/Stud Girdle & Roller Rockers w/7/16" Rocker Studs (Pkg. 2/Card)
	850022	A/R	7/16" Stud, Aluminum Roller Rockers (Pkg. 2/Card)
Rocker Arm Fasteners (Rocker Studs)	850003	1	7/16" x 7/16", 2.540 O.A.L.
	850014	1	7/16" x 7/16", 2.650 O.A.L.
Rocker Arm Kits (Stamped Steel Long Slot)	818002	A/R	Long Slot Stamped Steel (Prior to 1991) (Pkg. 4/Card)
	818021	A/R	Long Slot Stamped Steel (1991-later) w/3/8" bolt (pkg 4/card)
Valve Guides	813109	A/R	Manganese Bronze, .3735 I.D., .625 O.D., 2.4218 Length
	813110	A/R	Manganese Bronze, .374 I.D., .6205 O.D., 2.5625 Length
Valve Lock Kits	816003	1	3/8" Single Groove, O.E. Stamped
	816141	1	3/8" Single Groove, Machined
	816142	1	3/8" Single Groove, Machined, Use w/817107 Retainer
Valve Cover Stud Kits (Hi-Tensile)	859032	1	Use w/ Stamped Steel Valve Covers
Valve Lifters	812002	16	w/ Hydraulic lifters
	812003	16	Anti-Pump Up
	812026	16	Mechanical
Valve Springs	810011	16	Single w/ Damper w/ Hydraulic Flat Tappet Lifters (max. valve lift .540)
	810202	16	Dual w/ Mechanical Flat Tappet/Hydraulic Roller Lifters (max. valve lift .630)
	810208	16	Dual w/Hydraulic Flat Tappet Lifters (max valve lift .560)
	810209	16	Dual w/ Damper w/Mechanical Roller Lifters (max valve lift .680)

## CHEVROLET – Cont'd.



**454 - 502 – Cont'd.**  
8 Cyl. (7.4L)

**1970-97**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS - Cont'd.</b>			
Valve Spring Insert Kits	819010	1	1.480 x .703 x .060
	819011	1	1.480 x .703 x .030
	819012	1	1.480 x .703 x .015
	819013	1	1.500 x .645 x .060
	819014	1	1.500 x .645 x .030
	819015	1	1.500 x .645 x .015
	819016	1	1.640 x .635 x .015
	819018	1	1.520 x 1.031 x .060 (Cup type insert)
	819019	1	1.530 x .645 x .060 (Cup type insert)
	819020	1	1.520 x .625 x .300 (Cup Type Replaces Exhaust Valve Rotator)
	819022	1	1.550 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817105	1	Use w/Spring #810011 & 810208
	817107	1	Use w/Spring #810202 & 810209 w/816142 Valve lock
Valve Stem Seal Kits	811002	1	All Teflon, .375 Stem, .530 Guide
	811008	1	SVR, .375 Stem, .530 Guide (Lt. Blue)
Valves (Stainless Steel)	820108	8	Intake, 2.06" Head Dia.
	820110	8	Intake, 2.19" Head Dia.
	820112	8	Exhaust, 1.725" Head Dia.
	820114	8	Exhaust, 1.88" Head Dia.

## CHRYSLER



**318**  
8 Cyl. (5.2L)

**1957-91**

<b>SHORT BLOCK COMPONENTS</b>			
Connecting Rod Nuts	852001	16	3/8"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853009	1	3/8" Diameter, Premium Performance
	853206	1	3/8" Diameter, Standard Performance
Distributor Towershaft Bushing Kits	839007	1	
Expansion Plug Kits (Brass)	830007	1	Brass
Flexplate Bolt Kits	859037	1	7/16"-20 x 1/2"
Harmonic Balancers	872020	1	7" Dia. Street
	872037	1	7.24" Dia. Race
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (Hex Head)	859020	1	Hex Head 5/16" x 9/16" (20)
Oil Pan Bolt Kits (12 Pt. Hi-Tensile)	854004	1	5/16" x 9/16" (20)
Oil Pan Stud Kit (Hi-Tensile)	859007	1	
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
Torque Converter Bolt Kits	859038	1	5/16"-24 x 7/16"
Transmission Bolt Kits	859015	1	1/2" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", 904 & 727 Torqueflite
	859034	1	Bolt Kit w/Hex Head, 904 & 727 Torqueflite
Woodruff Key Kits	839010	1	Long, 3/16" x 1-3/8"
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852101	20	1/2" I.D. x 7/8" O.D. x .120 Head Bolt Washer, Premium
	852111	20	1/2" I.D. x 7/8" O.D. x .100 Head Bolt Washer, Economy
Header Bolt Kits (12 Pt. Hi-Tensile)	854013	1	5/16"-18 x 3/4" Stainless Steel (14 Bolt Kit)-Universal
Head Stud Kits	851007	1	w/O.E. Cylinder Heads
Head Bolt Washer Kits	852097	1	Economy, 1/2" I.D. x 7/8" O.D. (20 pcs. skin pkg.)
	852099	1	Premium, 1/2" I.D. x 7/8" O.D. (20 pcs. skin packaged)
Push Rods (Chrome Moly)	815208	16	

## CHRYSLER – Cont'd.



**318 – Cont'd.**  
8 Cyl. (5.2L)

**1957-91**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS - Cont'd.</b>			
Valve Guides	813004	A/R	Cast Iron/Spiraled I.D., .373 I.D., .502 I.D., 2.625 Length
	813005	A/R	Cast Iron/Spiraled I.D., .373 I.D., .502 O.D., 2.375 Length
Valve Lock Kits	813104	A/R	Manganese Bronze, .373 I.D., .502 O.D., 2.625 Length
	813105	A/R	Manganese Bronze, .373 I.D., .502 O.D., 2.375 Length
	816001	1	3/8" 2 Groove, O.E. Stamped, w/O.E. Valves (Intake)
	816003	1	3/8" Single Groove, O.E. Stamped
Valve Springs	816004	1	3/8" 4 Groove, O.E. Stamped, w/O.E. Valves (Exhaust)
	816141	1	3/8" Single Groove, Machined
	810012	16	Single w/ Damper w/ Hydraulic lifters (max valve lift .490)
	810102	16	Single w/ Damper w/ Mechanical lifters (max. valve lift .540) (use o.e. retainer)
Valve Spring Insert Kits	810203	16	Dual w/ Mechanical lifters (max. valve lift .590)
	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819010	1	1.480 x .703 x .060
	819011	1	1.480 x .703 x .030
	819012	1	1.480 x .703 x .015
	819013	1	1.500 x .645 x .060
	819014	1	1.500 x .645 x .030
	819015	1	1.500 x .645 x .015
Valve Spring Retainer Kits	819018	1	1.520 x 1.031 x .060 (Cup type insert)
	819021	1	1.460 x .565 x .060 (Cup type insert)
	817103	1	(Use w/Spring #810012)
Valve Stem Seal Kits	817105	1	(Use w/Spring #810203)
	811002	1	All Teflon, .375 Stem, .530 Guide
	811004	1	All Teflon, .375 Stem, .500 Guide
811008	1	SVR, .375 Stem, .530 Guide (Lt. Blue)	



**340**  
8 Cyl. (5.6L)

**1968-73**

## SHORT BLOCK COMPONENTS

Connecting Rod Nuts	852001	16	3/8"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853009	1	3/8" Diameter, Premium Performance
	853206	1	3/8" Diameter, Standard Performance
Distributor Towershaft Bushing Kits	839007	1	
Expansion Plug Kits (Brass)	830007	1	Brass
Flexplate Bolt Kits	859037	1	7/16"-20 x 1/2"
Harmonic Balancers	872020		7" Dia. Street
	872037		7.24" Dia. Race
Main Stud Kits	855008	1	
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (Hex Head)	859020	1	Hex Head 5/16" x 9/16" (20)
Oil Pan Bolt Kits (12 Pt. Hi-Tensile)	854004	1	5/16" x 9/16" (20)
Oil Pan Stud Kit (Hi-Tensile)	859007	1	
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
Torque Converter Bolt Kits	859038	1	5/16"-24 x 7/16"
Transmission Bolt Kits	859015	1	1/2" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", 904 & 727 Torqueflite
	859034	1	Bolt Kit w/ Hex Head, 904 & 727 Torqueflite
Woodruff Key Kits	839010	1	Long, 3/16" x 1-3/8"



## CHRYSLER – Cont'd.



**340 – Cont'd.**  
8 Cyl. (5.6L)

**1968-73**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852101	20	1/2" I.D. x 7/8" O.D. x .120 Head Bolt Washer, Premium
	852111	20	1/2" I.D. x 7/8" O.D. x .100 Head Bolt Washer, Economy
Header Bolt Kits (12 Pt. Hi-Tensile)	854013	1	5/16"-18 x 3/4" Stainless Steel (14 Bolt Kit) Universal
Head Stud Kits	851007	1	w/O.E. Cylinder Heads
Head Bolt Washer Kits	852097	1	Economy, 1/2" I.D. x 7/8" O.D. (20 pcs. skin pkg.)
	852099	1	Premium, 1/2" I.D. x 7/8" O.D. (20 pcs. skin packaged)
Push Rods (Chrome Moly)	815208	16	
Valve Guides	813005	A/R	Cast Iron/Spiraled I.D., .373 I.D., .502 O.D., 2.375 Length
	813105	A/R	Manganese Bronze, .373 I.D., .502 O.D., 2.375 Length
Valve Lock Kits	816001	1	3/8" 2 Groove, O.E. Stamped, w/O.E. Valves (Intake)
	816003	1	3/8" Single Groove, O.E. Stamped
	816004	1	3/8" 4 Groove, O.E. Stamped, w/O.E. Valves (Exhaust)
	816141	1	3/8" Single Groove, Machined
Valve Springs	810012	16	Single w/ Damper w/ Hydraulic lifters (max valve lift .490)
	810102	16	Single w/ Damper w/ Mechanical lifters (max. valve lift .540) (use o.e. retainer)
	810203	16	Dual w/ Mechanical lifters (max. valve lift .590)
Valve Spring Insert Kits	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819010	1	1.480 x .703 x .060
	819011	1	1.480 x .703 x .030
	819012	1	1.480 x .703 x .015
	819013	1	1.500 x .645 x .060
	819014	1	1.500 x .645 x .030
	819015	1	1.500 x .645 x .015
	819018	1	1.520 x 1.031 x .060 (Cup type insert)
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817103	1	Use w/Spring #810012
	817105	1	Use w/Spring #810203
Valve Stem Seal Kits	811002	1	All Teflon, .375 Stem, .530 Guide
	811004	1	All Teflon, .375 Stem, .500 Guide
	811008	1	SVR, .375 Stem, .530 Guide (Lt. Blue)
Valves (Stainless Steel)	820200	8	Intake, 2.02" Head Dia.



**360**  
8 Cyl. (5.9L)

**1971-87**

<b>SHORT BLOCK COMPONENTS</b>			
Connecting Rod Nuts	852001	16	3/8"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853009	1	3/8" Diameter, Premium Performance
	853206	1	3/8" Diameter, Standard Performance
Distributor Towershaft Bushing Kits	839007	1	
Expansion Plug Kits (Brass)	830007	1	Brass
Flexplate Bolt Kits	859037	1	7/16"-20 x 1/2"
Harmonic Balancers	872038		7.21" Dia Race
Main Stud Kits	855008	1	
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (Hex Head)	859020	1	Hex Head 5/16" x 9/16" (20)
Oil Pan Bolt Kits (12 Pt. Hi-Tensile)	854004	1	12 Pt., 5/16" x 9/16" (20)
Oil Pan Stud Kit (Hi-Tensile)	859007	1	
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
Torque Converter Bolt Kits	859038	1	5/16"-24 x 7/16"
Transmission Bolt Kits	859015	1	1/2" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", 904 & 727 Torqueflite
	859034	1	Bolt Kit w/ Hex Head, 904 & 727 Torqueflite
Woodruff Key Kits	839010	1	Long, 3/16" x 1-3/8"

## CHRYSLER – Cont'd.



**360 – Cont'd.**  
8 Cyl. (5.9L)

1971-87

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852101	20	1/2" I.D. x 7/8" O.D. x .120 Head Bolt Washer, Premium
	852111	20	1/2" I.D. x 7/8" O.D. x .100 Head Bolt Washer, Economy
Header Bolt Kits (12 Pt. Hi-Tensile)	854013	1	5/16"-18 x 3/4" Stainless Steel (14 Bolt Kit)-Universal
Head Stud Kits	851007	1	w/O.E. Cylinder Heads
Head Bolt Washer Kits	852097	1	Economy, 1/2" I.D. x 7/8" O.D. (20 pcs. skin pkg.)
	852099	1	Premium, 1/2" I.D. x 7/8" O.D. (20 pcs. skin pkg.)
Push Rods (Chrome Moly)	815208	16	
Valve Guides	813005	A/R	Cast Iron/Spiraled I.D., .373 I.D., .502 O.D., 2.375 Length
	813105	A/R	Manganese Bronze, .373 I.D., .502 O.D., 2.375 Length
Valve Lock Kits	816001	1	3/8" 2 Groove, O.E. Stamped, w/O.E. Valves (Intake)
	816003	1	3/8" Single Groove, O.E. Stamped
	816004	1	3/8" 4 Groove, O.E. Stamped, w/O.E. Valves (Exhaust)
	816141	1	3/8" Single Groove, Machined
Valve Springs	810012	16	Single w/ Damper w/ Hydraulic lifters (max valve lift .490)
	810102	16	Single w/ Damper w/ Mechanical lifters (max. valve lift .540) (use o.e. retainer)
	810203	16	Dual w/ Mechanical lifters (max. valve lift .590)
Valve Spring Insert Kits	819010	1	1.480 x .703 x .060
	819011	1	1.480 x .703 x .030
	819012	1	1.480 x .703 x .015
	819013	1	1.500 x .645 x .060
	819014	1	1.500 x .645 x .030
	819015	1	1.500 x .645 x .015
	819018	1	1.520 x 1.031 x .060 (Cup type insert)
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817103	1	Use w/Spring #810012
	817105	1	Use w/Spring #810203
Valve Stem Seal Kits	811002	1	All Teflon, .375 Stem, .530 Guide
	811004	1	All Teflon, .375 Stem, .500 Guide
	811008	1	SVR, .375 Stem, .530 Guide (Lt. Blue)
Valves (Stainless Steel)	820200	8	Intake, 2.02" Head Dia.



**400**  
8 Cyl. (6.6L)

1972-78

<b>SHORT BLOCK COMPONENTS</b>			
Connecting Rod Nuts	852001	16	3/8"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853010	1	3/8" Diameter, Premium Performance
	853203	1	3/8" Diameter, Standard Performance
Distributor Towershaft Bushing Kits	839007	1	
Expansion Plug Kits (Brass)	830008	1	Brass
Flexplate Bolt Kits	859037	1	7/16"-20 x 1/2", (exc. Hemi)
Flywheel Bolt Kits	859027	1	1/2"-20 x 1" (Hemi Only)
Harmonic Balancers	872039		7.11" Dia. Street
	872040		7.11" Dia. Race
Main Stud Kits	855008	1	
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (Hex Head)	859020	1	Hex Head 5/16" x 9/16" (20)
Oil Pan Bolt Kits (12 Pt. Hi-Tensile)	854004	1	12 Pt., 5/16" x 9/16" (20)
Oil Pan Stud Kit (Hi-Tensile)	859007	1	
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
Torque Converter Bolt Kits	859038	1	5/16"-24 x 7/16", (exc. Hemi)
Transmission Bolt Kits	859015	1	1/2" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", 904 & 727 Torqueflite
	859034	1	Bolt Kit w/ Hex Head, 904 & 727 Torqueflite
Woodruff Key Kits	839010	1	Long, 3/16" x 1-3/8"

## CHRYSLER – Cont'd.



**400 – Cont'd.**  
**8 Cyl. (6.6L)**

**1972-78**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852100	34	7/16" I.D. x 13/16" O.D. x .120 Head Bolt Washer, Premium
	852112	34	7/16" I.D. x 3/4" O.D. x .065 Head Bolt Washer, Economy
Header Bolt Kits (12 Pt. Hi-Tensile)	854014	1	3/8"-16 x 3/4" Stainless Steel (12 Bolt Kit)-Universal
	854023	1	3/8"-16 x 3/4", 12 Pt.(12 Bolt Kit)-Universal
	859040	1	3/8"-16 x 3/4", Hex Head (12 Bolt Kit)-Universal
Head Stud Kits	851009	1	w/O.E. Cylinder Heads
Head Bolt Washer Kits	852096	1	Economy, 7/16" I.D. x 3/4" O.D. (34 pcs. skin pkg.)
	852098	1	Premium, 7/16" I.D. x 13/16" O.D. (34 pcs. skin pkg.)
Valve Guides	813005	A/R	Cast Iron/Spiraled I.D., .373 I.D., .502 O.D., 2.375 Length
	813105	A/R	Manganese Bronze, .373 I.D., .502 O.D., 2.375 Length
Valve Lock Kits	816001	1	3/8" 2 Groove, O.E. Stamped, w/O.E. Valves (Intake)
	816003	1	3/8" Single Groove, O.E. Stamped
	816004	1	3/8" 4 Groove, O.E. Stamped, w/O.E. Valves (Exhaust)
	816141	1	3/8" Single Groove, Machined
	816142	1	3/8" Single Groove, Machined, Use w/817107 Retainer
Valve Springs	810011	16	Single w/ Damper w/ Hydraulic Lifters (max. valve lift .540)
	810103	16	Single w/ Damper w/ Mechanical lifters (max valve lift .560)
	810202	16	Dual w/ Mechanical lifters (max. valve lift .630)
Valve Spring Insert Kits	819010	1	1.480 x .703 x .060
	819011	1	1.480 x .703 x .030
	819012	1	1.480 x .703 x .015
	819013	1	1.500 x .645 x .060
	819014	1	1.500 x .645 x .030
	819015	1	1.500 x .645 x .015
	819016	1	1.640 x .635 x .015
	819018	1	1.520 x 1.031 x .060 (Cup type insert)
	819019	1	1.530 x .645 x .060 (Cup type insert)
	819022	1	1.550 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817105	1	Use w/Spring #810011
	817106	1	Use w/Spring #810103
	817107	1	Use w/Spring #810202, w/816142 Valve Lock
Valve Stem Seal Kit	811002	1	All Teflon, .375 Stem, .530 Guide
	811004	1	All Teflon, .375 Stem, .500 Guide
	811008	1	SVR, .375 Stem, .530 Guide (Lt. Blue)
Valves (Stainless Steel)	820204	8	Intake, 2.08" Head Dia.
	820206	8	Exhaust, 1.74" Head Dia.



**440**  
**8 Cyl. (7.2L)**

**1966-78**

<b>SHORT BLOCK COMPONENTS</b>			
Connecting Rod Nuts	852001	16	3/8"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853010	1	3/8" Diameter, Premium Performance
Distributor Towershaft Bushing Kits	839007	1	
Expansion Plug Kits (Brass)	830008	1	Brass
Flexplate Bolt Kits	859037	1	7/16"-20 x 1/2", (exc. Hemi)
Flywheel Bolt Kits	859027	1	1/2"-20 x 1" (Hemi Only)
Harmonic Balancers	872039		7.11" Dia. Street
	872040		7.11" Dia. Race
Main Stud Kits	855008	1	
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (Hex Head)	859020	1	Hex Head 5/16" x 9/16" (20)
Oil Pan Bolt Kits (12 Pt. Hi-Tensile)	854004	1	5/16" x 9/16" (20)
Oil Pan Stud Kit (Hi-Tensile)	859007	1	
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
Torque Converter Bolt Kits	859038	1	5/16"-24 x 7/16", (exc. Hemi)

## CHRYSLER – Cont'd.



**440 – Cont'd.**  
8 Cyl. (7.2L)

1966-78

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS - Cont'd.</b>			
Transmission Bolt Kits	859015	1	1/2" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", 904 & 727 Torqueflite
	859034	1	Bolt Kit w/ Hex Head, 904 & 727 Torqueflite
Woodruff Key Kits	839010	1	Long, 3/16" x 1-3/8"
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852100	34	7/16" I.D. x 13/16" O.D. x .120 Head Bolt Washer, Premium
	852112	34	7/16" I.D. x 3/4" O.D. x .065 Head Bolt Washer, Economy
Header Bolt Kits (12 Pt. Hi-Tensile)	854014	1	3/8"-16 x 3/4" Stainless Steel (12 Bolt Kit)-Universal
	854023	1	3/8"-16 x 3/4", 12 Pt.(12 Bolt Kit)-Universal
	859040	1	3/8"-16 x 3/4", Hex Head (12 Bolt Kit)-Universal
Head Stud Kits	851009	1	w/O.E. Cylinder Heads
Head Bolt Washer Kits	852096	1	Economy, 7/16" I.D. x 3/4" O.D. (34 pcs. skin pkg.)
	852098	1	Premium, 7/16" I.D. x 13/16" O.D. (34 pcs. skin pkg.)
Valve Guides	813005	1	Cast Iron/Spiraled I.D., .373 I.D., .502 O.D., 2.375 Length
	813105	1	Manganese Bronze, .373 I.D., .502 O.D., 2.375 Length
Valve Lock Kits	816001	1	3/8" 2 Groove, O.E. Stamped, w/O.E. Valves (Intake)
	816003	1	3/8" Single Groove, O.E. Stamped
	816004	1	3/8" 4 Groove, O.E. Stamped, w/O.E. Valves (Exhaust)
	816141	1	3/8" Single Groove, Machined
	816142	1	3/8" Single Groove, Machined, Use w/817107 Retainer.
Valve Springs	810011	16	Single w/ Damper w/ Hydraulic Lifters (max. valve lift .540)
	810103	16	Single w/ Damper w/ Mechanical lifters (max valve lift .560)
	810202	16	Dual w/ Mechanical lifters (max. valve lift .630)
Valve Spring Insert Kits	819010	1	1.480 x .703 x .060
	819011	1	1.480 x .703 x .030
	819012	1	1.480 x .703 x .015
	819013	1	1.500 x .645 x .060
	819014	1	1.500 x .645 x .030
	819015	1	1.500 x .645 x .015
	819016	1	1.640 x .635 x .015
	819018	1	1.520 x 1.031 x .060 (Cup type insert)
	819019	1	1.530 x .645 x .060 (Cup type insert)
	819022	1	1.550 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817105	1	Use w/Spring #810011
	817106	1	Use w/Spring #810103
	817107	1	Use w/Spring #810202, w/816142 Valve lock
Valve Stem Seal Kits	811002	1	All Teflon, .375 Stem, .530 Guide
	811004	1	All Teflon, .375 Stem, .500 Guide
	811008	1	SVR, .375 Stem, .530 Guide (Lt. Blue)
Valves (Stainless Steel)	820204	8	Intake, 2.08" Head Dia.
	820206	8	Exhaust, 1.74" Head Dia.

# APPLICATION MATRIX SECTION

63

## FORD



**140 O.H.C.**  
4 Cyl. (2.3L)

**1974-94**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Connecting Rod Nuts	852007	8	9mm Hex
Dowel Pin Kits	839001	1	Head to block
<b>CYLINDER HEAD COMPONENTS</b>			
Valve Lock Kits	816005	1	11/32" 4 Groove, O.E. Stamped, W/O.E. Valves
Valve Seats	814030	4	Exh., High Chrome, 1.3125 I.D., 1.5625 O.D., .250 Depth 45° Seat Angle, 1.562 Counter Bore Size
Valve Springs	810104	8	Single w/Damper w/Hydraulic lifters (max valve lift .490)
Valve Spring Insert Kits	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817102	1	Use w/spring #810104, W/+.040" installed height
	817104	1	Use w/spring #810104, W +.100" installed height
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
	811005	1	All Viton, .343 Stem, .530 Guide
	811006	1	SVR, .343 Stem, .500 Guide (Red)
	811007	1	SVR, .343 Stem, .530 Guide (Lt. Blue)



**281**  
8 Cyl. (4.6L SOHC)

**1996-2000**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Harmonic Balancers	872014	1	6.75" Dia. Street — Mustang
	872035	1	6.88" Dia. Race — Mustang
<b>CYLINDER HEAD COMPONENTS</b>			
Valve springs	810110	16	Single conical w /hydraulic roller lifters (max. valve lift .550) (use O.E. Retainer)



**289**  
8 Cyl. (4.7L)

**1963-68**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Harmonic Balancers	872019	1	6.33" Dia. Street
Harmonic Balancer Bolt Kit	NEW! 839048	1	12 Pt. Chrome Moly



**302**  
8 Cyl. (5.0L)

**1968-97**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Bellhousing Bolt Kits (12 Pt. Hi-Tensile)	854020	1	7/16"-14 x 1"
Clutch Cable	NEW! CA-318-ADJ	1	1982-93 Ford Mustang w/302 (5.0L) (Adjustable, Heavy Duty)
	NEW! CA-318-HD	1	1982-93 Ford Mustang w/302 (5.0L) (Non-Adjustable, Heavy Duty)
Clutch Quadrant	NEW! 839063	1	1982-93 Ford Mustang w/302 (5.0L) (Aluminum Replacement)
	NEW! 839064	1	1982-93 Ford Mustang w/302 (5.0L) (Aluminum Replacement, HD Adjustable Cable Kit)
Connecting Rod Nuts	852001	16	3/8"-24
	852002	16	5/16"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
	852013	1	5/16"-24 (16 pcs. skin pkg.)

(See **PRODUCT SECTION** for description and specifications.)

(Application Matrix Section - Continued on next page)



## FORD – Cont'd.



**302**  
8 Cyl. (5.0L)

1968-97

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
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**SHORT BLOCK COMPONENTS - Cont'd.**

Connecting Rod Bolt Kits	853012	1	3/8" Diameter, Oval Head, Premium Performance
	853013	1	5/16" Diameter, Premium Performance
	853200	1	3/8" Diameter (w/o Oval Head), Standard Performance
Distributor Gears (Bronze)	839026	1	.500 Diameter Shaft
	839027	1	.530 Diameter Shaft, SVO
Dowel Pin Kits	839003	1	Head to block
Expansion Plug Kits (Brass)	830004	1	Brass
Flexplates (SFI Certified)	871009	1	1968-76 - 302, 351W w/157 Tooth, 10.5 bolt circle & 28.2" oz. wt.
Flywheel Bolt Kits	859026	1	7/16"-20 x 1"
Harmonic Balancers	872008	1	6.50" dia. w/raised pulley and 28 oz. weight Street
	872009	1	6.50" dia. w/ counter sunk pulley and 28 oz. weight Street
	872010	1	6.40" dia. and 50 oz. weight Street
	872018	1	6.50" dia w/ 28 oz. weight and 4 bolt pulley Street
	872028	1	6.50" dia w/ raised pulley and 28 oz. weight Race
	872029	1	6.50" dia. w/ counter sunk pulley and 28 oz. weight Race
	872030	1	6.40" dia. and 50 oz. weight Race
	872032	1	6.50" dia. w/ 28 oz. weight and 4 bolt pulley Race
	872034	1	6.10" dia. internal balance and 4 bolt pulley Race
<b>Harmonic Balancer Bolt Kit</b>	<b>NEW! 859048</b>	<b>1</b>	<b>12 Pt. Chrome Moly</b>
Main Bolt Kits	855202	1	2 Bolt
	855203	1	4 Bolt (except Boss)
Main Stud Kits	855009	1	2 Bolt
Oil Drain Plug Kits	859000	1	1/2"-20 W/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (Hex Head)	859019	1	Hex Head 5/16" x 9/16" (6) & 1/4" x 7/16" (18)
Oil Pan Stud Kit (Hi-Tensile)	859010	1	
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
	859025	1	Long Style, 5/16"-18 x 1"
Timing Indicator (adjustable)	839060	1	
Transmission Bolt Kits	859015	1	1/2" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", C4 & C6
	859034	1	Bolt Kit w/Hex Head, C4 & C6
Woodruff Key Kits	839048	1	3/16" x 1-13/32"

**CYLINDER HEAD COMPONENTS**

Flat Washers (Hi-Tensile)	852100	20	7/16" I.D. x 13/16" O.D. x .120 Head Bolt Washer, Premium
	852112	20	7/16" I.D. x 3/4" O.D. x .065 Head Bolt Washer, Economy
Head Bolt Kits	851202	1	W/O.E. Cylinder Heads
Head Stud Kits	851010	1	W/O.E. Cylinder Heads
	851011	A/R	Boss W/O.E. Cylinder Heads
Head Bolt Washer Kits	852096	1	Economy, 7/16" I.D. x 3/4" O.D. (34 pcs. skin pkg.)
	852098	1	Premium, 7/16" I.D. x 13/16" O.D. (34 pcs. skin packaged)
Header Bolt Kits (12 Pt. Hi-Tensile)	854015	1	3/8"-16 x 3/4" Stainless Steel (16 Bolt Kit)-Universal
	859041	1	3/8"-16 x 3/4", Hex Head (16 Bolt Kit)-Universal
Push Rods (Chrome Moly)	815207	16	After Change L-4, Except Factory Roller, 6.886 O.A.L.
	815209	16	Before change L-4, 6.776 O.A.L.
Push Rod Kits (O.E. Replacement)	815196	1	Before Chg. L-4, 6.804" O.A.L.
	815197	1	After Chg. L-4, Except Factory Roller, 6.876" O.A.L.
Push Rod Guide Plate Kits	821006	1	5/16", flat
	821007	1	3/8", flat
Rocker Arm Fasteners (Posi-Locks)	850008	1	3/8" Stud w/O.E. Rockers
	850009	1	5/16" Stud w/O.E. Rockers
	850012	1	7/16" Stud, Aluminum Roller Rockers
	850017	A/R	Use w/Stud Girdle and Roller Rockers w/3/8" Rocker Studs (Pkg. 8/Card)
	850018	A/R	Use w/ Stud Girdle and Roller Rockers w/ 3/8" Rocker Studs (Pkg. 2/Card)
	850019	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 8/Card)
	850020	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 2/Card)
	850022	A/R	7/16" Stud, Aluminum Roller Rockers (Pkg. 2/Card)

## FORD - Cont'd.



**302**  
8 Cyl. (5.0L)

**1968-97**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS - Cont'd.</b>			
Rocker Arm Fasteners (Rocker Studs)	850003	1	7/16" x 7/16", 2.540 O.A.L.
	850006	1	7/16" x 3/8", 2.400 O.A.L.
	850013	1	7/16" x 3/8", 2.500 O.A.L.
	850014	1	7/16" x 7/16", 2.650 O.A.L.
Valve Guides	813001	A/R	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.250 Length
	813002	A/R	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.375 Length
	813102	A/R	Manganese Bronze, .343 I.D., .502 O.D., 2.375 Length
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
	816175	1	11/32" Single Groove, Machined 10°
Valve Seats	814030	8	Exh. - High Chrome, 1.3125 I.D., 1.5625 O.D., .250 Depth 45° Seat Angle, 1.562 Counter Bore Size
Valve Springs	810105	16	Single w/Damper w/Hydraulic Flat Tappet Lifters (max valve lift .540)
	810201	16	Dual w/Mechanical Flat Tappet Lifters (max. valve lift .590)
	810206	16	Dual w/Mechanical Roller Lifters (max. valve lift .590)
	810207	16	Dual w/Mechanical Roller Lifters (max valve lift .610)
	<b>NEW! 810210</b>	<b>16</b>	<b>Dual w/Damper w/Mech. Flat Tappet/Hyd. Roller Lifters (Max. Valve Lift .590)</b>
Valve Spring Insert Kits	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817102	1	Use w/Spring #810210 w/+.040" installed height
	817104	1	Use w/Spring #810105 & 810201, W/+.100" installed height
	817110	1	10°, Use w/Spring #810105, #810201, #810206 & #810207 w/+.100 installed height
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
	811005	1	All Viton, .343 Stem, .530 Guide
	811006	1	SVR, .343 Stem, .500 Guide (Red)
	811007	1	SVR, .343 Stem, .530 Guide (Orange)
Valves (Stainless Steel)	820300	8	Intake, 1.78" Head Dia. w/adjustable rocker arms
	820302	8	Exhaust, 1.46" Head Dia. w/adjustable rocker arms



**330**  
8 Cyl. (5.4L SOHC and DOHC)

**1997-2000**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Harmonic Balancers	872052	1	7.05" Dia. w/6 Groove Pulley Street
	872053	1	6.35" Dia w/ 6 Groove Pulley and 10% U.D. Race



**351 C**  
8 Cyl.

**1970-74**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Bellhousing Bolt Kits (12 Pt. Hi-Tensile)	854020	1	7/16"-14 x 1"
Connecting Rod Nuts	852001	16	3/8"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
Distributor Gears (Bronze)	839016	1	.530 Dia. Shaft
	839017	1	.500 Dia. Shaft
Dowel Pin Kits	839003	1	Head to block
Expansion Plug Kits (Brass)	830005	1	Brass
Flywheel Bolt Kits	859026	1	7/16"-20 x 1"
Harmonic Balancers	872007	1	6.50" Street
	872027	1	6.50" Race
Harmonic Balancer Repair Sleeves	835010	1	

## FORD – Cont'd.



**351 C - Cont'd.**  
8 Cyl.

1970-74

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS - Cont'd.</b>			
Main Stud Kits	855011	1	2 Bolt
	855012	1	4 Bolt
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (Hex Head)	859019	1	Hex Head 5/16" x 9/16" (6) & 1/4" x 7/16" (18)
Oil Pan Stud Kit (Hi-Tensile)	859010	1	
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
	859025	1	Long Style, 5/16"-18 x 1"
Transmission Bolt Kits	859015	1	1/2" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", C4 & C6
	859034	1	Bolt Kit w/Hex Head, C4 & C6
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852101	20	1/2" I.D. x 7/8" O.D. x .120 Head Bolt Washer, Premium
	852111	20	1/2" I.D. x 7/8" O.D. x .100 Head Bolt Washer, Economy
Head Stud Kits	851012	1	W/O.E. Cylinder Heads
Head Bolt Washer Kits	852097	1	Economy, 1/2" I.D. x 7/8" O.D. (20 pcs. skin pkg.)
	852099	1	Premium, 1/2" I.D. x 7/8" O.D. (20 pcs. skin pkg.)
Header Bolt Kits (12 Pt. Hi-Tensile)	854015	1	3/8"-16 x 3/4" Stainless Steel (16 Bolt Kit)-Universal
	859041	1	3/8"-16 x 3/4", Hex Head (16 Bolt Kit)-Universal
Rocker Arm Fasteners (Posi-Locks)	850010	1	7/16" Stud w/O.E. Rockers
	850012	1	7/16" Stud, Aluminum Roller Rockers
	850019	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 8/Card)
	850020	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 2/Card)
	850022	A/R	7/16" Stud, Aluminum Roller Rockers (Pkg. 2/Card)
Rocker Arm Fasteners (Rocker Studs)	850003	1	7/16" x 7/16", 2.540 O.A.L.
	850014	1	7/16" x 7/16", 2.650 O.A.L.
Valve Guides	813001	A/R	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.250 Length
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
Valve Springs	810105	16	Single w/Damper w/Hydraulic lifters (max valve lift .540)
	810201	16	Dual w/Mechanical lifters (max. valve lift .590)
	<b>NEW! 810210</b>	<b>16</b>	<b>Dual w/Damper w/Mech. Flat Tappet/Hyd. Roller Lifters (max. Valve lift .590)</b>
Valve Spring Insert Kits	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817102	1	Use w/Spring #810105 & 810210, W/+.040" installed height
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
	811005	1	All Viton, .343 Stem, .530 Guide
	811006	1	SVR, .343 Stem, .500 Guide (Red)
	811007	1	SVR, .343 Stem, .530 Guide (Orange)
Valves (Stainless Steel)	820304	A/R	Intake, 2.19" Head Dia.



**351 M**  
8 Cyl. (5.8L)

1975-81

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Bellhousing Bolt Kits (12 Pt. Hi-Tensile)	854020	1	7/16"-14 x 1"
Connecting Rod Nuts	852001	16	3/8"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853015	1	3/8" Diameter, Premium Performance
Distributor Gears (Bronze)	839016	1	.530 Dia. Shaft
	839017	1	.500 Dia. Shaft
Dowel Pin Kits	839003	1	Head to block
Expansion Plug Kits (Brass)	830005	1	Brass

## FORD – Cont'd.



**351 M - Cont'd.**  
8 Cyl. (5.8L)

**1975-81**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS -Cont'd.</b>			
Flywheel Bolt Kits	859026	1	7/16"-20 x 1"
Harmonic Balancer Repair Sleeves	835010	1	
Oil Drain Plug Kits	859000	1	1/2"-20 W/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (Hex Head)	859019	1	Hex Head 5/16" x 9/16" (6) & 1/4" x 7/16" (18)
Oil Pan Stud Kit (Hi-Tensile)	859010	1	
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
	859025	1	Long Style, 5/16"-18 x 1"
Transmission Bolt Kits	859015	1	1/2" x 1-1/2" N.C.-Universal (manual trans.)
Woodruff Key Kits	839011	1	
<b>CYLINDER HEAD COMPONENTS</b>			
Header Bolt Kits (12 Pt. Hi-Tensile)	854015	1	3/8"-16 x 3/4" Stainless Steel (16 Bolt Kit)-Universal
	859041	1	3/8"-16 x 3/4", Hex Head (16 Bolt Kit)-Universal
Rocker Arm Fasteners (Posi-Locks)	850010	1	7/16" Stud, w/O.E. Rockers
	850012	1	7/16" Stud, Aluminum Roller Rockers
	850019	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 8/Card)
	850020	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 2/Card)
	850022	A/R	7/16" Stud, Aluminum Roller Rockers (Pkg. 2/Card)
Rocker Arm Fasteners (Rocker Studs)	850003	1	7/16" x 7/16", 2.540 O.A.L.
	850014	1	7/16" x 7/16", 2.650 O.A.L.
Valve Guides	813001	A/R	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.250 Length
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
Valve Springs	810105	16	Single w/Damper w/Hydraulic lifters (max valve lift .540)
	810201	16	Dual w/Mechanical lifters (max. valve lift .590)
	<b>NEW! 810210</b>	<b>16</b>	<b>Dual w/Damper w/Mech. Flat Tappet/Hyd. Roller Lifters (max. valve lift .590)</b>
Valve Spring Insert Kits	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817102	1	Use w/Spring #810105, 810201, 810210 w/+.040" installed height
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
	811005	1	All Viton, .343 Stem, .530 Guide
	811006	1	SVR, .343 Stem, .500 Guide (Red)
	811007	1	SVR, .343 Stem, .530 Guide (Orange)
Valves (Stainless Steel)	820304	8	Intake, 2.19" Head Dia.



**351 W**  
8 Cyl. (5.8L)

**1969-97**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Bellhousing Bolt Kits (12 Pt. Hi-Tensile)	854020	1	7/16"-14 x 1"
Connecting Rod Nuts	852001	16	3/8"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853012	1	3/8" Diameter, Oval Head, Premium Performance
	853200	1	3/8" Diameter (W/O Oval Head), Standard Performance
Distributor Gears (Bronze)	839026	1	.500 Diameter Shaft
	839027	1	.530 Diameter Shaft, SVO
Dowel Pin Kits	839003	1	Head to block
Expansion Plug Kits (Brass)	830004	1	Brass
Flexplates (SFI Certified)	871009	1	1968-76 - 302 & 351W w/157 tooth, 10.5 bolt circle & 28.2" oz. wt.
Flywheel Bolt Kits	859026	1	7/16"-20 x 1"

## FORD – Cont'd.



**351 W - Cont'd.**  
8 Cyl. (5.8L)

1969-97

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS -Cont'd.</b>			
Harmonic Balancers	872008	1	6.50" Dia. w/Raised Pulley and 28 oz. Weight Street
	872009	1	6.50" Dia. w/Counter Sunk Pulley and 28 oz. Weight Street
	872010	1	6.40" Dia. and 50 oz. Weight Street
	872018	1	6.50" Dia w/28 oz. Seight and 4 Bolt Pulley Street
	872028	1	6.50" Dia w/Raised Pulley and 28 oz. Weight Race
	872029	1	6.50" Dia. w/Counter Sunk Pulley and 28 oz. Weight Race
	872030	1	6.40" Dia. and 50 oz. Weight Race
	872032	1	6.50" Dia. w/28 oz. Weight and 4 Bolt Pulley Race
	872034	1	6.10" Dia. Internal Balance and 4 Bolt Pulley Race
<b>Harmonic Balancer Bolt Kit</b>	<b>NEW! 859048</b>	<b>1</b>	<b>12 Pt. Chrome Moly</b>
Main Stud Kits	855013	1	2-Bolt
	855014	1	SVO (4-Bolt)
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (Hex Head)	859019	1	Hex Head 5/16" x 9/16" (6) & 1/4" x 7/16" (18)
Oil Pan Stud Kit (Hi-Tensile)	859010	1	
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
	859025	1	Long Style, 5/16"-18 x 1"
Timing Indicator (adjustable)	839060	1	
Transmission Bolt Kits	859015	1	1/2" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", C4 & C6
	859034	1	Bolt Kit W/Hex Head, C4 & C6
Woodruff Key Kits	839011	1	
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852101	20	1/2" I.D. x 7/8" O.D. x .120 Head Bolt Washer, Premium
	852111	20	1/2" I.D. x 7/8" O.D. x .100 Head Bolt Washer, Economy
Head Bolt Washer Kits	852097	1	Economy, 1/2" I.D. x 7/8" O.D. (20 pcs. skin pkg.)
	852099	1	Premium, 1/2" I.D. x 7/8" O.D. (20 pcs. skin packaged)
Head Stud Kits	851013	1	w/O.E. Cylinder Heads
Header Bolt Kits (12 Pt. Hi-Tensile)	854015	1	3/8"-16 x 3/4" Stainless Steel (16 Bolt Kit)-Universal
	859041	1	3/8"-16 x 3/4", Hex Head (16 Bolt Kit)-Universal
Push Rods (Chrome Moly)	815206	A/R	1969-1978, 8.144 O.A.L., Except Stamped Steel Rocker Arms
Push Rod Kits (O.E. Replacement)	815199	1	1969-1978, 8.152 O.A.L., Except Stamped Steel Rocker Arms
Push Rod Guide Plate Kits	821006	1	5/16", flat
	821007	1	3/8", flat
Rocker Arm Fasteners (Posi-Locks)	850008	1	3/8" Stud w/O.E. Rockers
	850009	1	5/16" Stud w/O.E. Rockers
	850012	1	7/16" Stud, Aluminum Roller Rockers
	850017	A/R	Use w/Stud Girdle and Roller Rockers w/3/8" Rocker Studs (Pkg. 8/Card)
	850018	A/R	Use w/Stud Girdle and Roller Rockers w/3/8" Rocker Studs (Pkg. 2/Card)
	850019	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 8/Card)
	850020	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 2/Card)
	850022	A/R	7/16" Stud, Aluminum Roller Rockers (Pkg. 2/Card)
Rocker Arm Fasteners (Rocker Studs)	850003	1	7/16" x 7/16", 2.540 O.A.L.
	850006	1	7/16" x 3/8", 2.400 O.A.L.
	850013	1	7/16" x 3/8", 2.500 O.A.L.
	850014	1	7/16" x 7/16", 2.650 O.A.L.
Valve Guides	813001	A/R	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.250 Length
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
Valve Seats	814004	8	Exh. - High Chrome, 1.375 I.D., 1.625 O.D., .2187 Depth 45° Seat Angle, 1.625 Counter Bore Size
	814030	8	Exh. - High Chrome, 1.3125 I.D., 1.5625 O.D., .250 Depth 45° Seat Angle, 1.562 Counter Bore Size
Valve Springs	810105	16	Single w/Damper w/Hydraulic lifters (max valve lift .540)
	810201	16	Dual w/Mechanical lifters (max. valve lift .590)
	<b>NEW! 810210</b>	<b>16</b>	<b>Dual w/Damper w/Mech. Flat Tappet/Hyd. Roller Lifters (Max. Valve Lift .590)</b>
Valve Spring Insert Kits	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)



## FORD – Cont'd.



**351 W - Cont'd.**  
8 Cyl. (5.8L)

**1969-97**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS - Cont'd.</b>			
Valve Spring Retainer Kits	817102	1	Use w/Spring #810105 & 810201, w/+.040" installed height
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
	811005	1	All Viton, .343 Stem, .530 Guide
	811006	1	SVR, .343 Stem, .500 Guide (Red)
	811007	1	SVR, .343 Stem, .530 Guide (Orange)
Valves (Stainless Steel)	820300	8	Intake, 1.78" Head Dia. w/adjustable rocker arms
	820302	8	Exhaust, 1.46" Head Dia. w/adjustable rocker arms



**390**  
8 Cyl. (6.4L)

**1961-76**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Bellhousing Bolt Kits (12 Pt. Hi-Tensile)	854020	1	7/16"-14 x 1"
Connecting Rod Nuts	852001	16	3/8"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853016	1	3/8" Diameter, Oval Head, Premium Performance (1968-76)
Dowel Pin Kits	839002	1	Head to block
Expansion Plug Kits (Brass)	830006	1	Brass
Flywheel Bolt Kits	859026	1	7/16"-20 x 1"
Harmonic Balancers	872056	1	7" Dia. Street (NOTE — Does Not Replace Balancer w/ Integral Pulley)
	872057	1	7" Dia. Race (NOTE — Does Not Replace Balancer w/ Integral Pulley)
Harmonic Balancer Repair Sleeves	835010	1	
Main Stud Kits	855016	1	
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (Hex Head)	859020	1	Hex Head 5/16" x 9/16" (20)
Oil Pan Stud Kit (Hi-Tensile)	859009	1	
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
	859025	1	Long Style, 5/16"-18 x 1"
Transmission Bolt Kits	859015	1	1/2" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", C4 & C6
	859034	1	Bolt Kit W/Hex Head, C4 & C6
Woodruff Key Kits	839012	1	3/16" x 1-3/4"
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852101	20	1/2" I.D. x 7/8" O.D. x .120 Head Bolt Washer, Premium
	852111	20	1/2" I.D. x 7/8" O.D. x .100 Head Bolt Washer, Economy
Head Stud Kits	851015	1	w/O.E. Cylinder Heads
Head Bolt Washer Kits	852097	1	Economy, 1/2" I.D. x 7/8" O.D. (20 pcs. skin pkg.)
	852099	1	Premium, 1/2" I.D. x 7/8" O.D. (20 pcs. skin pkg.)
Header Bolt Kits (12 Pt. Hi-Tensile)	854015	1	3/8"-16 x 3/4" Stainless Steel (16 Bolt Kit)-Universal
	859041	1	3/8"-16 x 3/4", Hex Head (16 Bolt Kit)-Universal
Valve Guides	813005	A/R	Cast Iron/Spiraled I.D., .373 I.D., .502 O.D., 2.375 Length
	813105	A/R	Manganese Bronze, .373 I.D., .502 O.D., 2.375 Length
Valve Lock Kits	816003	1	3/8" Single Groove, O.E. Stamped
	816141	1	3/8" Single Groove, Machined
Valve Springs	810105	16	Single w/Damper w/Hydraulic lifters (max valve lift .540)
	810201	16	Dual w/Mechanical lifters (max. valve lift .590)
Valve Spring Insert Kits	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817105	1	Use w/Spring # 810105, 810201
Valve Stem Seal Kits	811002	1	All Teflon, .375 Stem, .530 Guide
	811004	1	All Teflon, .375 Stem, .500 Guide
	811008	1	SVR, .375 Stem, .530 Guide (Lt. Blue)

(See **PRODUCT SECTION** for description and specifications.)

(Application Matrix Section - Continued on next page)

## FORD – Cont'd.



**400**  
8 Cyl. (6.6L)

**1971-82**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Bellhousing Bolt Kits (12 Pt. Hi-Tensile)	854020	1	7/16"-14 x 1"
Connecting Rod Nuts	852001	16	3/8"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853015	1	3/8" Diameter, Premium Performance
Distributor Gears (Bronze)	839016	1	.530 Dia. Shaft
	839017	1	.500 Dia. Shaft
Expansion Plug Kits (Brass)	830005	1	Brass
Flywheel Bolt Kits	859026	1	7/16"-20 x 1"
Harmonic Balancer Repair Sleeves	835010	1	
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (Hex Head)	859019	1	Hex Head 5/16" x 9/16" (6) & 1/4" x 7/16" (18)
Oil Pan Stud Kit (Hi-Tensile)	859010	1	
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
	859025	1	Long Style, 5/16"-18 x 1"
Transmission Bolt Kits	859015	1	1/2" x 1-1/2" N.C.-Universal (manual trans.)
Woodruff Key Kits	839011	1	3/16" x 1-3/4"
<b>CYLINDER HEAD COMPONENTS</b>			
Header Bolt Kits (12 Pt. Hi-Tensile)	854015	1	3/8"-16 x 3/4" Stainless Steel (16 Bolt Kit)-Universal
	859041	1	3/8"-16 x 3/4", Hex Head (16 Bolt Kit)-Universal
Rocker Arm Fasteners (Posi-Locks)	850012	1	7/16" Stud, Aluminum Roller Rockers
	850019	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 8/Card)
	850020	A/R	Use w/Stud Gridle and Roller Rockers w/7/16" Rocker Studs (Pkg. 2/Card)
	850022	A/R	7/16" Stud, Aluminum Roller Rockers (Pkg. 2/Card)
Rocker Arm Fasteners (Rocker Studs)	850003	1	7/16" x 7/16", 2.540 O.A.L.
	850014	1	7/16" x 7/16", 2.650 O.A.L.
Valve Guides	813001	A/R	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.250 Length
	813201	A/R	Bron-El, .343 I.D., .500 O.D., 2.250 Length
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
Valve Springs	810105	16	Single w/Damper w/Hydraulic lifters (max valve lift .540)
	810201	16	Dual w/Mechanical lifters (max. valve lift .590)
	<b>NEW! 810210</b>	<b>16</b>	<b>Dual w/Damper w/Mech. Flat Tappet/Hyd. Roller Lifters (max. valve lift .590)</b>
Valve Spring Insert Kits	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817102	1	Use W/Spring #810105 & 810201, W/+.040" installed height
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
	811005	1	All Viton, .343 Stem, .530 Guide
	811006	1	SVR, .343 Stem, .500 Guide (Red)
	811007	1	SVR, .343 Stem, .530 Guide (Orange)
Valves (Stainless Steel)	820304	8	Intake, 2.19" Head Dia.

## FORD – Cont'd.



**429**  
**8 Cyl. (7.0L)**

**1968-73**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Bellhousing Bolt Kits (12 Pt. Hi-Tensile)	854020	1	12 Pt., 7/16"-14 x 1"
Connecting Rod Nuts	852001	16	3/8"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853012	1	3/8" Diameter, Oval Head, Premium Performance
	853200	1	3/8" Diameter (W/O Oval Head), Standard Performance
Distributor Gears (Bronze)	839016	1	.530 Dia. Shaft
	839017	1	.500 Dia. Shaft
Dowel Pin Kits	839002	1	Head to block
Expansion Plug Kits (Brass)	830012	1	Brass
Flywheel Bolt Kits	859026	1	7/16"-20 x 1"
Harmonic Balancers	872017		6.62" Dia. Street
	872036		6.76" Dia. Race
<b>Harmonic Balancer Bolt Kit</b>	<b>NEW! 859048</b>	<b>1</b>	<b>12 Pt. Chrome Moly</b>
Main Stud Kits	855015	1	2 Bolt
	855025	1	4 Bolt
Oil Drain Plug Kits	859000	1	1/2"-20 W/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (12 Pt. Hi-Tensile)	854009	1	12 Pt. 1/4" x 9/16" (18) & 5/16" x 9/16" (4)
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
	859025	1	Long Style, 5/16"-18 x 1"
Transmission Bolt Kits	859015	1	1/2" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16" , C4 & C6
	859034	1	Bol Kit W/Hex Head, C4 & C6
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852102	1	9/16" I.D. x 1.0" O.D. x .120 Head Bolt Washer, Premium
Head Stud Kits	851014	1	w/O.E. Cylinder Heads
Header Bolt Kits (12 Pt. Hi-Tensile)	854015	1	3/8"-16 x 3/4" Stainless Steel (16 Bolt Kit)-Universal
	859041	1	3/8"-16 x 3/4", Hex Head (16 Bolt Kit)-Universal
RockerArm Fasteners (Posi-Locks)	850012	1	7/16" Stud, Aluminum Roller Rockers
	850019	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 8/Card)
	850020	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 2/Card)
	850022	A/R	7/16" Stud, Aluminum Roller Rockers (Pkg. 2/Card)
Rocker Arm Fasteners (Rocker Studs)	850003	1	7/16" x 7/16", 2.540 O.A.L.
	850014	1	7/16" x 7/16", 2.650 O.A.L.
Valve Guides	813002	1	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.375 Length
	813102	1	Manganese Bronze, .343 I.D., .502 O.D., 2.375 Length
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
Valve Springs	810105	16	Single w/Damper w/Hydraulic lifters (max valve lift .540)
	810201	16	Dual w/Mechanical lifters (max. valve lift .590)
Valve Spring Insert Kits	<b>NEW! 810210</b>	<b>16</b>	<b>Dual w/Damper w/Mech. Flat Tappet/Hyd. Roller Lifters (max. valve lift .590)</b>
	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817102	1	Use w/Spring #810105, 810201, 810210 w/+ .040" installed height
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
	811005	1	All Viton, .343 Stem, .530 Guide
	811006	1	SVR, .343 Stem, .500 Guide (Red)
	811007	1	SVR, .343 Stem, .530 Guide (Orange)
Valves (Stainless Steel)	820308	8	Intake, 2.24" Head Dia.

## FORD – Cont'd.



**460**  
8 Cyl. (6.4L)

**1972-78**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Bellhousing Bolt Kits (12 Pt. Hi-Tensile)	854020	1	7/16"-14 x 1"
Connecting Rod Nuts	852001	16	3/8"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853012	1	3/8" Diameter, Oval Head, Premium Performance
	853200	1	3/8" Diameter (w/o Oval Head), Standard Performance
Distributor Gears (Bronze)	839016	1	.530 Dia. Shaft
	839017	1	.500 Dia. Shaft
Dowel Pin Kits	839002	1	Head to block
Expansion Plug Kits (Brass)	830012	1	Brass
Flywheel Bolt Kits	859026	1	7/16"-20 x 1"
Harmonic Balancers	872017	1	6.62" Dia. Street
	872036	1	6.76" Dia. Race
<b>Harmonic Balancer Bolt Kit</b>	<b>NEW! 859048</b>	<b>1</b>	<b>12 Pt. Chrome Moly</b>
Main Stud Kits	855015	1	2 Bolt
	855025	1	4 Bolt
Oil Drain Plug Kits	859000	1	1/2"-20 W/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (12 Pt. Hi-Tensile)	854009	1	12 Pt. 1/4" x 9/16" (18) & 5/16" x 9/16" (4)
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
	859025	1	Long Style, 5/16"-18 x 1"
Transmission Bolt Kits	859015	1	1/2" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", C4 & C6
	859034	1	Bolt Kit W/Hex Head, C4 & C6
Woodruff Key Kits	839012	1	3/16" x 1-3/4"
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852102	20	9/16" I.D. x 1.0" O.D. x .120 Head Bolt Washer, Premium
	859041	1	3/8"-16 x 3/4", Hex Head (16 Bolt Kit)-Universal
Head Stud Kits	851014	1	W/O.E. Cylinder Heads
Header Bolt Kits (12 Pt. Hi-Tensile)	854015	1	3/8"-16 x 3/4" Stainless Steel (16 Bolt Kit)-Universal
Rocker Arm Fasteners (Posi-Locks)	850012	1	7/16" Stud, Aluminum Roller Rockers
	850019	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 8/Card)
	850020	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 2/Card)
	850022	A/R	7/16" Stud, Aluminum Roller Rockers (Pkg. 2/Card)
Rocker Arm Fasteners (Rocker Studs)	850003	1	7/16" x 7/16", 2.540 O.A.L.
	850014	1	7/16" x 7/16", 2.650 O.A.L.
Valve Guides	813002	A/R	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.375 Length
	813102	A/R	Manganese Bronze, .343 I.D., .502 O.D., 2.375 Length
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
Valve Springs	810105	16	Single w/Damper w/Hydraulic lifters (max valve lift .540)
	810201	16	Dual w/Mechanical lifters (max. valve lift .590)
	<b>NEW! 810210</b>	<b>16</b>	<b>Dual w/Damper w/Mech. Flat Tappet/Hyd. Roller Lifters (max valve lift .590)</b>
Valve Spring Insert Kits	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817102	A/R	Use W/Spring #810105, 810201, 810210, W/+ .040" installed height
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
	811005	1	All Viton, .343 Stem, .500 Guide
	811006	1	SVR, .343 Stem, .500 Guide (Red)
	811007	1	SVR, .343 Stem, .530 Guide (Orange)
Valves (Stainless Steel)	820308	8	Intake, 2.24" Head Dia.

## HONDA



**B16 - B18 A/B**  
4 Cyl.

**1995-2000**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Harmonic Balancers	872062	1	5.00" Dia., Civic, Integra, Race w/Air Cond. & Power Steering Alternator pulley is 20% Under-drive

## OLDSMOBILE



**260 F, 8**  
8 Cyl. (4.3L)

**1975-82**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Expansion Plug Kits (Brass)	830011	1	Brass
Oil Drain Plug Kits	859000	1	1/2"-20 w/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
<b>CYLINDER HEAD COMPONENTS</b>			
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
Valve Seats	814030	8	High Chrome, 1.3125 I.D., 1.5625 O.D., .250 Depth 45° Seat Angle, 1.562 Counter Bore Size
Valve Springs	810204	16	Dual w/Hydraulic lifters (max. valve lift .490)
	810205	16	Dual w/Mechanical lifters (max. valve lift .510)
Valve Spring Insert Kits	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817102	1	Use W/Spring #810204 & 810205, W/+.040" installed height
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	A/R	All Teflon, .343 Stem, .530 Guide
	811003	A/R	All Teflon, .343 Stem, .500 Guide
	811005	A/R	All Viton, .343 Stem, .530 Guide
	811006	1	SVR, .343 Stem, .500 Guide (Red)
	811007	1	SVR, .343 Stem, .530 Guide (Orange)



**350 G, L**  
8 Cyl. (5.7L)

**1977-79**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Bellhousing Bolt Kits (12 Pt. Hi-Tensile)	854019	1	3/8"-16 x 1-1/2"
Cam Button Kits	839028	1	.670 Length
	839029	1	.850 Length
	839038	1	Roller, .795 Length
Cam Correct	839043	1	Kit w/Drill Jig
	839045	1	Replacement Spring Shoe w/Hardware
Cam Gear Bolts	839037	1	Pkg. 3 /Card
Cam Gear Lock Plates	839030	1	w/Bolts
Connecting Rod Nuts	852001	16	3/8"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853005	1	3/8" Diameter, Premium Performance
	853204	1	3/8" Diameter, Standard Performance
Distributor Gears (Bronze)	839013	1	.500 Diameter Shaft
	839014	1	w/O.E. .491" Diameter Shaft
Distributor Hold Down Clamp (Chrome)	839062	1	
Dowel Pin Kits	839004	1	Head to block
	839032	1	Bell Housing to Block, Extra Long
	839047	1	Cam Sprocket Dowel
	839059	1	Timing Cover Dowel
Expansion Plug Kits (Brass)	830001	1	Brass



## OLDSMOBILE – Cont'd.



**350 G, L - Cont'd.**  
8 Cyl. (5.7L)

1977-79

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS - Cont'd.</b>			
Flexplate Bolt Kits	859022	1	7/16"-20 x 11/16"
Flexplates (SFI Certified)	871001	1	14.13" Dia. W/O Weight
	871004	1	12.85" Dia. W/O Weight
Fuel Pump Mounting Plate	839050	1	
Fuel Pump Block Off Kits	839033	1	
Fuel Pump Push Rod Kits	839035	1	Steel Billet Camshaft
	839036	1	Cast Billet Camshaft
Harmonic Balancers	872001	1	6 1/4" Dia. Street
	872002	1	7" Dia. Street
	872003	1	8" Dia. Street
	872021	1	6 1/4" Dia. Race
	872022	1	7" Dia. Race
	872023	1	8" Dia. Race
	<b>NEW! 872060</b>	1	<b>6-1/4" Dia. Race w/Big Block Snout</b>
	<b>NEW! 872061</b>	1	<b>7" Dia. Race w/Big Block Snout</b>
Harmonic balancer Bolt Kit	859012	1	
	859045	1	1 Piece Chrome Moly
	<b>NEW! 859047</b>	1	<b>12 Pt. Chrome Moly</b>
Harmonic Balancer Repair Sleeves	835011	1	
Lifter Valley Screen kit	839055	1	
Lifter Valley Vent Tube Kit	839042	1	
Main Bolt Kits	855200	1	2-Bolt
	855201	1	4-Bolt
Main Stud Kits	855003	1	4-Bolt
	855004	1	2-Bolt
Main Caps (4-Bolt Conversion)	839020	1	4-Bolt Main Cap, O.E. Replacement
	839021	1	4-Bolt Main Cap, Conversion
	839022	1	4-Bolt Main Cap, Conversion (22° angle)
Oil Drain Plug Kits	859000	1	1/2"-20 W/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Filter Adapter	839049	1	
Oil Pan Bolt Kits (Hex Head)	859017	1	Hex Head - 1/4" x 7/16" (14) & 5/16" x 9/16" (4)
Oil Pan Stud Kit (Hi-Tensile)	859008	1	
Oil Pumps (High Volume)	836021	1	Increased pressure and volume, includes screen assembly. (May require oil pan modification.)
Oil Pump Bolt Kits (12 Pt. Hi-Tensile)	854021	1	7/16"-14 x 2", 12 Pt.
Oil Pump Intermediate Shafts	838005	1	w/Steel Shaft Guide
Oil Pump Pick Up Retainer	839061	1	w/ 5/8" dia. tube
Oil Pump Screens	837012	1	
Oil Pump Stud Kit	859039	1	3.120 Length
Oil Restrictor Kits	839031	1	
Pilot Bushings	873001	1	
Pilot Bushings (Roller)	873008	1	Roller Bearing
Timing Cover Bolt Kits (Hex Head)	859021	1	Hex Head 1/4" x 1/2" (10)
Timing Cover Stud Kit (Hi-Tensile)	859011	1	
Timing Indicator (adjustable)	839051	1	w/ 6 1/4" balancer
Timing Indicator (adjustable)	839052	1	w/ 7" balancer
Timing Indicator (adjustable)	839053	1	w/ 8" balancer
Torque Converter Bolt Kits	859035	1	G.M. TH400, 3/8"-16 x 1/2"
	859036	1	G.M. TH350, Powerglide, 3/8"-24 x 1/2" w/Ny-Lock Nuts
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", Powerglide & Turbo 350, 400
	859034	1	Bolt Kit W/Hex Head, Powerglide & Turbo 350,400
Woodruff Key Kits	839009	1	Short, 3/16" x 3/4"
	839010	1	Long, 3/16" x 1-3/8"
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852100	34	7/16" I.D. x 13/16" O.D. x .120 Head Bolt Washer, Premium
	852112	34	7/16" I.D. x 3/4" O.D. x .065 Head Bolt Washer, Economy
Head Bolt Kit	851200	1	w/O.E. Cast Iron and Aluminum, AFR, Brodix -8, -10, -11, -11xb, Dart Stock replacement cylinder heads

## OLDSMOBILE – Cont'd.



**350 G, L - Cont'd.**  
8 Cyl. (5.7L)

**1977-79**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION	
<b>CYLINDER HEAD COMPONENTS - Cont'd.</b>				
Head Stud Kits	851004	1	W/O.E. Cast Iron and Aluminum, AFR, Brodix -8,-10,-11,-11XB Brownfield, Dart (stock replacement) Cylinder Heads	
	851018	1	W/O.E. Cast Iron and Aluminum, AFR, Brodix -8,-10,-11,-11XB Brownfield, Dart(Stock Replacement)Cyl. Heads W/12 Pt. Nuts	
	851019	1	W/Chevy 18° High Port Cyl. Heads W/7/16" Studs W/12 Pt Nuts	
	851023	1	W/Dart II Cyl. Heads	
	851026	1	W/Dart II and Pontiac Motorsports #10033867 Cylinder Heads with 12 Pt. Nuts	
	Head Bolt Washer Kits	852096	1	Economy, 7/16" I.D. x 3/4" O.D. (34 pcs. skin pkg.)
852098		1	Premium, 7/16" I.D. x 13/16" O.D. (34 pcs. skin packaged)	
Header Bolt Kits (12 Pt. Hi-Tensile)	854014	1	3/8"-16 x 3/4" Stainless Steel (12 Bolt Kit)-Universal	
	854023	1	3/8"-16 x 3/4", 12 Pt.(12 Bolt Kit)-Universal	
	859040	1	3/8"-16 x 3/4", Hex Head (12 Bolt Kit)-Universal	
	815205	16	7.794 O.A.L.	
Push Rods (Chrome Moly)	815215	16	.100 Longer	
	815216	16	3/8" Diameter, 7.794 O.A.L.	
	815007	A/R	5/16" Diameter, 7.800 O.A.L.	
Push Rods (One-Piece)	815008	A/R	5/16" Diameter, 7.850 O.A.L.	
	815009	A/R	5/16" Diameter, 7.900 O.A.L.	
	815010	A/R	5/16" Diameter, 7.950 O.A.L.	
	815192	1	.100 longer	
Push Rod Kits (O.E. Replacement)	815194	1		
Push Rod Guide Plate Kits	821002	1	5/16", flat	
	821004	1	5/16", step	
	821005	1	3/8", step	
	822001	1		
Rocker Arm Ball/Fulcrum Kits	850008	1	3/8" Stud w/O.E. Rockers	
Rocker Arm Fasteners (Posi-Locks)	850010	1	7/16" Stud w/O.E. Rockers	
	850012	1	7/16" Stud, Aluminum Roller Rockers	
	850017	A/R	Use w/Stud Girdle and Roller Rockers w/3/8" Rocker Studs (Pkg. 8/Card)	
	850018	A/R	Use w/Stud Girdle and Roller Rockers w/3/8" Rocker Studs (Pkg. 2/Card)	
	850019	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 8/Card)	
	850020	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 2/Card)	
	850022	A/R	7/16" Stud, Aluminum Roller Rockers (Pkg. 2/Card)	
	Rocker Arm Fasteners (Rocker Studs)	850001	1	7/16" x 3/8" W/O Jam Nut
		850003	1	7/16" x 7/16", 2.540 O.A.L.
		850006	1	7/16" x 3/8", 2.400 O.A.L.
850013		1	7/16" x 3/8", 2.500 O.A.L.	
850014		1	7/16" x 7/16", 2.650 O.A.L.	
Rocker Arm Kits (Roller)	818003	A/R	Alum. Roller (3/8" stud, 1.5 ratio, non self-aligning) (Pkg. 4/Card)	
	818004	A/R	Alum. Roller (7/16" stud, 1.5 ratio, non self-aligning) (Pkg. 4/Card)	
	818006	A/R	Alum. Roller (3/8" stud, 1.6 ratio, non self-aligning) (Pkg. 4/Card)	
	818007	A/R	Alum. Roller (7/16" stud, 1.6 ratio, non self-aligning) (Pkg. 4/Card)	
Rocker Arm Kits (Stamped Steel Long Slot)	818001	A/R	Long Slot Stamped Steel (1.5 ratio, non-self aligning) (Pkg. 4/Card)	
	818015	A/R	Long Slot Stamped Steel (1.6 ratio, non self-aligning) (Pkg. 4/Card)	
	818016	A/R	Long Slot Stamped Steel (1.5 ratio, 7/16" stud, non-self aligning) (Pkg. 4/Card)	
	818017	A/R	Long Slot Stamped Steel (1.6 ratio, 7/16" stud, non-self aligning) (Pkg. 4/Card)	
Rocker Stud Girdle	823001	1	O.E. Design Heads w/3/8" Rocker Studs	
Valve Guides	813108	A/R	Manganese Bronze, 343 I.D., .502 O.D., 2.125 Length	
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped	
	816171	1	11/32" Single Groove, Machined	
	816175	1	11/32" Single Groove, Machined 10°	
	859031	1	Use w/Stamped Steel Valve Covers	
Valve Cover Stud Kits (Hi-Tensile)	812002	16	w/Hydraulic lifters	
	812003	16	Anti-Pump Up	
	812026	16	Mechanical	
Valve Seats	814030	8	High Chrome, 1.3125 I.D., 1.5625 O.D., .250 Depth 45° Seat Angle, 1.562 Counter Bore Size	

## OLDSMOBILE – Cont'd.



**350 G, L – Cont'd.**  
8 Cyl. (5.7L)

1977-79

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS - Cont'd.</b>			
Valve Springs	810010	16	Single W/Damper, W/Hydraulic Lifters, (max. valve lift .490)
	810107	16	Single W/Damper w/mechanical lifters (max. valve lift .550)
	810108	16	Single w/ damper w/ mechanical lifters (max valve lift .600)
	810201	16	Dual w/Mechanical lifters (max. valve lift .590)
	810206	16	Dual w/Mechanical Roller Lifters (max, valve lift .590)
	810207	16	Dual w/mech. roller lifters (max. valve lift .610)
	<b>NEW! 810210</b>	<b>16</b>	<b>Dual w/Damper w/Mech. Flat Tappet/HYD. Roller Lifters (max. valve lift .590)</b>
Valve Spring Insert Kits	819001	1	1.250 x .812 x .060
	819002	1	1.250 x .812 x .030
	819003	1	1.250 x .812 x .015
	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817100	1	Use W/Spring #810010, w/1.700" installed height
	817102	1	Use w/Spring #810210 w/+.040" installed height
	817104	1	Use w/Spring #810201 w/+.100" installed height
	817108	1	Use w/Spring #810010, 810107, 810108, w/+.075" installed height
	817110	1	10° Use w/Spring #810201, 810206, 810207 w/+.100" installed height
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
	811005	1	All Viton, .343 Stem, .530 Guide
	811006	1	SRV, .343 Stem, .500 Guide (Red)
	811007	1	SVR, .343 Stem, .530 Guide (Orange)
Valves (Stainless Steel)	820120	8	Intake, 1.72" Head Dia.
	820320	8	Intake, 2.02 Head Dia., w/undercut stem
	820321	8	Intake, 2.02 Head Dia., w/undercut stem, + .100 longer than stock)
	820322	8	Intake, 2.05 Head Dia., w/undercut stem
	820326	8	Exhaust, 1.60 Head Dia., w/undercut stem



**350 R**  
8 Cyl. (5.7L)

1968-80

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Expansion Plug Kits (Brass)	830011	1	Brass
Main Stud Kits	855017	1	
Oil Drain Plug Kits	859000	1	1/2"-20 W/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (Hex Head)	859017	1	Hex Head - 1/4" x 7/16" (14) & 5/16" x 9/16" (4)
Oil Pan Stud Kit (Hi-Tensile)	859008	1	
Pilot Bushings	873001	1	
Pilot Bushings (Roller)	873008	1	Roller Bearing
Torque Converter Bolt Kits	859035	1	G.M. TH400, 3/8"-16 x 1/2"
	859036	1	G.M. TH350, Powerglide, 3/8"-24 x 1/2" w/Ny-Lock Nuts
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", Powerglide & Turbo 350,400
	859034	1	Bolt Kit W/Hex Head, Powerglide, Turbo 350,400
<b>CYLINDER HEAD COMPONENTS</b>			
Valve Guides	813108	A/R	Manganese Bronze, 343 I.D., .502 O.D., 2.125 Length
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
Valve Seats	814030	A/R	High Chrome, 1.3125 I.D., 1.5625 O.D., .250 Depth 45° Seat Angle, 1.562 Counter Bore Size
Valve Springs	810204	16	Dual w/Hydraulic lifters (max. valve lift .490)
	810205	16	Dual w/Mechanical lifters (max. valve lift .510)

## OLDSMOBILE – Cont'd.



**350 R – Cont'd.**  
8 Cyl. (5.7L)

**1968-80**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS - Cont'd.</b>			
Valve Spring Insert Kits	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817102	1	(Use W/Spring #810204 & 810205, W/+.040" installed height)
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
	811005	1	All Viton, .343 Stem, .530 Guide
	811006	1	SVR, .343 Stem, .500 Guide (Red)
	811007	1	SVR, .343 Stem, .530 Guide (Orange)
Valves (Stainless Steel)	820116	8	Intake, 2.07" Head Dia.
	820118	8	Exhaust, 1.71" Head Dia.



**350 X**  
8 Cyl. (5.7L)

**1975-76**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Oil Drain Plug Kits	859000	1	1/2"-20 W/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Pilot Bushings	873001	1	
Pilot Bushings (Roller)	873008	1	Roller Bearing
Torque Converter Bolt Kits	859035	1	G.M. TH400, 3/8"-16 x 1/2"
	859036	1	G.M. TH350, Powerglide, 3/8"-24 x 1/2" w/Ny-Lock Nuts
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", Powerglide & Turbo 350,400
	859034	1	Bolt Kit W/Hex Head, Powerglide, Turbo 350,400
<b>CYLINDER HEAD COMPONENTS</b>			
Valve Seats	814004	A/R	High Chrome, 1.375 I.D., 1.625 O.D., .2187 Depth 45° Seat Angle, 1.625 Counter Bore Size
Valve Springs	810204	16	Dual w/Hydraulic lifters (max. valve lift .490)
	810205	16	Dual w/Mechanical lifters (max. valve lift .510)
Valve Spring Insert Kits	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
Valve Stem Seal Kits	811002	1	All Teflon, .375 Stem, .530 Guide
	811004	1	All Teflon, .375 Stem, .500 Guide
	811008	1	SVR, .375 Stem, .530 Guide (Lt. Blue)



**403**  
8 Cyl. (6.6L)

**1977-79**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Expansion Plug Kits (Brass)	830011	1	Brass
Oil Drain Plug Kits	859000	1	1/2"-20 W/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (Hex Head)	859017	1	Hex Head 1/4" x 7/16" (14) & 5/16" x 9/16" (4)
Oil Pan Stud Kit (Hi-Tensile)	859008	1	
Pilot Bushings	873001	1	
Pilot Bushings (Roller)	873008	1	Roller Bearing
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
Torque Converter Bolt Kits	859035	1	G.M. TH400, 3/8"-16 x 1/2"
	859036	1	G.M. TH350, Powerglide, 3/8"-24 x 1/2" w/Ny-Lock Nuts
Transmission Bolt Kits	859014	1	7/16" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", Powerglide Turbo 350,400
	859034	1	Bolt Kit W/Hex Head, Powerglide & Turbo 350,400

## OLDSMOBILE – Cont'd.



**403 – Cont'd.**  
8 Cyl. (6.6L)

**1977-79**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852101	20	1/2" I.D. x 7/8" O.D. x .120 Head Bolt Washer, Premium
	852111	20	1/2" I.D. x 7/8" O.D. x .100 Head Bolt Washer, Economy
Head Stud Kits	851016	1	W/O.E. Cylinder Heads
Head Bolt Washer Kits	852097	1	Economy, 1/2" I.D. x 7/8" O.D. (20 pcs. skin pkg.)
	852099	1	Premium, 1/2" I.D. x 7/8" O.D. (20 pcs. skin pkg.)
Valve Guides	813108	A/R	Manganese Bronze, 343 I.D., .502 O.D., 2.125 Length
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
Valve Seats	814030	8	High Chrome, 1.3125 I.D., 1.5625 O.D., .250 Depth 45° Seat Angle, 1.562 Counter Bore Size
Valve Springs	810204	16	Dual w/Hydraulic lifters (max. valve lift .490)
	810205	16	Dual w/Mechanical lifters (max. valve lift .510)
Valve Spring Insert Kits	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817102	1	(Use W/Spring #810204 & 810205, W/+.40" installed height)
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
	811005	1	All Viton, .343 Stem, .530 Guide
	811006	1	SVR, .343 Stem, .500 Guide (Red)
	811007	1	SVR, .343 Stem, .530 Guide (Orange)
Valves (Stainless Steel)	820116	8	Intake, 2.07" Head Dia.
	820118	8	Exhaust, 1.71" Head Dia.



**455**  
8 Cyl. (7.5L)

**1968-76**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Connecting Rod Nuts	852001	16	3/8"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853018	1	3/8" Diameter, Premium Performance
Expansion Plug Kits (Brass)	830011	1	Brass
Main Stud Kits	855018	1	
Oil Drain Plug Kits	859000	1	1/2"-20 W/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (Hex Head)	859017	1	Hex Head 1/4" x 7/16" (14) & 5/16" x 9/16" (4)
Oil Pan Stud Kit (Hi-Tensile)	859008	1	
Pilot Bushings	873001	1	
Pilot Bushings (Roller)	873008	1	Roller Bearing
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
Torque Converter Bolt Kits	859035	1	G.M. TH400, 3/8"-16 x 1/2"
	859036	1	G.M. TH350, Powerglide, 3/8"-24 x 1/2" w/Ny-Lock Nuts
Transmission Bolt Kits	859014	1	7/16" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", Powerglide & Turbo 350,400
	859034	1	Bolt Kit w/Hex Head, Powerglide & Turbo 350,400
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852100	20	7/16" I.D. x 13/16" O.D. x .120 Head Bolt Washer, Premium
	852112	20	7/16" I.D. x 3/4" O.D. x .065 Head Bolt Washer, Economy
Head Stud Kits	851017	1	W/O.E. Cylinder Heads
Head Bolt Washer Kits	852096	1	Economy, 7/16" I.D. x 3/4" O.D. (34 pcs. skin pkg.)
	852098	1	Premium, 7/16" I.D. x 13/16" O.D. (34 pcs. skin pkg.)
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined



## OLDSMOBILE – Cont'd.



**455 – Cont'd.**  
8 Cyl. (7.5L)

**1968-76**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS - Cont'd.</b>			
Valve Springs	810204	16	Dual w/Hydraulic lifters (max. valve lift .490)
	810205	16	Dual w/Mechanical lifters (max. valve lift .510)
Valve Spring Insert Kits	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817102	1	Use w/Spring #810204 & 810205, W/+.040" installed height
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
	811005	1	All Viton, .343 Stem, .530 Guide
	811006	1	SVR, .343 Stem, .500 Guide (Red)
	811007	1	SVR, .343 Stem, .530 Guide (Orange)
Valves (Stainless Steel)	820116	8	Intake, 2.07" Head Dia.
	820118	8	Exhaust, 1.71" Head Dia.

## PONTIAC



**151 F, R, U, V, 1, 2, 5, 9**  
4 Cyl. (2.5L)

**1977-94**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Connecting Rod Nuts	852003	12	11/32"-24
Connecting Rod Nut Kits	852014	1	11/32"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853019	1	11/32" Diameter, Premium Performance
Harmonic Balancer Repair Sleeves	835011	1	
<b>CYLINDER HEAD COMPONENTS</b>			
Rocker Arm Fasteners (Posi-Locks)	850008	1	3/8" Stud W/O.E. Rockers
Valve Guides	813001	A/R	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.250 Length
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
Valve Seats	814004	4	High Chrome, 1.375 I.D., 1.625 O.D., .2187 Depth 45° Seat Angle, 1.625 Counter Bore Size
Valve Springs	810204	8	Dual w/Hydraulic lifters (max. valve lift .490)
	810205	8	Dual w/Mechanical lifters (max. valve lift .510)
Valve Spring Insert Kits	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817102	1	Use w/Spring #810204 & 810205, w/+.040" installed height
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
	811005	1	All Viton, .343 Stem, .530 Guide



**301 T, W, Y**  
8 Cyl. (4.9L)

**1977-81**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Connecting Rod Nuts	852003	16	11/32"-24
Connecting Rod Nut Kits	852014	1	11/32"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853019	1	11/32" Diameter, Premium Performance
Flywheel Bolt Kits	859028	1	1/2"-20 x 1"

## PONTIAC – Cont'd.



**301 T, W, Y**  
8 Cyl. (4.9L)

**1977-81**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Harmonic Balancers	872011	1	6.79" Dia. Street
	872031	1	6.76" Dia. Race
Oil Drain Plug Kits	859000	1	1/2"-20 W/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (Hex Head)	859018	1	Hex Head (Prior to 1991) 1/4" x 7/16" (2) & 5/16" x 9/16" (20)
Oil Pan Stud Kit (Hi-Tensile)	859009	1	
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
Torque Converter Bolt Kits	859035	1	G.M. TH400, 3/8"-16 x 1/2"
	859036	1	G.M. TH350, Powerglide, 3/8"-24 x 1/2" w/Ny-Lock Nuts
Transmission Bolt Kits	859014	1	7/16" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", Powerglide & Turbo 350,400
	859034	1	Bolt Kit W/Hex Head, Powerglide & Turbo 350,400
Woodruff Key Kits	839010	1	Long, 3/16" x 1-3/8"
<b>CYLINDER HEAD COMPONENTS</b>			
Header Bolt Kits (12 Pt. Hi-Tensile)	854014	1	3/8"-16 x 3/4" Stainless Steel (12 Bolt Kit)-Universal
	854023	1	3/8"-16 x 3/4", 12 Pt.(12 Bolt Kit)-Universal
	859040	1	3/8"-16 x 3/4", Hex Head (12 Bolt Kit)-Universal
Rocker Arm Fasteners (Posi-Locks)	850008	1	3/8" Stud W/O.E. Rockers
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
Valve Seats	814004	8	High Chrome, 1.375 I.D., 1.625 O.D., .2187 Depth 45° Seat Angle, 1.625 Counter Bore Size
Valve Springs	810204	16	Dual w/Hydraulic lifters, max. valve lift .490
	810205	16	Dual w/Mechanical lifters, max. valve lift .510
Valve Spring Insert Kits	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817102	1	Use w/Spring #810204 & 810205, W/+.040" installed height
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
	811005	1	All Viton, .343 Stem, .530 Guide
	811006	1	SVR, .343 Stem, .500 Guide (Red)
	811007	1	SVR, .343 Stem, .530 Guide (Orange)



**350 L**  
8 Cyl. (5.7L)

**1977-79**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Bellhousing Bolt Kits (12 Pt. Hi-Tensile)	854019	1	3/8"-16 x 1-1/2"
Cam Button Kits	839028	1	Short
	839029	1	Tall
	839038	1	Roller, .795 Length
Cam Correct	839043	1	Kit w/Drill Jig
	839045	1	Replacement Spring Shoe w/Hardware
Cam Gear Bolts	839037	1	Pkg. 3 /Card
Cam Gear Lock Plates	839030	1	w/Bolts
Connecting Rod Nuts	852001	16	3/8"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853005	1	3/8" Diameter, Premium Performance
	853204	1	3/8" Diameter, Standard Performance
Distributor Gears (Bronze)	839013	1	.500 Diameter Shaft
	839014	1	w/O.E. .491 Diameter Shaft
Distributor Hold Down Clamp (Chrome)	839062	1	

## PONTIAC – Cont'd.



**350 L - Cont'd.**  
8 Cyl. (5.7L)

**1977-79**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS - Cont'd.</b>			
Dowel Pin Kits	839004	1	Head to block
	839032	1	Bell Housing to Block, Extra Long
	839047	1	Cam Sprocket Dowel
	839059	1	Timing Cover Dowel
Expansion Plug Kits (Brass)	830001	1	Brass
Flexplate Bolt Kits	859022	1	7/16"-20 x 11/16"
Flexplates (SFI Certified)	871001	1	14.13" Dia. w/o weight
	871004	1	12.85" Dia. w/o weight
Fuel Pump Mounting Plate	839050	1	
Fuel Pump Block Off Kits	839033	1	
Fuel Pump Push Rod Kits	839035	1	Steel Billet Camshaft
	839036	1	Cast Billet Camshaft
Harmonic Balancers	872001	1	6 1/4" Dia. Street
	872002	1	7" Dia. Street
	872003	1	8" Dia. Street
	872021	1	6 1/4" Dia. Race
	872022	1	7" Dia. Race
	872023	1	8" Dia. Race
	<b>NEW! 872060</b>	1	<b>6-1/4" Dia. Race w/Big Block Snout</b>
	<b>NEW! 872061</b>	1	<b>7" Dia. Race w/Big Block Snout</b>
Harmonic balancer Bolt Kit	859012	1	
	859045	1	1 Piece Chrome Moly
	<b>NEW! 859047</b>	1	<b>12 Pt. Chrome Moly</b>
Harmonic Balancer Repair Sleeves	835011	1	
Lifter Valley Screen kit	839055	1	
Lifter Valley Vent Tube Kit	839042	1	
Main Bolt Kits	855200	1	2-Bolt
	855201	1	4-Bolt
Main Stud Kits	855003	1	4 Bolt
	855004	1	2 Bolt
Main Caps (4-Bolt Conversion)	839020	1	4-Bolt Main Cap, O.E. Replacement
	839021	1	4-Bolt Main Cap, Conversion
	839022	1	4-Bolt Main Cap, Conversion (22° angle)
Oil Drain Plug Kits	859000	1	1/2"-20 W/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Filter Adapter	839049	1	
Oil Pan Bolt Kits (Hex Head)	859017	1	Hex Head 1/4" x 7/16" (14) & 5/16" x 9/16" (4)
Oil Pan Stud Kit (Hi-Tensile)	859008	1	
Oil Pumps (High Volume)	836021	1	Increased pressure and volume, includes screen assembly (May require oil pan modification)
Oil Pump Bolt Kits (12 Pt. Hi-Tensile)	854021	1	7/16"-14 x 2", 12 Pt.
Oil Pump Intermediate Shafts	838005	1	w/Steel Shaft Guide
Oil Pump Pick Up Retainer	839061	1	w/ 5/8" dia. tube
Oil Pump Screens	837012	1	
Oil Pump Stud Kit	859039	1	3.120 Length
Oil Restrictor Kits	839031	1	
Pilot Bushings	873001	1	
Pilot Bushings (Roller)	873008	1	Roller Bearing
Timing Cover Bolt Kits (Hex Head)	859021	1	Hex Head 1/4" x 1/2" (10)
Timing Cover Stud Kit (Hi-Tensile)	859011	1	
Timing Indicator (adjustable)	839051	1	w/ 6 1/4" balancer
Timing Indicator (adjustable)	839052	1	w/ 7" balancer
Timing Indicator (adjustable)	839053	1	w/ 8" balancer
Torque Converter Bolt Kits	859035	1	G.M. TH400, 3/8"-16 x 1/2"
	859036	1	G.M. TH350, Powerglide, 3/8"-24 x 1/2" w/Ny-Lock Nuts
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"- 18/24 x 1 5/16", Powerglide & Turbo 350,400
	859034	1	Bolt Kit w/Hex Head, Powerglide & Turbo 350,400
Woodruff Key Kits	839009	1	Short, 3/16" x 3/4"
	839010	1	Long, 3/16" x 1-3/8"

## PONTIAC – Cont'd.



**350 – Cont'd.**  
8 Cyl. (5.7L)

**1977-79**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852100	34	7/16" I.D. x 13/16" O.D. x .120 Head Bolt Washer, Premium
	852112	34	7/16" I.D. x 3/4" O.D. x .065 Head Bolt Washer, Economy
Head Bolt Kit	851200	1	w/O.E. Cast Iron and Aluminum, AFR, Brodix -8, -10, -11, -11xb, Dart Stock replacement cylinder heads
Head Stud Kits	851004	1	W/O.E. Cast Iron and Aluminum, AFR, Brodix -8,-10,-11,-11XB Brownfield, Dart (stock replacement) Cylinder Heads
	851018	1	W/O.E. Cast Iron and Aluminum, AFR, Brodix -8,-10,-11,-11XB Brownfield, Dart(Stock Replacement)Cyl. Heads W/12 Pt. Nuts
	851019	1	W/Chevy 18° High Port Cyl. Heads W/7/16" Studs W/12 Pt Nuts
	851023	1	W/Dart II Cyl. Heads
	851026	1	W/Dart II and Pontiac Motorsports #10033867 Cylinder Heads with 12 Pt. Nuts
Head Bolt Washer Kits	852096	1	Economy, 7/16" I.D. x 3/4" O.D. (34 pcs. skin pkg.)
	852098	1	Premium, 7/16" I.D. x 13/16" O.D. (34 pcs. skin packaged)
Header Bolt Kits (12 Pt. Hi-Tensile)	854014	1	3/8"-16 x 3/4" Stainless Steel (12 Bolt Kit)-Universal
	854023	1	3/8"-16 x 3/4", 12 Pt.(12 Bolt Kit)-Universal
	859040	1	3/8"-16 x 3/4", Hex Head (12 Bolt Kit)-Universal
Push Rods (Chrome Moly)	815205	16	7.794 O.A.L.
	815215	16	.100 Longer
	815216	16	3/8" Diameter, 7.794 O.A.L.
Push Rods (One-Piece)	815007	A/R	5/16" Diameter, 7.800 O.A.L.
	815008	A/R	5/16" Diameter, 7.850 O.A.L.
	815009	A/R	5/16" Diameter, 7.900 O.A.L.
	815010	A/R	5/16" Diameter, 7.950 O.A.L.
	815192	1	.100 longer
Push Rod Kits (O.E. Replacement)	815194	1	
Push Rod Guide Plate Kits	821002	1	5/16", flat
	821004	1	5/16", step
	821005	1	3/8", step
Rocker Arm Ball/Fulcrum Kits	822001	1	
Rocker Arm Fasteners (Posi-Locks)	850008	1	3/8" Stud W/O.E. Rockers
	850010	1	7/16" Stud w/O.E. Rockers
	850012	1	7/16" Stud, Aluminum Roller Rockers
	850017	A/R	Use w/Stud Girdle and Roller Rockers w/3/8" Rocker Studs (Pkg. 8/Card)
	850018	A/R	Use w/Stud Girdle and Roller Rockers w/3/8" Rocker Studs (Pkg. 2/Card)
	850019	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 8/Card)
	850020	A/R	Use w/Stud Girdle and Roller Rockers w/7/16" Rocker Studs (Pkg. 2/Card)
	850022	A/R	7/16" Stud, Aluminum Roller Rockers (Pkg. 2/Card)
Rocker Arm Fasteners (Rocker Studs)	850001	1	7/16" x 3/8" W/O Jam Nut
	850003	1	7/16" x 7/16", 2.540 O.A.L.
	850006	1	7/16" x 3/8", 2.400 O.A.L.
	850013	1	7/16" x 3/8", 2.500 O.A.L.
	850014	1	7/16" x 7/16", 2.650 O.A.L.
Rocker Arm Kits (Stamped Steel Long Slot)	818001	A/R	Long Slot Stamped Steel 1.5 ratio, non-self aligning (Pkg. 4/Card)
	818015	A/R	Long Slot Stamped Steel 1.6 ratio, non self-aligning (Pkg. 4/Card)
	818016	A/R	Long Slot Stamped Steel 1.5 ratio, 7/16" stud, non-self aligning (Pkg. 4/Card)
	818017	A/R	Long Slot Stamped Steel 1.6 ratio, 7/16" stud, non-self aligning (Pkg. 4/Card)
Rocker Stud Girdle	823001	1	O.E. Design Heads w/3/8" Rocker Studs
Valve Guides	813001	A/R	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.250 Length
	813108	A/R	Manganese Bronze, 343 I.D., .502 O.D., 2.125 Length
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
	816175	1	11/32" Single Groove, Machined 10°
Valve Cover Stud Kits (Hi-Tensile)	859031	1	Use w/Stamped Steel Valve Covers
Valve Lifters	812002	16	w/Hydraulic lifters
	812003	16	Anti-Pump Up
	812026	16	Mechanical
Valve Seats	814030	8	High Chrome, 1.3125 I.D., 1.5625 O.D., .250 Depth 45° Seat Angle, 1.562 Counter Bore Size

## PONTIAC – Cont'd.



**350 L**  
8 Cyl. (5.7L)

**1977-79**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION	
<b>CYLINDER HEAD COMPONENTS - Cont'd.</b>				
Valve Springs	810010	16	Single W/Damper, W/Hydraulic Lifters, (max. valve lift .490)	
	810107	16	Single W/Damper (max. valve lift .550) w/mechanical lifters	
	810108	16	Single w/ damper w/ mechanical lifters (max valve lift .600)	
	810201	16	Dual w/Mechanical lifters (max. valve lift .590)	
	810206	16	Dual w/Mechanical Roller Lifters (max. valve lift .590)	
	810207	16	Dual w/mech. roller lifters (max. valve lift .610)	
Valve Spring Insert Kits	<b>NEW! 810210</b>	<b>16</b>	<b>Dual w/Damper w/Mech. Flat Tappet/Hyd. Roller Lifters (max. valve lift .590)</b>	
	819001	1	1.250 x .812 x .060	
	819002	1	1.250 x .812 x .030	
	819003	1	1.250 x .812 x .015	
	819007	1	1.437 x .645 x .060	
	819008	1	1.437 x .645 x .030	
	819009	1	1.437 x .645 x .015	
	819021	1	1.460 x .565 x .060 (Cup type insert)	
	Valve Spring Retainer Kits	817100	1	Use w/Spring #810010, W/1.700" installed height
		817102	1	Use w/Spring #810210 w/+.040" installed height
817104		1	Use w/Spring #810201 w/+.100" installed height	
817108		1	Use w/Spring #810010, 810107, 810108, w/+.075" installed height	
817110		1	10° Use w/Spring #810201, 810206, 810207 w/+.100" installed height	
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick	
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide	
	811003	1	All Teflon, .343 Stem, .500 Guide	
	811005	1	All Viton, .343 Stem, .530 Guide	
	811006	1	SVR, .343 Stem, .500 Guide (Red)	
	811007	1	SVR, .343 Stem, .530 Guide (Orange)	
	Valves (Stainless Steel)	820120	8	Intake, 1.72" Head Dia.
820320		8	Intake, 2.02 Head Dia., w/undercut stem	
820321		8	Intake, 2.02 Head Dia., w/undercut stem, + .100 longer than stock	
820322		8	Intake, 2.05 Head Dia., w/undercut stem	
820326		8	Exhaust, 1.60 Head Dia., w/undercut stem	



**350 P**  
8 Cyl. (5.7L)

**1968-77**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Connecting Rod Nuts	852001	16	3/8"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853020	1	3/8" Diameter (Oval Head), Premium Performance
Expansion Plug Kits (Brass)	830009	1	Brass
Flywheel Bolt Kits	859028	1	1/2"-20 x 1"
Harmonic Balancers	872011	1	6.79" Dia. Street
	872031	1	6.76" Dia. Race
Oil Drain Plug Kits	859000	1	1/2"-20 W/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (Hex Head)	859018	1	Hex Head 1/4" x 7/16" (2) & 5/16" x 9/16" (20)
Oil Pan Stud Kit (Hi-Tensile)	859009	1	
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
Torque Converter Bolt Kits	859035	1	G.M. TH400, 3/8"-16 x 1/2"
	859036	1	G.M. TH350, Powerglide, 3/8"-24 x 1/2" w/Ny-Lock Nuts
Transmission Bolt Kits	859014	1	7/16" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", Powerglide & Turbo 350,400
	859034	1	Bolt Kit W/Hex Head, Powerglide, Turbo 350,400
Woodruff Key Kits	839010	1	Long, 3/16" x 1-3/8"



## PONTIAC – Cont'd.



**350 P – Cont'd.**  
8 Cyl. (5.7L)

**1968-77**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852101	20	1/2" I.D. x 7/8" O.D. x .120 Head Bolt Washer, Premium
	852111	20	1/2" I.D. x 7/8" O.D. x .100 Head Bolt Washer, Economy
Head Bolt Washer Kits	852097	1	Economy, 1/2" I.D. x 7/8" O.D. (20 pcs. skin pkg.)
	852099	1	Premium, 1/2" I.D. x 7/8" O.D. (20 pcs. skin packaged)
Header Bolt Kits (12 Pt. Hi-Tensile)	854014	1	3/8"-16 x 3/4" Stainless Steel (12 Bolt Kit)-Universal
	854023	1	3/8"-16 x 3/4", 12 Pt.(12 Bolt Kit)-Universal
	859040	1	3/8"-16 x 3/4", Hex Head (12 Bolt Kit)-Universal
Rocker Arm Fasteners (Posi-Locks)	850008	1	3/8" Stud W/O.E. Rockers
	850010	1	7/16" Stud w/O.E. Rockers
	850012	1	7/16" Stud w/Aluminum Roller Rockers
	850022	A/R	7/16" Stud w/Aluminum Roller Rockers (Pkg. 2/Card)
Rocker Arm Fasteners (Rocker Studs)	850003	1	7/16" x 7/16", 2.540 O.A.L.
	850014	1	7/16" x 7/16", 2.650 O.A.L.
Valve Guides	813001	A/R	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.250 Length
	813002	A/R	Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.375 Length
	813102	A/R	Manganese Bronze, .343 I.D., .502 O.D., 2.375 Length
	813108	A/R	Manganese Bronze, 343 I.D., .502 O.D., 2.125 Length
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
Valve Springs	810204	16	Dual w/Hydraulic lifters (max. valve lift .490)
	810205	16	Dual w/Mechanical lifters (max. valve lift .510)
Valve Spring Insert Kits	819007	A/R	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819201	1	.100 longer
Valve Spring Retainer Kits	817102	1	Use w/Spring #810204 & 810205, W/+.040" installed height
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
	811005	1	All Viton, .343 Stem, .530 Guide
	811006	1	SVR, .343 Stem, .500 Guide (Red)
	811007	1	SVR, .343 Stem, .530 Guide (Orange)



**350 R**  
8 Cyl. (5.7L)

**1977-80**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Expansion Plug Kits (Brass)	830011	1	Brass
Oil Drain Plug Kits	859000	1	1/2"-20 W/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (Hex Head)	859017	1	Hex Head 1/4" x 7/16" (14) & 5/16" x 9/16" (4)
Pilot Bushings	873001	1	
Pilot Bushings (Roller)	873008	1	Roller Bearing
Torque Converter Bolt Kits	859035	1	G.M. TH400, 3/8"-16 x 1/2"
	859036	1	G.M. TH350, Powerglide, 3/8"-24 x 1/2" w/Ny-Lock Nuts
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", Powerglide & Turbo 350,400
	859034	1	Bolt Kit W/Hex Head, Powerglide & Turbo 350,400
<b>CYLINDER HEAD COMPONENTS</b>			
Valve Guides	813108	A/R	Manganese Bronze, 343 I.D., .502 O.D., 2.125 Length
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
Valve Seats	814030	8	High Chrome, 1.3125 I.D., 1.5625 O.D., .250 Depth 45° Seat Angle, 1.562 Counter Bore Size
Valve Springs	810204	16	Dual w/Hydraulic lifters (max. valve lift .490)
	810205	16	Dual w/Mechanical lifters (max. valve lift .510)

## PONTIAC – Cont'd.



**350 R – Cont'd.**  
8 Cyl. (5.7L)

**1977-80**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>CYLINDER HEAD COMPONENTS - Cont'd.</b>			
Valve Spring Insert Kits	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817102	1	Use W/Spring #810204 & 810205, W/+.040" installed height
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
	811005	1	All Viton, .343 Stem, .530 Guide
	811006	1	SVR, .343 Stem, .500 Guide (Red)
	811007	1	SVR, .343 Stem, .530 Guide (Orange)
Valves (Stainless Steel)	820116	8	Intake, 2.07" Head Dia.
	820118	8	Exhaust, 1.71" Head Dia.



**350 X**  
8 Cyl. (5.7L)

**1975-80**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Oil Drain Plug Kits	859000	1	1/2"-20 W/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Pilot Bushings	873001	1	
Pilot Bushings (Roller)	873008	1	Roller Bearing
Torque Converter Bolt Kits	859035	1	G.M. TH400, 3/8"-16 x 1/2"
	859036	1	G.M. TH350, Powerglide, 3/8"-24 x 1/2" w/Ny-Lock Nuts
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", Powerglide & Turbo 350,400
	859034	1	Bolt Kit W/Hex Head, Powerglide & Turbo 350,400
Woodruff Key Kits	839010	1	Long, 3/16" x 1-3/8"
<b>CYLINDER HEAD COMPONENTS</b>			
Valve Seats	814004	8	High Chrome, 1.3125 I.D., 1.5625 O.D., .2187 Depth 45° Seat Angle, 1.625 Counter Bore Size
Valve Springs	810204	16	Dual w/Hydraulic lifters (max. valve lift .490)
	810205	16	Dual w/Mechanical lifters (max. valve lift .510)
Valve Spring Insert Kits	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Stem Seal Kits	811002	1	All Teflon, .375 Stem, .530 Guide
	811004	1	All Teflon, .375 Stem, .500 Guide
	811008	1	SVR, .375 Stem, .530 Guide (Lt. Blue)



**400**  
8 Cyl. (6.6L)

**1967-79**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS</b>			
Connecting Rod Nuts	852001	16	3/8"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853020	1	3/8" Diameter (Oval Head), Premium Performance
Expansion Plug Kits (Brass)	830009	1	Brass
Flywheel Bolt Kits	859028	1	1/2"-20 x 1"
Harmonic Balancers	872011		6.79" Dia. Street
	872031		6.76" Dia. Race
Main Stud Kits	855019	1	2 Bolt
	855020	1	4 Bolt

## PONTIAC – Cont'd.



**400**  
8 Cyl. (6.6L)

**1967-79**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
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### SHORT BLOCK COMPONENTS - Cont'd.

Oil Drain Plug Kits	859000	1	1/2"-20 W/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (Hex Head)	859018	1	Hex Head 1/4" x 7/16" (2) & 5/16" x 9/16" (20)
Oil Pan Stud Kit (Hi-Tensile)	859009	1	
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
Torque Converter Bolt Kits	859035	1	G.M. TH400, 3/8"-16 x 1/2"
	859036	1	G.M. TH350, Powerglide, 3/8"-24 x 1/2" w/Ny-Lock Nuts
Transmission Bolt Kits	859014	1	7/16" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", Powerglide & Turbo 350,400
	859034	1	Bolt Kit W/Hex Head, Powerglide & Turbo 350,400
Woodruff Key Kits	839010	1	Long, 3/16" x 1-3/8"

### CYLINDER HEAD COMPONENTS

Flat Washers (Hi-Tensile)	852101	20	1/2" I.D. x 7/8" O.D. x .120 Head Bolt Washer, Premium
	852111	20	1/2" I.D. x 7/8" O.D. x .100 Head Bolt Washer, Economy
Head Bolt Washer Kits	852097	1	Economy, 1/2" I.D. x 7/8" O.D. (20 pcs. skin pkg.)
	852099	1	Premium, 1/2" I.D. x 7/8" O.D. (20 pcs. skin pkg.)
Header Bolt Kits (12 Pt. Hi-Tensile)	854014	1	3/8"-16 x 3/4" Stainless Steel (12 Bolt Kit)-Universal
	854023	1	3/8"-16 x 3/4", 12 Pt. (12 Bolt Kit)-Universal
	859040	1	3/8"-16 x 3/4", Hex Head (12 Bolt Kit)-Universal
Rocker Arm Ball/Fulcrum Kits	822005	1	w/Ram Air w/ 7/16" stud
Rocker Arm Fasteners (Posi-Locks)	850008	1	3/8" Stud w/O.E. Rockers
	850010	1	7/16" Stud w/O.E. Rockers
	850012	1	7/16" Stud w/Aluminum Roller Rockers
	850022	A/R	7/16" Stud w/Aluminum Roller Rockers (Pkg. 2/Card)
Rocker Arm Fasteners (Rocker Studs)	850003	1	7/16" x 7/16", 2.540 O.A.L.
	850014	1	7/16" x 7/16", 2.650 O.A.L.
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
Valve Springs	810204	16	Dual w/Hydraulic lifters (max. valve lift .490)
	810205	16	Dual w/Mechanical lifters (max. valve lift .510)
Valve Spring Insert Kits	819007	1	1.437 x .645 x .060
	819008	1	1.437 x .645 x .030
	819009	1	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817102	1	Use W/Spring #810204 & 810205, W/+.040" installed height
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
	811005	1	All Viton, .343 Stem, .530 Guide
	811006	1	SVR, .343 Stem .500 Guide (Red)
	811007	1	SVR, .343 Stem .530 Guide (Orange)



**455**  
8 Cyl. (7.5L)

**1970-76**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
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### SHORT BLOCK COMPONENTS

Connecting Rod Nuts	852001	16	3/8"-24
Connecting Rod Nut Kits	852012	1	3/8"-24 (16 pcs. skin pkg.)
Connecting Rod Bolt Kits	853020	1	3/8" Diameter (Oval Head), Premium Performance
Expansion Plug Kits (Brass)	830009	1	Brass
Harmonic Balancers	872011		6.79" Dia. Street
	872031		6.76" Dia. Race
Flywheel Bolt Kits	859028	1	1/2"-20 x 1"
Main Stud Kits	855019	1	2-Bolt
	855020	1	4-Bolt

## PONTIAC – Cont'd.

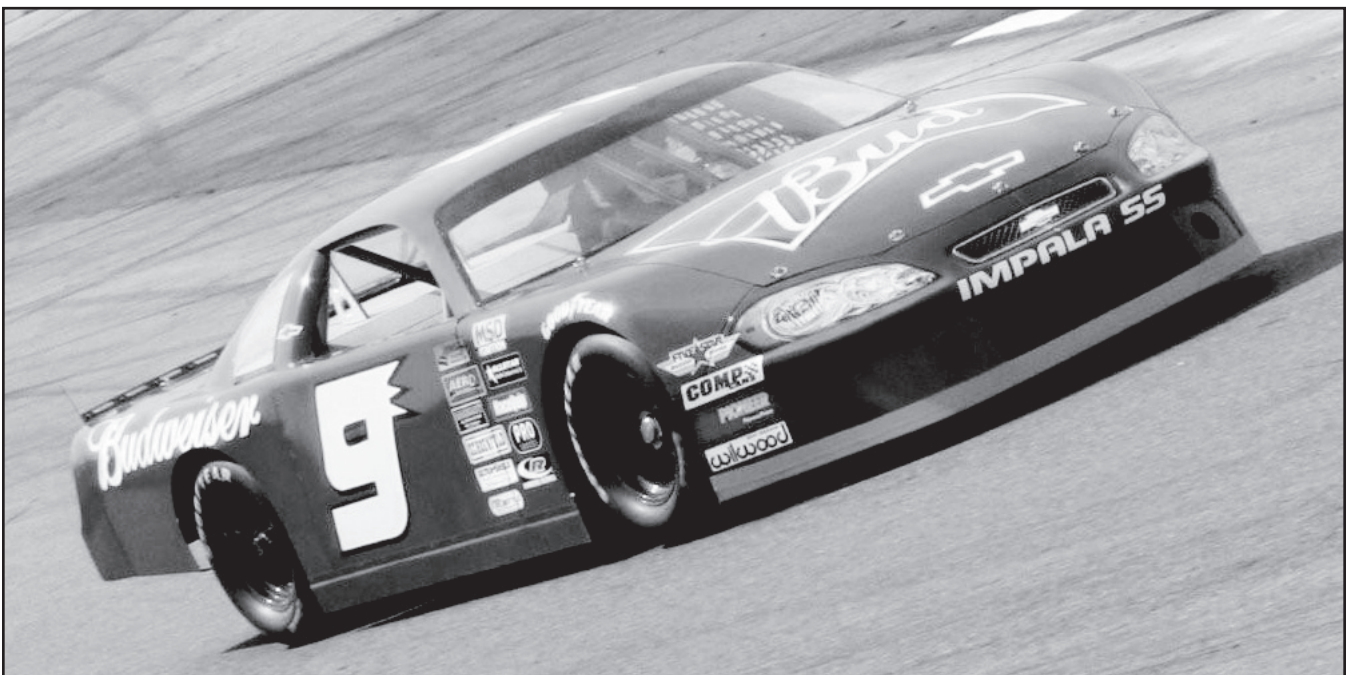


**455**  
8 Cyl. (7.5L)

**1970-76**

DESCRIPTION	PIONEER NO.	QTY.	APPLICATION
<b>SHORT BLOCK COMPONENTS - Cont'd.</b>			
Oil Drain Plug Kits	859000	1	1/2"-20 W/Magnetic Tip
	859001	1	1/2"-20 x .800 Long
Oil Pan Bolt Kits (Hex Head)	859018	1	Hex Head 1/4" x 7/16" (2) & 5/16" x 9/16" (20)
Oil Pan Stud Kit (Hi-Tensile)	859009	1	
Pressure Plate Bolt Kits	859024	1	Borg & Beck/ Diaphragm, 3/8"-16 x 1"
Torque Converter Bolt Kits	859035	1	G.M. TH400, 3/8"-16 x 1/2"
	859036	1	G.M. TH350, Powerglide, 3/8"-24 x 1/2" w/Ny-Lock Nuts
Transmission Bolt Kits	859014	1	7/16" x 1-1/2" N.C.-Universal (manual trans.)
Transmission Pan Bolt/Stud Kit	859033	1	Stud Kit, 5/16"-18/24 x 1 5/16", Powerglide & Turbo 350,400
	859034	1	Bolt Kit w/Hex Head, Powerglide & Turbo 350,400
Woodruff Key Kits	839010	1	Long, 3/16" x 1-3/8"
<b>CYLINDER HEAD COMPONENTS</b>			
Flat Washers (Hi-Tensile)	852101	20	1/2" I.D. x 7/8" O.D. x .120 Head Bolt Washer, Premium
	852111	20	1/2" I.D. x 7/8" O.D. x .100 Head Bolt Washer, Economy
Head Bolt Washer Kits	852097	1	Economy, 1/2" I.D. x 7/8" O.D. (20 pcs. skin pkg.)
	852099	1	Premium, 1/2" I.D. x 7/8" O.D. (20 pcs. skin pkg.)
Header Bolt Kits (12 Pt. Hi-Tensile)	854014	1	3/8"-16 x 3/4" Stainless Steel (12 Bolt Kit)-Universal
	854023	1	3/8"-16 x 3/4", 12 Pt.(12 Bolt Kit)-Universal
	859040	1	3/8"-16 x 3/4", Hex Head (12 Bolt Kit)-Universal
Rocker Arm Ball/Fulcrum Kits	822005	1	w/Ram Air w/ 7/16" stud
Rocker Arm Fasteners (Posi-Locks)	850008	1	3/8" Stud w/O.E. Rockers
	850010	1	7/16" Stud w/O.E. Rockers
	850012	1	7/16" Stud w/Aluminum Roller Rockers
	850022	A/R	7/16" Stud w/Aluminum Roller Rockers (Pkg. 2/Card)
Rocker Arm Fasteners (Rocker Studs)	850003	1	7/16" x 7/16", 2.540 O.A.L.
	850014	1	7/16" x 7/16", 2.650 A.O.L.
Valve Lock Kits	816002	1	11/32" Single Groove, O.E. Stamped
	816171	1	11/32" Single Groove, Machined
Valve Springs	810204	16	Dual w/Hydraulic lifters (max. valve lift .490)
	810205	A/R	Dual w/Mechanical lifters (max. valve lift .510)
Valve Spring Insert Kits	819007	A/R	1.437 x .645 x .060
	819008	A/R	1.437 x .645 x .030
	819009	A/R	1.437 x .645 x .015
	819021	1	1.460 x .565 x .060 (Cup type insert)
Valve Spring Retainer Kits	817102	A/R	Use w/Spring #810204 & 810205, w/+.040" installed height
Valve Stem Lash Cap Kit	816180	1	11/32", .080 Thick
Valve Stem Seal Kits	811001	1	All Teflon, .343 Stem, .530 Guide
	811003	1	All Teflon, .343 Stem, .500 Guide
	811005	1	All Viton, .343 Stem, .530 Guide
	811006	1	SVR .343 Stem, .500 Guide (Red)
	811007	1	SVR, 343 Stem, .530 Guide (Orange)





COMPETITIVE EDGE RACING SCHOOL



## VALVE SPRINGS

810

### Information & Specification Data:

As a leading supplier of valve springs for more than 30 years, we've built our reputation on quality. And we live up to it by producing valve springs that set industry standards for precision and durability.

Made from the highest quality materials, Pioneer Performance valve springs are inspected during every step of the manufacturing cycle so that you get the kind of quality you expect from Pioneer, from receipt of raw material, to coiling, grinding, heat treatment and final inspection.

(PACKAGED 4 PER BOX)

(SEE PIONEER PERFORMANCE TECHFORUM V3.1 FOR FURTHER TECHNICAL INFORMATION AND INSTALLATION PROCEDURES)



SEE MATRIX PAGES 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

PIONEER NUMBER	NOMINAL DIA. OUTSIDE / INSIDE	SPRING TYPE	APPLICATION	USE W/RETAINER	USE W/LOCKS	NOMIAL LOAD FOR CHECKING	COIL BIND
810010	1.260 / .876	Single w/Damper	Hyd., Chevy 262Z, S.B. V8	817100 - 1.700 Inst. Ht.	816002 - Stamped 816171 - Machined	120# @ 1.700 300# @ 1.200	1.160
810011	1.504 / 1.090	Single w/Damper	Hyd., Chevy B.B. V8 Chrysler B.B. V8	817105	816003 - Stamped 816141 - Machined 816142 - Machined- Super Duty	90# @ 1.880 265# @ 1.380	1.265
810012	1.494 / 1.080	Single w/Damper	Hyd., Chrysler S.B. V8	817103	816001 - Stamped w/2 Grooves 816003 - Stamped w/Single Groove 816004 - Stamped w/4 Grooves 816141 - Machined w/Single Groove	95# @ 1.650 270# @ 1.200	1.085
810101	1.215 / .860	Single w/Damper	Hyd., Chevy L6, V6	817100 - 1.700 Inst. Ht.	816002 - Stamped 816171 - Machined	120# @ 1.700 265# @ 1.200	1.150
810102	1.435 / 1.035	Single w/Damper	Mech., Chrysler S.B. V8	Use o.e. retainer	816001 - Stamped w/2 Grooves 816003 - Stamped w/Single Groove 816004 - Stamped w/4 Grooves 816141 - Machined w/Single Groove	110# @ 1.700 300# @ 1.150	1.100
810103	1.539 / 1.125	Single w/Damper	Mech., Chrysler B.B. V8	817106	816001 - Stamped w/2 Grooves 816003 - Stamped w/Single Groove 816004 - Stamped w/4 Grooves 816141 - Machined w/Single Groove	135# @ 1.875 305# @ 1.350	1.160
810104	1.437 / 1.073	Single w/Damper	Hyd., Ford 2.3L	817102- 11/32 + .040 Inst. Ht. 817104- 11/32 + .100 Inst. Ht.	816005 - Stamped w/4 Grooves	110# @ 1.530 230# @ 1.040	.925
810105	1.460 / 1.060	Single w/Damper	Hyd., Ford S.B. & B.B. V8	817102 - 11/32 + .040 Inst. Ht. 817104 - 11/32 + .100 Inst. Ht. 817105 - 3/8"	816002 - Stamped - 11/32" 816171 - Machined - 11/32" 816003 - Stamped 3/8" 816141 - Machined 3/8"	115# @ 1.820 245# @ 1.320	1.150
810106	1.235 / .880	Single w/Damper	Hyd., Buick 231	817100 - 1.700 Inst. Ht.	816002 - Stamped 816171 - Machined	115# @ 1.700 260# @ 1.200	1.160
810107	1.260 / .876	Single w/Damper	Mech.Flat Tappet/Hyd. Roller Chevy S.B. V8	817100 - 1.700 Inst. Ht. 817108 - .075 Taller Ht.	816002 - Stamped 816171 - Machined	125# @ 1.750 325# @ 1.200	1.150
810108	1.260 / .876	Single w/Damper	Mech.Flat Tappet/Hyd. Roller Chevy S.B. V8	817108	816002 - Stamped 816171 - Machined	130# @ 1.800 350# @ 1.200	1.140
810109	1.289/O.D. .660/.880 I.D.	Single Conical	Hyd., Chevy, LS1	817109	816176	105# @ 1.800 265# @ 1.200	1.130
810110	1.050/O.D. .636/.738 I.D.	Single Conical	Ford 4.6L, 2 valve	O.E.	O.E.	80# @ 1.640 185#@ 1.090	.952
810201	1.437 / .810	* Dual	Mech., Chevy V6, 262Z Chevy S.B. V8, Ford S.B. & B.B., V8	817102 - 11/32"+.040 Inst. Ht. 817104 - 11/32"+.100 Inst. Ht. 817105 - 3/8"	816002 - Stamped 11/32" 816171 - Machined 11/32" 816003 - Stamped 3/8"	140# @ 1.800 295# @ 1.300	1.100
810202	1.515 / .800	* Dual	Mech. Flat Tappet/Hyd Roller for Chevy B.B. V8 Mech. Flat Tappet Chry. B.B.V8	817107	816003 - Stamped 816141 - Machined 816142 - Machined -Super Duty	140# @ 1.940 360# @ 1.300	1.200
810203	1.437 / .815	* Dual	Mech. & Hyd., Chrysler S.B. V8	817105	816001 - Stamped w/2 Grooves 816003 - Stamped w/Single Groove 816004 - Stamped w/4 Grooves 816141 - Machined w/Single Groove	110# @ 1.700 245# @ 1.200	.975
810204	1.384 / .810	* Dual	Hyd., Olds. V8 Pontiac 4 Cyl. & V8	817102	816002 - Stamped 816171 - Machined	115# @ 1.625 220# @ 1.150	.950
810205	1.437 / .815	* Dual	Mech., Olds. V8	817102	816002 - Stamped 816171 - Machined	130# @ 1.700 295# @ 1.200	1.100
810206	1.437 / .796	* Dual	Mech., Roller ; Chevy V6, 262Z; Chevy S.B. V8; Ford S.B. V8	817110	816175	165# @ 1.800 315# @ 1.300	1.100

DUAL SPRING LOADS ALLOW FOR .100" CUP ON INNER SPRING. LOADS MAY VARY ± 10 %.

W/Dual Spring Assembly, Cylinder Head Machining may be required.

(Product Section - Continued on next page)

■ Replaces G.M. #12495691

• Replaces G.M. #14097002

## VALVE SPRINGS - Cont'd.

810

PIONEER NUMBER	NOMINAL DIA. OUTSIDE / INSIDE	SPRING TYPE	APPLICATION	USE W/RETAINER	USE W/LOCKS	NOMIAL LOAD FOR CHECKING	COIL BIND
810207	1.460 / .840	Dual	Mech., Roller Chevy V6, 262Z Chevy S.B. V8; Ford S.B. V8	817110	816175	145# @ 1.800 350# @ 1.200	1.080
• 810208	1.470 / .820	Dual	Hyd., Chevy 454HO - 454	817105	816003 - Stamped 816141 - Machined 816142 - Machined -Super Duty	110# @ 1.880 350# @ 1.330	1.250
810209	1.540 / .731	Dual w/Damper	Mech. Roller Chevy B.B. V8	817107	816142 - Machined -Super Duty	190# @ 1.940 450# @ 1.375	1.200
<b>NEW!</b> 810210	1.437 / .750	Dual w/Damper	Mech. Flat Tappet, Hyd. Roller Chevy V6, 262Z, Chevy S.B. V8, Ford S.B. & B.B. V8	817102 - 11/32" +.040 Inst. Ht.	816002 - Stamped 816171 - Machined	130# @ 1.800 295# @ 1.300	1.100

DUAL SPRING LOADS ALLOW FOR .100" CUP ON INNER SPRING. LOADS MAY VARY  $\pm 10\%$ .

W/Dual Spring Assembly, Cylinder Head Machining may be required.

- Replaces G.M. #12495691
- Replaces G.M. #14097002

## VALVE STEM OIL SEAL KITS (Positive Type)

811

Pioneer Performance gives you a choice of 3 positive valve stem oil seal designs. Each type may require machining of the valve guide to ensure a proper fit. Installer must match valve stem oil seal to appropriate valve stem and valve guide diameters. Necessary for most dual valve spring applications.

- All Teflon® Seal with Spring Loaded Wiper
  - Prevents unwanted oil from contaminating the cylinder, which can cause loss of power.
  - Makes engine tune-ups easier and provides smoother engine idle by stopping leakage of air through the intake valve guide.
  - # 811005 is a Positive Type 2 Ring - Manufactured from High Temperature Viton Material.
  - PACKAGED 16 PER CARD

**Severe Service (SVR) Valve Stem Seals:** Manufactured from a proprietary, high temperature resistant Polymer material. These positive type valve stem seals are impervious to racing fuels and alcohol.

OTHER FEATURES INCLUDE:

- Improved valve stem to seal clearance insures the proper amount of oil flow to the guide which makes them ideal for street use.
- Seals are color coded for easy identification.
- PACKAGED 16 PER CARD

ALL TEFLON



**SEVERE SERVICE (SVR)  
VALVE STEM SEAL**

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

PIONEER NUMBER	STEM DIAMETER	GUIDE DIAMETER	TYPE	- TOOLS -	
				CUTTER	PILOT
811001	.343	.530	Teflon	890001	890003
811002	.375	.530	Teflon	890001	890004
811003	.343	.500	Teflon	890002	890003
811004	.375	.500	Teflon	890002	890004
811005	.343	.530	Viton	890002	890003
811006 (Red)	.343	.500	SVR	890002	890003
811007 (Orange)	.343	.530	SVR	890001	890003
811008 (Lt. Blue)	.375	.530	SVR	890001	890004

(Product Section - Continued on next page)

## VALVE LIFTERS

812

One of the engine's most precise components, Pioneer Performance valve lifters are manufactured to O.E. specifications to ensure proper lifter operation, and have outside diameters precision ground within .0005. The reason: A valve lifter must function under high loads for extended periods of time and within a temperature range of -40°F to +300°F, all with little or no maintenance.

Valve lifters have a spherical radius on the camface to ensure lifter rotation. Quality valve lifters virtually never wear out -- but they do "wear in." In other words, the slightly convex face and surface of the cam it rides on will develop a distinctive mating wear pattern. For this reason, it is important to replace new lifters whenever installing a new or reground cam.



Depending on valve train design, we recommend one of these types of Pioneer Performance valve lifters:

- **Mechanical Lifter** – Used for pre-1960 automotive engine applications and now used in a variety of high-performance valve trains. Mechanical lifters require periodic adjustment to compensate for valve train wear.
- **Standard Hydraulic Lifter** – Used since the mid-1950's, this design effectively maintains constant lash-free, metal-to-metal contact throughout the valve train and does not require periodic adjustment.
- **High-Performance (Anti-Pump Up) Hydraulic Lifter** – This type of valve lifter operates effectively at high engine speeds and provides quiet, efficient operation for normal driving.

(PACKAGED 4 PER BOX)

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS						
PIONEER NO. HYD.	PIONEER NO. ANTI-PUMP UP	PIONEER NO. MECH.	MAKE	ENGINE	CYL.	YEAR
			<b>CHEVROLET</b>			
812002	*812003	812026		200, 90°	V6	1978-79
812002	*812003	812026		229, 90°	V6	1980-84
812002	*812003	812026		230	L6	1963-70
812002	*812003	812026		250	L6	1966-79
812002	*812003	812026	(Except O.E. Roller)	262Z	V6	1985-97
812002	*812003	812026		283	V8	1957-67
812002	*812003	812026		302	V8	1967-69
812002	*812003	812026	(Except O.E. Roller)	305	V8	1976-97
812002	*812003	812026		307	V8	1968-73
812002	*812003	812026		327	V8	1962-69
812002	*812003	812026	(Except O.E. Roller)	350	V8	1967-98
812002	*812003	812026		396	V8	1965-70
812002	*812003	812026		400	V8	1970-76
812002	*812003	812026		427	V8	1966-96
812002	*812003	812026		454	V8	1970-97

\* ANTI-PUMP UP LIFTERS MUST BE USED WITH ADJUSTABLE VALVE TRAIN.

**NOTE:** For a complete listing of Valve Lifters, See Pioneer's Engine Product Catalog.

(Product Section - Continued on next page)

## VALVE GUIDES

813

Pioneer Performance gives you a choice of 2 types of high-quality replacement Valve Guides.



Valve Guides are machined fit according to proper I.D., O.D. and length.

#### Cast Iron Guide with Spiraled I.D. –

Designed for the economy minded, this design retains oil for proper lubrication of the valve stem.

#### Manganese Bronze Valve Guide –

Simply the best anti-seize, low-friction valve guide available. With today's engines consistently running at elevated temperatures and burning unleaded fuel, you need the self-lubricating protection this valve guide provides.

(PACKAGED 4/BOX)

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

PIONEER NUMBER	I.D.	O.D.	LENGTH	TYPE
813001	.343	.502	2-1/4"	Cast Iron/Spiraled I.D.
813002	.343	.502	2-3/8"	Cast Iron/Spiraled I.D.
813004	.373	.502	2-5/8"	Cast Iron/Spiraled I.D.
813005	.373	.502	2-3/8"	Cast Iron/Spiraled I.D.
813102	.343	.502	2-3/8"	Manganese-Bronze
813104	.373	.502	2-5/8"	Manganese-Bronze
813105	.373	.502	2-3/8"	Manganese-Bronze
813106	.343	.502	2-1/2"	Manganese-Bronze
813108	.343	.502	2-1/8"	Manganese-Bronze
813109	.3735	.625	2-27/64"	Manganese-Bronze
813110	.374	.6205	2-9/16"	Manganese-Bronze

## VALVE SEATS

814



Pioneer Performance High-Chrome Valve Seats are made from a special alloy for maximum hardness and long-term durability. With leaded fuel about nonexistent, hardened valve seats are a must – especially for older engines that must now run on unleaded fuel.

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

PIONEER NUMBER	I.D.	O.D.	DEPTH	SEAT ANGLE	COUNTER BORE SIZE
814004	1.375	1.625	.2187	45°	1.625
814010	1.4375 1.3125	1.6875	.2187	45°	1.687
814030	1.375	1.5625	.250	45°	1.562

These four part numbers are for exhaust only and fit the popular G.M. and Ford Cylinder heads. For a complete listing of high-chrome valve seats see Pioneer Engine Parts Catalog.

(PACKAGED 4/BOX)

(Product Section - Continued on next page)

## PUSH RODS

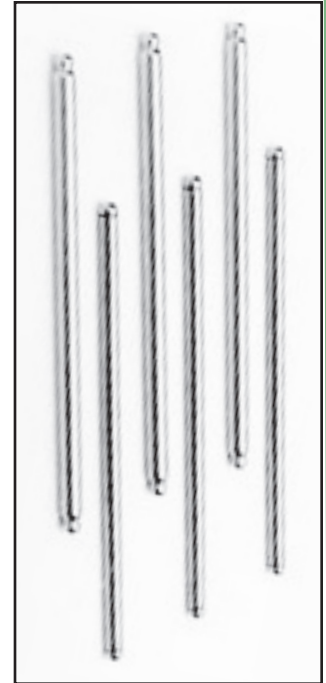
815

### O.E. REPLACEMENT TYPE:

Manufactured from 1010 steel tubing, these O.E. Replacement Push Rods are perfect for a stock rebuild or for mild performance applications where open spring pressures do not exceed 300 Lbs. Most applications are hardened for use with guide plates. Skin Packaged and affordably priced.

(SKIN PACKAGED 16/CARD)

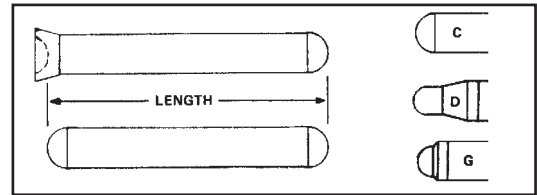
SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS			
PIONEER NUMBER	APPLICATION	DIA.	OVER-ALL LENGTH
815192	Chevrolet 200-262Z, 283-400 Except Factory Roller-Hardened	5/16"	7.894
815193	Chevrolet 262Z V6, 305-350 w/Factory Roller-Hardened	5/16"	7.195
815194	Chevrolet 200-262Z V6, 283-400, Except Factory Roller - Hardened	5/16"	7.794
815195	Chevrolet 396-454, Except Heavy Duty Truck - Hardened	5/16"	8.280 (Int.) 9.252 (Exh.)
815196	Ford 302, Before Chg. L-4, Hardened	5/16"	6.804
815197	Ford 302, After Chg. L-4, Except Factory Roller	5/16"	6.876
815199	Ford 351W, 1969-78 - Hardened	5/16"	8.152



### CHROME-MOLY STOCK REPLACEMENT TYPE:

Dimensionally identical to O.E. specifications, Pioneer Performance stock replacement push rods are made from 4130 seamless **chrome-molybdenum** material and properly heat treated for use with guide plates. The result: A strong and rigid part that provides reliability at an economical price.

(PACKAGED 4/BOX)



SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS				
PIONEER NUMBER	TYPE & ENDS	DIA.	LGTH.	APPLICATION
815200	G & G	3/8"	8.280	Big Block Chevrolet - 396, 427, 454 (Int.)
815201	G & G	3/8"	9.252	Big Block Chevrolet - 396, 427, 454 (Exh.)
815203	D & D	7/16"	8.280	Big Block Chevrolet - 396, 427, 454 (Int.)
815204	D & D	7/16"	9.252	Big Block Chevrolet - 396, 427, 454 (Exh.)
815205	C & C	5/16"	7.794	Chevrolet - 200, 229, 262Z 90° V6; 283, 302, 305, 307, 327, 350, 400 (Except Factory Roller)
815206	C & C	5/16"	8.144	Ford - 351W (Except Stamped Steel Rocker Arms)
815207	C & C	5/16"	6.886	Ford - 302 (After Chg. L-4) (Exc. Factory Roller Lifter)
815208	C & C	5/16"	7.513	Chrysler - 318, 340, 360
815209	C & C	5/16"	6.776	Ford - 302 (Before Chg. L-4)
815210	D & D	3/8"	8.680	Chevrolet - 427 Truck (Int.)
815211	G & G	3/8"	9.652	Chevrolet - 427 Truck (Exh.)
815214	C & C	5/16"	8.693	Buick - 231 V6 (Except 1986 "3" Engine)
815215	C & C	5/16"	7.894	Chevrolet- 200, 229, 262Z 90° V6; 283, 302, 305, 307, 327, 350, 400 (+.100) (Except Factory Roller)
815216	C & C	3/8"	7.794	Chevrolet - 200, 229, 262Z 90° V6; 283, 302, 305, 307, 327, 350, 400 (Except Factory Roller)
815218	G & G	3/8"	7.635	Big Block Chevrolet - 454HO-502 w/factory roller camshaft (intake)
815219	G & G	3/8"	8.595	Big Block Chevrolet - 454HO-502 w/factory roller camshaft (exhaust)

(SEE PIONEER PERFORMANCE TECHFORUM V3.3 FOR FURTHER TECHNICAL INFORMATION)

(Product Section - Continued on next page)



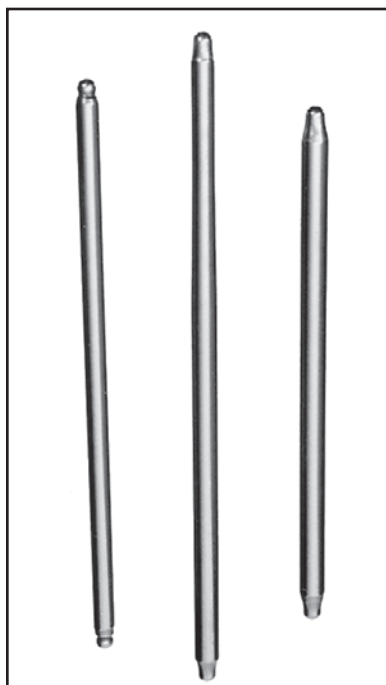
## 210° RADIUS PUSH RODS

815

For years, push rods have used less-efficient 180° radius ends. Pioneer's Performance 210° radius 1-piece push rod provides greater rocker arm clearance and allows higher lift from the same valve train.

- Formed from 4130 seamless chrome-moly tubing and hardened to a Rockwell C59-62, with a wall thickness of .065".
- Available in 5/16" and 3/8" diameters.
- Compatible with Guide Plates.

*See Pioneer Performance TechForum V3.3 for further technical information.*



(PACKAGED 4 PER BOX)

### ONE-PIECE PUSH ROD KIT

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

#### DIMENSIONS — .065 WALL THICKNESS

PIONEER NUMBER	DIAMETER	OVER ALL LENGTH	APPLICATION
815007	5/16"	7.800	Chevrolet Small Block
815008	5/16"	7.850	Chevrolet Small Block
815009	5/16"	7.900	Chevrolet Small Block
815010	5/16"	7.950	Chevrolet Small Block
815026	3/8"	8.680	Chevrolet Big Block
815027	3/8"	9.650	Chevrolet Big Block

## VALVE STEM LASH CAP

816

For added insurance against valve stem tip wear in racing applications, use Pioneer Performance Valve Lash Caps. A must when roller tip rockers cannot be used, these hardened caps are precision machined for an excellent fit with Pioneer Performance valves and feature a small hole in the center of the cap for ease of removal. Valve lash caps can also be used to extend Valve Stem Lengths to obtain proper rocker arm geometry.

(PACKAGED 16/CARD)



SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

PIONEER NUMBER	APPLICATION
816180	Valve Stem Lash Cap - 11/32" Stem, .080" Thick

(Product Section - Continued on next page)

## VALVE LOCKS

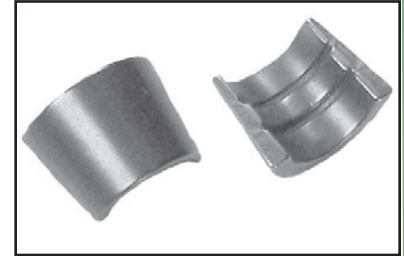
## 816

### Pioneer Performance offers 3 types of Valve Locks:

**O.E. 7° Type Lock** – This valve lock is stamped to meet all O.E. specifications, then the parts are case hardened. Recommended for stock and mild performance applications.

**Super Duty 7° Valve Lock** – Our best 7° valve lock is not stamped, but machined from high-grade steel and case hardened to a depth of .010" to .015". *Recommended for severe duty applications with higher spring pressures.*

**10° Valve Lock** – Pioneer's Performance 10° Valve Lock is to be used with our 10° retainer. This lock is machined (not stamped) from high grade steel, case hardened and features a recess for a lash cap if desired. *Recommended for severe duty applications with higher spring pressures.*



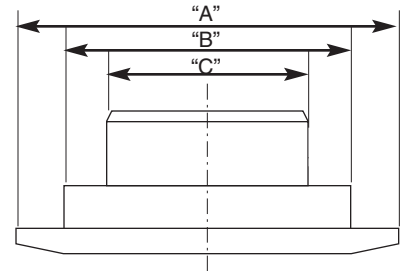
SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS			
PIONEER NUMBER	STD. PKG. PAIR/CARD	TYPE	APPLICATION
816001	8	3/8" 2-Groove - O.E. 7°	Chrysler w/O.E. Valves, Black Oxide
816002	16	11/32" Single Groove - O.E. 7°	GM, Ford, Black Oxide
816003	16	3/8" Single Groove - O.E. 7°	Chrysler, GM, Ford, Black Oxide
816004	8	3/8" 4-Groove - O.E. 7°	Chrysler w/O.E. Valves, Black Oxide
816005	16	11/32" 4-Groove - O.E. 7°	Ford w/O.E. Valves, Black Oxide
816141	16	3/8" Single Groove - Super Duty 7°	Machined, Chry., G.M., Ford, Machined Finish
816142	16	3/8" Single Groove - Super Duty 7°	Machined, Chry., G.M., w/817107 Retainer, Black Oxide
816171	16	11/32" Single Groove - Super Duty 7°	Machined, GM, Ford, Machined Finish
816175	16	11/32" Single Groove 10°	Machined, GM, Ford, Black Oxide
816176	16	.313" (8mm ) Single Groove	Machined, GM, LS1 w/Stock Valve Stem Dia. and Angle

## VALVE SPRING RETAINERS

## 817

**7° Valve Spring Retainers** - Manufactured from high-quality 4140 bar stock. They are heat treated to Rockwell C38-42 and given our distinctive black oxide finish for maximum corrosion protection.

**10° Valve Spring Retainers** - Due to many racers' request, we now offer a precision manufactured 10° retainer for higher valve spring pressures and endurance racing applications. 10° retainers tend to spread the working stress of the retainer/lock assembly over a larger area and prevent the valve lock from pulling through the retainer as is sometimes the case with the conventional 7° design. This 10° retainer is manufactured from high-quality 4140 bar stock steel, heated treated to Rockwell C38-42 and is black oxidized for maximum corrosion protection. (PACKAGED 16/CARD)



SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

Footnotes:	PIONEER NUMBER	"A"	"B"	"C"	VALVE STEM DIAMETER	APPLICATION
(1)	817100	1.240"	.865"	.680"	11/32"	Buick 231; Chevy L6, V6, S.B. V8 -7°
(3)	817102	1.375"	1.060"	.675"	11/32"	Chevy S.B. V8; Ford S.B. & B.B. V8; Ford 2.3L, Olds V8; Pontiac 4 Cyl. (151) & V8 -7°
	817103	1.375"	1.060"	.675"	3/8"	Chrysler S.B. V8-7°
(4)	817104	1.375"	1.075"	.792"	11/32"	Chevy S.B. V8; Ford 2.3L + S.B. V8 -7°
(5)	817105	1.375"	1.075"	.792"	3/8"	Chevy B.B. V8; Chrysler S.B. & B.B. V8 -7°
(6)	817106	1.500"	1.135"	.635"	3/8"	Chrysler B.B. V8 -7°
(7) (8)	817107	1.500"	1.135"	.725"	3/8"	Chevy B.B. V8; Chrysler B.B. V8 -7°
(9)	817108	1.125"	.855"	.640"	11/32"	Buick 231; Chevy L6, V6, S.B. V8 -7°
	817109	1.030"	.650"	n/a	.313 (8mm)	Chevy LS1
(4)	817110	1.400"	1.060"	.690"	11/32"	Chevy S.B. V8; Ford S.B. V8 -10°
(1)	817111	1.030"	.640"	n/a	11/32"	Chevy S.B.V8 Vortek w/810109 valve spring -7°

- |   |   |   |
|---|---|---|
| (1) 1.700" Installed Height                   | (4) .100" Taller Installed Height than 817100 | (7) .180" Taller Installed Height than 817103 |
| (2) 1.625" Installed Height                   | (5) .100" Taller Installed Height than 817103 | (8) Must use 816142 Valve Locks               |
| (3) .040" Taller Installed Height than 817100 | (6) .110" Taller Installed Height than 817103 | (9) .075" Taller Installed Height than 817100 |

## ROCKER ARM KITS

818

*Long Slot Rocker Arm Kits come complete with self-locking nuts and grooved rocker balls. Perfect for street/strip or oval track engines where rules prohibit roller rockers.*

**Long Slot Rocker Arm (Stamped Steel)** – Heat treated for strength and reliability, long slots provide rocker to stud clearance when using higher lift camshafts. Small Block Chevy is available with 1.5 and 1.6 ratios and Big Block Chevy is available with the extra long slot. (Similar to G.M. # 3959182 for max .600 valve lift)

**818016 & 818017 - Long Slot Rocker Arms for Small Block Chevrolet – Accepts 7/16" Dia. Rocker Stud / Heat Treated Stamped Steel Construction / Available in 1.5 or 1.6 Ratio**

With most claimer rules prohibiting the use of roller rocker arms, racers are constantly looking for a better O.E. style rocker that will handle the higher valve lifts and r.p.m.'s. For the Small Block Chevy the weak link seems to be the 3/8" dia. rocker stud that will not hold up. Because stud girdles are sometimes disallowed some racers are installing "beefier" 7/16" rocker studs and machining the stock rocker and ball to accept the 7/16" stud. This is a time consuming task and is not always performed to precision specifications which can cause rocker arm galling and possibly greater damage to the engine. These new stamped steel rocker arm kits feature rockers and balls that are precisely engineered at the factory to accept a 7/16" dia. rocker stud without any machining. The rocker arms are special heat treated for endurance and have long slots for increased net valve lift. Hardened grooved rocker balls and self-locking nuts are included.

*NOTE: Due to the intended use and material limitations, these parts are not warrantied after installation. Recommended maximum spring pressure is 350 lbs. Always insure adequate oil pressure to the top end for extended rocker and spring life.*



LONG SLOT

**Part No. 818021 is a direct replacement kit for the Generation V and VI Big Block Chevy w/long slots**

Packaged 4 Rockers/ Balls Nuts Per Card

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

PIONEER NUMBER	DESCRIPTION	STUD	RATIO	(FOOTNOTES)
818001	Long Slot - Chevy 200-262Z V6, 283-400 (Prior to 1988) Non-Self Aligning	3/8"	1.5	①
818002	Long Slot - Chevy 396-454 (Prior to 1991) w/Adj. Rockers	7/16"	1.7	②
818015	Long Slot - Chevy 200-262Z V6, 283-400 (Prior to 1988) Non-Self Aligning	3/8"	1.6	①⑥
818016	Long Slot - Chevy 200-262Z V6, 283-400 (Prior to 1988) Non-Self Aligning	7/16"	1.5	①
818017	Long Slot - Chevy 200-262Z V6, 283-400 (Prior to 1988) Non-Self Aligning	7/16"	1.6	①⑥
818019	Chevy 262Z V6, 305/350 (1988-98) Self Aligning	3/8"	1.5	
818020	Chevy 262Z V6, 305/350 (1988-98) Self Aligning	3/8"	1.6	⑥
818021	Chevy 454 (1991 and later)	3/8' bolt	1.7	

**FOOTNOTES:**

- ① INSTALLATION FOR CYL. HEADS W/SELF ALIGNING ROCKERS REQUIRE HEAT TREATED PUSH RODS AND GUIDE PLATES.  
 ② INSTALLATION IN 1991 & UP, CYL. HEADS REQUIRE 7/16" SCREW IN ROCKER STUDS AND GUIDE PLATES.  
 ⑥ CHECK FOR PUSH ROD CLEARANCE.

**RUSS MILEY**

**NHRA SUPER STOCK**



(Product Section - Continued on next page)

## HARDENED VALVE SPRING INSERTS / ADJUSTERS

**819**

Pioneer Performance offers a wide range of diameters and thicknesses in this product line. All inserts are serrated for better contact between the spring insert and the spring seat. Our .030" and .060" inserts are case hardened to a depth of .006" to .008" and are colored blue for easy identification. Our .015" inserts are manufactured from pre-tempered blue steel.

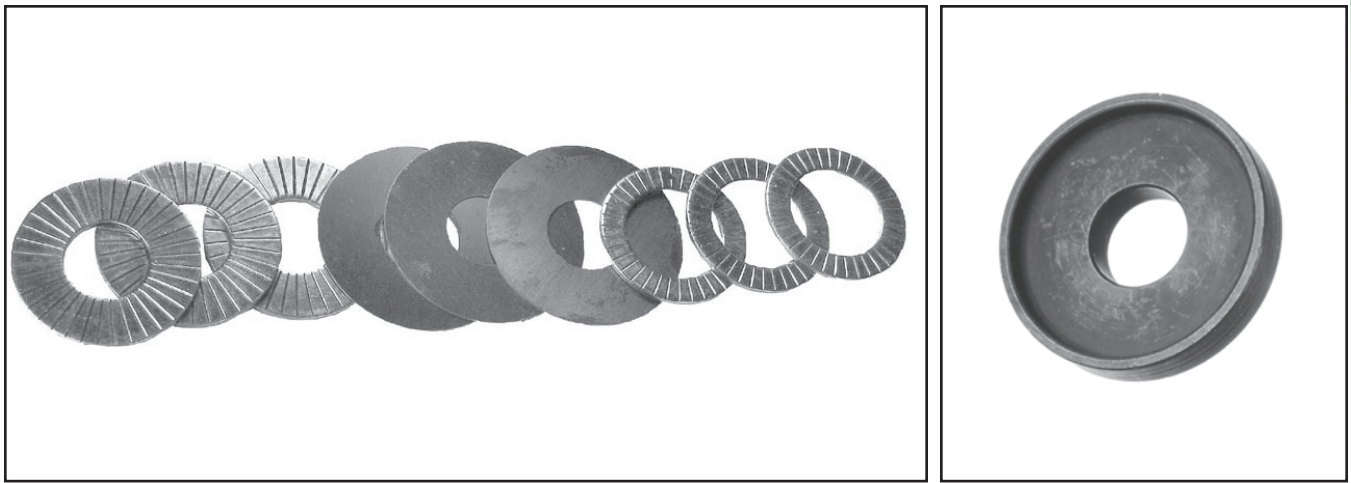
(PACKAGED 16/CARD)

**Part Numbers 819018, 819019, 819021 and 819022** are hardened cup type inserts for preventing valve spring walk.

(PACKAGED 16/CARD)

**Part Number 819020** Spring Seat Spacer is designed to prevent excessive shimming when eliminating the exhaust valve rotators on the late model Big Block Chevrolet. Hardened spacer is .300 thick, fits the stock spring pocket and locates the outer spring with an outer step to prevent "spring walk".

(PACKAGED 8/CARD)



SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

PIONEER NUMBER	O.D.	I.D.	THICKNESS	APPLICATION
819001	1.250"	.812"	.060"	Buick, Chevrolet
819002	1.250"	.812"	.030"	Buick, Chevrolet
819003	1.250"	.812"	.015"	Buick, Chevrolet
819007	1.437"	.645"	.060"	Chevrolet, Chrysler, Ford
819008	1.437"	.645"	.030"	Chevrolet, Chrysler, Ford
819009	1.437"	.645"	.015"	Chevrolet, Chrysler, Ford
819010	1.480"	.703"	.060"	Chevrolet, Chrysler, Olds., Pontiac
819011	1.480"	.703"	.030"	Chevrolet, Chrysler, Olds., Pontiac
819012	1.480"	.703"	.015"	Chevrolet, Chrysler, Olds., Pontiac
819013	1.500"	.645"	.060"	Chevrolet, Chrysler
819014	1.500"	.645"	.030"	Chevrolet, Chrysler
819015	1.500"	.645"	.015"	Chevrolet, Chrysler
819016	1.640"	.635"	.015"	Chevrolet, Chrysler, Ford
* 819018	1.520" (Cup O.D. 1.640)	1.031"	.060"	Chevrolet, Chrysler
* 819019	1.530" (Cup O.D. 1.650)	.645"	.060"	Chevrolet, Chrysler
* 819020	1.520"	.625"	.300"	Chevrolet 396-454
* 819021	1.460" (Cup O.D. 1.617)	.565"	.060"	Chevrolet, Ford
* 819022	1.550" (Cup O.D. 1.697)	.565"	.060"	Chevrolet

\* Hardened cup type insert, prevents valve spring walk.

(Product Section - Continued on next page)



## STAINLESS STEEL VALVES

820

Pioneer Performance intake and exhaust valves are made of 1-piece forged 21-4N stainless steel, an excellent material for high temperature and corrosion resistance. A special heat treating procedure is used for maximum strength and hardness.

To ensure long life of the valves under extreme heat conditions, we apply Stellite to the tip for high wear resistance. The valve stem is hard chromed to further reduce friction and wear, single grooved for added strength, and the valve head is swirl-polished for efficient flow of gases in and out of the cylinder combustion chamber. Only after the final critical quality inspection process do our stainless steel valves earn the name Pioneer Performance Products. (See *Pioneer Performance TechForum V3.2* for further technical information)

(PACKAGED 1 PER BOX)



**Note:** Part Numbers 820320 through 820327 have undercut valve stems which reduces weight and increases fuel/air flow.

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

## - DIMENSIONS -

PIONEER NUMBER	INTAKE/ EXHAUST	HEAD DIA.	STEM DIA.	OVER ALL LENGTH	TIP LENGTH	HEAD/ANGLE RADIUS	MARGIN	SEAT	APPLICATION
820108	Intake	2.06	.371	5.220	.220	12° x 3/8	.060	.100	Chevrolet - 396, 427
820110	Intake	2.19	.371	5.220	.220	12° x 3/8	.070	.110	Chevrolet - 454
820112	Exhaust	1.725	.371	5.374	.220	12° x 3/8	.090	.150	Chevrolet - 396, 427
820114	Exhaust	1.88	.371	5.355	.220	12° x 3/8	.090	.150	Chevrolet - 454
820116	Intake	2.07	.341	4.689	.250	12° x 3/8	.060	.100	Oldsmobile - 350R, 403, 455
820118	Exhaust	1.71	.341	4.701	.250	12° x 3/8	.090	.150	Oldsmobile - 350R, 403, 455
820120	Intake	1.72	.341	4.911	.250	12° x 3/8	.060	.100	Chevrolet - 230, 250, 283, 307
820200	Intake	2.02	.371	4.981	.250	11° x 3/8	.050	.100	Chrysler - 340, 360
820204	Intake	2.08	.371	4.880	.280	12° x 3/8	.060	.100	Chrysler - 400, 440
820206	Exhaust	1.74	.371	4.870	.280	12° x 3/8	.090	.150	Chrysler - 400, 440
* 820300	Intake	1.78	.341	4.855	.250	12° x 3/8	.060	.100	Ford - 302, 351W
* 820302	Exhaust	1.46	.341	4.862	.250	12° x 3/8	.090	.150	Ford - 302, 351W
820304	Intake	2.19	.341	5.236	.280	12° x 3/8	.070	.110	Ford - 351C, 351M, 400
820308	Intake	2.24	.341	5.276	.280	12° x 3/8	.070	.110	Ford - 429, 460
820320	Intake	2.02	.341	4.910	.250	12° x 3/8	.050	.100	Chevrolet-262Z, 302, 327, 350, 400
** 820321	Intake	2.02	.341	5.010	.250	12° x 3/8	.050	.100	Chevrolet-262Z, 302, 327, 350, 400
820322	Intake	2.05	.341	4.910	.250	12° x 3/8	.050	.100	Chevrolet-262Z, 302, 327, 350, 400
820326	Exhaust	1.60	.341	4.930	.280	12° x 3/8	.070	.100	Chevrolet-262Z, 302, 327, 350, 400

\* Use w/Non Rail Adjustable Rockers ONLY

\*\* +.100 Longer than Stock Length

(Product Section - Continued on next page)

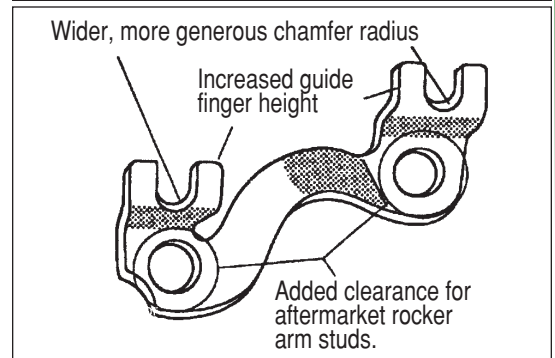
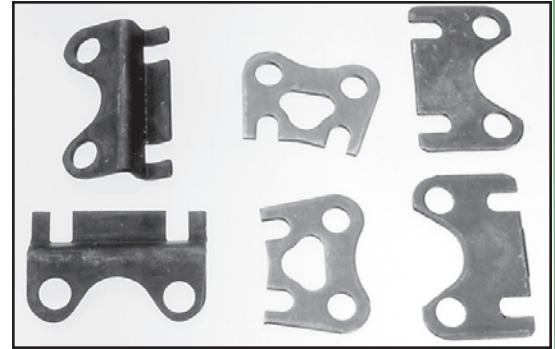


## PUSH ROD GUIDE PLATES

821

Designed to reduce flexing and help stabilize the push rod and rocker arm, Pioneer Performance Guide Plates are formed from high grade steel, heat treated to a Rockwell C-57 and black oxide coated for corrosion protection.

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS				
PIONEER NUMBER	STD. PKG.	TYPE	APPLICATION	PUSH ROD DIAMETER
821001	6/CD	Flat	Chevy - V6 173	5/16"
821002	8/CD	Flat	Chevy - 90° V6, S.B. V8	5/16"
821004	8/CD	Step	Chevy - 90° V6, S.B. V8	5/16"
821005	8/CD	Step	Chevy - 90° V6, S.B. V8	3/8"
821006	8/CD	Flat	Ford - 302-351W	5/16"
821007	8/CD	Flat	Ford - 302-351W	3/8"
821008	8/CD	Step	Chevy - B.B. V8	3/8"
821009	8/CD	Step	Chevy - B.B. V8	7/16"



## ROCKER ARM BALLS

822



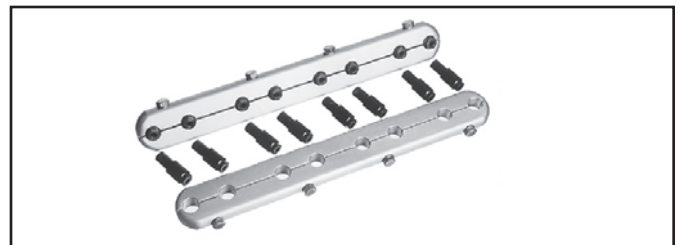
Manufactured from materials that meet or exceed O.E. requirements to prevent galling and increase the life of the rocker arms. Pioneer Performance Rocker Arm Balls are grooved for greater oil flow and retention, and heat treated.

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS			
PIONEER NUMBER	STD. PKG.	DESCRIPTION	APPLICATION
822001	16/CD	Grooved Ball	Chevy - 90° V6 & S.B. V8 w/ 3/8 Rocker stud
822002	16/CD	Grooved Ball	Chevy - B.B. V8, Prior to 1991w/ 7/16 Rocker stud
822005	16/CD	Grooved Ball	Pontiac - 400, 455, w/ Ram Air w/ 7/16 Rocker stud

## ROCKER STUD GIRDLE

823

Manufactured from 6061-T6 extruded aluminum and cnc machined for a perfect fit, rocker stud girdles prevent rocker stud deflection and loss of lift at the valve. Rocker arm adjustment stays "dead on". Two piece bars are spring loaded and heat treated posi-locks and bar adjuster bolts feature a 9/16" hex for ease of adjustment with one wrench. Available in 3/8" stud size for Small Block Chevy with O.E. design heads and standard rocker stud spacing.



SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

PIONEER NO.	APPLICATION
823001	CHEVROLET – V8, 283-400 w/O.E. design heads and standard rocker stud spacing for 3/8" studs. Packaged 1 Set/Engine w/16 Posi-Locks. Requires "taller" valve covers for clearance.

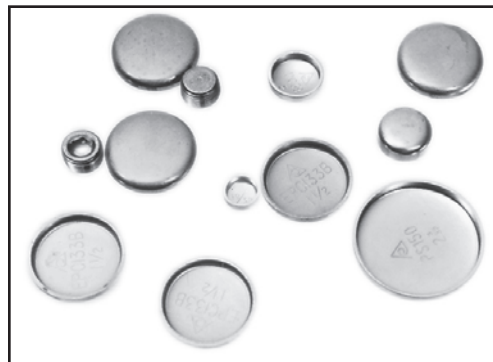
## BRASS EXPANSION PLUG KITS

830

Custom designed for each short block application, Pioneer Performance Plug Kits include oil galley plugs, a camshaft plug, pipe plugs and brass water jacket plugs (for superior corrosion protection).

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS		
PIONEER NUMBER	MATERIAL	APPLICATION
830001	Brass	Chevrolet 1957-98 All Small Block exc. 400
830002	Brass	Chevrolet 1965-90, All Big Block
830004	Brass	Ford 1968-97, 302, 351W
830005	Brass	Ford 1970-81, 351C, 351M, 400
830006	Brass	Ford 1961-76, 390
830007	Brass	Chrysler, Dodge 1957-91, 318, 340, 360
830008	Brass	Chrysler, Dodge 1966-78, 400, 440
830009	Brass	Pontiac 1967-79, 350P, 400, 455
830011	Brass	Oldsmobile 1968-82, 260, 350R, 403, 455
830012	Brass	Ford 1968-78, 429, 460
830017	Brass	Chevrolet 1970-76, 400
830019	Brass	Chevrolet 1991-97, All Big Block

All are skin packed for convenience.



## HARMONIC BALANCER REPAIR SLEEVES

835

Stop oil leakage at the harmonic balancer because of a worn crankshaft hub with Pioneer Performance Repair Sleeves. Eliminates the need to replace an expensive O.E. or aftermarket balancer. Easily installed in minutes.

Easily installed in minutes>

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS				
PIONEER NUMBER	APPLICATION	STD. PKG.	INSIDE DIAMETER	OVERALL LENGTH
835010	Ford - 351C, M, 390, 400	1/CD	1.873 1.871	.930 .910
835011	Chevy S.B. V8	1/CD	1.759 1.757	.850 .830
835013	Chevy B.B. V8	1/CD	2.330 2.328	.800 .780



## HIGH VOLUME / PRESSURE OIL PUMP

836

Pioneer Performance High Volume/Pressure Oil Pump is specially designed and manufactured for high performance engines requiring superior lubrication in all critical areas. Features include: All port sizes are matched to maximize oil flow output; heat treated cast gears are precision machined and matched to maximize volumetric efficiency; every oil pump is 100% pressure tested following assembly.

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS		
PIONEER NUMBER	APPLICATION	ADDITIONAL VOLUME PROVIDED
* 836021	Chevrolet, V6 90°, Small Block V8	25%

\* Increased pressure, includes screen assembly, may require oil pan modification.

## OIL PUMP SCREEN

**837**

Same quality standards as Pioneer Performance Oil Pumps.

100% Quality Inspected.

PACKAGED 1/BOX

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS	
PIONEER NUMBER	APPLICATION
<b>837012</b>	Chevrolet, V6 90°, Small Block V8

## OIL PUMP INTERMEDIATE SHAFTS

**838**

Manufactured from high strength steel for maximum strength and durability. With steel shaft guide

PACKAGED 1/BOX

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS	
PIONEER NUMBER	APPLICATION
<b>838005</b>	Chevrolet, V6 90°, Small Block V8
<b>838013</b>	Chevrolet, Big Block V8

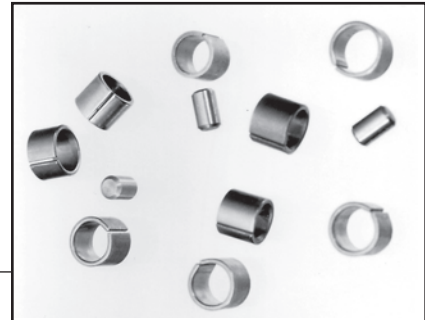
*For a complete listing of Oil Pumps, Screens and Shafts, See Pioneer's Engine Parts Catalog.*

## DOWEL PINS

**839**

After the block has been surfaced, replace the original Dowel Pins with precision manufactured Pioneer Performance Dowel Pins.

(PACKAGED 4/CARD)



SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS					
PIONEER NUMBER	LGTH.	O.D.	I.D.	TYPE	APPLICATION
<b>839001</b>	3/4"	43/64"	.598	Split	Ford - 1974-94, 140 (2.3L), Head to Block
<b>839002</b>	.431	3/4"	5/8"	Split	Ford - 1961-71, 390; 1968-78, 429-460 - Head to Block
<b>839003</b>	7/16"	.676	.6215	Split	Ford - 1968-97, 302, 351C, M, W - Head to Block
<b>839004</b>	1/2"	5/16"	N/A	Solid	Chevrolet 1957-98, 230-400; Pontiac 1968-77, 350 - Head to Block
<b>839005</b>	1/2"	5/8"	1/2"	Split	Chevrolet 1997-08, 350 LS1, 1965-97, 396-454 - Head to Block
<b>839006</b>	1/2"	39/64"	31/64"	Split	Chevrolet 1980-92, 173 (2.8L) - Head to Block
<b>839047</b>	5/8"	1/4"	N/A	Solid	Chevrolet 1957-98, 283-454 - Cam Sprocket Dowel (Pkg. 1/Card)
<b>839059</b>	.626	.245	N/A	Solid	Chevrolet 1957-98, 283-454 1965-97 396-454 -Timing Cover(Pkg.2/Cd)

## DISTRIBUTOR TOWER SHAFT BUSHING

**839**

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS	
PIONEER NUMBER	DESCRIPTION (PACKAGED 1/CARD)
<b>839007</b>	Manufactured from Bronze Material Replaces Chrysler #2863584, 318-440



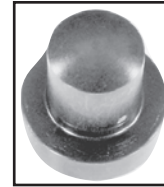
*(Product Section - Continued on next page)*

## CAMSHAFT THRUST BUTTONS

839

Control camshaft "walk" with Pioneer's precision machined aluminum Cam Button. NEW! Heavy duty roller Cam Buttons incorporate needle bearings to further reduce friction and to control "camshaft walk" which robs horsepower.

(PACKAGED 1/CARD)



SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

PIONEER NUMBER	DESCRIPTION	LENGTH
839008	Buick 231 (1975-97) Late Model Steel Roller Type (Replaces GM #25532588)	
839028	Small Block & 90° V6 Chevrolet w/late model, flat timing cover	.670
839029	Small & Big Block & 90° V6 Chevrolet w/early model, .tall ribbed timing cover	.850
839038	Small Block & 90° V6 Chevrolet - Roller Type	.795
839039	Big Block Chevrolet - Roller Type	.945

NOTE: Stock cam gears may require slight machining of I.D. in center hole. Always maintain between .005 & .008 of camshaft end play.

## WOODRUFF KEYS

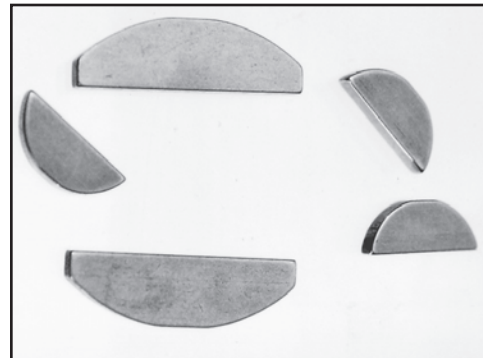
839

Pioneer Performance Woodruff Keys replace O.E. keys and are heat treated to minimize wear.

(PACKAGED 2 /CARD)

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

PIONEER NO.	DESC.	SIZE	APPLICATION
839009	Short	3/16" x 3/4"	Buick-1975-97, 231 Chevrolet -1957-97, 173-454
839010	Long	3/16" x 1-3/8"	Chevrolet -1957-97, 200-454 Chrysler - 1957-91, 318-440 Pontiac - 1968-81, 301-455
839011	Narrow	3/16" x 1-3/4"	Ford -1969-97, 351M, W, 400
839012	Wide	3/16" x 1-3/4"	Ford -1961-78, 390, 460
839048		3/16" x 1-13/32"	Ford -1968-97, 302
NEW! 839065	Short	3/16" x 23/32"	Chevrolet 1993-97, 350 LT1 / LS1



## BRONZE DISTRIBUTOR GEARS

839

Pioneer Performance Bronze Distributor Gears are precision machined from high silicon copper alloy for a perfect match to your cam gear. Recommended when using a steel billet camshaft as O.E. gears are not compatible and may cause engine failure.

(PACKAGED 1 KIT/CARD)

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

PIONEER NUMBER	APPLICATION
839013	Chevrolet - 200-262Z 90° V6, All V8 (.500 Dia. Shaft)
839014	Chevrolet - 200-262Z 90° V6, All V8 w/O.E. .491 Dia. Shaft
839016	Ford - 351C, 351M, 400, 429, 460 (.530 Dia. Shaft)
839017	Ford - 351C, 351M, 400, 429, 460 (.500 Dia. Shaft)
839026	Ford - 302, Boss, 351W (.500 Dia. Shaft)
839027	Ford - 302, 351W, SVO (.530 Dia. Shaft)



(Product Section - Continued on next page)

4-BOLT MAIN CAP CONVERSIONS

839

**High Performance engines require rock solid bottom-end support.**

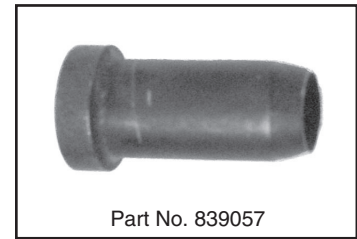
Pioneer Performance Main Caps provide this kind of stability where it's needed most. We select a low carbon 1010 steel material that has excellent machining capabilities yet has high ductility and elasticity to absorb shock loads from the crank and main bearings.



Recommended for mild Performance Applications.

ALL CAPS FEATURE:

- CNC Machined from Premium 1010 Steel Billet Material
- Annealing Process adds strength and low surface tension/hardness which provides ease of machining during installation.
- Caps are Black Oxided for a professional appearance.
- Block will require align boring after installation.
- **One Kit Includes: 3 Center Caps, Fasteners and Drill Bushing to aid installation.**



Part No. 839057

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS	
PIONEER NO.	APPLICATION
* 839020	350 Chevrolet - 4-Bolt 2.45 Journal - Original G.M. / Replacement Main Cap (3 Center Caps)
839021	350 Chevrolet - Large 2.45 - Converts Main Cap from 2-Bolt to 4-Bolt
839022	350 Chevrolet - Large 2.45 - Converts Main Cap from 2-Bolt to 4-Bolt, 22° Bolt Angle for added strength and to prevent "main cap walk"
839023	400 Chevrolet - Converts Main Cap from 2-Bolt to 4-Bolt, 18° Bolt Angle for added strength and to prevent "main cap walk"
839056	396-454 Chevrolet - 2.75-Converts Main cap from 2-Bolt to 4-Bolt <b>(Does Not Include Bushing)</b>
839057	Drill Bushing — Use for drilling outer bolt holes for installation of Pioneer Performance Main Caps

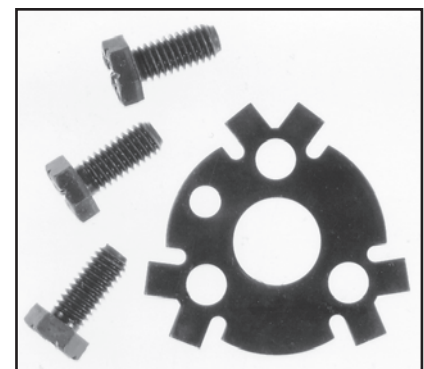
\* DOES NOT INCLUDE Hardened Hex Head Bolts and Drill Bushing.

CAM GEAR LOCKING PLATE KIT

839

Cam Gear Locking Plate w/Bolts - Required for installing most aftermarket cam buttons, bendable locking tabs prevent Grade 8 Bolts from backing out at high RPM.

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS	
PIONEER NUMBER	DESCRIPTION
839030	Cam Gear Locking Plate Kit w/Bolts Chevrolet 90° V6 & V8 Exc. Factory Roller Cam (PKG. 1 KIT/CARD)
839037	Cam Gear Bolts - Grade 8 - Use with or without Locking Plate (PKG. 3/CARD)



(Product Section - Continued on next page)



## OIL RESTRICTOR KIT

839

.040" orifice limits the volume of oil to the rocker arm assembly and increases it to the bottom end. Usually recommended with roller rockers and mechanical lifters. Installs easily into the lifter galley cleaning holes in rear of engine block. *Kit includes spare O-Rings.*

*Do not use with hydraulic lifters.*

(PACKAGED 2 /CARD)

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS	
PIONEER NUMBER	APPLICATION
839031	Chevrolet 90° V6 & V8, Except Late Model and Bow Tie Blocks
839041	Chevrolet 90° V6 & V8, Late Model and Bow Tie Blocks



## BELLHOUSING DOWEL KIT

839

Extra long Dowel Pins ease installation of bellhousing to block and are .400" longer than O.E. to accommodate block protectors or rear motor plates.

(PACKAGED 2 /CARD)

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS	
PIONEER NUMBER	DESCRIPTION
839032	Chevrolet 90° V6 & V8



## FUEL PUMP BLOCK OFF PLATES

839

Supplied w/ gaskets and necessary fasteners for installation. Gold irridite finish and conveniently skin packaged.

(PACKAGED 1 KIT/CARD)

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS		
PIONEER NUMBER	APPLICATION	(PACKAGED 1 KIT/CARD)
839033	Chevrolet 90° V6 and Small Block	
839034	Chevrolet Big Block	

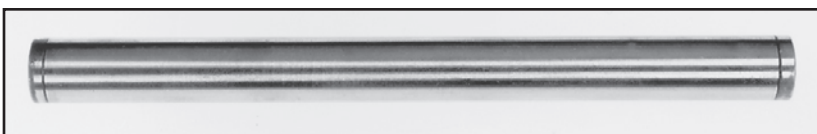


## FUEL PUMP PUSH RODS

839

Fuel Pump Push Rods are heat treated and centerless ground and are much lighter than O.E. Push Rods. Manufactured from tubular steel for reliability in severe duty applications.

(PACKAGED 1 /CARD)



SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS	
PIONEER NUMBER	APPLICATION
839035	All Chevrolet V8 w/steel billet camshafts, (bronze tip on end of push rod)
839036	All Chevrolet V8 w/cast billet camshafts

## LIFTER VALLEY VENT TUBES

839

These vent tubes eliminate excessive oil drainback on the crankshaft and ventilate the crankcase area. Manufactured from extruded aluminum, they feature an internal hex for ease of installation. Requires tapping of O.E. drain holes to 1/4" NPT for installation

(PACKAGED 8 PCS./CARD)

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS	
PIONEER NUMBER	APPLICATION
839042	Chevrolet - 90° V6 & V8



## CAM CORRECT

839

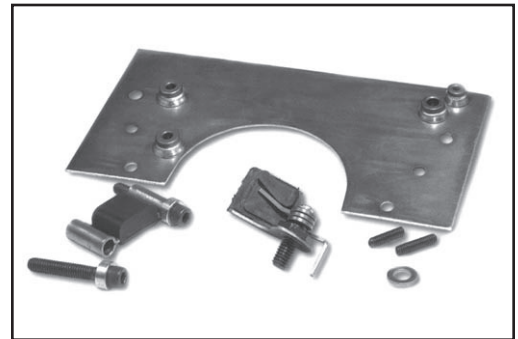
Designed to control timing chain pitch on the Small Block Chevrolet, the Cam Correct provides gear drive accuracy at an affordable price. The spring loaded tensioner insures constant accurate cam/ignition timing for improved throttle response and fuel mileage. Extremely beneficial for align bored blocks.

Works with O.E. and aftermarket timing chains.

Shoes are replaceable. (NOTE: A cam button must be used with the Cam Correct).

(PACKAGED 1 /CARD)

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS	
PIONEER NUMBER	APPLICATION
839043	Chevy 200-262Z V6, 283-400 - Complete Kit w/Drill Jig
839045	Replacement spring loaded shoe w/hardware



## OIL FILTER ADAPTER

839

Previously available at the dealer only, this oil filter adapter replaces the G.M. part number 3952301.

Includes by-pass valve and fasteners.

PACKAGED 1/CARD

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS	
PIONEER NUMBER	APPLICATION
839049	Chevrolet 305-454



## FUEL PUMP MOUNTING PLATE

839

Fuel Pump Mounting Plate replaces O.E. for installation of mechanical fuel pump to engine.

Has chrome finish. Includes gasket.

PACKAGED 1/CARD

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS	
PIONEER NUMBER	APPLICATION
839050	Chevrolet 200-262Z, 283-400



## ADJUSTABLE TIMING INDICATOR

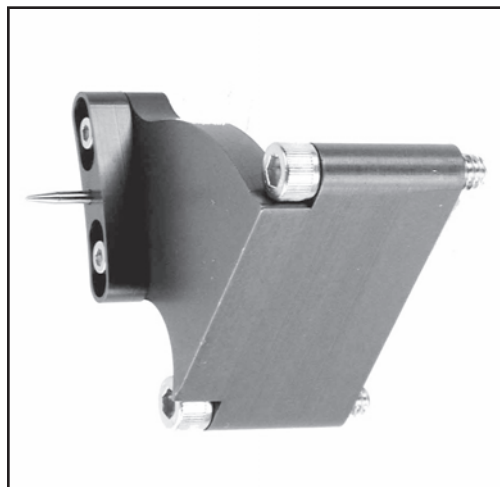
839

Pioneer Performance Products now offers a trick looking and functional timing indicator to complement our Street and Race Harmonic Balancers. These indicators feature a black anodized aluminum construction and are adjustable to 4 degrees. For Pioneer Performance and other aftermarket harmonic balancers.

Includes mounting bolts.

PACKAGED 1/CARD

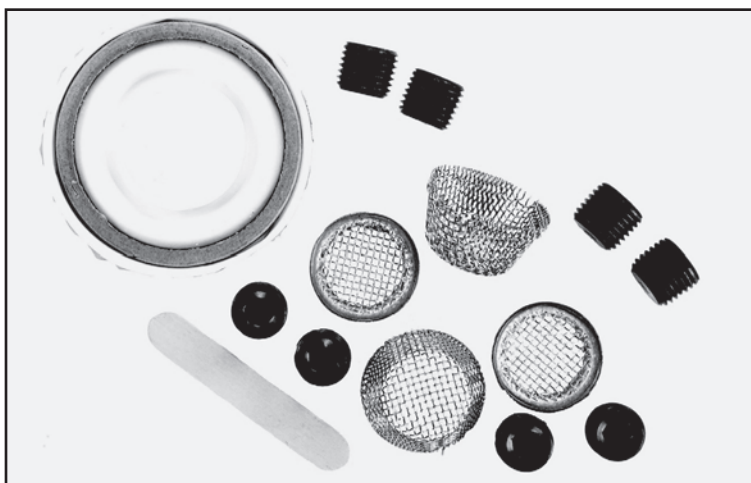
PIONEER NUMBER	APPLICATION
839051	Chevrolet 90° V6, Small Block V8 w/6-1/4" balancer
839052	Chevrolet 90° V6, Small Block V8 w/7" balancer
839053	Chevrolet 90° V6, Small Block V8 w/8" balancer
839054	Chevrolet Big Block V8 w/8" balancer
839058	Chevrolet Big Block V8 w/7" balancer
839060	Ford 302-351 W



## LIFTER VALLEY SCREEN KIT

839

Designed to keep debris away from the engine's bottom end in the event of a valve train failure. Special pre-formed screens are secured with high strength epoxy over the oil drainback holes in the engine's lifter galley to catch metal fragments. Pipe plugs are also included for installation in the lifter valley to direct the oil returning from the cylinder heads away from the crankshaft, reducing windage losses and aiding oil control.



PIONEER NUMBER	APPLICATION
839055	Chevrolet 200-262Z, 283-400 (Kit includes 2 press in screens, 2 large formed screens, 8-1/4" pipe plugs and epoxy)

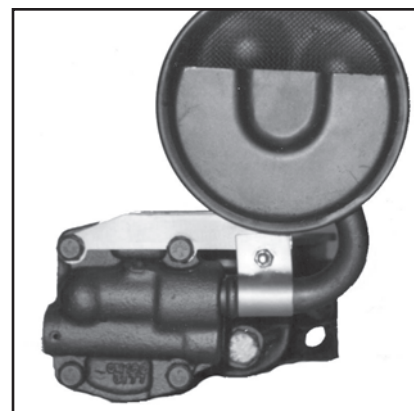
## OIL PUMP PICK UP RETAINER

839

No more welding or safety wiring the oil pump pick up on for the Small Block Chevrolet. This simple to install retainer clamps around the pick up tube and bolts to the oil pump housing eliminating the possibility of the pick up falling off and causing oil starvation to the engine.

(Packaged 1 per card)

PIONEER NUMBER	APPLICATION
839061	Chevrolet 262Z V6 1985-93 Small Block V8 1955-92 w/ 5/8" dia. tube



(Product Section - Continued on next page)

## DISTRIBUTOR HOLD DOWN CLAMP

839

Flat design provides ample distributor clearance and permits easy access to the fastener. Precision die-cut extra thick steel and much stronger than factory clamps. Has chrome plated finish and stud with nut for installation. (Packaged 1 per card)



PIONEER NUMBER	APPLICATION
839062	Chevrolet 262Z V6 - Small and Big Block V8

## CLUTCH CABLES & QUADRANT

839

Premium Cable has heavy duty jacket and nylon firewall bushing to resist heat and wear associated with the O.E. cable and is adjustable to suit driving habits. Billet aluminum clutch pedal quadrant replaces the weak O.E. plastic piece and allows better clutch engagement.

**A MUST for heavy duty clutch assemblies!**



PIONEER NUMBER	APPLICATION
<b>NEW!</b> 839063	Aluminum Clutch Quadrant - Ford Mustang 1982-93 w/302 (5.0L)
<b>NEW!</b> 839064	Adjustable Heavy Duty Clutch Cable & Quadrant Kit - Ford Mustang 1982-93 w/302 (5.0L)
<b>NEW!</b> CA-318-ADJ	Adjustable Heavy Duty Clutch Cable Only - Ford Mustang 1982-93 w/302 (5.0L)
<b>NEW!</b> CA-318-HD	Non-Adjustable Heavy Duty Clutch Cable Only - Ford Mustang 1982-93 w/302 (5.0L)

## ROCKER ARM FASTENERS

850

Pioneer Performance Screw in Rocker Studs provide valve train stability when using a high lift camshaft.

Recommended for street and mild performance applications. **Cylinder head machining required for most applications.**

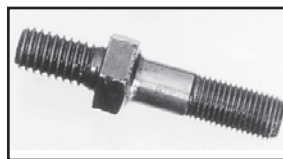
#850014 Rocker Stud is manufactured from 4140 chrome-moly material, is heat treated and features a ground top to insure accurate valve adjustment. Black oxide finish provides a professional appearance. For severe duty applications.



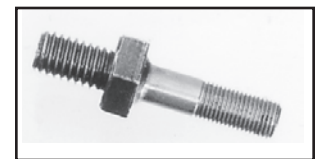
850001



850002



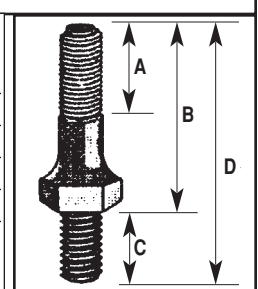
850003



850006

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

PIONEER NUMBER	APPLICATION	STD. PKG.	STUD THREAD (A)	EFFECT. STUD LGTH. (B)	BASE THREAD (C)	OVERALL LGTH. (D)
850001	Chevy S.B. V8	16/CD	3/8"-24 x .800	1.470	7/16"-14 x .800 w/o Hex	2.320
850003	Chevy, Ford, Pontiac S.B., B.B. V8	16/CD	7/16"-20 x .875	1.750	7/16"-14 x .785 w/Hex	2.540
850006	Chevy, Ford S.B. V8	16/CD	3/8"-24 x .790	1.700	7/16"-14 x .700 w/Hex	2.400
850013	Chevy, Ford S.B. V8	16/CD	3/8"-24 x .950	1.800	7/16"-14 x .680 w/Hex	2.500
850014	Chevy, Ford, Pontiac S.B., B.B. V8	16/CD	7/16"-20 x 1.070	1.940	7/16"-14 x .700 w/Hex	2.650





## ROCKER ARM ADJUSTERS (Posi-Locks)

850

ROCKER ARM ADJUSTERS FOR O.E. ROCKERS provide accurate and easy valve adjustment.

Kit includes adjusters, allen screws and adjustment wrench.

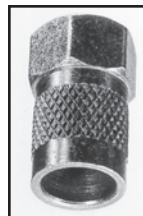
(PACKAGED 16 NUTS & 1 WRENCH /CARD)

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

PIONEER NUMBER	APPLICATION	STD. PKG./CARD
850008	3/8"-24 for O.E. Rockers	16
850009	5/16"-24 for O.E. Rockers	16
850010	7/16"-20 for O.E. Rockers	16
850012	7/16"-20, .570 Min. Width for Aluminum Roller Rockers O.A.L. -.969	16
850017	3/8"-24, .550 Min. Width for Aluminum Roller Rockers w/Stud Girdle O.A.L.-2.013	8
850018	3/8"-24, .550 Min. Width for Aluminum Roller Rockers w/Stud Girdle O.A.L. -2.013	2
850019	7/16"-20, .550 Min. Width for Aluminum Roller Rockers w/Stud Girdle O.A.L. -2.013	8
850020	7/16"-20, .550 Min. Width for Aluminum Roller Rockers w/Stud Girdle O.A.L. -2.013	2
850022	7/16"-20, .570 Min. Width for Aluminum Roller Rockers O.A.L. -.969	2

POSI-LOCKS for aluminum rockers are precision machined and heat treated for use with most Die Cast Roller Rockers and other aluminum roller rockers with .550" and .570" min. width slot.

(PACKAGED 16 & 2 NUTS /CARD)



850008, 850009, 850010



850011, 850012, 850021, 850022

## STUD GIRDLE POSI-LOCKS

Precision machined and heat treated Posi-Locks are for use with Pioneer Performance Rocker Stud Girdles and Aluminum Roller Rockers w/.550" min. width slot. Nuts feature a 9/16" hex.

Available in 3/8" or 7/16" stud size.

(PACKAGED 2, 8/CARD)



850017, 850018, 850019, 850020

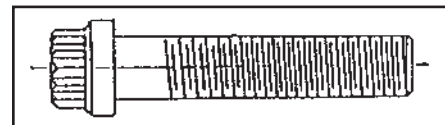
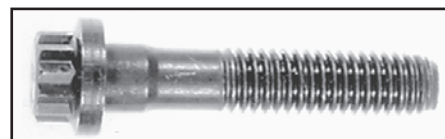
## HEAD BOLT KITS

851

Pioneer Performance Head Bolt Kits are heat treated to 180,000 PSI and feature rolled threads and reduced sized 12 Pt. heads for increased valve spring pocket clearance. Extended thread length distributes torque stretch for increased clamping force. Extra thick, hi-tensile and chamfered washers are included in each kit. 100% U.S. made

All applications are for O.E. cyl. heads unless specified.

(PACKAGED 1/KIT PER ENGINE)



PIONEER NUMBER	APPLICATION	SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS
851200	Chevrolet Small Block w/23° O.E. Cast Iron and Aluminum, AFR, Brodix -8, -10, -11, -11xb and Dart stock replacement Cyl. Heads	
851201	Chevrolet Big Block w/O.E. Cast Iron, Aluminum and early Bow Tie Cyl. Heads	
851202	Ford 302	
851204	Chevrolet 90°, V6 w/O.E. Cast Iron and Aluminum Cyl. Heads	

(SEE PIONEER PERFORMANCE TECHFORUM V1.3 FOR FURTHER TECHNICAL INFORMATION)

(Product Section - Continued on next page)



## HEAD STUD KITS

(SEE PIONEER PERFORMANCE TECHFORUM V1.3 FOR FURTHER TECHNICAL INFORMATION)

851

High Performance Engine Rebuilders prefer Head Studs to Head Bolts when limited clearance is not a problem for a number of reasons. When bolts are torqued into an engine repeatedly you risk damaging the block threads due to stress encountered from preload. When studs are used torque is applied to the fine threaded nut, hence all tension on the stud threads is pulling tension as opposed to twisting tension when using bolts. Very little stress is felt by the block threads. Clamping force is greatly improved without distortion of the engine block and cylinders.

Head studs also help position the gasket and head for quicker removal and installation.

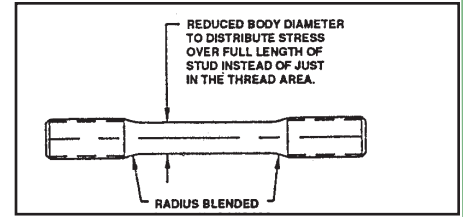
Pioneer Performance Head Stud Kits are 100% U.S. made, heat treated to 180,000 PSI tensile strength and feature rolled threads and undercut shanks for distributing torque stretch which increases the clamping load.

High tensile hex nuts and extra thick chamfered washers are included except where noted.

Head stud kit for Small Block Chevy is available with 12 Pt. nuts for increased valve spring pocket clearance.

All head stud kits are for O.E. cyl. heads unless noted.

(SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE)



PIONEER NO.	APPLICATION (PACKAGED 1/KIT/ENGINE)	PIONEER NO.	APPLICATION (PACKAGED 1/KIT/ENGINE)
851001	Buick 231 Stage I	851013	Ford 351W
851002	Buick 231 Stage II	851014	Ford 429, 460
851003	Chevrolet In-Line 6 Cyl.	851015	Ford 390
851004	Chevrolet Small Block w/23° O.E. Cast Iron and Aluminum, AFR, Brodix-8, -10, -11, -11XB, Brownfield, and Dart (stock replacement) Cyl. Heads	851016	Oldsmobile 403
851005	Chevrolet Big Block w/O.E. Cast Iron, Aluminum and early Bow Tie Cyl. Heads	851017	Oldsmobile 455
851006	Chev. Big Block (Alum. Block) w/O.E. Alum. Cyl. Heads	851018	Chevrolet Small Block w/23° O.E. Cast Iron and Aluminum, AFR, Brodix-8, -10, -11, -11XB, Brownfield, and Dart (stock replacement) Cyl. Heads (Includes 12 Pt. Nuts)
851007	Chrysler 318, 340, 360	851019	Chevrolet Small Block w/Chevy 18° High Port Cyl. Heads w/7/16" studs (Includes 12 Pt. Nuts)
851009	Chrysler 400, 440	851023	Chevrolet Small Block w/23° Dart II Cyl. Heads
851010	Ford 302	851024	Chev. 90° V6 w/O.E. Cast Iron and Aluminum Cyl. Heads
851011	Ford 302 Boss	851026	Chevrolet Small Block w/23° Dart II and Pontiac Motorsports #10033867 Cyl. Heads (Includes 12 Pt. Nuts)
851012	Ford 351C		

## HEX NUTS / ROD NUTS

852

Used in Pioneer Performance Connecting Rod Bolt, Head and Main Stud Kits, Hex Nuts are 100% U.S.



manufactured from high strength carbon steel, heat treated to 180,000 PSI and black oxidized for corrosion protection and a professional appearance.

**Packaged 10 per box, for the Engine Builder's convenience, the more popular numbers are now skin packaged 16 pcs. per kit for a retailer friendly package.**

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

PIONEER NO.	DESCRIPTION	HEX SIZE	PACKAGED
852001	3/8" - 24	9/16"	10/Box
852002	5/16" - 24	1/2"	10/Box
852003	11/32" - 24	1/2"	10/Box
852004	7/16" - 20	5/8"	10/Box
852005	1/2" - 20	3/4"	10/Box
852006	9/16" - 18	7/8"	10/Box
852007	9mm	15mm	10/Box
852012	3/8" - 24	9/16"	Skin Pkg. 16 Pcs./Cd.
852013	5/16" - 24	1/2"	Skin Pkg. 16 Pcs./Cd.
852014	11/32" - 24	1/2"	Skin Pkg. 16 Pcs./Cd.
852015	7/16" - 20	5/8"	Skin Pkg. 16 Pcs./Cd.

To insure accurate torque readings the I.D. markings on the nut must not contact the rod cap (install nut w/I.D. markings facing away from the cap). Refer to Pioneer Performance Products catalog (Page 111) for recommended torque procedure.

## SERRATED FLANGE NUTS

852

Pioneer Performance serrated flange nuts are specially designed to prevent loosening under vibration. Use on oil pans, front covers, etc.

High strength alloy steel is heat treated to 180,000 PSI and 100% U.S. made.

PIONEER NO.	DESCRIPTION	SIZE	PACKAGED
852008	5/16" - 24 Hex Flange Nut	1/2"	10/Box
852009	1/4" - 28 Hex Flange Nut	7/16"	10/Box
852010	5/16" - 24 Hex Flange Nut	1/2"	Skin Packaged 10 Pcs./Cd
852011	1/4" - 28 Hex Flange Nut	7/16"	Skin Packaged 10 Pcs./Cd.



(Product Section - Continued on next page)

## 12 PT NUT

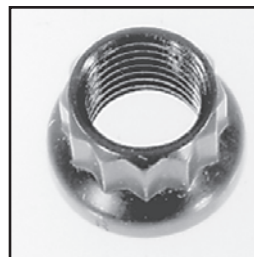
852

With valve spring diameters increasing, 12 Pt. nuts are sometimes required when installing head stud kits to clear the spring pockets.

This 7/16" diameter 12Pt. Nut has an integral washer face and is manufactured from high strength chrome-moly steel, heat treated to 180,000 PSI. Black oxide finish provides corrosion protection and a professional appearance.

100% U.S. made.

PACKAGED 10/BOX



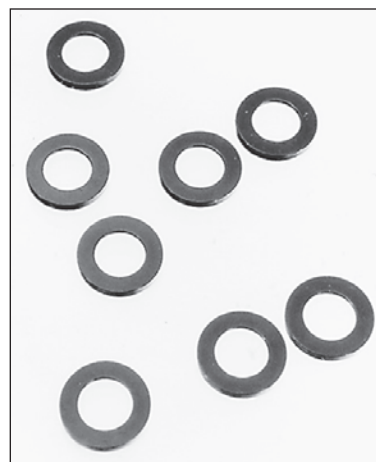
PIONEER NUMBER	DESCRIPTION	HEX SIZE	PACKAGED
852016	7/16" x 20	1/2"	10/Box

## HI-GRADE FLAT WASHERS / HEAD BOLT WASHERS

852

Pioneer Performance extra thick premium head bolt washers are 100% U.S. manufactured from high strength chrome-moly steel, heat treated to 180,000 PSI and are parallel ground with an I.D. chamfer for use with stock or performance head/main bolts or studs. A black oxide finish provides corrosion protection and a professional appearance. Std. Performance head bolt washers are heat treated, parallel ground and economically priced. Stainless Steel Washers are replacement washers for Pioneer Performance Stainless Steel 12 Pt. Fastener Kits.

(PACKAGED 10/BOX OR SKIN PACKAGED BY KIT)



SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

PIONEER NUMBER	SIZE	DESCRIPTION	PACKAGED
852096	7/16" I.D. x 3/4" O.D. x .065	Chevy & Small Block Ford V8, Economy	Skin Packaged 34 Pcs.
852097	1/2" I.D. x 7/8" O.D. x .100	Chrysler, Pontiac & Big Block Ford V8, Economy	Skin Packaged 20 Pcs.
852098	7/16" I.D. x 13/16" O.D. x .120	Chevy & Small Block Ford V8, Premium	Skin Packaged 34 Pcs.
852099	1/2" I.D. x 7/8" O.D. x .120	Chrysler, Pontiac & Big Block Ford V8, Premium	Skin Packaged 20 Pcs.
852100	7/16" I.D. x 13/16" O.D. x .120	Parallel Ground & Chamfered, Premium	10/Box
852101	1/2" I.D. x 7/8" O.D. x .120	Parallel Ground & Chamfered, Premium	10/Box
852102	9/16" I.D. x 1" O.D. x .120	Parallel Ground & Chamfered, Premium	10/Box
852103	3/8" I.D. x 3/4" O.D. x .120	Parallel Ground Premium	10/Box
852104	3/8" I.D. x 5/8" O.D. x .055	Stainless Steel	10/Box
852105	5/16" I.D. x 9/16" O.D. x .055	Stainless Steel	10/Box
852111	1/2" I.D. x 7/8" O.D. x .100	Parallel Ground, Economy	10/Box
852112	7/16" I.D. x 3/4" O.D. x .065	Parallel Ground, Economy	10/Box
852113	3/8" I.D. x 5/8" O.D. x .055	Stainless Steel	Skin Packaged 10 Pcs.
852114	5/16" I.D. x 9/16" O.D. x .055	Stainless Steel	Skin Packaged 10 Pcs.

## ROD BOLT KITS - PREMIUM PERFORMANCE

853

When manufacturing critical components such as connecting rod bolts, Pioneer Performance gives special attention to head design and shape as well as material selection, heat treating, tensile testing and finishing. Our Premium Performance Rod Bolts are 100% U.S. manufactured from chrome-moly steel and heat treated to 180,000 PSI. The heads are cold formed during the manufacturing process, threads are rolled after heat treating and a professional black oxide finish is applied.

To assure maximum head surface contact and a perfect fit between the bolt and rod, each head design is exactly matched to the O.E.M. specifications and knurling tolerances are kept to a minimum.

Premium Performance Rod Bolts have a dimple in each end for measuring rod bolt stretch, which is our recommended method of torque.

Hi-tensile 180,000 PSI Rod Nuts are included in each kit.

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS		
PIONEER NUMBER	STD. PKG.	APPLICATION
853004	16/CD	Chevrolet - 230-250-283-327, 11/32" Dia.
853005	16/CD	Chevrolet - 200-229-305-350, 3/8" Dia.
853006	16/CD	Chevrolet - 396-454, 7/16" Dia.
853007	16/CD	Chevrolet - 396-454, 3/8" Dia.
853008	16/CD	Chevrolet - 400, 3/8" Dia.
853009	16/CD	Chrysler - 318-360, 3/8" Dia.
853010	16/CD	Chrysler - 400-440, 3/8" Dia.
853012	16/CD	Ford - 302 Boss, 351W, 429, 460 w/Oval Head, 3/8" Dia.
853013	16/CD	Ford 302, 5/16" Dia.
853015	16/CD	Ford 351M, 400, 3/8" Dia.
853016	16/CD	Ford 390 w/Oval Head, 3/8" Dia.
853018	16/CD	Oldsmobile - 455, 3/8" Dia.
853019	8/CD	Pontiac - 151, 301, 11/32" Dia.
853020	16/CD	Pontiac - 350, 400, 455 w/Oval Head, 3/8" Dia.



(SEE PIONEER PERFORMANCE TECHFORUM V1.5 FOR FURTHER TECHNICAL INFORMATION)

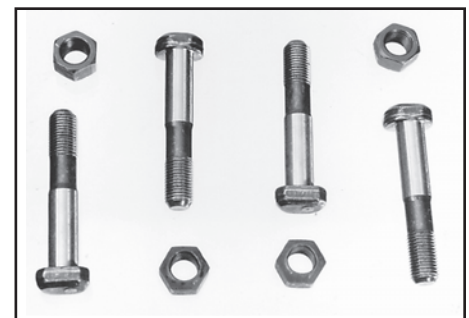
## ROD BOLT KITS - STANDARD PERFORMANCE

853

Available for engine builders on a budget, Pioneer Performance offers a Standard Performance Connecting Rod Bolt that is manufactured from special alloy steel and is heat treated to 170,000 PSI tensile strength.

Hi-tensile Rod Nuts are included in each kit. 100% U.S. Made.

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS		
PIONEER NUMBER	STD. PKG.	APPLICATION
853200	16/CD	Ford - 302 Boss, 351W, 429, 460 w/o Oval Head, 3/8" Dia.
853201	16/CD	Chevrolet - 283-327, 11/32" Dia.
853204	16/CD	Chevrolet - 200-229-305-350, 3/8" Dia.
853205	16/CD	Chevrolet - 396-454, 7/16" Dia.
853206	16/CD	Chrysler - 318-360, 3/8" Dia.



(SEE PIONEER PERFORMANCE TECHFORUM V2.2 FOR FURTHER TECHNICAL INFORMATION)

Pioneer recommends measuring Rod Bolt stretch when installing Performance Rod Bolts, however the following are suggested torque specs. for Pioneer Premium and Standard Performance Rod Bolts using a moly based lubricant on the threads and between the nut face and rod cap. (Note: Stretch should be .003" per 1" of used length, i.e. from bottom of head to rod nut face).

5/16" - 24 Ft. Lbs.      3/8" - 43 Ft. Lbs.  
 11/32" - 32 Ft. Lbs.      7/16" - 68 Ft. Lbs.  
 9mm - 36 Ft. Lbs.

(Product Section - Continued on next page)

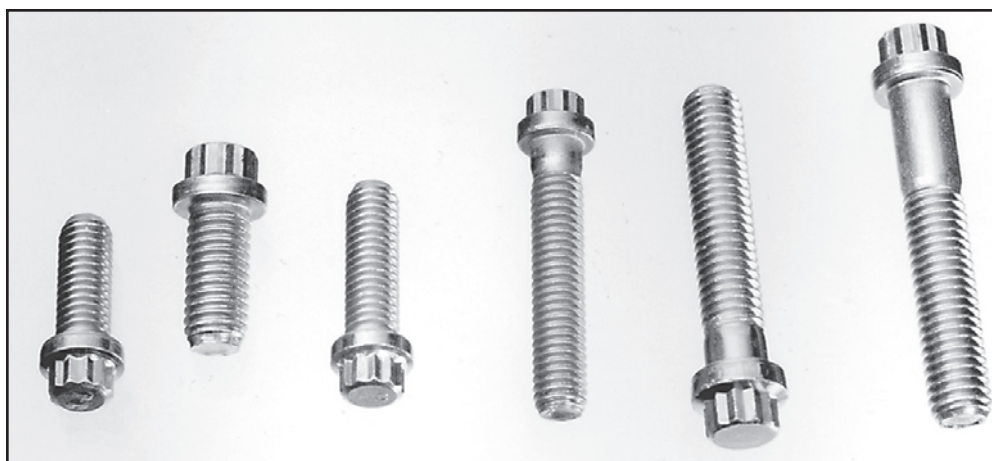
## 12-POINT FASTENER KITS

854

For applications that require frequent disassembly and assembly, Pioneer Performance offers Hi-Tensile 12 Point Fasteners. The 12 point heads provide wrenching clearance in tight areas and better gripping for torquing components such as exhaust headers. Heat treating to 180,000 PSI decreases chances of bolts over stretching after repeated tear downs and assembly. Stainless Steel Fasteners are type 410 material and are rust and corrosion resistant and preferred for marine applications. Stainless steel flat washers are included in each kit. Black oxide oil pan and timing cover bolts feature an integral head and washer face with hardened serrations to keep bolts from loosening during operation.

100% US Made

(SEE PIONEER PERFORMANCE TECHFORUM V1.4 FOR FURTHER TECHNICAL INFORMATION)



SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

PIONEER NUMBER	DESCRIPTION	SIZE	QUANTITY
854004	Oil Pan Bolt Kit - Chrysler - 340, 440	5/16" x 9/16"	20/Kit
854006	Oil Pan Bolt Kit - Buick - 231 w/14 Bolt Pan	5/16" x 9/16"	14/Kit
854009	Oil Pan Bolt Kit - Ford - 429, 460	1/4" x 9/16" (18) & 5/16" x 9/16" (4)	22/Kit
854013	Stainless Steel Header Bolt Kit - Chrysler - 318-360	5/16" - 18 x 3/4" (3/8" Head)	14/Kit
854014	Stainless Steel Header Bolt Kit - Chevrolet - 200-262Z 90° V6, 283-400 Chrysler - 400-440 Pontiac - 301-455	3/8" - 16 x 3/4" (3/8" Head)	12/Kit
854015	Stainless Steel Header Bolt Kit - Chevrolet - 396-454 Ford - 302-460	3/8" - 16 x 3/4" (3/8" Head)	16/Kit
854019	Bell Housing Bolt Kit - Chevrolet - 200-262Z 90° V6, 283-454	3/8" - 16 x 1-1/2"	7/Kit
854020	Bell Housing Bolt Kit - Ford - 302-460	7/16" - 14 x 1"	6/Kit
854021	Oil Pump Bolt Kit - Chevrolet - 200-262Z 90° V6, 283-400	7/16" - 14 x 2"	1/Kit
854022	Oil Pump Bolt Kit - Chevrolet - 396-454	7/16" - 14 x 2-1/2"	1/Kit
854023	Header Bolt Kit, Hi-Tensile Black Oxide - Chevrolet - 200-262Z 90° V6, 283-400 Chrysler - 400-440 Pontiac - 350-400	3/8" - 16 x 3/4" (3/8" Head)	12/Kit

(Product Section - Continued on next page)



## MAIN BOLT KITS

855

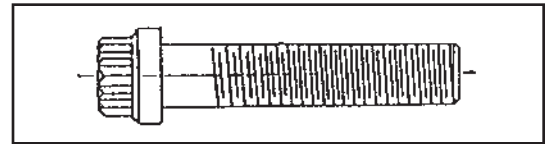
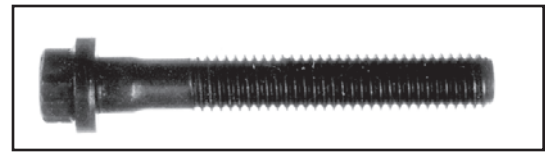
Pioneer Performance Main Bolt Kits are 100% U.S. manufactured to the same high quality standards as our Performance Head Bolt Kits.

These features include heat treating to 180,000 PSI tensile strength, reduced size 12 Pt. Heads and extended thread length for distributing torque stretch which increases clamping force.

Extra thick, hi-tensile and chamfered washers are included in each kit.

(PACKAGED 1/KIT PER ENGINE)

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS	
PIONEER NUMBER	DESCRIPTION
855200	Chevrolet Small Block – 2 Bolt Main, Large Journal
855201	Chevrolet Small Block – 4 Bolt Main, Large Journal
855202	Ford 302 – 2 Bolt Main
855203	Ford 302 – 4 Bolt Main Except Boss
855205	Chevrolet 262Z 90° V6 – 2 Bolt Main
855206	Chevrolet 262Z 90° V6 – 4 Bolt Main



(SEE PIONEER PERFORMANCE TECHFORUM V1.3 FOR FURTHER TECHNICAL INFORMATION)

## MAIN STUD KITS

855

High compression race engines require a stable crank and bottom end assembly. Main studs prevent main cap walk and help support the crankshaft assembly while reducing stress on the block threads during assembly.

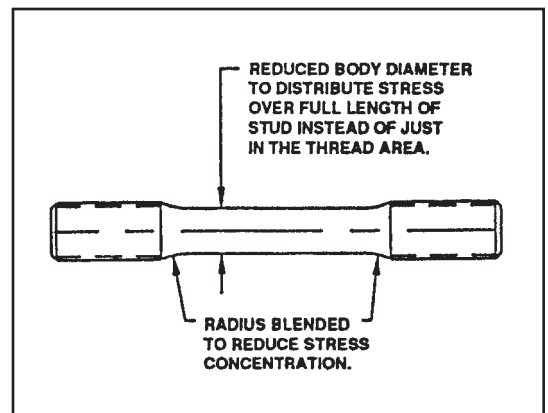
Pioneer Performance Main Stud Kits are 100% U.S. made, heat treated to 180,000 PSI tensile strength and feature rolled threads and undercut shanks for distributing torque stretch which increases the clamping load.

Hi-tensile hex nuts and extra thick chamfered washers are included in each kit.

Applications will not work with windage trays.

(PACKAGED 1/KIT PER ENGINE)

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS	
PIONEER NUMBER	DESCRIPTION
855001	Buick 231 Stage I & II – 2 Bolt Main
855002	Chevrolet in Line 6 Cyl.
855003	Chevrolet Small Block – 4 Bolt Main, Large Journal
855004	Chevrolet Small Block – 2 Bolt Main, Large Journal
855005	Chevrolet Big Block – 4 Bolt Main
855006	Chevrolet Big Block – 2 Bolt Main
855007	Chevrolet Big Block – 4 Bolt Main (Aluminum Block)
855008	Chrysler 318 thru 440, Except Hemi
855009	Ford 302 – 2 Bolt Main
855011	Ford 351C – 2 Bolt Main
855012	Ford 351C – 4 Bolt Main
855013	Ford 351W – 2 Bolt Main
855014	Ford 351W, SVO, - 4 Bolt Main
855015	Ford 429, 460 – 2 Bolt Main
855016	Ford 390
855017	Oldsmobile 350
855018	Oldsmobile 455
855019	Pontiac 400, 455 – 2 Bolt Main
855020	Pontiac 400, 455 – 4 Bolt Main
855021	Chevrolet Small Block – 2 Bolt Small Journal
855023	Chevrolet 262Z 90° V6 – 2 Bolt Main
855024	Chevrolet 262Z 90° V6 – 4 Bolt Main
855025	Ford 429, 460 – 4 Bolt Main



(SEE PIONEER PERFORMANCE TECHFORUM V1.2 FOR FURTHER TECHNICAL INFORMATION)

(Product Section - Continued on next page)

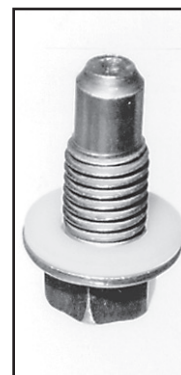


## OIL DRAIN PLUGS

859

**MAGNETIC OIL DRAIN PLUG** – For added insurance against possible engine damage...install a magnetic oil drain plug on your next oil change.

(SKIN PACKAGED 1/CARD)



859001



859000

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

PIONEER NUMBER	DESCRIPTION
859000	Chrysler / GM / Ford w/1/2" - 20 Threads (Magnetic Tip)
859001	Chrysler / GM / Ford w/1/2" - 20 Threads

## OIL PAN STUD KITS

859

**Pioneer Performance Oil Pan Stud Kits** are 100% U.S. manufactured from high strength alloy steel, heat treated to 180,000 PSI tensile strength and black oxide coated for corrosion protection.

"Bullet Tipped" studs ease oil pan removal and installation and hi-tensile serrated hex flange nuts prevent loosening during operation.

Conveniently Skin Packaged.

(SKIN PACKAGED 1 KIT/ENGINE)

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

PIONEER NUMBER	DESCRIPTION
859007	Chrysler V8 5/16" - 18/24 x 1-5/16" (20 Studs & Nuts)
859008	Chevrolet Small Block, 90° V6, Oldsmobile V8 1/4" - 20/28 x 1-1/8" (14 Studs & Nuts) 5/16" - 18/24 x 1-5/16" (4 Studs & Nuts)
859009	Chevrolet Big Block, Ford 390, Pontiac V8 1/4" - 20/28 x 1-1/8" (2 Studs & Nuts) 5/16" - 18/24 x 1-5/16" (20 Studs & Nuts)
859010	Ford 302-351C/W, M, 400 1/4" - 20/28 x 1-1/8" (18 Studs & Nuts) 5/16" - 18/24 x 1-5/16" (6 Studs & Nuts)



## FRONT (TIMING) COVER STUD KIT

859

**Pioneer Performance Timing Cover Stud Kits** are 100% U.S. manufactured from high strength alloy steel, heat treated to 180,000 P.S.I. tensile and black oxide coated for corrosion protection.

"Bullet Tipped" studs ease timing cover removal and installation and hi-tensile serrated flange hex nuts prevent loosening during operation.

Conveniently skin packed.

(SKIN PACKAGED 1 KIT/ENGINE)

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

PIONEER NUMBER	DESCRIPTION
859011	Chevrolet 90° V6, Small Block & Big Block 1/4" - 20/28 x 1-1/8" (10 Studs & Nuts)



(Product Section - Continued on next page)

## VALVE COVER STUD KITS

859

Pioneer Performance Valve Cover Stud Kits are 100% U.S. manufactured from high strength alloy steel, heat treated to 180,000 PSI tensile and black oxide coated for corrosion protection.

“Bullet Tipped” studs ease valve cover removal and installation and hi-tensile serrated flange hex nuts prevent loosening during operation.

Conveniently skin packed

(SKIN PACKAGED 1 KIT/ENGINE)

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS	
PIONEER NUMBER	DESCRIPTION
859031	Chevrolet 90° V6 & Small Block w/stamped steel valve covers 1/4" - 20/28 x 1-1/8" (8 Pcs. w/Nuts)
859032	Chevrolet Big Block w/stamped steel valve covers 1/4" - 20/28 x 1-1/8" (14 Pcs. w/Nuts)



## AUTO TRANSMISSION PAN STUD KIT

859

Pioneer Performance Automatic Transmission Pan Stud Kits are 100% U.S. manufactured from high strength alloy steel, heat treated to 180,000 PSI tensile and black oxide coated for corrosion protection.

“Bullet Tipped” studs ease transmission pan removal and installation and hi-tensile serrated flange hex nuts prevent loosening during operation.

Conveniently skin packed-(SKIN PACKAGED 1 KIT/TRANSMISSION)

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS	
PIONEER NUMBER	DESCRIPTION
859033	G.M. Powerglide, Turbo 350 & 400 Chrysler 904 & 727 Torqueflite Ford C4 & C6 5/16" - 18/24 x 1-5/16" (17 Pcs. w/Nuts)



## OIL PAN BOLT KITS

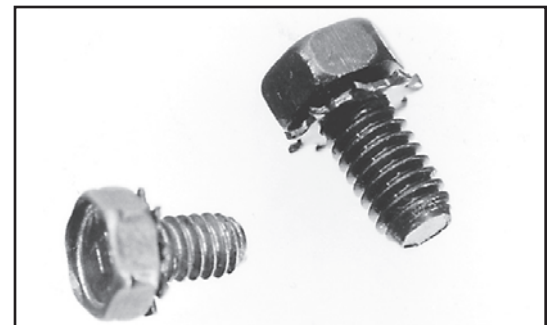
859

Manufactured to exceed O.E. requirements, Pioneer Performance Oil Pan Bolt Kits feature hex heads and an integral lock washer. Bolts are plated to resist corrosion.

Conveniently Skin Packed

(SKIN PACKAGED 1 KIT/ENGINE)

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS	
PIONEER NUMBER	DESCRIPTION
859017	Chevrolet Small Block, 90° V6, Oldsmobile V8 1/4" - 20 x 7/16" (14 Pcs.) 5/16" - 18 x 9/16" (4 Pcs.)
859018	Chevrolet Big Block, Pontiac V8 1/4" - 20 x 7/16" (2 Pcs.) 5/16" - 18 x 9/16" (20 Pcs.)
859019	Ford 302-351C/W, M, 400 5/16" - 18 x 9/16" (6 Pcs.) 1/4"-20 x 7/16" (18 Pcs.)
859020	Ford 390, Chrysler V8 5/16" - 18 x 9/16" (20 Pcs.)



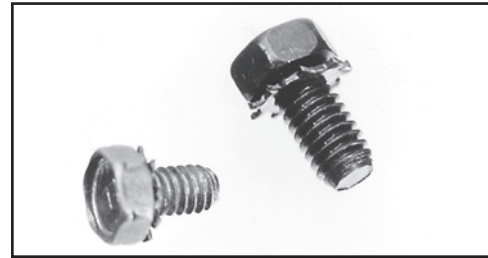
(Product Section - Continued on next page)

## FRONT (TIMING) COVER BOLT KIT

859

Manufactured to exceed O.E. requirements, Pioneer Performance Timing Cover Bolt Kits feature hex heads and an integral lock washer. Bolts are plated to resist corrosion.

(CONVENIENTLY SKIN PACKAGED 1 KIT/ENGINE)



SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

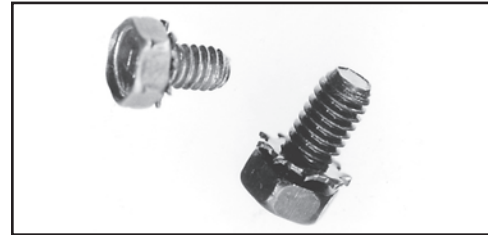
PIONEER NO.	DESCRIPTION
859021	Chevrolet 90° V6, Small Block & Big Block SIZE: 1/4" - 20 x 7/16" (10 Pcs.)

## AUTO TRANSMISSION PAN BOLT KIT

859

Auto Transmission Pan Bolt Kit includes the necessary fasteners with hex heads and integral lock washers. Manufactured to exceed O.E. requirements. Bolts are plated to resist corrosion.

(CONVENIENTLY SKIN PACKAGED 1 KIT/TRANSMISSION)



SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

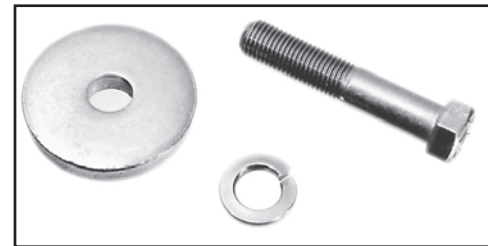
PIONEER NO.	DESCRIPTION
859034	G.M. Powerglide, Turbo 350 & 400 Chrysler 904 & 727 Torqueflite Ford C4 & C6 SIZE: 5/16" - 18 x 9/16" (17 Pcs.)

## BALANCER BOLT KITS

859

Pioneer Performance Harmonic Balancer Bolt Kit features a hi-tensile Hex Head Bolt, extra thick parallel ground washer for more uniform torque and a hi-tensile lock washer. *Yellow diechromate finish.*

(CONVENIENTLY SKIN PACKAGED 1 KIT/ENGINE)



SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

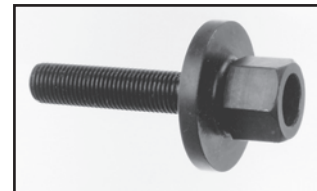
PIONEER NO.	DESCRIPTION
859012	Chevrolet 90° V6 and Small Block
859013	Chevrolet Big Block

**1 PIECE HARMONIC BALANCER BOLT KIT**

Manufactured from hi-tensile chrome moly steel, heat treated and features rolled threads with a professional black oxide finish. A large dia. 3/4" hex head for improved wrenching and an integral washer make this a truly heavy duty piece.

(SKIN PACKAGED 1 PIECE/ENGINE)

PIONEER NO.	DESCRIPTION
859045	Chevrolet 90° V6 and Small Block
859046	Chevrolet Big Block

**NEW! 12 POINT HARMONIC BALANCER BOLT KIT**

Manufactured from hi-tensile chrome moly steel, heat treated and with rolled threads, these new Pioneer Performance Balancer Bolts have tall 12-Point heads for wrenching clearance in tight areas.

Kit includes an extra wide 1/4" thick washer and professional black oxide finish.

PIONEER NO.	DESCRIPTION	(SKIN PACKAGED 1 PIECE/ENGINE)
<b>NEW!</b> 859047	Chevrolet 90° V6 and Small Block	
<b>NEW!</b> 859048	Ford Small and Big Block except 351C (2.050 UHL)	
<b>NEW!</b> 859049	Chevrolet Gen. 111 LS1, LS2, LS6 (4.325 UHL)	



(Product Section - Continued on next page)

## OIL PUMP STUD KIT

859

Pioneer Performance Oil Pump Stud Kit safely secures the oil pump to the block and reduces stress to the rear main cap threads. Kit includes hi-tensile chrome-moly steel stud, nut and flat washer. Conveniently Skin Packed. 100% U.S. made.

(SKIN PACKAGED 1 KIT/ENGINE)

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS	
PIONEER NUMBER	DESCRIPTION
859039	Chevrolet - 90° V6, Small Block and Big Block - Length 3.120



## HEADER BOLT KITS (Hex Head)

859

Pioneer Performance now offers Header Bolts with a reduced size 7/16" hex head for increased header tube clearance. Hardened & Black Oxide Coated. Conveniently Skin Packed

(SKIN PACKAGED 1 KIT/ENGINE)

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS	
PIONEER NUMBER	DESCRIPTION
859040	Chevrolet 90° V6, Small Block, Chrysler Big Block, Pontiac V8 3/8" - 16 x 3/4" (12 Pcs.)
859041	Chevrolet Big Block, Ford V8 3/8" - 16 x 3/4" (16 Pcs.)



## FLEXPLATE / FLYWHEEL / TORQUE CONVERTER BOLT KITS

859

These Flexplate/Flywheel/Torque Converter Bolts are direct replacements for O.E.. Save time running to the dealer to purchase these inexpensive but necessary fasteners.

(SKIN PACKAGED 1 KIT/ENGINE)

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS	
PIONEER NUMBER	DESCRIPTION
859022	Flexplate Bolts, Chevrolet 90° V6, V8 Prior to 1986, 7/16"-20 x 11/16" (6 Pcs. w/Lock Washers)
859026	Flywheel Bolts, Chevrolet 90° V6, V8 Prior to 1986, Ford V8, 7/16"-20 x 1" (6 pcs. w/Lock Washers)
859027	Flywheel Bolts, Chrysler Hemi V8 1/2"-20 x 1" (8 pcs. w/Lock Washers)
859028	Flywheel Bolts, Pontiac V8, 1/2"-20 x 1" (6 pcs. w/Lock Washers)
859029	Flexplate Bolts, 1986-98 Chevrolet 90° V6, V8 w/1 Pc. Rear Seal 7/16"-20 x 11/16" (6 Pcs.)
859030	Flywheel Bolts, 1986-98 Chevrolet 90° V6, V8 w/1 Pc. Rear Seal 7/16"-20 x 1" (6 Pcs.)
859035	Torque Converter Bolts, GM TH400, 3/8"-16 x 1/2" (3 Pcs.)
859036	Torque Converter Bolts, GM TH350 & Powerglide, 3/8"-24 x 1/2" (3 Pcs. w/Ny-Lock Nuts)
859037	Flexplate Bolts, Chrysler V8 Except Hemi, 7/16"-20 x 1/2" (6 Pcs. w/ Lock Washers)
859038	Torque Converter Bolts, Chrysler, Except Hemi, 5/16"-24 x 7/16" (4 Pcs. w/Flat Washers)



859022



859029



859036

(Product Section - Continued on next page)



## TRANSMISSION BOLT KITS (MANUAL TRANSMISSION) 859

Pioneer Performance Bolt Kits for Manual Transmissions include special hardened bolts with lock washers for maximum strength. Yellow dichromate finish and conveniently skin packed.

(SKIN PACKAGED 1 KIT/ENGINE)

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

PIONEER NUMBER	DESCRIPTION
859014	G.M., 7/16"-14 x 1-1/2" (4 Pcs.)
859015	Chrysler, Ford, 1/2"-13 x 1-1/2" (4 Pcs.)



## PRESSURE PLATE BOLT KITS 859

Manufactured from Hi-Strength Alloy Steel, Pioneer Performance Pressure Plate Bolt Kits match O.E. thread and shoulder tolerances for a perfect fit.

Black oxidized for corrosion protection and conveniently skin packed.

Kits include hardened lockwashers. (SKIN PACKAGED 1 KIT/ENGINE)

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

PIONEER NUMBER	DESCRIPTION
859024	G.M. & Ford, Borg & Beck/Diaphragm, 3/8"-16 x 1" (6 Pcs.)
859025	Ford, Long Style, 5/16"-18 x 1" (6 Pcs.)



## HEAVY DUTY FLEXPLATES (SFI Approved) 871

Pioneer Performance Heavy Duty Flexplates are manufactured from our own tooling (not an import re-boxed item) and meet SFI Certification 29.1 for racing applications.

The hardness specifications for the gears on the heavy duties are HRC45-55. Heavy duties are balanced to .25 oz/in of the imbalance while ordinary aftermarket are only balanced to 2 oz/in. The .130 thick plates are manufactured from a high strength steel material that exceeds O.E. specs. and bolt patterns are punched from O.E. blue prints to insure exact fit. Ring Gears are double welded and the G.M. flexplates feature a 3/8" dia. dual bolt pattern for Powerglide and Turbohydromatic torque converters. Final steps include a diechromate finish to resist corrosion and a 100% inspection of each piece. (See *Pioneer Performance Techforum V3.4* for further technical information)

(NOTE: Effective in 1995, SFI has revised Spec. 29.1 to include a three year service life. Units in service over three years must be returned to the manufacturer for inspection and re-certification. Contact Pioneer Technical Department for details.)

(PACKAGED 1/BOX)



**871001** (w/o weight)

14.13 Dia. 168 Teeth 12-14 Pitch



**871002** (w/ weight)

14.13 Dia. 168 Teeth 12-14 Pitch



**871003** (w/ weight)

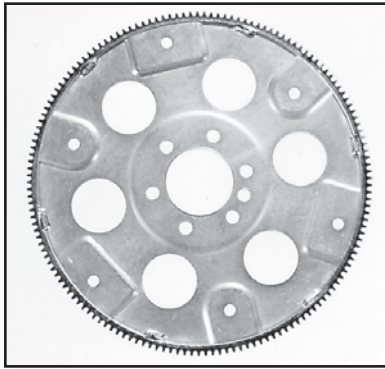
14.13 Dia. 168 Teeth 12-14 Pitch

(Product Section - Continued on next page)

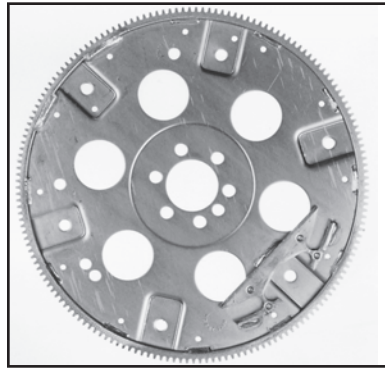


## HEAVY DUTY FLEXPLATES (SFI Approved) - Cont'd.

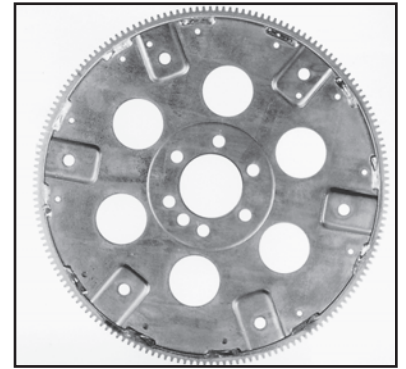
871



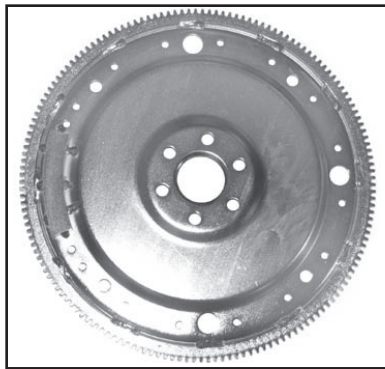
**871004** (w/o weight)  
12.85 Dia. 153 Teeth 12-14 Pitch



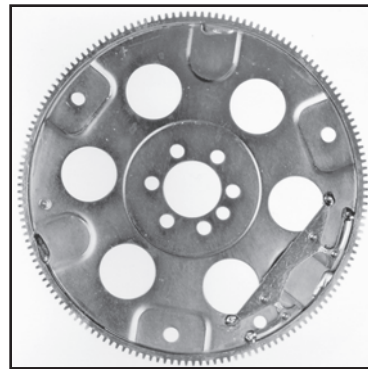
**871006** (w/ weight)  
14.13 Dia. 168 Teeth 12-14 Pitch



**871008** (w/ weight)  
14.13 Dia. 168 Teeth 12-14 Pitch



**871009** (w/ weight)  
13.30 Dia. 157 Teeth 12-14 Pitch



**871010** (w/weight)  
12.85 Dia. 153 Teeth 12-14 Pitch

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

PIONEER NUMBER	DESCRIPTION
<b>871001</b>	Chevrolet – 1957-85, 90° V6 Small Block V8 Except 400 & 1965-90 Big Block V8 Except 454 14.13 Diameter, 168 Teeth w/o weight
<b>871002</b>	Chevrolet – 1970-76 Small Block 400 14.13 Diameter, 168 Teeth w/weight
<b>871003</b>	Chevrolet – 1970-90 - 454 14.13 Diameter, 168 Teeth w/Weight
<b>871004</b>	Chevrolet – 1957-85, 90° V6 & Small Block V8 Except 400 12.85 Diameter, 153 Teeth w/o weight For Powerglide and Turbo 350 Only
<b>871006</b>	Chevrolet – 1986-97, 90° V6 & Small Block V8 14.13 Diameter, 168 Teeth w/Weight
<b>871008</b>	Chevrolet – 1991-97, 454 Gen V & Gen VI w/Cast Iron Crankshaft 14.13 Diameter, 168 Teeth w/Weight
<b>871009</b>	Ford – 1968-76 - 302 & 351W, 10.5 Torque Converter Bolt Circle & 28.2 oz. Balance Weight 13.30 Diameter, 157 Teeth w/weight (871009 has O.E. Thickness w/Re-Inforced Welds on the Ring Gear and Weight)
<b>871010</b>	Chevrolet – 1986-97 - 90° V6 & Small Block V8 12.85 Diameter, 153 Teeth w/Weight — Has Turbo 350 Bolt Pattern Only

(Product Section - Continued on next page)

## PERFORMANCE STREET/RACE BALANCERS 872

**STREET**

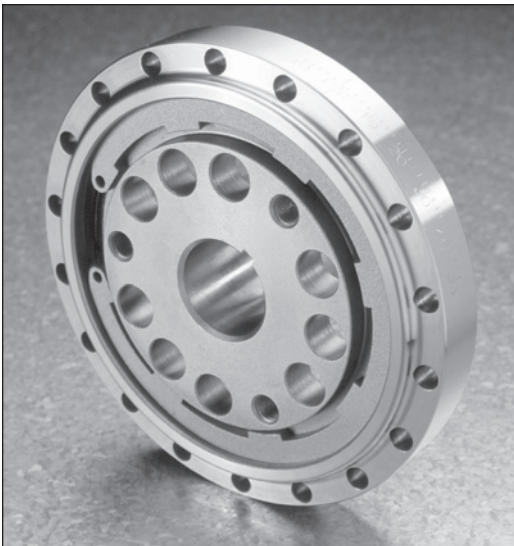
The Pioneer Street Series brings bonded balancer technology within the budget of every performance street engine builder from mild to wild. They also make a great heavy-duty standard replacement balancer.

Pioneer Street Balancers are also perfect for limited spec race classes such as late-model stock that require an OEM style balancer.

The bonded dampening rubber in every Pioneer Street balancer eliminates spinning and component separation giving reliable performance in engines used to 6500rpm.

Pioneer Street Series combines new high-strength SG (Nodular) Iron balancer centres with new inertia rings, bonded then balanced to extremely tight tolerances.

All Pioneer Street balancers feature easy-to-read permanently etched timing marks on the outer ring.

**RACE**

Pioneer Race balancers bring the advantages of bonded rubber to high revving race and street / race applications where an SFI approved balancer is required.

Every Pioneer Race balancer features a precision CNC machined AUSI 1045 steel centre bonded to an equally strong steel inertia ring. Advanced design means that Race balancers are very light for an all steel product. In most cases, they are only marginally heavier than the original cast iron balancer and generally much lighter than other all steel balancers on the market.

The steel inertia ring of the Race models is positively protected against forward and backward movement and has the assurance of bonded rubber to eliminate spinning.

Every model has easy-to-read computer etched timing marks.

**All Pioneer Race balancers meet SFI specification 18.1 and are tested and approved to 12,500 rpm.**

**SERPENTINE**

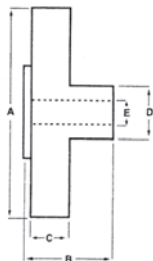
Late model engines with Serpentine belts driven off the damper ring create much higher loads on both the inertia ring and dampening material. The strength and durability of Pioneer bonding technology is even more critical on Serpentine engines particularly in performance or race applications.

Pioneer Serpentine balancers are available for popular late model applications including Chevy LT1, LS1 and LS6 and the Ford 4.6 and 5.4 litre Modular series. To give engine builders maximum flexibility, Street and SFI Race and versions are available. In addition, Race versions are offered in standard diameter and 10% under drive and 25% under drive.

For the LT1 engines, Pioneer offers three bolt on crank flange hubs. These hubs are manufactured from billet steel and are machined to accept a 3/16" keyway for added strength for use with Race Balancer ONLY.

Pioneer Number	Application	Balanced	Wt. (Lbs.)	Pulley Pattern	A	B	C	D	E
<b>CHEVROLET — STREET BALANCERS</b>									
<b>872001</b>	Chevrolet — 90° V6 and Small Block V8 w/ 6 1/4" dia. (Note — TDC mark is located 10° from key-way)	Internal	4.63	3-Bolt	6.12	2.34	0.75	1.76	1.24
<b>872002</b>	Chevrolet — 90° V6 and Small Block V8 w/ 7" dia. (Note — TDC mark is located 10° from key-way)	Internal	8.16	3-Bolt	6.75	2.34	1.19	1.76	1.24
<b>872003</b>	Chevrolet — 90° V6 and Small Block V8 w/ 8" dia. (Note — TDC mark is located 13° from key-way)	Internal	10.4	3-Bolt	8.01	2.33	1.31	1.76	1.24
<b>872004</b>	Chevrolet — Small Block 400 w/ 8" dia.	External	10.5	3-Bolt	8.00	2.33	1.51	1.76	1.24
<b>872005</b>	Chevrolet — Big Block V8 w/ 8" dia.	Internal	12.9	3-Bolt	8.00	2.68	1.71	2.33	1.59
<b>872006</b>	Chevrolet — Big Block 454 & 502 w/ 8" dia.	External	14.3	3-Bolt	8.00	2.68	1.73	2.33	1.59
<b>872012</b>	Chevrolet — 350 Gen 111 LS1 Camaro, Firebird, GTO	Internal	10.5	3-Bolt	7.50	3.58	1.37	2.13	1.48
<b>872013</b>	Chevrolet — 350 LT1 1993-1997 (Not LT4)	Internal	8.8	3-Bolt	7.50	N/A	1.280	N/A	N/A
<b>CHEVROLET — RACE BALANCERS</b>									
<b>872021</b>	Chevrolet — 90° V6 and Small Block V8 w/ 6 1/4" dia. (Note — TDC mark is located 10° from key-way)	Internal	6.0	3-Bolt	6.10	2.36	1.32	1.76	1.24
<b>872022</b>	Chevrolet — 90° V6 and Small Block V8 w/ 7" dia. (Note — TDC mark is located 10° from key-way)	Internal	8.5	3-Bolt	6.72	2.36	1.32	1.764	1.24
<b>872023</b>	Chevrolet — 90° V6 and Small Block V8 w/ 8" dia. (Note — TDC mark is located 13° from key-way)	Internal	11.2	3-Bolt	7.96	2.33	1.60	1.76	1.24
<b>872024</b>	Chevrolet — Small Block 400 w/ 8" dia.	External	10.6	3-Bolt	7.96	2.33	1.60	1.76	1.24
<b>872025</b>	Chevrolet — Big Block V8 w/ 8" dia.	Internal	15.4	3-Bolt	7.96	2.68	1.94	2.33	1.59
<b>872026</b>	Chevrolet — Big Block 454 & 502 w/ 8" dia.	External	15.9	3-Bolt	7.96	2.68	1.94	2.33	1.59
<b>872041</b>	Chevrolet — 350 Gen. 111 LS1 Camaro, Firebird, GTO	Internal	11.2	3-Bolt	7.50	3.66	1.37	2.13	1.48
<b>872042</b>	Chevrolet — 350 Gen. 111 LS1 Camaro, Firebird, GTO w/10% underdrive	Internal	9.9	3-Bolt	6.81	3.66	1.37	2.13	1.48
<b>872043</b>	Chevrolet — 350 LT1 1993-97(Not LT4) (use w/ crank flange hub 872015, 872016 or 872049)	Internal	9.5	3-Bolt	7.50	N/A	1.280	N/A	N/A
<b>872044</b>	Chevrolet — 350LT1 1993-97 with 10% underdrive (NOT LT4) (Use w/crank flange hub 872015, 872016 or 872049)	Internal	8.37	3-Bolt	6.75	N/A	1.280	N/A	N/A
<b>872046</b>	Chevrolet — Big Block V8 w/7" dia.	Internal	9.00	3-Bolt	7.00	2.68	1.50	2.33	1.59
<b>872047</b>	Chevrolet — 350 Gen. 111 LS2, LS6 Corvette, SSR	Internal	11	3-Bolt	7.50	2.83	2.40	2.13	1.48
<b>872048</b>	Chevrolet — Small Block 400 w/7" dia.	External	8.6	3-Bolt	6.75	2.34	1.19	1.76	1.24
<b>872050</b>	Chevrolet — 350 Gen. 111 LS2, LS6 Corvette, SSR w/10% underdrive (front accessory pulley is 6.51 o.d.)	Internal	11	3-Bolt	7.24	2.83	2.40	2.13	1.48
<b>872055</b>	Chevrolet — 350 Gen. 111 LS1 Camaro, Firebird, GTO w/25% underdrive	Internal	9.9	3-Bolt	6.22	3.87	1.37	2.13	1.48
<b>872058</b>	Chevrolet — 350 Gen. 111 LS2, LS6 Corvette, SSR	Internal	9.82	3-Bolt	7.24	2.83	2.45	2.13	1.48
<b>NEW! 872060</b>	<b>Chevrolet — 90° V6 and Small Block V8 w/6-1/4"; Big Block snout (Note- TDC mark is located 10° from key-way)</b>	<b>Internal</b>	<b>6.13</b>	<b>3-Bolt</b>	<b>6.10</b>	<b>2.36</b>	<b>1.32</b>	<b>2.33</b>	<b>1.59</b>
<b>NEW! 872061</b>	<b>Chevrolet — 90° V6 and Small Block V8 w/7" Dia.; Big Block Snout (Note- TDC mark is located 10° from key-way)</b>	<b>Internal</b>	<b>8.36</b>	<b>3-Bolt</b>	<b>6.72</b>	<b>2.36</b>	<b>1.32</b>	<b>2.33</b>	<b>1.59</b>
<b>NEW! 872063</b>	<b>Chevrolet — 350 Gen. 111 LS1/LS2/LS6 Corvette, SSR w/8" rib pulley for super charger conversion</b>	<b>Internal</b>	<b>11</b>	<b>3-Bolt</b>	<b>7.50</b>	<b>2.83</b>	<b>2.45</b>	<b>2.13</b>	<b>1.48</b>
<b>CHEVROLET — CRANK FLANGE HUBS</b>									
<b>872015</b>	Chevrolet — 350 LT1 F-Body 1993-95 and Corvette 1992-95 w/keyway slot replaces OEM No. 12553250 (Use 3/16" x 1-3/8" Woodruff Key)			3-Bolt			3.516		
<b>872016</b>	Chevrolet — 350 LT1 Caprice and Impala 193-95 w/keyway slot replaces OEM No. 10168570 (Use 3/16" x 1-38" Woodruff Key)			3-Bolt			4.09		
<b>872049</b>	Chevrolet — 350 LT1 F-Body 1996-97 and Corvette 1996 w/keyway slot replaces OEM No. 12550097 (Use 3/16" x 1-3/8" Woodruff Key)			3-Bolt			3.417		

**INSTALLATION INSTRUCTIONS:**



- All balancers are designed to be installed with a standard OEM length bolt, torqued to the vehicle manufacturers specifications. After market high tensile balancer bolts are recommended for race applications and are available for Pioneer.
- Please use a purpose built balancer removal and installation tool to avoid damage to the balancer and crankshaft.
- After removal of the old balancer inspect your crankshaft for burrs nicks & keyway damage, use a fine file to clean up any damage.
- Stone or file a slight radius to break the sharp edge on the end of the crankshaft snout.
- Inspect crankshaft key for damage and replace if necessary.
- Use an anti-seize lubricant on the crank snout before installing your new balancer.
- Correct interference fit between the balancer hub and crankshaft is essential to transmit vibration to the balancer assembly.

Recommended Interference Fit is as follows:

.7510" -	1.0000" -	---	.0008" -	.0012"
1.0010" -	1.2500" -	---	.0009" -	.0013"
1.2510" -	1.3750" -	---	.0010" -	.0014"
1.3760" -	1.6000" -	---	.0011" -	.0015"
1.6010" -	2.0000" -	---	.0013" -	.0017"

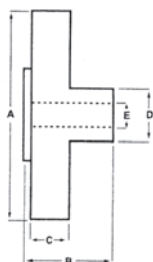
- The crank O.D. must be checked with a micrometer and the balancer I.D. with a bore gauge to verify correct interference fit.
- Balancer bores are manufactured at bottom tolerance to accommodate variation in aftermarket crankshaft diameters. Your balancer I.D. may require honing to achieve the correct interference fit.



<b>PERFORMANCE STREET / RACE BALANCERS - Cont'd.</b>		Balanced	Wt. (Lbs.)	Pulley Pattern	A	B	C	D	E
Pioneer No.	Application								
<b>CHRYSLER — STREET BALANCERS</b>									
872020	Chrysler — 318-340	Internal	7.7	6-Bolt	7.08	2.56	.950	2.18	1.55
872039	Chrysler — 383-440	Internal	7.7	6-Bolt	7.11	2.56	1.20	2.18	1.53
<b>CHRYSLER — RACE BALANCERS</b>									
872037	Chrysler — 318-340	Internal	9.4	6-Bolt	7.24	2.60	1.20	2.19	1.55
872038	Chrysler — 360	External	9.4	6-Bolt	7.21	2.56	1.20	2.19	1.55
872040	Chrysler — 383-440	Internal	9.4	6-Bolt	7.11	2.56	1.20	2.18	1.53
<b>FORD — STREET BALANCERS</b>									
872007	Ford — 351 Cleveland w/ Counter Weighted Hub	External	9.3	4-Bolt	6.50	3.50	1.26	1.87	1.37
872008	Ford — 302-351W w/28 oz. Counter Weighted Hub and raised pulley location	External	9.2	3-Bolt	6.50	3.18	1.26	1.87	1.37
872009	Ford — 302-351W w/ 28oz. Counter Weighted Hub and countersunk pulley location	External	9.1	3-Bolt	6.50	3.02	1.26	1.87	1.37
872010	Ford — 302 HO w/ EFI and 50 oz. counter weighted ring	External	9.1	4-Bolt	6.40	4.13	1.50	1.87	1.37
872014	Ford — Mustang 4.6 (SOHC)	Internal	6.8	3-Bolt	6.75	1.75	1.25	1.75	1.25
872017	Ford — 429-460	1	8.32	4-Bolt	6.62	2.43	1.37	2.18	1.37
872018	Ford — 302-351W w/28 oz. counter weighted hub	External	10.11	4-Bolt	6.50	4.09	1.29	1.87	1.37
872019	Ford — 289	External	6.6	3-Bolt	6.33	3.00	.760	1.87	1.37
872052	Ford — 5.4 SOHC and DOHC V8 w/ 6 groove pulley	Internal	9.0	3-Bolt	7.05	2.32	1.83	1.87	1.25
872056	Ford — 390 FE Big Block w/o integral pulley	Internal	7.7	4-Bolt	7.00	1.574	1.102	2.00	1.374
<b>FORD — RACE BALANCERS</b>									
872027	Ford — 351 Cleveland w/counter weighted hub	External	10.9	4-Bolt	6.50	3.50	1.39	1.87	1.37
872028	Ford — 302-351W w/28oz. counter weighted hub and raised pulley location	External	10.9	3-Bolt	6.50	3.18	1.39	1.87	1.37
872029	Ford — 302-351W C.I.D.w/28oz. counter weighted hub and countersunk pulley location	External	10.9	3-Bolt	6.50	3.02	1.39	1.87	1.37
872030	Ford — 302 HO w/ EFI and 50oz. counter weighted ring	External	9.9	4-Bolt	6.37	4.13	1.57	1.87	1.37
872032	Ford — 302-351W C.I.D. w/28oz. counter weighted hub	External	11.4	4-Bolt	6.50	4.11	1.39	1.87	1.37
872034	Ford — 302-351W	Internal	8.0	4-Bolt	6.10	4.13	1.57	1.87	1.37
872035	Ford — Mustang 4.6 (SOHC)	Internal	7.2	3-Bolt	6.88	1.80	1.32	1.75	1.25
872036	Ford — 429-460	1	9.2	4-Bolt	6.76	2.40	1.48	2.18	1.37
872053	Ford — 5.4 SOHC and DOHC V8 w/10% underdrive w/6 groove pulley	Internal	9.1	3-Bolt	6.35	2.32	1.83	1.87	1.25
872057	Ford — 390 FE Big Block w/o integral pulley	Internal	8.9	4-Bolt	7.00	1.78	1.156	2.00	1.374
<b>HONDA — RACE BALANCERS</b>									
<b>NEW!</b> 872062	Honda — B16-B18A/B Civic, Integra w/air cond. & power steering; Alternator pulley is 20% under drive	Internal	5.00	N/A	5.00	2.48	2.20	1.617	1.09
<b>PONTIAC — STREET BALANCERS</b>									
872011	Pontiac — 301-455	Internal	6.8	4-Bolt	6.79	3.24	1.13	1.87	1.37
<b>PONTIAC — RACE BALANCERS</b>									
872031	Pontiac — 301-455	Internal	10.4	4-Bolt	6.76	2.84	1.26	1.87	1.37

1 — Replaces Internal and External Balanced Dampers. Must be used with O.E. weighted sleeve for external balanced applications.

#### INSTALLATION INSTRUCTIONS:



- All balancers are designed to be installed with a standard OEM length bolt, torqued to the vehicle manufacturers specifications. After market high tensile balancer bolts are recommended for race applications and are available for Pioneer.
- Please use a purpose built balancer removal and installation tool to avoid damage to the balancer and crankshaft.
- After removal of the old balancer inspect your crankshaft for burrs nicks & keyway damage, use a fine file to clean up any damage.
- Stone or file a slight radius to break the sharp edge on the end of the crankshaft snout.
- Inspect crankshaft key for damage and replace if necessary.
- Use an anti-seize lubricant on the crank snout before installing your new balancer.
- Correct interference fit between the balancer hub and crankshaft is essential to transmit vibration to the balancer assembly.

Recommended Interference Fit is as follows:

.7510" -	1.0000" -	---	.0008" -	.0012"
1.0010" -	1.2500" -	---	.0009" -	.0013"
1.2510" -	1.3750" -	---	.0010" -	.0014"
1.3760" -	1.6000" -	---	.0011" -	.0015"
1.6010" -	2.0000" -	---	.0013" -	.0017"

- The crank O.D. must be checked with a micrometer and the balancer I.D. with a bore gauge to verify correct interference fit.
- Balancer bores are manufactured at bottom tolerance to accommodate variation in aftermarket crankshaft diameters. Your balancer I.D. may require honing to achieve the correct interference fit.

## HEAVY DUTY PILOT BUSHING/BEARING

873

Recommended for performance applications, Pioneer Performance Heavy Duty Pilot Bushings reduce problems caused by heat build-up. Manufactured from 100% bronze material.

Roller Pilot Bearing is a direct replacement for O.E.M. bronze bushing and uses a needle bearing sleeve to reduce friction and heat, providing quicker and smoother shifts.

(SKIN PACKAGED 1/CARD)



873008



873001

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS					
PIONEER NUMBER	TYPE	O.D.	I.D.	DEPTH	DESCRIPTION
873001	Bushing	1.094	.592	.750	Buick – 231, 1975-94; 350, 1968-81 Chevrolet – 200-454, 1957-97 Oldsmobile – 350-455, 1968-80
873008	Bearing	1.093	.596	.715	Buick – 231, 1975-94; 350, 1968-81 Chevrolet – 200-454, 1957-97 Oldsmobile – 350-455, 1968-80

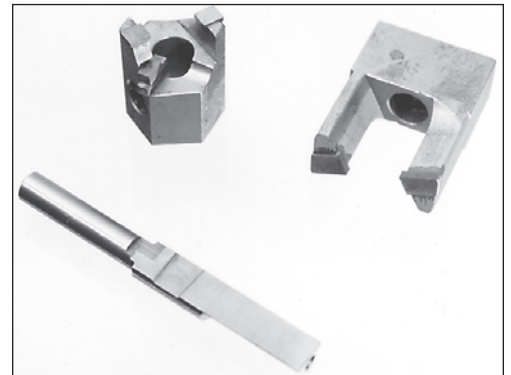
## VALVE GUIDE AND VALVE SPRING SEAT MACHINING TOOLS

890

Pioneer Performance carbide cutting bodies allow you to machine valve guides (for correct fit of valve stem oil seals) or counter-bore valve spring seats (to accept over-sized springs). Build your own custom machining tool with our pilots, sold separately.

(PACKAGED 1/BOX)

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS	
PIONEER NUMBER	DESCRIPTION
890001	.530 Dia. Carbide Valve Guide Cutting Body
890002	.500 Dia. Carbide Valve Guide Cutting Body
890003	.343 Dia. Pilot
890004	.375 Dia. Pilot
890006	.625 x 1.500 Carbide Valve Spring Counter Bore Tool



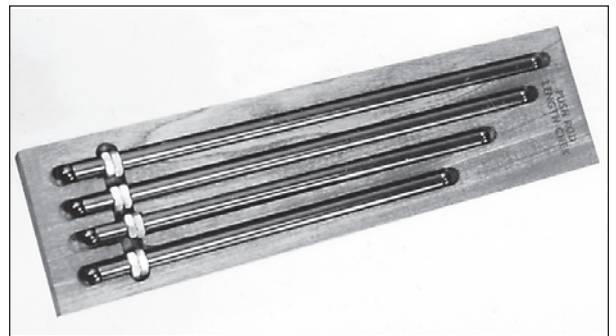
## PUSH ROD LENGTH GAUGE KIT

890

Pioneer's Performance Push Rod Length Gauge Kit allows you to accurately determine correct push rod lengths during engine assembly. A must when setting up the valve train assembly for proper geometry.

KIT INCLUDES: 4, 5/16" Dia. Gauges packaged in a wooden storage case with instructions.

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS	
PIONEER NUMBER	DESCRIPTION
890100	Adjustable Length Gauge Kit Consists of Four Length Ranges from
	7.5" to 8.7"
	8.5" to 9.8"
	9.7" to 11.0"
	10.2" to 11.5"





## PROFESSIONAL DEGREE WHEEL KIT

890

Check for proper valve timing during camshaft installation with Pioneer's Performance Degree Wheel Kit.

CNC machined 14" dia. degree wheel is accurately printed on both sides for precise measurements. One side is used for checking lobe centerline and the other side for checking camshaft duration.

Heat treated adapter hub allows crankshaft to be rotated without "mashing" the degree wheel and assures concentric crankshaft centerline for consistent accuracy.

KIT also includes adapter bushings, bolts, (for G.M. & Ford engines), cam data sheet and instructions.

*Preferred by many Professional High Performance Engine Builders.*

(PACKED 1/BOX)

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

PIONEER NUMBER	DESCRIPTION
890103	Kit Contents: 1 - 14" Aluminum Degree Wheel 1 - Adapter Hub 1 - 7/16" Reducer Bushing (For Chevrolet 262Z - 400) 1 - 1/2" Reducer Bushing (For Chevrolet 396-454) 1 - 5/8" Reducer Bushing (For Ford, Pontiac, Oldsmobile)



## VALVE TRAIN CHECKING SPRING KIT

890

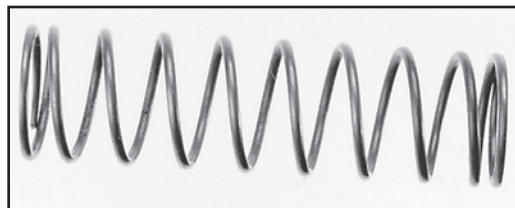
These low tension springs are useful when decreasing the camshaft, checking for piston to valve clearance, etc..

For all popular engines.

PACKAGED 2/CARD

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

PIONEER NUMBER	DESCRIPTION
890108	Valve Train Checking Spring Kit



## ROD BOLT STRETCH GAUGE

890

Anodized Aluminum Rod Bolt Stretch Gauge is designed to actually hold itself onto the rod bolt while it's being tightened. The included .001" dial indicator has been modified with a super high tension spring for superior holding power and precision. Our lightweight stretch gauge also features an adjustable anvil to accommodate rod bolts up to 2.750" in length.

PACKAGED 1/BOX

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS

PIONEER NUMBER	DESCRIPTION
890109	Rod Bolt Stretch Gauge



VALVE STEM SEAL INSTALLATION TOOL

890

These new tools from Pioneer Performance make the installation of Positive Type (P.C.) seals much easier.

Not for use on Pioneer SIR valve seals.

Packaged 1/CARD

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS	
PIONEER NUMBER	DESCRIPTION
890110	For 11/32" Valve Seals
890111	For 3/8" Valve Seals



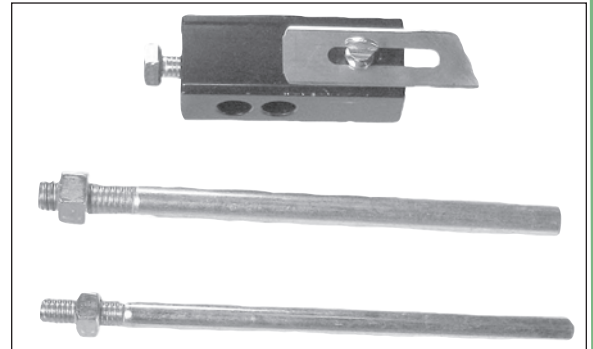
DEGREE WHEEL POINTER KIT

890

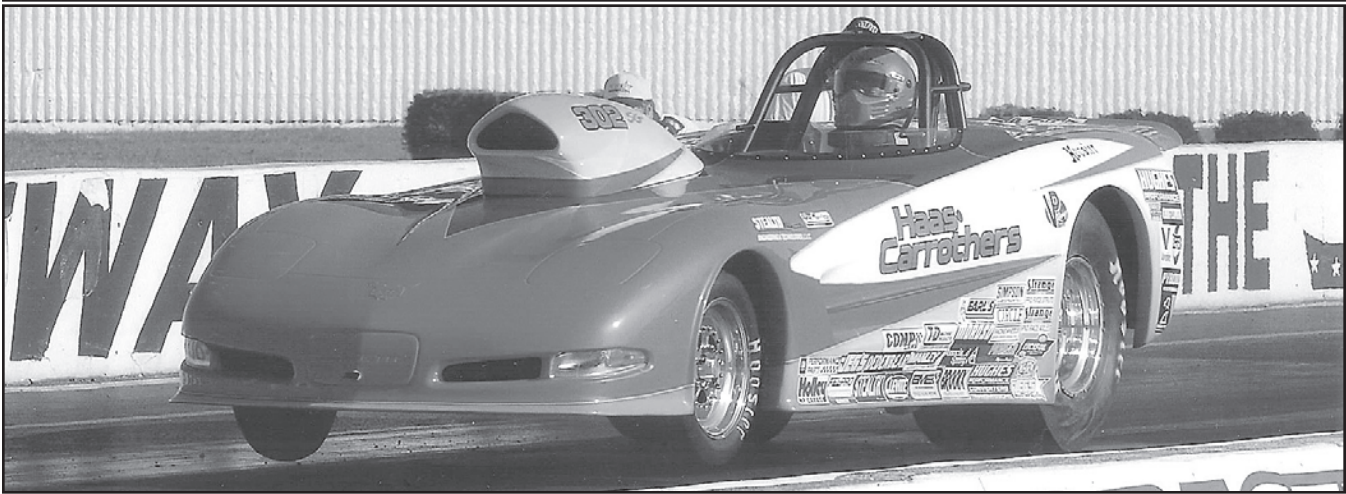
A CNC-machined, billet aluminum block is securely clamped to either a 5/16" or 3/8" stud, allowing for precise positioning of the razor blade pointer at the edge of the degree wheel. Easily repeatable measurements are accurate to less than 1/2 degree.

Use with Pioneer Performance Degree Wheel Number 890103.

SEE MATRIX PAGE 19 THROUGH 87 FOR SPECIFIC ENGINE APPLICATIONS	
PIONEER NUMBER	DESCRIPTION
890112	Degree Wheel Pointer w/5/16" and 3/8" stud

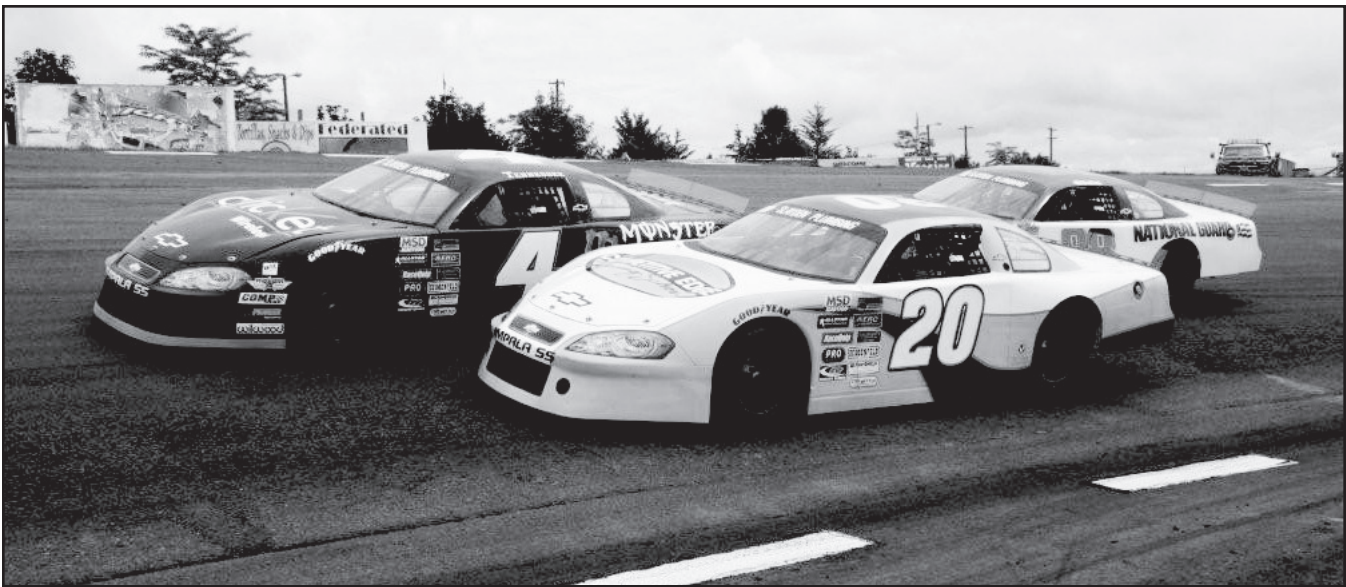






HASS, CARROTHERS RACING

NHRA SUPER GAS



COMPETITIVE EDGE RACING SCHOOL



MYRON PIATEK

IHRA STOCK

(See Pioneer's Shop Supply Catalog for a complete listing of Engine Builder's Tools and Equipment.)

## ANAEROBIC ADHESIVE / SEALANTS

**THREAD LOCK – T-51404 – (BLUE) Medium-Strength**, General purpose, gap filling formulation for all nuts, bolts, and screws. Transforms regular nuts into lock nuts, locking them against shock and vibration.

Packed 12 - 50 ML Bottles/Case

**STUD LOCK – T-51414 – (RED) High-Strength**, gap filling formulation for use on all studs and bolts up to 1" diameter. Gives class 2 studs a strength greater than a class 5 fit. Use on aluminum and cast iron head/block fittings, rocker arm studs, and many other parts which need to lock and seal.

Packed 12 - 50 ML Bottles/Case

## CAM CHECKER TOOL

Accurately measures camshaft lobe lift, base circle runout, and lifter travel, when degreasing a camshaft. Includes adapters to work with hydraulic, flat tappet, and roller cams. Uses a standard 1" travel dial indicator (not included).

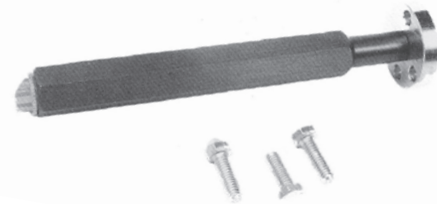
PIONEER NUMBER	DESCRIPTION
46417	Cam Checker Tool All Ford & GM
46418	Cam Checker Tool, All Chrysler
46421	Cam Checker Tall Block Extension



## CAMSHAFT INSTALLATION HANDLE

Hex design provides a non-slip handle to simplify camshaft installation without damaging bearings. Mounting hardware is stored inside the handle when not in use. Patent Pending.

PIONEER NUMBER	DESCRIPTION
488012	Camshaft Handle Chevy V8

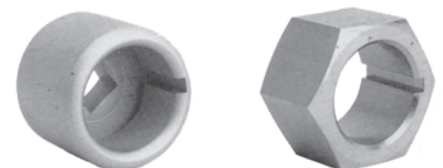


## CRANKSHAFT SOCKETS AND TURNING NUTS

Rotating the crankshaft during engine assembly is now made easy with new crankshaft sockets. Manufactured from heat treated alloy steel. Gold iridite plated for maximum corrosion resistance. 1/2" square drive.

Crank turning nuts are designed to be slipped on to the crankshaft snout before installing a degree wheel. These precision machined nuts provide a convenient place to rotate the engine assembly while degreasing in a camshaft. Gold iridite plated steel.

PIONEER NUMBER	DESCRIPTION
488600	Socket - Small Block Chevy, V8, 90° V6
488620	Nut - Small Block Chevy
488625	Nut - Big Block Chevy
488630	Nut - Ford (Windsor & Cleveland), Buick, Olds., Pontiac
488635	Nut - Mopar – All V8



(Tools & Equipment - Continued on next page)

(See Pioneer's Shop Supply Catalog for a complete listing of Engine Builder's Tools and Equipment.)

## DAMPER INSTALLATION TOOLS

Fits both Small & Big Block Chevy, and Ford crankshafts. Uses a thrust bearing to "ease" damper in place.

PIONEER NUMBER	DESCRIPTION
488200	Damper Installer for Chevrolet
488205	Damper Installer for Ford



## DIAL INDICATOR

PIONEER NUMBER	DESCRIPTION
44343	Flat Back

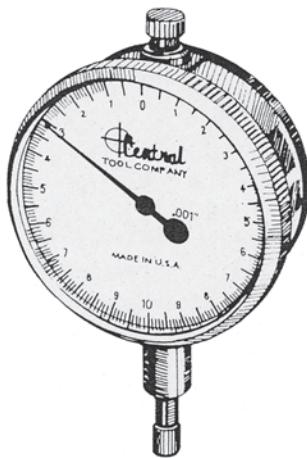
### MAGNETIC BASES:

Securely mount your dial indicators on these magnetic bases.

Powerful, rugged, heavy duty magnets grip either flat or curved steel surfaces.

### 1/2" DIAMETER SHANK

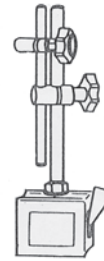
RANGE - 1.0"  
GRADS - .001"  
READING - 0 - 100  
DIAMETER - 2-1/4"



**46415** PIONEER NUMBER

Powerful, compact base with adjustable swivel clamp for post and arm.

POST 4", ARM 4"



**46416** PIONEER NUMBER

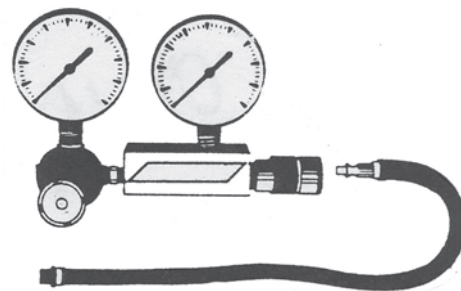
Features magnetic release switch and separately adjustable post and are clamps with large locking knobs.

POST ", ARM 6"

## DUAL GAUGE LEAKDOWN TESTER

Verify cylinder and head assembly conditions and integrity. Complete with a 14mm stainless steel fitting and hose assembly for use with most popular engines. Includes complete instructions. Can also be used to flow fuel injectors and valves.

PIONEER NUMBER	DESCRIPTION
488015	Leakdown Tester w/14mm Hose Assembly
OPTIONAL HOSE ASSEMBLIES:	
488016	14mm Extended Reach Hose Assembly
488017	18mm Hose Assembly



(Tools & Equipment - Continued on next page)



(See Pioneer's Shop Supply Catalog for a complete listing of Engine Builder's Tools and Equipment.)

## ENGINE ASSEMBLY FLUID

PRELUBE Engine Assembly Fluid is specially formulated for assembly of both gasoline and diesel engines.

The viscosity is sufficiently high to maintain a lubricating film even after long storage at high ambient temperatures and yet not so high that it cannot be sprayed from conventional hand pump oilers

PRELUBE Engine Assembly Fluid contains a special extreme pressure additive that plates out on the bearings and journals to assure freedom from scoring or galling during that critical engine start up period before the oil pump delivers engine oil to the bearings.

In addition to the special extreme pressure, lubricity and anti-gall additives, PRELUBE Engine Assembly Fluid contains corrosion inhibitors to prevent rust and corrosion in storage.

PIONEER NUMBER **T-5110** – 4 Oz. Bottle  
**T-5110-1** – 1 Gallon  
**T-5110-5** – 5 Gallon

## HARMONIC BALANCER PULLER

**T-640** PIONEER NUMBER

This puller is designed to pull crankshaft, vibration dampers, pulleys or any gear with tapped holes. The four slots in the yoke allows the use of this tool to either two or three hole applications. The floating swivel prevents damage to shaft ends.

Included are the necessary slide screws.

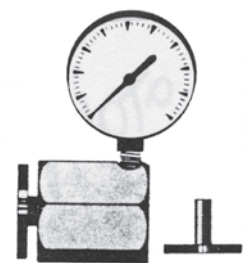
- 3 – 3/8" - 24 N.F. - 2" Hexagon Bolt
- 3 – 5/16" - 18 N.C. - 2" Hexagon Bolt
- 2 – 3/8" - 16 N.C. - 4" Hexagon Bolt



## MINI VALVE SPRING TESTER

Hex design for easier handling. Can be used in a vise, arbor or a drill press with our optional chuck flange. All surfaces anodized or plated.

PIONEER NO.	DESCRIPTION
488000	Spring Tester 300 PSI
488001	Spring Tester 600 PSI

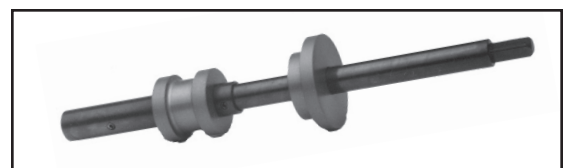


## OIL PUMP PRIMERS

These rugged oil pump primer tools with their triangular non-slip drive ends are designed to prime the oil pump prior to engine start up. They help ensure your engine will build oil pressure during that critical start up period on your new or remanufactured engine.

Part No. 488402 includes a collar that will pressurize the lifter galley during priming.

PIONEER NO.	APPLICATIONS
488401	Basic Chevy V-8
488402	Premium Chevy V-8 Tool



(Tools & Equipment - Continued on next page)

## OIL SCREEN DRIVERS

PIONEER NUMBER	DESCRIPTION
494120	3/4" Driver
494121	5/8" Driver



The Oil Screen Driver is used to install the Oil Screen into the Oil Pumps on both the small and big block Chevy engines. It is very easy to use due to its design. It can be used either by hand, that is driving it with a hammer, or with an air driver. The driver uses the same center line as the screen, thus the driving force used to install the screen drives the screen straight ahead.

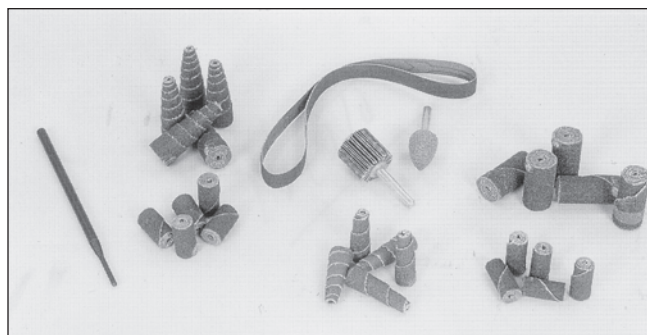
Available 3/4" and 5/8"

## PORTING & POLISHING ABRASIVE KIT

**PPK-100** PIONEER KIT NUMBER

### REPLACEMENT ABRASIVES PACKS

PIONEER NUMBER	DESCRIPTION	GRIT	QTY.
* PPK-1	Full-Taper Spiral Roll (1/2" x 1-1/2" x 1/8")	80	50
* PPK-2	Full-Taper Spiral Roll (3/4" x 2" x 1/8")	80	50
* PPK-3	Cartridge Roll (3/4" x 1-1/2" x 1/8")	50	50
* PPK-4	Flap Wheel (1" x 1" x 1/4")	120	5
* PPK-5	Roll Mandrel		1
PPK-7	Flap Wheel (1-5/8" x 1")	80	1
PPK-8	Flap Wheel (2" x 1")	80	1
PPK-9	Flap Wheel (2-1/2" x 1")	80	1
PPK-11	Abrasive Belt (1/2" x 18")	80	10
* PPK-12	Abrasive Belt (1/2" x 18")	120	10
* PPK-15	Straight (1/2" x 1")	80	10
* PPK-16	Straight (3/8" x 1")	80	10
* TM-12	Grinding Wheel		1



PPK-100 Kit Contains:

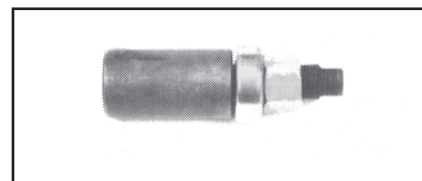
PPK-1	.....Qty. 5
PPK-2	.....5
PPK-3	.....5
PPK-4	.....1
PPK-5	.....1
PPK-12	.....1
PPK-15	.....5
PPK-16	.....5
TM-12	.....1

\* DESCRIPTION OF PARTS IN PIONEER KIT NO. PPK-100

## ROCKER STUD PULLER

**498305** PIONEER NUMBER

Heavy duty rocker arm stud puller for both 3/8 and 5/16 studs. Designed for easy removal of press in studs. Place stud remover over stud to be removed, tighten nut down until stud is removed.

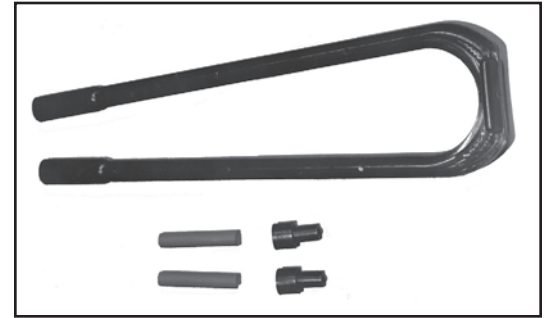


(See Pioneer's Shop Supply Catalog for a complete listing of Engine Builder's Tools and Equipment.)

## ROD GUIDE

**498403** PIONEER NUMBER

Eliminates the possibility of crankshaft or cylinder bore damage. Once this unique tool (made from tough high impact plastic) is attached to the connecting rod, it will help prevent undesirable scratches on the crankshaft and cylinder bores during both the assembly and disassembly process. Works on virtually all connecting rods. Comes complete with adapter to fit 3/8" and 7/16" connecting rod bolts as well as 3/8" dowels.



## SPRING TESTER — 500 – 1,000 Lb. Capacity for Checking Valve and Clutch Compression Springs

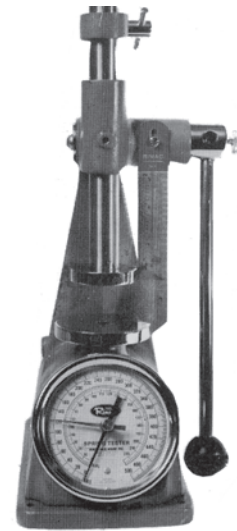
<b>T-69</b> PIONEER NUMBER	500 Lb. Capacity
<b>T-70</b> PIONEER NUMBER	1,000 Lb. Capacity

Today more than ever, valve servicing requires higher standards of workmanship and closer adherence to specifications than ever before. The great emphasis on high compression and top performance has put a tremendous strain on each component in the valve train - each must function at peak efficiency. Any variation from factory specifications during service work will usually result in poor engine performance.

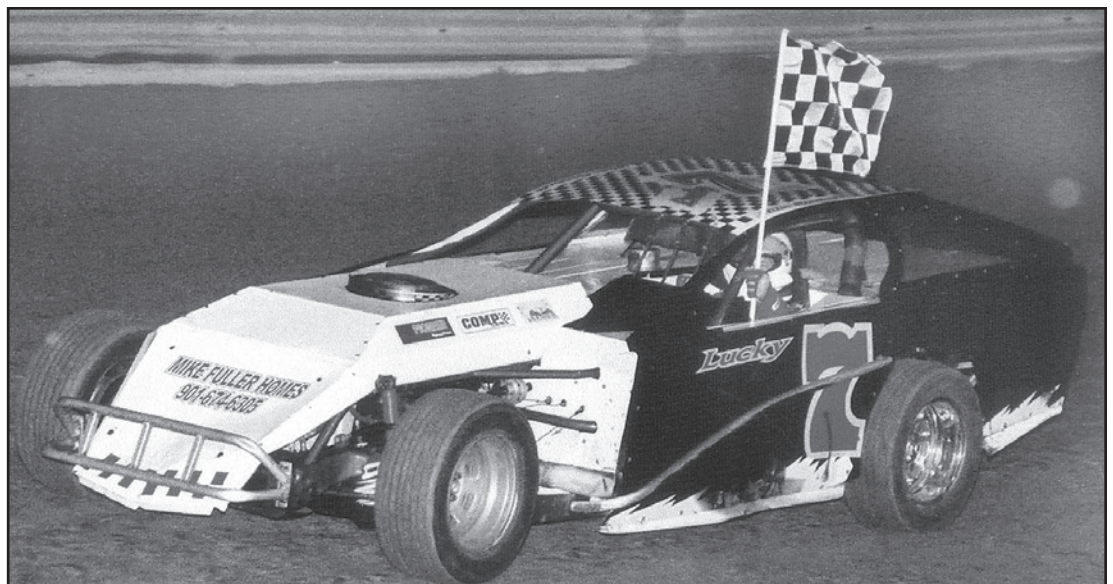
Rimac Spring Testers are specially designed for rapid testing of compression springs. Because of their 500 and 1,000 pound pressure ranges, these testers are well equipped to handle a wide variety of valve and clutch springs, including the heavy-duty diesel types, up to 2" diameter and 4-1/2" free-length.

NEW - Each unit is equipped with an easy zero adjustment, a recoil protected mechanism and an adjustable maximum reading pointer which can be used as a fixed tolerance marker for measuring pressure or breaking strains.

A handy up-to-date Valve Spring Specification Chart for domestic cars and tractors is included with every Rimac Spring Tester.



<b>T-69</b> .....	<b>500 Lbs.</b>	Spring Length Scale .....	graduated in inches & centimeters
<b>T-70</b> .....	<b>1,000 Lbs.</b>	Spring Pressure Scale.....	graduated in pounds & kilograms
Ram Travel.....	4-5/8"	Height .....	15-1/4"
Upper Platform.....	2-1/4" Diameter	Base .....	5 - 5-3/4" Wide x 10-1/4" Deep
Lower Platform.....	3-1/4" Diameter	Shipping Weight .....	18 Lbs.



**CANTRELL  
MOTORSPORTS**  
  
**OPEN-WHEEL  
MODIFIED**

*(See Pioneer's Shop Supply Catalog for a complete listing of Engine Builder's Tools and Equipment.)*

**SPEEDY TOOLS FOR INSTALLING PISTONS  
IN MOST MAKES AND MODELS OF ENGINES**

PIONEER NO.	DESCRIPTION
<b>T-214</b>	<b>TWO-BAND MODEL</b>

**Capacity 2-1/8" to 5" Depth 3-1/2"**

Compressor band takes all rings at once, including skirt rings. Self-locking heavy duty ratchet pawl prevents premature release. Double tension band of highest grade spring steel eliminates bottom flare. Square wrench included / Individual Carton / Weight 1 Lb.

PIONEER NO.	DESCRIPTION
<b>T-215</b>	<b>FOUR-BAND MODEL</b>

**Capacity 3-1/2" to 7" Depth 6-1/2"**

Special for heavy duty skirt pistons. Equipped with four tension bands, double self-locking ratchet. Square wrench included / Individual Carton / Weight 2 Lbs.

PIONEER NO.	DESCRIPTION
<b>T-216</b>	<b>RING-O-MATIC SET</b> Complete Set w/Pliers and size bands: Range from 2-7/8" to 4-3/8"
<b>T-216-A</b>	<b>PLIERS ONLY</b> / Wt. 1 Lb. 2 Ozs.
<b>T-216-S</b>	<b>PLIERS W/ONE BAND SIZE</b> - 3-3/8" to 3-5/8", the most popular size used / Wt. 1-1/2 Lbs.



**PISTON RING COMPRESSORS W/  
TRIGGER RATCHET**

COMPLETE SET BANDS AND PLIERS, makes repetitive ring installation easier...particularly when identical size of rings are installed at the same assembly unit. It speeds work and thus reduces labor costs. Without taking the pliers off the band on which you are working, you can operate it from either a vertical or horizontal position. Pliers have a fine ratchet mechanism which permits the bands to be contracted by minute graduations. To instantly release bands to regular position, just depress the thumb ratchet. Hardened steel for durable wear. Weight 3-1/2 Lbs.

PISTON RING BANDS AVAILABLE	
<b>T-216-B</b>	Size - 2-7/8" to 3-1/8"
<b>T-216-C</b>	Size - 3-1/8" to 3-3/8"
<b>T-216-D</b>	Size - 3-3/8" to 3-5/8"
<b>T-216-E</b>	Size - 3-5/8" to 3-7/8"
<b>T-216-F</b>	Size - 3-7/8" to 4-1/8"
<b>T-216-G</b>	Size - 4-1/8" to 4-3/8"

**TAPERED RING COMPRESSORS**

PIONEER NO.	DESCRIPTION
<b>488970</b>	4.00" - 4.090" Adjustable
<b>488980</b>	4.250" - 4.340" Adjustable

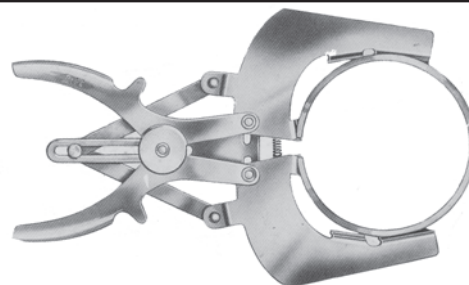


<b>FOUR-BAND MODEL</b>	<b>T-202</b>
------------------------	--------------

**Range 2-3/4" to 4-1/4" (69.9 - 108mm)**

Without the danger of breakage or distortion. No adjustments needed, all rings expanded whether step-out or diagonal cut.

Individual Carton / Weight 10 Ozs.



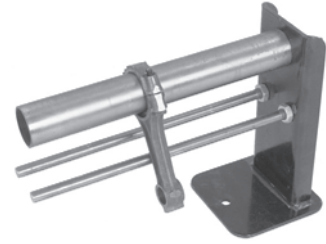


(See Pioneer's Shop Supply Catalog for a complete listing of Engine Builder's Tools and Equipment.)

## TORQUING BAR

**498401** PIONEER NUMBER

When bolted to a work bench, this torquing bar will hold up to 12 rods while you torque them in place. Saves time and money when setting up and resizing connecting rods.



## HEAVY DUTY ROD VISE

**498402** PIONEER NUMBER

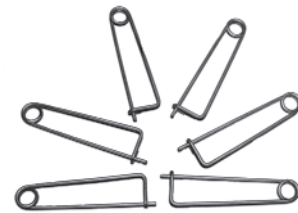
This portable speciality vise will accurately align parting surfaces without damaging the rod. Once the rod is securely in place you can easily torque the rod bolts.



## CONNECTING ROD SAFETY PINS

**498404** PIONEER NUMBER

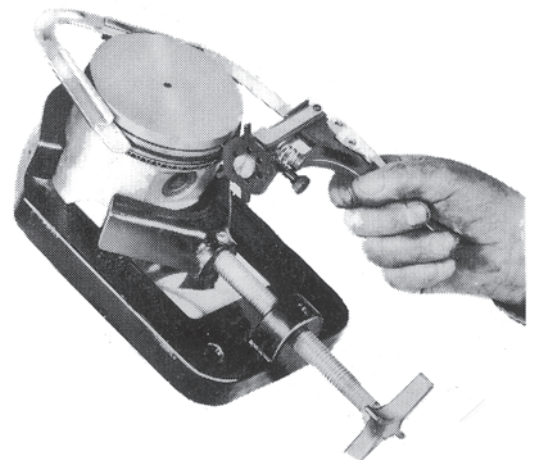
Now you can safely clean connecting rods and their caps while keeping them together. This simple but effective tool will provide long service as long as they are not used in a cleaning oven.



## PISTON GROOVE CUTTER/CLEANER

PIONEER NUMBER	DESCRIPTION
<b>T-222</b>	<b>Fits All Pistons Range 2.6" to 5"</b>
<b>T-222-D</b>	<b>CUTTER</b> - Widths: 3/32", 1/8", 5/32", 3/16", 1/4"
<b>T-222-A</b>	<b>CUTTER BLADE:</b> Wide Groove Widths: 1/16", 5/64", 3/32", 1/8", 3/16"
<b>T-222-B</b>	<b>CUTTER BLADE:</b> 1/16" .062, 1/16" .062 (two blades same size, most popular), 1/4" .250, 5/16" .312", 3/8" .375
<b>T-222-C</b>	<b>CUTTER BLADE:</b> 1/16" .062, 5/64", 3/32", 1/8", 3/16"
<b>T-222-M</b>	<b>CUTTER BLADE:</b> Millimeter Sizes: 1.5mm, 2.5mm, 3mm, 4mm, 5mm
<b>T-260</b>	<b>PISTON VISE</b> (As illustrated) IDEAL FOR USE ON ALL SIZE PISTONS.

Designed for limiting the depth of cut. Slide flanges for slotted pistons. Five points for grooving and one for trimming lands on one blade. Spring-and-ball ratchet controls alignment of blade. Cutter is hardened and ground. Weight 1 Lb.



(Tools & Equipment - Continued on next page)



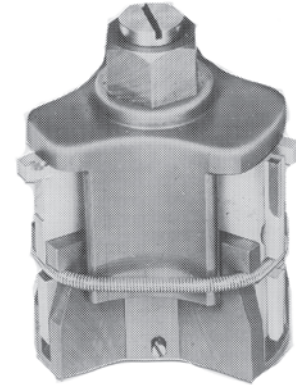
(See Pioneer's Shop Supply Catalog for a complete listing of Engine Builder's Tools and Equipment.)

## RIDGE REAMER

SPEED...SIMPLICITY...DURABILITY

This type turns as a unit in the engine cylinder and is supported by lugs projecting from the expansion plates and resting on top of the engine block.

CARBIDE TIPPED CUTTER and automatic stop assures cutting pressure against the ridge by a coiled compression spring of correct strength. The Carbide top will cut the hardest ridges with ease. The pivotal mounting insures against over cutting and the spring pressures a cut conforming to the shape of the cylinder wall, regardless of the out-of-round condition.



Individual Carton / Weight 2 Lbs.

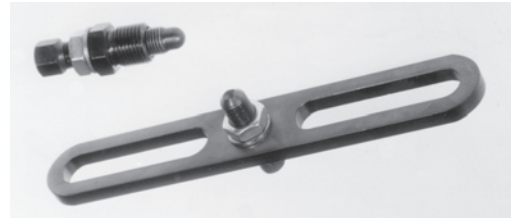
PIONEER NUMBER	DESCRIPTION
<b>T-298</b>	<b>CARBIDE TIPPED CUTTER -</b> Range 2-5/8" to 4" (66.7 - 101.6mm)
<b>T-299</b>	<b>Extra Carbide Cutter for Above</b>

## TDC PLATE & STOP

For use during Short Block assembly to precisely locate top dead center. Features include a fine adjustment positive stop and lock nut. Precision CNC machined (not a stamping), black oxide finish.

Will accommodate up to 1/2 diameter bolts and 4.600" bore engines.

PIONEER NUMBER	DESCRIPTION
<b>488060</b>	TCD Plate & Stop
<b>488061</b>	TCD for use on Assembling Engines



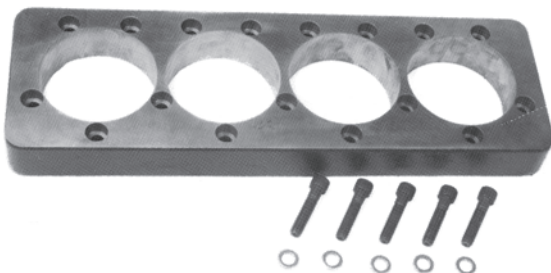
## TORQUE PLATES

Precision manufactured for each application, these quality torque plates are designed to prevent distortion of cylinder block due to the absence of torque stress to the block deck. This equipment is essential to any machine shop or production engine builder to insure cylinder accuracy and prevent premature ring and piston failure.

Material: Cast Iron

NOTE: Use without gasket.

(All Torque Plates come with needed hardware.)



PIONEER NUMBER	APPLICATION	ENGINE SIZE
<b>488100</b>	Chevy Small Block	283-350
<b>488119</b>	Chevy V6	200-229
<b>488121</b>	Chevy Straight 6	250-292
<b>488124</b>	Small Block Ford	261, 289, 302, 351, 400
<b>488129</b>	Big Block Ford	352, 390, 406, 427, 428
<b>488130</b>	Big Block Ford	429, 460
<b>488133</b>	Ford 4 Cyl.	2.3L, 2300cc
<b>488145</b>	Ford Straight 6	240, 300
<b>488147</b>	Small Block Mopar	273, 318, 340, 360
<b>488152</b>	Big Block Mopar	361, 383, 400, 413, 426, 440
<b>488156</b>	Mopar 4 Cyl.	2200cc
<b>488164</b>	GM 4 Cyl.	1.8L, 2.0L
* <b>488165</b>	GM 4 Cyl.	2.5L (151 C.I.)
* <b>488170</b>	GM 4 Cyl.	2.5L (151C.I.)
<b>488172</b>	Oldsmobile	350, 400, 425, 455

\* Indicates General Motors 4 Cyl., 151 C.I. (2.5L) Engine.

488165 - Fits the "short deck" blocks (1985 and later VIN code U only)

488170 - Fits the "long deck" blocks, 1977 through current production (1985 and later VIN code R)

(Tools & Equipment - Continued on next page)

(See Pioneer's Shop Supply Catalog for a complete listing of Engine Builder's Tools and Equipment.)

## UNIVERSAL HARMONIC BALANCER INSTALLER

**488206** PIONEER NUMBER

Includes eight adapters (5/8", 7/16", 1/2", 9/16", 3/4", 12mm, 14mm and 16mm) to fit all popular 4, 6, and 8 cylinder engines, domestic and imports. The thrust bearing smoothly squeezes balancer onto crankshaft.

Can order Adapters separately:

- 7/16" - 488206-A
- 1/2" - 488206-B
- 9/16" - 488206-C
- 5/8" - 488206-D
- 3/4" - 488206-E
- 12MM - 488206-F
- 14MM - 488206-G



## H.D. VALVE SPRING COMPRESSOR

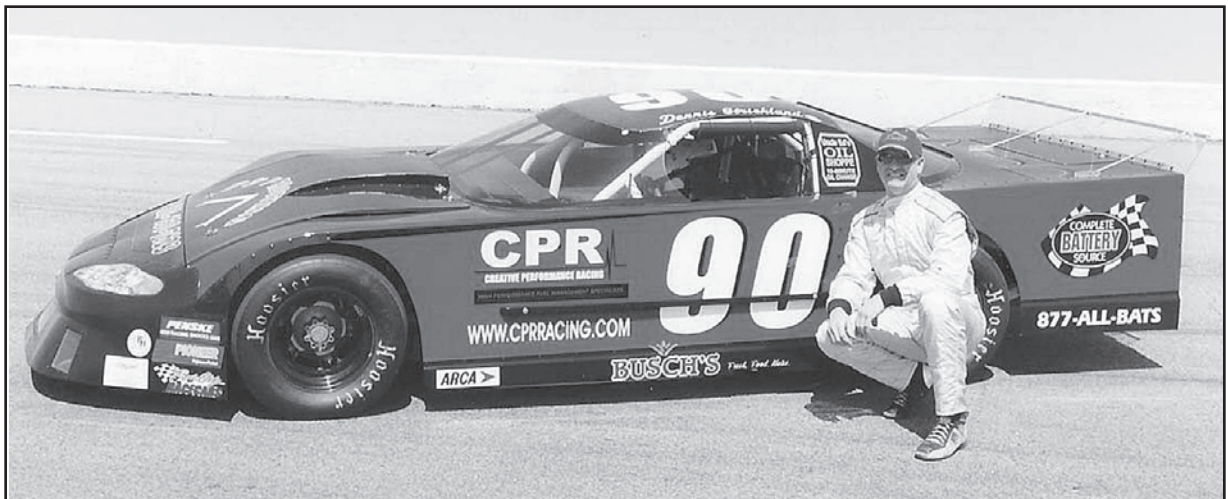
New Features for Stock and Hi-Performance Springs

**TCF-9000** PIONEER NUMBER

Extra heavy-duty, air powered Valve Spring Compressor handles most types of valve springs, including racing springs in excess of 900 lbs. The no-flex frame is manufactured from billet stock aluminum alloys. Dual stage pneumatic controls operate the adjustable length ram. The large spring shoe compresses big block and most oversize racing springs up to 1.675 diameter. It's time to step up to this premium, high-powered valve spring compressor.

### Features

- Pneumatic head with increased ram travel
- Incremental ram movement control
- Generous frame clearances for virtually all car and truck heads



**DENNIS STRICKLAND**

**ARCA LATE MODEL STOCK**

(Tools & Equipment - Continued on next page)

*(See Pioneer's Shop Supply Catalog for a complete listing of Engine Builder's Tools and Equipment.)*

## H.D. VALVE SPRING COMPRESSOR

### TCF-14 Valve Spring Compressor



*Nothing comes close to our quick adjust, lightweight Valve Spring Compressor. With the included foot extension, this tool provides an unbeatable combination of speed, durability and safety.*

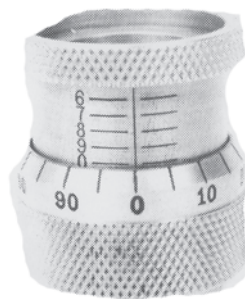
#### Features

- Can be applied to a wide range of applications.
- Capable of generating over 400 ft. pounds of compression force
- All adjustments are made with the quick adjust arm feature, eliminating time consuming lead screw adjustment.
- Reinforced forged steel frame
- Durable nylatron® piston boot to eliminate marring valves
- Long lasting dual brushing design provides complete uniform piston stroke support.

## VALVE SPRING HEIGHT GAUGE

Designed to quickly check valve spring installed height after valve and seat regrinding.

Simply place the gauge over the valve on the spring seat pad, install the retainer and keepers and screw the gauge out until pressure is applied.

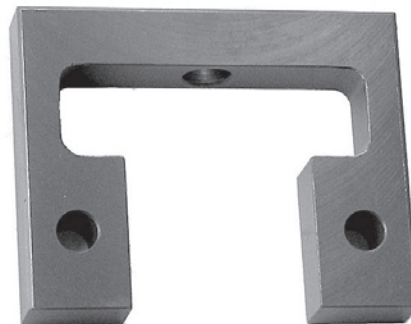


<b>498450</b> PIONEER NUMBER	Range 1.5 to 1.8
<b>498460</b> PIONEER NUMBER	Range 1.6 to 2.0

## VALVE STEM RETAINER GAUGE

Used for calculating and comparing valve spring installed heights relative to the spring retainer utilizing a depth micrometer or dial caliper. Can also be used for comparison checking accuracy of valve spring retainers. Auxiliary 1/4" holes accommodate easy fixturing to magnetic base stand or post. For 1.550 and 1.625 valve spring retainers.

<b>488875</b> PIONEER NUMBER	Valve Stem Retainer Gauge w/1.200 opening
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*(Tools & Equipment - Continued on next page)*

## ENGINE ROLLOVER STAND

**T-109** PIONEER KIT NUMBER 60° Stand

This heavy duty stand will securely hold engines in either a 90° or 60° angle, easing boring and honing operations.



## FLEXIBLE VALVE AIR-HOLD TOOL

**488002** PIONEER NUMBER

- This tool allows replacement of valve seals and broken or weak valve springs on OHV & OHC engines without removing the head by applying air to cylinder through spark plug hole.
- Flexible design makes job easier and quicker where spark plug holes are hard to get at.
- Overall length 13", with one end 14mm and 18mm threads fit spark plug hole. Other end 1/4" female pipe thread for coupler plug attachment.
- After attaching plug and quick coupler, air pressure keeps valve closed while working.
- Instructions included.



## FLEX DRIVE COMPRESSION TESTER

**488007** PIONEER NUMBER

- Tests all Domestic & Imported cars and trucks with gasoline engines.
- Has 14mm & 18mm adapter attached to end of hose. Plus separate 14mm long reach adapter that can be screwed onto end of hose adapter by hand. Tests cars with both 13/16" and 5/8" hex plugs.
- By adding our 10mm & 12mm adapters (available separately) it will be the ideal tester for small engines.
- Tester can be screwed into spark plug hole by hand with just a few turns for testing.
- Side release valve allows multiple re-testing without removing tester.
- Dual 2-1/2" gauge 0-300 PSI and 0-21kg/cm<sup>2</sup>.
- Instructions and specifications included.









(See Pioneer's Shop Supply Catalog for a complete listing of Engine Builder's Tools and Equipment.)

## COOLING SYSTEM CERAMIC COAT -High Performance

PIONEER NUMBER **T-610** – 16 Oz. Bottle

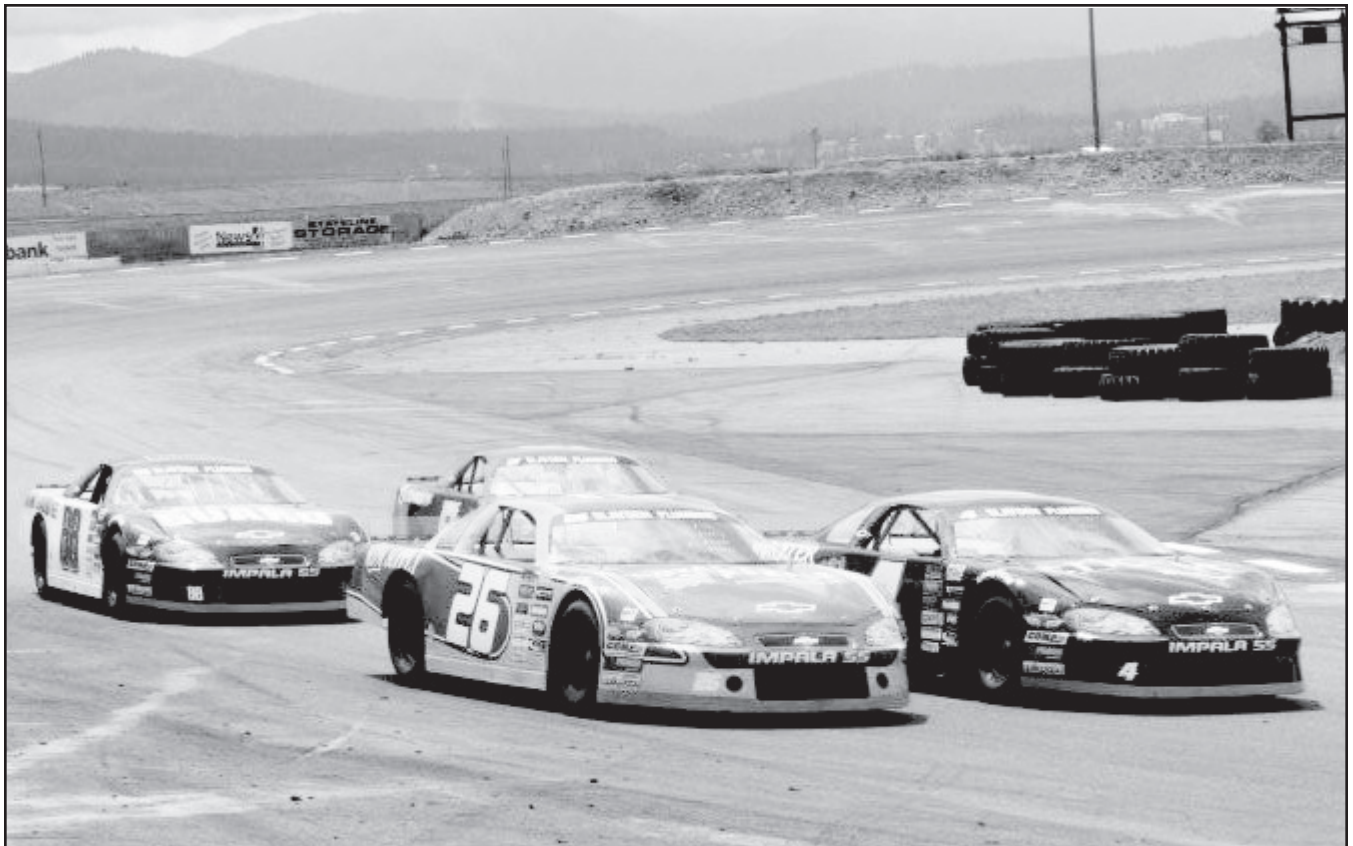
PIONEER NUMBER **T-610-A** – 1 Gallon

**Seals and Coats Auto and Truck radiators and Cooling Systems.**

- Forms a ceramic coat in entire cooling system.
- Reduces friction and increases engine power.
- Seals leaks and minor cracks in head and block.
- Recommended for High-Performance and heavy duty use.
- Cooling System must be FREE of Anti-Freeze.

16 Oz. Bottle

**For Large Trucks use T-610-A (1 Gallon)**



**COMPETITIVE EDGE RACING SCHOOL**

(Tools & Equipment - Continued on next page)

(See Pioneer's Shop Supply Catalog for a complete listing of Engine Builder's Tools and Equipment.)



ENGINE BUILDER'S TOOLS & EQUIPMENT

(See Pioneer's Shop Supply Catalog for a complete listing of Engine Builder's Tools and Equipment.)

## PIONEER SPRAY ENAMEL

### Fast Drying • Heat Resistant

**Exact Factory Match – OEM Colors** preferred by all Remanufacturers of engines, generators, starters, clutches, transmissions, water pumps, etc.

**Pioneer Heat Resistant Enamel Colors** perform where others fail. Engines, radiators, motors and surfaces subject to heat, grease, oil and gasoline can be protected against corrosion and restored to that factory-new appearance.

Convenient 6 – 11 Oz. Cans/Case • Weight 7 Lbs./Case

PIONEER NUMBER	COLOR	PIONEER NUMBER	COLOR
T-10	Chevrolet Orange	T-29	John Deer Green
T-11	Ford Blue	T-37	Gloss Gray (Ford Industrial)
T-12	Ford Red	T-50	Light Gray
T-14	Chrysler Red	T-52	Red Oxide Primer
T-15	Corporate Blue	• T-53	Rebuilders Gray
T-16	Ford Green	T-54	Flat Black
T-17	Dark Ford Blue	T-55	Gloss White
T-18	Antique Ford Green	T-56	High Heat Black
T-19	Chevrolet Blue	T-57	Sicon Silver (Detroit Diesel)
T-21	Cummins Beige	T-58	Cast Iron Gray
T-23	Alpine Green (Detroit Diesel)	T-59	Clear
T-24	Caterpillar Yellow	T-60	Universal Gray
T-25	IHC Red	T-61	Lo Gloss Black (GM)
T-26	Universal Black	T-62	Hi-Temp Aluminum 1200°
T-27	Aluminum		

- Gives Cylinder Heads, Blocks, Clutch Parts and most other metal parts a new, natural appearance.

## AEROSOL SPRAY TRIGGER

PIONEER NUMBER  
**419025**



Serves as a spray gun which attaches to spray can. Made of durable plastic. Conforms to all mounting cups on aerosol can.

(Tools & Equipment - Continued on next page)

*(See Pioneer's Shop Supply Catalog for a complete listing of Engine Builder's Tools and Equipment.)*

## Lubegard® LIMITED SLIP SUPPLEMENT

FOR USE IN ALL FINAL DRIVES AND LIMITED  
SLIP POSI-TRACTION UNITS

PATENT 5,282,989



PIONEER NUMBER **T-4011** – 4 fl. oz. tube

T-4011 LIMITED SLIP SUPPLEMENT is specifically formulated for the clutches in limited slip differentials. Limited slip differentials depend on the operation of pre-loaded clutch packs on each axle shaft. Gear oils made for standard differentials DO NOT contain the additives that make these clutches work. LUBEGARD® Limited Slip Supplement contains LXE (liquid wax esters), a unique advanced friction modifier to eliminate chatter. It contains rust and corrosion inhibitors to protect bearing and gear surfaces. The LXE also acts as an enhanced heat transfer component to pull heat out of the gear box and clutches more quickly for cooler running units. LUBEGARD® Limited Slip Supplement benefits all makes of vehicles with limited slip differentials including GM, Ford and Chrysler.

### **DIRECTIONS FOR USE:**

*Put entire contents of the bottle (4 fl. oz.) into the differential. If necessary, remove enough gear oil to maintain proper level with supplement. Allow 20 miles of road operation for complete mixing.*



NUMERICAL LISTING

PIONEER NUMBER	POP CODE	DESCRIPTION - APPLICATION	PAGE NUMBER
• CA-318-ADJ	NEW	Clutch Cable (Adjustable, Heavy Duty - 1982-1993 Ford Mustang w/302 (5.0L)	107
• CA-318-HD	NEW	Clutch Cable (Heavy Duty, Non-Adjustable) - 1982-1993 Ford Mustang w/302 (5.0L)	107
800001	N/A	Banner	158
800002	N/A	Small sticker	158
800003	N/A	Large sticker	158
810010	A	Valve Spring - Single w/Damper, Chevrolet 1957-98, Small Block, 262Z(4.3L) V6	89
810011	A	Valve Spring - Single w/Damper, Chevrolet 1965-97, 396(6.6L), 427(7.0L), 454(7.4L), Chrysler 1966-78, 400(6.6L), 440(7.2L)	89
810012	B	Valve Spring - Single w/Damper, Chrysler, Dodge 1957-91, 318(5.2L), 340(5.6L), 360(5.9L), w/Mechanical Lifters	89
810101	C	Valve Spring - Single w/Damper, Chevrolet 1963-92, 173(2.8L), 200(3.3L), 229(3.8L), 230(3.8L), 250(4.1L)	89
810102	B	Valve Spring - Single w/Damper, Chrysler, Dodge 1957-91, 318(5.2L), 340(5.6L), 360(5.9L), w/Hydraulic Lifters, Ford 1974-94, 140(2.3L)w/Mechanical Lifters	89
810103	C	Valve Spring - Single w/Damper, Chrysler, Dodge, 1966-78, 400(6.6L), 440(7.2L)w/Hydraulic Lifters	89
810104	D	Valve Spring - Single w/Damper, Ford 1974-94, 140(2.3L)w/Hydraulic Lifters	89
810105	A	Valve Spring - Single w/Damper, Ford 1961-97, 302(5.0L), 351C, M, W, (5.8L), 390(6.4L), 400(6.6L), 429(7.0L), 460(7.5L)w/Hydraulic Lifters	89
810106	D	Valve Spring - Single w/Damper, Buick 1975-97, 231(3.8L)	89
810107	A	Valve Spring - Single w/Damper, Chevrolet 1957-98, Small Block, 262Z (4.3L) V6	89
810108	A	Valve Spring - Single w/Damper, Chevrolet 1957-98, Small Block, 262Z (4.3L) V6	89
810109	B	Valve Spring - Single Conical, Chevrolet, 1997-08, Gen III LS1/LS6	89
810110	C	Valve Spring - Single Conical, Ford 1996-00, 4.6L SOHC	89
810201	A	Valve Spring - Dual, Chevrolet 1957-98, 262Z (4.3L) V6, 307(5.0L), 327(5.4L), 350(5.7L), 400(6.6L) w/Mechanical Lifters Ford 1968-97, 302, 351C, M, W(5.8L), 390(6.4L), 400(6.6L), 429(7.0L), 460(7.5L) w/Mechanical Lifters	89
810202	A	Valve Spring - Dual, Chevrolet 1965-97, 396(6.6L), 427(7.0L), 454(7.4L), Chrysler 1966-78, 400(6.6L), 440(7.2L) Chrysler, Dodge 1966-78, 400(6.6L), 440(7.2L) w/Mechanical Lifters	89
810203	D	Valve Spring - Dual, Chrysler, Dodge 1957-91, 318(5.2L), 340(5.6L), 360(5.9L)w/Mechanical Lifters	89
810204	C	Valve Spring - Dual, Oldsmobile 1968-82, 260(4.3L), 350R, 350X(5.7L), 403(6.6L), 455(7.5L)w/Hydraulic Lifters Pontiac 1967-94, 151(2.5L), 301(4.9L), 350R, P, X(5.7L), 400(6.6L), 455(7.5L)	89
810205	C	Valve Spring - Dual, Oldsmobile 1968-82, 260(4.3L), 350R, 350X (5.7L), 403(6.6L), 455(7.5L) Pontiac 1967-94, 151(2.5L), 301(4.9L), 350P, R, X (5.7L), 400(6.6L)455(7.5L) w/Mechanical Lifters	89
810206	B	Valve Spring - Dual, Chevrolet - 1957-97, 262Z, (4.3L) V6, 307 (5.0L), 327 (5.4L), 350 (5.7L), 400 (6.6L) Ford - 1968-97, 302 (5.0L), 351C, M, W (5.8L), 400 (6.6L), 429 (7.0L), 460 (7.5L) w/Mechanical Roller Lifters	89
810207	A	Valve Spring- Dual, Chevrolet 1957-98, 262Z (4.3L) V6, 307 (5.0L), 327 (5.4L), 305 (5.7L) 400 (6.6L) w/ hyd./mech lifters	90
810208	B	Valve Spring- Dual, Chevrolet 1970-97, 454-454HO (7.4L) w/hydraulic lifters	90
810209	A	Valve Spring- Dual w/damper, Chevrolet 1965-97 396 (6.6L), 427 (7.0L), 454 (7.4L) w/roller lifters	90
• 810210	NEW	Valve Spring - Dual, Chevrolet 1957-98, 262Z (4.3L) V6, 307 (5.0L), 327 (5.4L), 350 (5.7L), 400 (6.6L), Ford 1968-97, 302, 351C, M, W (5.8L), 390 (6.4L), 400 (6.6L), 429 (7.0L), 460 (7.5L) w/Mechanical Flat Tappet or Hydraulic Roller Lifters	90
811001	A	Valve Stem Oil Seal - All Teflon, .343 Stem, .530 Guide Chevrolet 1957-98, All Small Block, 90° V6 Ford 1968-97, All - Except 390(6.4L) Oldsmobile 1968-82, All - Except 350X (5.7L); Pontiac 1970-88, All	90



## NUMERICAL LISTING

PIONEER NUMBER	POP CODE	DESCRIPTION - APPLICATION	PAGE NUMBER
811002	B	Valve Stem Oil Seal - All Teflon, .375 Stem, .530 Guide Chevrolet 1965-76, All Big Block Chrysler, Dodge 1957-91, All Oldsmobile 1975-76, 350X (5.7L)	90
811003	A	Valve Stem Oil Seal - All Teflon, .343 Stem, .500 Guide Chevrolet 1957-98, All Small Block, 90° V6 Ford 1968-97, All - Except 390(6.4L) Oldsmobile 1968-82, All - Except 350X (5.7L) Pontiac 1970-88, All	90
811004	B	Valve Stem Oil Seal - All Teflon, .375 Stem, .500 Guide Chevrolet 1965-76, All Big Block Chrysler, Dodge 1957-91, All Oldsmobile 1975-76, 350X (5.7L)	90
811005	C	Valve Stem Oil Seal - All Viton, .343 Stem, .500 Guide Chevrolet 1957-98, All Small Block, 90° V6 Ford 1968-94, All - Except 390(6.4L) Oldsmobile 1968-82, All - Except 350X(5.7L); Pontiac 1970-88, All	90
811006	B	Valve Stem Oil Seal - SVR, .343 Stem, .500 Guide (Red) Chevrolet - 1957-98, All Small Block, 90° V6 Ford - 1968-97, All Except 390 (6.4L) Oldsmobile - 1968-82, All Except 350X (5.7L) Pontiac 1970-88, All	90
811007	B	Valve Stem Oil Seal - SVR .343 Stem, .530 Guide (Orange) Chevrolet - 1957-98, All Small Block, 90° V6 Ford - 1968-97, All Except 390 (6.4L) Oldsmobile 1968-82, All Except 350X (5.7L) Pontiac - 1970-88, All	90
811008	B	Valve Stem Oil Seal - SVR, 375 Stem, .530 Guide (Lt. Blue) Chevrolet - 1965-97, All Big Block Chrysler, Dodge 1957-91, All Oldsmobile 1975-76, 350X (5.7L)	90
812002	B	Valve Lifter - Hyd., Chevrolet 1957-98, All Small Block, 90° V6 Oldsmobile 1977-79, 350G, L(5.7L) w/Hydraulic Lifters Pontiac 1977-79, 350L(5.7L) w/Hydraulic Lifters Except O.E. Roller	91
812003	B	Valve Lifter -Anti-Pump Up, Chevrolet 1957-98, All Small Block, 90° V6 Oldsmobile 1977-79, 350G, L(5.7L) w/Anti-Pump Up Lifters Pontiac 1977-79, 350L(5.7L) w/Anti-Pump Up Lifters Except O.E. Roller	91
812026	D	Valve Lifter- Mechanical, Chevrolet 1957-98, All Small Block, 90° V6 Oldsmobile 1977-79, 350G, L(5.7L) w/Anti-Pump Up Lifters Pontiac 1977-79, 350L(5.7L) w/Mechanical Lifters Except O.E. Roller	91
813001	B	Valve Guide - Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.250 Length Chevrolet 1957-98, All Small Block, 262Z(4.3L) Ford 1968-97, 302(5.0L), 351C, M, W(5.8L), 400(6.6L) Pontiac 1968-94, 151(2.5L), 350P(5.7L)	92
813002	C	Valve Guide - Cast Iron/Spiraled I.D., .343 I.D., .502 O.D., 2.375 Length Chevrolet 1957-98, All Small Block, 262Z(4.3L) Ford 1968-97, 302(5.0L), 429(7.0L), 460(7.5L) Pontiac 1968-77, 350P(5.7L)	92

**NUMERICAL LISTING**

PIONEER NUMBER	POP CODE	DESCRIPTION - APPLICATION	PAGE NUMBER
813004	C	Valve Guide - Cast Iron/Spiraled I.D., .373 I.D., .502 O.D., 2.625 Length, Chrysler, Dodge 1957-91 318(5.2L)	92
813005	C	Valve Guide - Cast Iron/Spiraled I.D., .373 I.D., .502 O.D., 2.375 Length, Chrysler, Dodge 1957-91, 318(5.2L), 340(5.6L)360(5.9L), 400(6.6L), 440(7.2L)	92
813102	A	Valve Guide -Manganese Bronze, .343 I.D., .502 O.D., 2.375 Length Chevrolet 1957-98, All Small Block, 262Z(4.3L), 305(5.0L) Ford 1968-97, 302(5.0L), 429(7.0L), 460(7.5L) Pontiac 1968-77, 350P(5.7L)	92
813104	C	Valve Guide -Manganese Bronze, .373 I.D., .502 O.D., 2.625 Length Chrysler, Dodge 1957-91 318(5.2L)	92
813105	B	Valve Guide -Manganese Bronze, .373 I.D., .502 O.D., 2.375 Length Chrysler, Dodge 1957-91, 318(5.2L), 340(5.6L), 360(5.9L), 400(6.6L), 440(7.2L)	92
813106	B	Valve Guide -Manganese Bronze, .343 I.D., .502 O.D., 2.500 Length, Buick 1975-94, 231(3.8L)	92
813108	B	Valve Guide -Manganese Bronze, .343 I.D., .502 O.D., 2.125 Length Chevrolet 1957-98, All Small Block, 262Z(4.3L), 305(5.0L) Oldsmobile 1968-80, 350G, L, R(5.7L) Pontiac 1968-79, 350L, P(5.7L)	92
813109	B	Valve Guide -Manganese Bronze, .3735 I.D., .625 O.D., 2.4218 Length, Chevrolet 1965-97, 396(6.6L), 427(7.0L), 454(7.4L)	92
813110	C	Valve Guide -Manganese Bronze, .374 I.D., .6205 O.D., 2.5625 Length Chevrolet 1965-97, 396(6.6L), 427(7.0L), 454(7.4L)	92
814004	D	Valve Seat-Ford 1969-97, 351W(5.8L), Oldsmobile 1975-76, 350X(5.7L) Pontiac 1975-94, 151(2.5L), 301(4.9L), 350X(5.7L)	92
814010	D	Valve Seat-Chevrolet 1980-92, 173(2.8L)	92
814030	C	Valve Seat-Chevrolet 1957-98, 229(3.8L), 283(4.6L), 307(5.0L), 327(5.4L), 350(5.7L) Oldsmobile 1975-82, 260(4.3L), 350R(5.7L), 403(6.6L) Pontiac 1977-80, 350R(5.7L)	92
815007	B	Push Rod - Chevrolet Small Block 7.80 Length / 5/16" Diameter, 1 Pc.	94
815008	B	Push Rod - Chevrolet Small Block 7.85 Length / 5/16" Diameter, 1 Pc.	94
815009	B	Push Rod - Chevrolet Small Block 7.90 Length / 5/16" Diameter, 1 Pc.	94
815010	B	Push Rod - Chevrolet Small Block 7.95 Length / 5/16" Diameter, 1 Pc.	94
815026	C	Push Rod - Chevrolet Big Block 8.68 Length / 3/8" Diameter, 1 Pc.	94
815027	D	Push Rod - Chevrolet Big Block 9.65 Length / 3/8" Diameter, 1 Pc.	94
815192	C	Push Rod - Chevrolet 1978-98, 200 (3.3L), 229 (3.8L), 262Z (4.3L), 1958-94, All Small Block, Oldsmobile 1977-79, 350G, L, (5.7L), Pontiac 1977-79, 350L (5.7L), O.E. replacement except w/factory roller, +.100	93
815193	D	Push Rod - Chevrolet 1987-98, 262Z (4.3L), 305 (5.0L), 350 (5.7L) w/Factory Roller Lifters, O.E. Replacement	93
815194	B	Push Rod - Chevrolet 1978-98, 200(3.3L), 229(3.8L), 262Z(4.3L), 1958-94, All Small Block, Oldsmobile 1977-79, 350G, L(5.7L), Pontiac 1977-79, 350L(5.7L), O.E. Replacement, Except w/Factory Roller	93
815195	D	Push Rod - Chevrolet 1965-90, Big Block, O.E. Replacement	93
815196	D	Push Rod - Ford 1968-69, 302(5.0L), O.E. Replacement	93
815197	D	Push Rod - Ford 1969-97, 302(5.0L) Except - w/Factory Roller High Output, O.E. Replacement	93
815199	C	Push Rod - Ford 1969-94, 351W(5.8L), O.E. Replacement	93
815200	B	Push Rod - Chevrolet 1965-90, Big Block, Stock Replacement, Chrome Moly	93
815201	B	Push Rod - Chevrolet 1965-90, Big Block, Stock Replacement, Chrome Moly	93
815203	C	Push Rod - Chevrolet 1965-90, Big Block, Stock Replacement, Chrome Moly	93
815204	C	Push Rod - Chevrolet 1965-90, Big Block, Stock Replacement, Chrome Moly	93

## NUMERICAL LISTING

PIONEER NUMBER	POP CODE	DESCRIPTION - APPLICATION	PAGE NUMBER
815205	A	Push Rod - Chevrolet 1978-98, 200(3.3L), 229(3.8L), 262Z(4.3L), 1958-98, All Small Block, Oldsmobile 1977-79, 350G, L(5.7L), Pontiac 1977-79, 350L(5.7L), Stock Replacement, Chrome Moly	93
815206	B	Push Rod - Ford 1969-94, 351W(5.8L), Stock Replacement	93
815207	A	Push Rod - Ford 1969-97, 302(5.0L) Except - w/Factory Roller High Output, Stock Replacement, Chrome Moly	93
815208	C	Push Rod - Chrysler, Dodge 1957-91, 318(5.2L), 340(5.6L), 360(5.9L), Stock Replacement, Chrome Moly	93
815209	B	Push Rod - Ford 1968-97, 302(5.0L), Stock Replacement, Chrome Moly	93
815210	C	Push Rod - Chevrolet 1965-76, 427(7.0L) Truck, Stock Replacement, Chrome Moly	93
815211	D	Push Rod - Chevrolet 1965-76, 427(7.0L) Truck, Stock Replacement, Chrome Moly	93
815214	C	Push Rod - Buick 1975-94, 231(3.8L), Stock Replacement, Chrome Moly	93
815215	A	Push Rod - Chevrolet 1978-98, 200(3.3L), 229(3.8L); 262Z (4.3L) 1958-98, All Small Block Oldsmobile 1977-79, 350G, L(5.7L) Pontiac 1977-79, 350L(5.7L), Stock Replacement, Chrome Moly, +.100	93
815216	B	Push Rod - Chevrolet 1978-98, 200(3.3L), 229(3.8L), 262Z(4.3L), 1958-98, All Small Block, Oldsmobile 1977-79, 350G, L(5.7L), Pontiac 1977-79, 350L(5.7L), Stock Replacement, 3/8" Dia.	93
815218	A	Push Rod-Chevrolet 1991-98, 454-454HO (7.4L) Stock replacement, chrome moly	93
815219	A	Push Rod-Chevrolet 1991-98, 454-454HO (7.4L) Stock replacement, chrome moly	93
816001	B	Valve Lock - Chrysler, Dodge 3/8", 2 Groove, O.E. Stamped	95
816002	B	Valve Lock - Ford, GM 11/32" Single Groove, O.E. Stamped	95
816003	B	Valve Lock - Chrysler, Ford, GM 3/8" Single Groove, O.E. Stamped	95
816004	B	Valve Lock - Chrysler, Dodge 3/8", 4 Groove, O.E. Stamped	95
816005	C	Valve Lock - Ford 11/32" Multi-Groove, O.E. Stamped	95
816141	B	Valve Lock - Ford, GM 3/8" Single Groove, Machined	95
816142	D	Valve Lock - Chrysler, Ford, GM 3/8" Single Groove, Machined, Use w/817107 Retainer	95
816171	B	Valve Lock - Ford, GM 11/32" Single Groove, Machined	95
816175	B	Valve Lock - Ford, G.M. 11/32" Single Grooved Machined, 10°, Use w/817110 Retainer	95
816176	C	Valve Lock -G.M. LS1/LS6, .313 Single Grooved machined, stock angle, use w/817109 retainer	95
816180	C	Valve Stem Lash Cap - Ford, G.M. 11/32", .080 Thick	94
817100	B	Valve Spring Retainer -Buick, Chevrolet	95
817102	A	Valve Spring Retainer - Ford, Oldsmobile, Pontiac	95
817103	D	Valve Spring Retainer - Chrysler	95
817104	B	Valve Spring Retainer - Chevrolet, Ford, Oldsmobile, Pontiac	95
817105	B	Valve Spring Retainer - Chevrolet, Chrysler	95
817106	D	Valve Spring Retainer - Chrysler	95
817107	C	Valve Spring Retainer - Chevrolet, Chrysler	95
817108	C	Valve Spring Retainer - Buick, Chevrolet	95
817109	C	Valve Spring Retainer -Chevrolet LS1/LS6	95
817110	C	Valve Spring Retainer - Chevrolet, Ford, 10°	95
817111	C	Valve Spring Retainer - Chevrolet, 7°	95
818001	A	Rocker Arm - Chevrolet 1957-98, 200(3.3L), 229(3.8L), 262Z(4.3L), All Small Block V8 Oldsmobile 1977-79, 350G, L(5.7L) Pontiac 1977-79, 350L(5.7L), Stamped Steel Long Slot, Non-Self Aligning	96
818002	B	Rocker Arm - Chevrolet 1965-90, All Big Block, Stamped Steel Long Slot	96
818015	A	Rocker Arm - Chevrolet 1957-98, 200(3.3L), 229(3.8L), 262Z(4.3L), All Small Block V8 Oldsmobile 1977-79, 350G, L(5.7L) Pontiac 1977-79, 350L(5.7L), Stamped Steel Long Slot, Non-Self Aligning	96

**NUMERICAL LISTING**

PIONEER NUMBER	POP CODE	DESCRIPTION - APPLICATION	PAGE NUMBER
818016	A	Rocker Arm - All Small Block V8 Oldsmobile 1977-79, 350G, L (5.7L), 1.5 Ratio Chevrolet 1957-98, 200 (3.3L), 229 (3.8L), 262Z (4.3L) Pontiac - 1977-79, 350L (5.7L), Stamped Steel Long Slot, Non-Self Aligning w/7/16" Stud	96
818017	B	Rocker Arm - All Small Block V8, Oldsmobile 1977-79, 350G, L (5.7L), 1.6 Ratio Chevrolet - 1957-98, 200 (3.3L), 229 (3.8L), 262Z (4.3L) Pontiac - 1977-79, 350L (5.7L), Stamped Steel Long Slot, Non-Self Aligning w/7/16" Stud, 1.6 Ratio	96
818019	B	Rocker Arm- Chevrolet 1988-98, 262Z (4.3L), All Small Block, Stamped Steel Self Aligning Long Slot, 1.5 Ratio	96
818020	B	Rocker Arm- Chevrolet 1988-98, 262Z (4.3L), All Small Block, Stamped Steel Self Aligning Long Slot, 1.6 Ratio	96
818021	C	Rocker Arm-Chevrolet 1991-97, 454-454HO (7.4L) Stamped Steel Long Slot w/1.7 ratio	96
819001	C	Valve Spring Insert - 1.250 x .812 x .060	97
819002	C	Valve Spring Insert - 1.250 x .812 x .030	97
819003	C	Valve Spring Insert - 1.250 x .812 x .015	97
819007	C	Valve Spring Insert - 1.437 x .645 x .060	97
819008	C	Valve Spring Insert - 1.437 x .645 x .030	97
819009	C	Valve Spring Insert - 1.437 x .645 x .015	97
819010	B	Valve Spring Insert - 1.480 x .703 x .060	97
819011	B	Valve Spring Insert - 1.480 x .703 x .030	97
819012	B	Valve Spring Insert - 1.480 x .703 x .015	97
819013	B	Valve Spring Insert - 1.500 x .645 x .060	97
819014	B	Valve Spring Insert - 1.500 x .645 x .030	97
819015	B	Valve Spring Insert - 1.500 x .645 x .015	97
819016	C	Valve Spring Insert - 1.640 x .635 x .015	97
819018	D	Valve Spring Insert - 1.520 (Cup O.D. 1.640") x 1.031 x .060	97
819019	C	Valve Spring Insert - 1.530 (Cup O.D. 1.650") x .645 x .060	97
819020	B	Valve Spring Insert - 1.520 x .625 x .300 (Cup Type Replaces Exhaust Valve Rotator)	97
819021	A	Valve Spring Insert - 1.460 (Cup O.D. 1.617) x .565 x .060	97
819022	C	Valve Spring Insert - 1.550 (Cup OD. 1.697) x .565 x .060	97
820108	C	Stainless Steel Valve - Chevrolet 1965-96, 396(6.6L), 427(7.0L)	98
820110	C	Stainless Steel Valve - Chevrolet 1970-97, 454(7.4L)	98
820112	C	Stainless Steel Valve - Chevrolet 1965-96, 396(6.6L), 427(7.0L)	98
820114	B	Stainless Steel Valve - Chevrolet 1970-97, 454(7.4L)	98
820116	C	Stainless Steel Valve - Oldsmobile 1968-80, 350R(5.7L), 403(6.6L), 455(7.5L)	98
820118	C	Stainless Steel Valve - Oldsmobile 1968-80, 350R(5.7L), 403(6.6L), 455(7.5L)	98
820120	C	Stainless Steel Valve - Chevrolet 1957-79, 230(3.8L), 250(4.1L), 283(4.6L), 307(5.0L)	98
820200	D	Stainless Steel Valve - Chrysler, Dodge 1968-87, 340(5.6L), 360(5.9L)	98
820202	D	Stainless Steel Valve - Chrysler, Dodge 1968-87, 340(5.6L), 360(5.9L)	98
820204	C	Stainless Steel Valve - Chrysler, Dodge 1968-78, 440(7.2L)	98
820206	C	Stainless Steel Valve - Chrysler, Dodge 1968-78, 440(7.2L)	98
820300	D	Stainless Steel Valve - Ford 1968-97, 302(5.0L), 351W(5.8L)	98
820302	D	Stainless Steel Valve - Ford 1968-97, 302(5.0L), 351W(5.8L)	98
820304	B	Stainless Steel Valve - Ford 1970-81, 351C(5.8L), 351M(5.8L), 400(6.6L)	98
820308	C	Stainless Steel Valve - Ford 1968-78, 429(7.0L), 460(7.5L)	98
820320	D	Stainless Steel Valve - Chevrolet 1985-98, 262Z (4.3L); 1967-98, 302 (5.0L); 327 (5.4L); 350 (5.7L); 400 (6.6L) w/undercut Valve Stem and +.100 Longer than Stock Length	98
820321	D	Stainless Steel Valve - Chevrolet 1985-98, 262Z (4.3L); 1967-97 302 (5.0L); 327 (5.4L); 350 (5.7L); 400 (6.6L) w/ undercut Valve Stem	98
820322	D	Stainless Steel Valve - Chevrolet 1985-98, 262Z (4.3L); 1967-97, 302 (5.0L); 327 (5.4L); 350 (5.7L); 400 (6.6L) w/undercut Valve Stem	98

## NUMERICAL LISTING

PIONEER NUMBER	POP CODE	DESCRIPTION - APPLICATION	PAGE NUMBER
820326	D	Stainless Steel Valve - Chevrolet 1985-98, 262Z (4.3L), 1967-97, 302 (5.0L); 327 (5.4L); 350 (5.7L); 400 (6.6L) w/undercut Valve Stem and +.100 Longer Than Stock Length	98
821001	D	Push Rod Guide Plate - Chevrolet 1980-92, 173(2.8L)	99
821002	A	Push Rod Guide Plate - Chevrolet 1962-98, 305(5.0L), 307(5.0L), 327(5.4L), 350(5.7L)	99
821004	A	Push Rod Guide Plate - Chevrolet 1962-98, 305(5.0L), 307(5.0L), 327(5.4L), 350(5.7L)	99
821005	C	Push Rod Guide Plate - Chevrolet 1962-98, 305(5.0L), 307(5.0L), 327(5.4L), 350(5.7L)	99
821006	A	Push Rod Guide Plate - Ford 1969-97, 302(5.0L) Except Boss, 351W(5.8L)	99
821007	D	Push Rod Guide Plate - Ford 1969-97, 302(5.0L) Except Boss, 351W(5.8L)	99
821008	A	Push Rod Guide Plate - Chevrolet 1965-97, 396(6.6L), 427(7.0L), 454(7.4L)	99
821009	B	Push Rod Guide Plate - Chevrolet 1965-97, 396(6.6L), 427(7.0L), 454(7.4L)	99
822001	B	Rocker Arm Ball - All Small Block - Chevrolet 1978-94, 200(3.3L), 229(3.8L);1958-98, Oldsmobile 1977-79, 350L(5.7L) Pontiac 1977-79, 350L(5.7L)	99
822002	C	Rocker Arm Ball - Chevrolet 1965-90, All Big Block	99
822005	C	Rocker Arm Ball -Pontiac 1967-81, 301(4.9L), 400(6.6L), 455(7.5L)	99
823001	C	Rocker Stud Girdle Chevrolet 1957-98, All Small Block V8 Oldsmobile 1977-79, 350G, L (5.7L) Pontiac 1977-79, 350L (5.7L) with O.E. Design Heads and 3/8" Rocker Studs	99
830001	A	Expansion Plug Kit - Brass - Chevrolet 1957-98, All Small Block Oldsmobile 1977-79, 350G, L (5.7L) Pontiac 1977-79, 350L (5.7L)	100
830002	A	Expansion Plug Kit - Brass - Chevrolet 1965-90, All Big Block	100
830004	A	Expansion Plug Kit - Brass - Ford 1968-97, 302(5.0L), 351W(5.8L)	100
830005	A	Expansion Plug Kit - Brass - Ford 1970-81, 351C(5.8L), 351M(5.8L), 400(6.6L)	100
830006	B	Expansion Plug Kit - Brass - Ford 1961-76, 390(6.4L)	100
830007	B	Expansion Plug Kit - Brass - Chrysler, Dodge 1957-91, 318(5.2L), 340(5.6L), 360(5.9L)	100
830008	B	Expansion Plug Kit - Brass - Chrysler, Dodge 1966-78, 400(6.6L), 440(7.2L)	100
830009	B	Expansion Plug Kit - Brass - Pontiac 1967-79, 350P(5.7L), 400(6.6L), 455(7.5L)	100
830011	B	Expansion Plug Kit - Brass - Oldsmobile 1968-82, 260(4.3L), 350R(5.7L), 403(6.6L), 455(7.5L) Pontiac 1977-80, 350R(5.7L)	100
830012	B	Expansion Plug Kit - Brass - Ford 1968-78, 429(7.0L), 460(7.5L)	100
830017	B	Expansion Plug Kit - Brass - Chevrolet 1970-76, 400(6.6L)	100
830019	C	Expansion Plug Kit - Brass - Chevrolet 1991-97, All Big Block	100
835010	D	Harmonic Balancer Sleeve - Ford 1968-81, 351C(5.8L), 351M(5.8L), 390(6.4L), 400(6.6L)	100
835011	A	Harmonic Balancer Sleeve - Buick 1975-97, 231(3.8L) Chevrolet 1963-98, All - Except Big Block Oldsmobile 1977-79, 350G, L(5.7L) Pontiac 1977-88, 151(2.5L), 350L(5.7L)	100
835013	D	Harmonic Balancer Sleeve - Chevrolet 1965-94, All Big Block	100
836021	D	Oil Pump - Chevrolet 1980-94, 229(3.8L);1957-97, All Small Block	100
837012	C	Oil Pump Screen - Chevrolet 1965-94, 200(3.3L), 229(3.8L), 262Z(4.3L),	101
838005	A	Oil Pump Shaft - Chevrolet 1958-96, 283(4.6L), 302(5.0L), 305(5.0L), 307(5.0L), 327(5.4L), 350(5.7L) Except Series 50, 400(6.6L) Pontiac 1977-79, 350L(5.7L)	101
838013	B	Oil Pump Shaft - Chevrolet 1965-96, All Big Block	101
839001	B	Dowel Pin - Ford 1974-94, 140(2.3L)	101



**NUMERICAL LISTING**

PIONEER NUMBER	POP CODE	DESCRIPTION - APPLICATION	PAGE NUMBER
839002	B	Dowel Pin - Ford 1961-76, 390(6.4L);1968-73, 429(7.0L);1972-78, 460(7.5L)	101
839003	A	Dowel Pin - Ford 1968-97, 302(5.0L);1969-94, 351C, M, W(5.8L)	101
839004	A	Dowel Pin - Chevrolet 1957-97, All Small Block	101
839005	A	Dowel Pin - Chevrolet 1965-97, All Big Block	101
839006	B	Dowel Pin - Chevrolet 1980-92, 173(2.8L) V6	101
839007	A	Bronze Distributor Tower Shaft Bushing - Chrysler, Dodge All V8	101
839008	B	Camshaft Thrust Button - Buick 1984-94, 231(3.8L) V6	102
839009	A	Woodruff Key - Buick 1975-94, 231(3.8L) Chevrolet 1957-97, All	102
839010	A	Woodruff Key - Buick 1975-97, 231(3.8L) Chevrolet 1957-98, All Pontiac 1977-94, 151(2.5L);1968-81, 301(4.9L), 350(5.7L), 400(6.6L), 455(7.5L)	102
839011	A	Woodruff Key - Ford 1969-97, 351M, W(5.8L), 400(6.6L)	102
839012	B	Woodruff Key - Ford 1961-78, 390(6.4L), 460(7.5L)	102
839013	B	Bronze Distributor Gear -Chevrolet 200(3.3L), 229(3.8L);1957-94, All Small Block;1965-98, All Big Block w/.500 Shaft	102
839014	B	Bronze Distributor Gear -Chevrolet 200(3.3L), 229(3.8L);1957-94, All Small Block;1965-98, All Big Block w/.491 Shaft	102
839016	C	Bronze Distributor Gear - Ford 1968-78, 351C(5.8L), 400(6.6L), 429(7.0L), 460(7.5L) w/.530 Shaft	102
839017	D	Bronze Distributor Gear - Ford 1968-78, 351C(5.8L), 400(6.6L), 429(7.0L), 460(7.5L) w/.500 Shaft	102
839020	B	Four Bolt Main Caps - Chevrolet 1967-98, 350(5.7L)	103
839021	C	Four Bolt Main Caps - Chevrolet 1967-98, 350(5.7L)	103
839022	B	Four Bolt Main Caps - Chevrolet 1967-98, 350(5.7L)	103
839023	B	Four Bolt Main Caps - Chevrolet 1970-76, 400(6.6L)	103
839026	C	Bronze Distributor Gear - Ford 1968-97, 302(5.0L), Boss, 351W(5.8L)w/.500 Shaft	102
839027	C	Bronze Distributor Gear - Ford 1968-97, 302(5.0L), Boss, 351W(5.8L)SVO, w/.530 Shaft	102
839028	A	Camshaft Thrust Button-Chevrolet 1957-98, All 90° V6 And V8, Short	102
839029	A	Camshaft Thrust Button-Chevrolet 1957-98, All 90° V6 And V8, Long	102
839030	A	Cam Gear Locking Plate - Chevrolet 1957-98, All 90° V6 And V8 Exc. Factory Roller	103
839031	A	Oil Restrictor Kit - Chevrolet 1957-85, All V8	104
839032	B	Dowel Pin - Chevrolet - 1957-98, All V8 - Extra Long Bellhousing -	104
839033	A	Fuel Pump Block Off Plate - 1957-98, Small Block Chevrolet	104
839034	A	Fuel Pump Block Off Plate - 1965-98, Big Block Chevrolet	104
839035	B	Fuel Pump Push Rod -Chevrolet 1957-98, All V8	104
839036	A	Fuel Pump Push Rod -Chevrolet 1957-98, All V8	104
839037	A	Cam Gear Bolts - Chevrolet 1957-98, All 90° V6 And V8	103
839038	B	Cam Button Kit - Chevrolet Small Block & 90° V6 (Roller, .795 Length)	102
839039	C	Cam Button Kit - Chevrolet Big Block (Roller, .945 Length)	102
839041	C	Oil Restrictor Kit - Chevrolet Small Block 1986-98, Big Block 1991-97	104
839042	B	Lifter Valley Vent Tube - Chevrolet Small Block & Big Block	105
839043	B	Cam Correct - Chevrolet 200-262Z V6, Small Block, Kit w/Drill Jig	105
839045	C	Cam Correct - Replacement Spring Shoe w/Hardware	105
839047	A	Cam Sprocket Dowel - Chevrolet Small Block & Big Block	101
839048	B	Woodruff Key - Ford 1968-97, 302 (5.0L) Engine	102
839049	A	Oil Filter Adapter- Chevrolet 1976-98, 305 (5.0L)-454 (7.4L)	105
839050	B	Fuel Pump Mounting Plate Kit - 1957-98 Small Block Chevrolet	105
839051	A	Adjustable Timing Indicator -Chevrolet 90° V6, Small block with 6 1/4" balancer	106
839052	A	Adjustable Timing Indicator -Chevrolet 90° V6, Small block with 7" balancer	106
839053	B	Adjustable Timing Indicator -Chevrolet 90° V6, Small block with 8" balancer	106

## NUMERICAL LISTING

PIONEER NUMBER	POP CODE	DESCRIPTION - APPLICATION	PAGE NUMBER
839054	B	Adjustable Timing Indicator -Chevrolet big block with 8" balancer	106
839055	C	Lifter Valley Screen Kit - Chevrolet 200 (3.3L)-262Z (4.3L), 283 (4.6L), 400(6.6L)	106
839056	C	Four Bolt Main Cap Kit- Chevrolet 1965-97, 396 (6.6L), 454(7.4L)	103
839057	D	Drill Bushing - Use for Installation of Small Block Chevrolet 4 Bolt Main Caps	103
839058	C	Adjustable Timing Indicator - Chevrolet Big Block with 7" balancer	106
839059	D	Timing Cover Dowell Kit - Chevrolet 1957-98, 283 (4.6L), 454 (7.4L)	101
839060		Adjustable Timing Indicator- Ford 1968-97, 302 (5.0L), 351W (5.8L)	106
839061		Oil Pump Pick Up Retainer -Chevrolet 1985-98, 262Z (4.3L), 1957-92 283 (4.6L), 302 (5.0L), 307 (5.0L), 327 (5.4L), 350 (5.7L), 400(6.6L) with 5/8" diameter tube	106
839062		Distributor Hold Down Clamp - Chevrolet 90° V6, Small block and big block V8	107
•839063	NEW	Clutch Quadrant (Aluminum Replacement) - 1982-93 Ford Mustang w/302 (5.0L)	107
•839064	NEW	Clutch Quadrant (Aluminum Replacement) - Heavy Duty Adjustable Cable Kit; 1982-93 Ford Mustang w/302 (5.0L)	107
•839065	NEW	Woodruff Key - Chevrolet 1997 (5.7L) LS1	102
850001	A	Rocker Arm Stud - Chevrolet 1957-98, All Small Block Rocker Arm Stud - Oldsmobile 1977-79, 350G, L(5.7L) Pontiac 350L(5.7L), 7/16 x 3/8 x 2.320 O.A.L.	107
850003	A	Rocker Arm Stud - Chevrolet 1965-97, All Big Block, 7/16 x 7/16 x 2.540 O.A.L.	107
850006	A	Rocker Arm Stud - Chevrolet 1967-98, All Small Block, 7/16 x 3/8 x 2.400 Oldsmobile 1977-79, 350L(5.7L); Pontiac 1977-79, 350L(5.7L) Ford 1968-97, 302(5.0L), 7/16 x 3/8 x 2.400 O.A.L.	107
850008	A	Rocker Arm Adjuster - 3/8" Stud, w/O.E. Steel Rockers	108
850009	B	Rocker Arm Adjuster - 5/16" Stud, w/O.E. Rockers	108
850010	B	Rocker Arm Adjuster - 7/16" Stud, w/O.E. Rockers	108
850012	C	Rocker Arm Adjuster - 7/16" Stud, w/Aluminum Roller Rockers	108
850013	A	Rocker Arm Stud - Chevrolet 1967-98, All Small Block, 7/16 x 3/8 x 2.500 Oldsmobile 1977-79, 350L(5.7L); Pontiac 1977-79, 350L(5.7L) Ford 1968-89, 302(5.0L), 7/16" x 3/8" x 2.400 O.A.L.	107
850014	A	Rocker Arm Stud - Chevrolet 1965-97, All Big Block, 7/16 x 7/16 x 2.650 O.A.L.	107
850017	C	Rocker Arm Adjuster - 3/8" Stud, w/Aluminum Roller Rockers and Rocker Stud Girdle	108
850018	D	Rocker Arm Adjuster - 3/8" Stud, w/Aluminum Roller Rockers and Rocker Stud Girdle	108
850019	C	Rocker Arm Adjuster - 7/16" Stud, w/Aluminum Roller Rockers and Rocker Stud Girdle	108
850020	C	Rocker Arm Adjuster - 7/16" Stud, w/Aluminum Roller Rockers and Rocker Stud Girdle	108
850022	C	Rocker Arm Adjuster - 7/16" Stud, w/Aluminum Roller Rockers	108
851001	D	Head Stud Kit - Buick 1977-85, 231(3.8L) Stage I	109
851002	D	Head Stud Kit - Buick 1977-85, 231(3.8L) Stage II	109
851003	D	Head Stud Kit - Chevrolet 1963-79, 230(3.8L), 250(4.1L)	109
851004	B	Head Stud Kit - Chevrolet 1967-98, All Small Block	109
851005	C	Head Stud Kit - Chevrolet 1965-97, All Big Block	109
851006	D	Head Stud Kit - Chevrolet 1965-76, Big Block - Aluminum Block	109
851007	D	Head Stud Kit - Chrysler, Dodge 1957-91, 318(5.2L), 340(5.6L), 360(5.9L)	109
851009	D	Head Stud Kit - Chrysler, Dodge 1966-78, 400(6.6L), 440(7.2L)	109
851010	C	Head Stud Kit - Ford 1968-97, 302(5.0L)	109
851011	D	Head Stud Kit - Ford 1968-71, 302(5.0L) Boss	109
851012	D	Head Stud Kit - Ford 1970-74, 351C(5.8L)	109
851013	C	Head Stud Kit - Ford 1969-97, 351W(5.8L)	109
851014	D	Head Stud Kit - Ford 1972-78, 460(7.5L)	109
851015	D	Head Stud Kit - Ford 1961-76, 390(6.4L)	109
851016	D	Head Stud Kit - Oldsmobile 1977-79, 403(6.6L)	109

NUMERICAL LISTING

PIONEER NUMBER	POP CODE	DESCRIPTION - APPLICATION	PAGE NUMBER
851017	D	Head Stud Kit - Oldsmobile 1977-79, 455(7.5L)	109
851018	C	Head Stud Kit - Chevrolet 1967-98, All Small Block w/O.E. Cast Iron And Aluminum, AFR, Brodix-8, -11, -11XB, Brownfield, And Dart (Stock Replacement) Cyl. Heads (Includes 12 Pt. Nuts)	109
851019	D	Head Stud Kit - Chevrolet 1967-98, All Small Block w/Chevy 18 Degree High Port Cyl. Heads w/7/16" Studs (Includes 12 Pt. Nuts)	109
851023	D	Head Stud Kit - Chevrolet 1967-98, All Small Block w/Dart II Cyl. Heads	109
851024	D	Head Stud Kit - Chevrolet 1985-98, All 90° V6 w/O.E. Cast Iron And Aluminum Cyl. Heads	109
851026	D	Head Stud Kit - Chevrolet 1967-98, All Small Block w/Dart II and Pontiac Motorsports Cyl. Heads (Includes 12 Pt. Nuts)	109
851200	A	Head Bolt Kit - Chevrolet 1967-98, All Small Block, 12 Pt.	108
851201	A	Head Bolt Kit - Chevrolet 1965-97, All Big Block, 12 Pt.	108
851204	D	Head Bolt Kit - Chevrolet 1985-98, All 90° V6 w/O.E. Cast Iron And Aluminum Cyl. Heads, 12 Pt.	108
852001	A	Rod Nut - 3/8"-24 Hex	109
852002	B	Rod Nut - 5/16"-24 Hex	109
852003	D	Rod Nut - 11/32"-24 Hex	109
852004	A	Rod Nut - 7/16"-20 Hex	109
852005	B	Rod Nut - 1/2"-20 Hex	109
852006	C	Rod Nut - 9/16"-18 Hex	109
852007	D	Rod Nut - 9MM Hex	109
852008	B	Serrated Flange Nut - 5/16"-24 Hex	109
852009	A	Serrated Flange Nut - 1/4"-28 Hex	109
852010	D	Serrated Flange Nut - 5/16"-24 Hex, Skin Packed 10 Pcs.	109
852011	D	Serrated Flange Nut - 1/4"-28 Hex, Skin Packed 10 Pcs.	109
852012	B	Rod Nut - 3/8"-24 Hex, Skin Packed 10 Pcs.	109
852013	C	Rod Nut - 5/16"-24 Hex, Skin Packed 10 Pcs.	109
852014	C	Rod Nut - 11/32"-24 Hex, Skin Packed 10 Pcs.	109
852015	C	Rod Nut - 7/16"-20 Hex, Skin Packed 10 Pcs.	109
852016	A	12 Pt. Nut, 7/16-20	110
852096	A	High Grade Flat Washer - 7/16" I.D. x 3/4" O.D. x .065, Skin Packed 34 Pcs.	110
852097	B	High Grade Flat Washer - 1/2" I.D. x 7/8" O.D. x .100, Skin Packed 20 Pcs.	110
852098	A	High Grade Flat Washer - 7/16" I.D. x 13/16" O.D. x .120 (Ground), Skin Packed 34 Pcs.	110
852099	C	High Grade Flat Washer - 1/2" I.D. x 7/8" O.D. x .120 (Ground), Skin Packed 20 Pcs.	110
852100	A	High Grade Flat Washer - 7/16" I.D. x 13/16" O.D. x .120 (Ground)	110
852101	B	High Grade Flat Washer - 1/2" I.D. x 7/8" O.D. x .120 (Ground)	110
852102	C	High Grade Flat Washer - 9/16" I.D. x 1" O.D. x .120 (Ground)	110
852103	C	High Grade Flat Washer - 3/8" I.D. x 3/4" O.D. x .120 (Ground)	110
852104	C	High Grade Flat Washer - 3/8" I.D. x 5/8" O.D. x .055 Stainless Steel	110
852105	D	High Grade Flat Washer - 5/16" I.D. x 9/16" O.D. x .055 Stainless Steel	110
852111	B	High Grade Flat Washer - 1/2" I.D. x 7/8" O.D. x .100	110
852112	A	High Grade Flat Washer - 7/16" I.D. x 3/4" O.D. x .065	110
852113	C	High Grade Flat Washer - 3/8" I.D. x 5/8" O.D. x .055 Stainless Steel, Skin Packed 10 Pcs.	110
852114	D	High Grade Flat Washer - 5/16" I.D. x 9/16" O.D. x .055 Stainless Steel, Skin Packed 10 Pcs.	110
853004	B	Connecting Rod Bolts - Chevrolet 1963-79, 230(3.8L), 250(4.1L), 283(4.6L), 327(5.4L), Premium Performance	111
853005	A	Connecting Rod Bolts - Chevrolet 1967-98, 200(3.3L), 229(3.8L), 305(5.0L), 307(5.0L), 350(5.7L), Premium Perf.	111
853006	C	Connecting Rod Bolts - Chevrolet 1966-97, 396(6.6L), 427(7.0L), 454(7.4L) 7/16 Bolts, Premium Performance	111
853007	B	Connecting Rod Bolts - Chevrolet 1966-97, 396(6.6L), 427(7.0L), 454(7.4L) 3/8 Bolts, Premium Performance	111
853008	B	Connecting Rod Bolts - Chevrolet 1970-76, 400(6.6L) Small Block, Premium Performance	111
853009	B	Connecting Rod Bolts - Chrysler, Dodge 1957-91, 318(5.2L), 340(5.6L), 360(5.9L), Premium Performance	111

## NUMERICAL LISTING

PIONEER NUMBER	POP CODE	DESCRIPTION - APPLICATION	PAGE NUMBER
853010	B	Connecting Rod Bolts - Chrysler, Dodge 1966-78, 400(6.6L), 440(7.2L), Premium Performance	111
853012	B	Connecting Rod Bolts - Ford 1968-97, 302(5.0L) Boss, 351W(5.8L), 429(7.0L), 460(7.5L), Premium Performance	111
853013	B	Connecting Rod Bolts - Ford 1968-97, 302(5.0L), Premium Performance	111
853015	D	Connecting Rod Bolts - Ford 1971-81, 351M(5.8L), 400(6.6L), Premium Performance	111
853016	C	Connecting Rod Bolts - Ford 1961-76, 390(6.4L), Premium Performance	111
853018	C	Connecting Rod Bolts - Oldsmobile 1968-76, 455(7.5L), Premium Performance	111
853019	D	Connecting Rod Bolts - Pontiac 1977-94, 151(2.5L), 301(4.9L), Premium Performance	111
853020	B	Connecting Rod Bolts - Pontiac 1967-79, 400(6.6L), Premium Performance	111
853200	D	Connecting Rod Bolts - Ford 1968-97, 302(5.0L), 351W(5.8L), Std. Performance	111
853201	C	Connecting Rod Bolts - Chevrolet 1957-69, 283(4.6L), 327(5.4L), 350(5.7L) 11/32 Bolts, Std. Performance	111
853204	A	Connecting Rod Bolts - Chevrolet 1957-98, 283(4.6L), 302(5.0L), 350(5.7L) 3/8 Bolts, Std. Performance	111
853205	C	Connecting Rod Bolts - Chevrolet 1966-97, 427(7.0L), 454(7.4L) 7/16 Bolts, Std. Performance	111
853206	C	Connecting Rod Bolts - Chrysler, Dodge 1957-91, 318(5.2L), 340(5.6L), 360(5.9L) 3/8 Bolts, Std. Performance	111
854004	D	Oil Pan Bolt Kit - Chrysler, Dodge 1966-91, 318(5.2L) 340(5.6L), 360(5.9L), 12 Pt.	112
854006	D	Oil Pan Bolt Kit - Buick 1975-97, 231(3.8L) - 14 Bolt Pan, 12 Pt.	112
854009	C	Oil Pan Bolt Kit - Ford 1980-86, 460(7.5L), 12 Pt.	112
854013	D	Header Bolt Kit - Chrysler, Dodge 1968-87, 340(5.6L), 360(5.9L), 12 Pt.	112
854014	B	Header Bolt Kit - 3/8-16 x 3/4 Stainless Steel (12 Bolt Kit) - Universal, 12 Pt.	112
854015	B	Header Bolt Kit - 3/8-16 x 3/4 Stainless Steel (16 Bolt Kit) - Universal, 12 Pt.	112
854019	C	Bellhousing Bolt Kit - 3/8-16 x 1-1/2, Chevrolet & Others, 12 Pt.	112
854020	D	Bellhousing Bolt Kit - 7/16-14 x 1, Ford, 12 Pt.	112
854021	A	Oil Pump Bolt Kit - 7/16-14 x 2" - Universal, 12 Pt.	112
854022	B	Oil Pump Bolt Kit - 7/16-14 x 2-1/2 - Universal, 12 Pt.	112
854023	B	Header Bolt Kit - 3/8-16 x 3/4 - Universal, 12 Pt.	112
855001	D	Main Stud Kit - Buick 1975-85, 231(3.8L), Stage I & II	113
855002	D	Main Stud Kit - Chevrolet 1963-79, 230(3.8L), 250(4.1L)	113
855003	B	Main Stud Kit - Chevrolet 1957-98, All Small Block (4 Bolt)	113
855004	D	Main Stud Kit - Chevrolet 1957-98, All Small Block (2 Bolt)	113
855005	C	Main Stud Kit - Chevrolet 1965-97, All Big Block (4 Bolt)	113
855006	C	Main Stud Kit - Chevrolet 1965-97, All Big Block (2 Bolt)	113
855007	D	Main Stud Kit - Chevrolet 1965-76, Aluminum Big Block (4 Bolt)	113
855008	D	Main Stud Kit - Chrysler, Dodge 1957-91, 318(5.2L), 340(5.6L), 360(5.9L), 400(6.6L), 440(7.2L)	113
855009	C	Main Stud Kit - Ford 1968-97, 302(5.0L) (2 Bolt)	113
855011	D	Main Stud Kit - Ford 1970-74, 351C(5.8L) (2 Bolt)	113
855012	D	Main Stud Kit - Ford 1970-74, 351C(5.8L) (4 Bolt)	113
855013	C	Main Stud Kit - Ford 1969-97, 351W(5.8L) (2 Bolt)	113
855014	D	Main Stud Kit - Ford 1969-97, 351W(5.8L) (4 Bolt)	113
855015	D	Main Stud Kit - Ford 1972-78, 460(7.5L)	113
855016	D	Main Stud Kit - Ford 1961-76, 390(6.4L)	113
855017	D	Main Stud Kit - Oldsmobile 1977-79, 350R(5.7L)	113
855018	D	Main Stud Kit - Oldsmobile 1968-76, 455(7.5L)	113
855019	D	Main Stud Kit - Pontiac 1967-79, 400(6.6L) (2 Bolt)	113
855020	D	Main Stud Kit - Pontiac 1967-79, 400(6.6L) (4 Bolt)	113
855021	D	Main Stud Kit - Chevrolet 1957-69, All Small Block (2 Bolt), Small Journal	113

NUMERICAL LISTING

PIONEER NUMBER	POP CODE	DESCRIPTION - APPLICATION	PAGE NUMBER
855023	D	Main Stud Kit - Chevrolet 1985-97, 262Z, 2 Bolt Main	113
855024	D	Main Stud Kit - Chevrolet 1985-97, 262Z, 4 Bolt Main	113
855025	D	Main Stud Kit - Ford 1972-78, 460(7.5L), 4 Bolt Main	113
855200	B	Main Bolt Kit - Chevrolet 1957-98, All Small Block, 2 Bolt Main (w/Large Journals)	113
855201	B	Main Bolt Kit - Chevrolet 1957-98, All Small Block, 4 Bolt Main (w/Large Journals)	113
855202	C	Main Bolt Kit - Ford 1968-97, 302(5.0L) 2 Bolt Main	113
855203	D	Main Bolt Kit - Ford 1968-97, 302 (5.0L) 4 Bolt Main	113
855205	D	Main Bolt Kit -Chevrolet 1985-97, 262Z, 2 Bolt Main	113
855206	D	Main Bolt Kit -Chevrolet 1985-97, 262Z, 4 Bolt Main	113
859000	A	Oil Drain Plug - 1/2-20, Magnetic	114
859001	A	Oil Drain Plug - 1/2-20 x .800 Long	114
859007	C	Oil Pan Stud Kit - Chrysler 1957-91, 318(5.2L), 340(5.6L), 360(5.9L) Pontiac 1967-94, 151(2.5L), 301(4.9L), 350(5.7L), 400(6.6L), 455(7.5L)	114
859008	B	Oil Pan Stud Kit - Chevrolet 1957-97, All Small Block	114
859009	C	Oil Pan Stud Kit - Chevrolet 1965-97, All Big Block Pontiac 1967-94, 151(2.5L), 301(4.9L), 350(5.7L), 400(6.6L), 455(7.5L)	114
859010	C	Oil Pan Stud Kit - Ford 1968-97, 302(5.0L), 351C(5.8L), 351W(5.8L)	114
859011	A	Front Cover Stud Kit - Chevrolet 1957-97, All Small Block & Big Block V8	114
859012	A	Balancer Bolt Kit - Chevrolet 1957-98, 90° V6 & All Small Block	116
859013	A	Balancer Bolt Kit - Chevrolet 1965-97, All Big Block	116
859014	C	Transmission Bolt Kit - 7/16 x 1-1/2 N.C. - Universal	118
859015	D	Transmission Bolt Kit - 1/2 x 1-1/2 N.C. - Universal	118
859017	A	Oil Pan Bolt Kit - Chevrolet 1957-85, All Small Block, Hex Head	115
859018	A	Oil Pan Bolt Kit - Chevrolet 1965-90, All Big Block, Hex Head	115
859019	A	Oil Pan Bolt Kit - Ford 1968-97, 302(5.0L), 351C(5.8L), 351W(5.8L), Hex Head	115
859020	B	Oil Pan Bolt Kit - Chrysler, Dodge 1957-91, 318(5.2L), 340(5.6L), 360(5.9L), Hex Head	115
859021	A	Front Cover Bolt Kit - Chevrolet 1957-98, All Small Block & Big Block V8, Hex Head	116
859022	A	Flexplate Bolt Kit - Chevrolet 1957-85, All Small Block 7/16-20 x 11/16	117
859024	A	Pressure Plate Bolt Kit - Chevrolet Borg & Beck 3/8 x 1	118
859025	A	Pressure Plate Bolt Kit - Ford Long Style 5/16 x 3/4	118
859026	A	Flywheel Bolt Kit - Chevrolet V8 7/16-20 x 1	117
859027	B	Flywheel Bolt Kit - Chrysler, Dodge 1/2-20 x 1	117
859028	B	Flywheel Bolt Kit - Pontiac 1/2-20 x 1	117
859029	A	Flexplate Bolt Kit - Chevrolet 1986-98, All Small Block 7/16-20 x 11/16	117
859030	B	Flywheel Bolt Kit - Chevrolet 1986-98, All Small Block 7/16-20 x 11/16	117
859031	B	Valve Cover Stud Kit - 1967-85 Chevrolet, All Small Block w/Stamped Steel Valve Covers	115
859032	B	Valve Cover Stud Kit - 1968-97 Chevrolet, All Big Block w/Stamped Steel Valve Covers	115
859033	C	Auto Transmission Pan Stud Kit - G.M. Powerglide, Turbo 350, 400 Chrysler 904, 727; Ford C4, C6	115
859034	C	Auto Transmission Pan Bolt Kit - G.M. Powerglide, Turbo 350, 400 Chrysler 904, 727; Ford C4, C6	116
859035	A	Torque Converter Bolt Kit - G.M. T.H.-400	117
859036	A	Torque Converter Bolt Kit - G.M. Powerglide, T.H. 350	117
859037	C	Flexplate Bolt Kit - Chrysler V8 Exc. Hemi	117
859038	C	Torque Converter Bolt Kit - Chrysler Exc. Hemi	117
859039	A	Oil Pump Stud Kit- Chevrolet 1967-97, 90° Degree V6, Small Block And Big Block V8	117
859040	A	Header Bolt - 3/8-16 x 3/4, Universal, Skin Packed 12 Pcs.	117
859041	A	Header Bolt - 3/8-16 x 3/4, Universal, Skin Packed 16 Pcs.	117
859045	B	Harmonic Balancer Bolt - Chevrolet 1957-98, 90° V6 & Small Block, 1 Piece Chrome Moly	116
859046	C	Harmonic Balancer Bolt Kit- Chevrolet 1965-97, 396-454 1 Piece Chrome Moly	116
• 859047	NEW	Harmonic Balancer Bolt Kit - Chevrolet 1957-98, 90 V6 & Small Block, 12 Pt. Chrome Moly	116

• NEW ITEM

(Continued on next page)



## NUMERICAL LISTING

PIONEER NUMBER	POP CODE	DESCRIPTION - APPLICATION	PAGE NUMBER
• 859048	NEW	Harmonic Balancer Bolt Kit - Ford 1963-97, Small & Big Block Except 351C, 12 Pt. Chrome Moly	116
• 859049	NEW	Harmonic Balancer Bolt Kit - Chevrolet 1997-07, Gen. 111 LS1, LS2, LS6, 12 Pt. Chrome Moly	116
871001	A	Heavy Duty Flexplate - Buick 1975-78; Chevrolet 1967-85; Oldsmobile 1975-78; Pontiac 1975-78	118
871002	B	Heavy Duty Flexplate - Chevrolet 1970-76 (400 Eng.)	118
871003	B	Heavy Duty Flexplate - Chevrolet 1970-90 (454 Eng.)	118
871004	B	Heavy Duty Flexplate - Buick 1971-85; Chevrolet 1971-84	119
871006	C	Heavy Duty Flexplate - Chevrolet 1986-98	119
871008	C	Heavy Duty Flexplate - Chevrolet 1991-97, 454 w/Cast Iron Crankshaft	119
871009	C	Heavy Duty Flexplate - Ford 1968-76 302 & 351W w/157 Tooth	119
871010	C	Heavy Duty Flexplate - Chevrolet 1986-98	119
872001	A	Harmonic Balancer, Street Performance — Chevrolet 90° V6, Small Block with 6 1/4" diameter	121
872002	A	Harmonic Balancer, Street Performance — Chevrolet 90° V6, Small Block with 7" diameter	121
872003	A	Harmonic Balancer, Street Performance — Chevrolet 90° V6, Small Block with 8" diameter	121
872004	A	Harmonic Balancer, Street Performance — Chevrolet Small Block 400(6.6L) with 8" diameter	121
872005	A	Harmonic Balancer, Street Performance — Chevrolet Big Block with 8" diameter	121
872006	B	Harmonic Balancer, Street Performance — Chevrolet 454-502 with 8" diameter	121
872007	B	Harmonic Balancer, Street Performance — Ford 351 Cleveland	122
872008	B	Harmonic Balancer, Street Performance — Ford 302 (5.0L)-351W (58L) with 28 oz. Counter weighter hub and raised pulley	122
872009	C	Harmonic Balancer, Street Performance — Ford 302 (5.0L)-351W (58L) with 28 oz. Counter weighter hub and countersunk pulley	122
872010	B	Harmonic Balancer, Street Performance — Ford 302 (5.0L) with 50 oz. counter weighted ring	122
872011	A	Harmonic Balancer, Street Performance — Pontiac 301 (4.9L)-400 (6.6L)	122
872012	D	Harmonic Balancer, Street Performance — Chevrolet 350 (5.7L) LS1 Camaro and Firebird	121
872013	C	Harmonic Balancer, Street Performance — Chevrolet 350 (5.7L) LT1	121
872014	D	Harmonic Balancer, Street Performance — Ford Mustang with 281 (4.6L) with SOHC	122
872015	C	Crank Flange Hub - Chevrolet 350 (5.7L) LT1 - Body 1993-95 and Corvette 1992-95 - O.A.L. 3.516	121
872016	D	Crank Flange Hub - Chevrolet 350 (5.7L) LT1 - Caprice and Impala 1993-95 - O.A.L. 4.09	121
872017	B	Harmonic Balancer, Street Performance — Ford 429 (7.0L)-460 (7.5L)	122
872018	B	Harmonic Balancer, Street Performance — Ford 302 (5.0L) - 351W (5.8L) with 28 oz. Counter weighted hub and 4 bolt pulley	122
872019	C	Harmonic Balancer, Street Performance — Ford 289 (4.7L)	122
872020	C	Harmonic Balancer, Street Performance — Chrysler 318 (5.2L) -340 (5.6L)	122
872021	A	Harmonic Balancer, Race — Chevrolet 90° V6, Small Block with 6 1/4" diameter	121
872022	A	Harmonic Balancer, Race — Chevrolet 90° V6, Small Block with 7" diameter	121
872023	B	Harmonic Balancer, Race — Chevrolet 90° V6, Small Block with 8" diameter	121
872024	A	Harmonic Balancer, Race — Chevrolet Small Block 400 (6.6L) with 8" diameter	121
872025	A	Harmonic Balancer, Race — Chevrolet Big Block with 8" diameter	121
872026	A	Harmonic Balancer, Race — Chevrolet 454-502 with 8" diameter	121
872027	B	Harmonic Balancer, Race — Ford 351 Cleveland	122
872028	C	Harmonic Balancer, Race — Ford 302 (5.0L)-351W (5.8L) with 28 oz. counter weighted hub and raised pulley	122
872029	C	Harmonic Balancer, Race — Ford 302 (5.0L)-351W (5.8L) with 28 oz. counter weighted hub and countersunk pulley	122
872030	A	Harmonic Balancer, Race — Ford 302 (5.0L) with 50 oz/ counter weighted hub	122
872031	A	Harmonic Balancer, Race — Pontiac 301 (4.9L)-400 (6.6L)	122
872032	A	Harmonic Balancer, Race — Ford 302 (5.0L)-351 (5.8L) with 28 oz. counter weighted hub and 4 bolt pulley	122
872034	A	Harmonic Balancer, Race — Ford 302 (5.0L) -351W (5.8L) with internal balance	122

NUMERICAL LISTING

PIONEER NUMBER	POP CODE	DESCRIPTION - APPLICATION	PAGE NUMBER
872035	C	Harmonic Balancer, Race — Ford Mustang with 281 (4.6L) with SOHC	122
872036	B	Harmonic Balancer, Race — Ford 429 (7.0L) -460 (7.5L)	122
872037	C	Harmonic Balancer, Race — Chrysler 318 (5.2L) -340 (5.6L)	122
872038	C	Harmonic Balancer, Race — Chrysler 360 (5.9L)	122
872039	C	Harmonic Balancer, Street — Chrysler 383 (6.3L)-440 (7.2L)	122
872040	B	Harmonic Balancer, Race — Chrysler 383 (6.3L)-440 (7.2L)	122
872041	D	Harmonic Balancer, Race — Chevrolet 350 (5.7L) LS1 Camaro and Firebird & GTO	121
872042	D	Harmonic Balancer, Race — Chevrolet 350 (5.7L) LS1 Camaro, Firebird & GTO with 10% underdrive	121
872043	D	Harmonic Balancer, Race — Chevrolet 350 (5.7L) LT1	121
872044	D	Harmonic Balancer, Race — Chevrolet 350 (5.7L) LT1 with 10% underdrive	121
872046	B	Harmonic Balancer, Race — Chevrolet Big Block with 7" diameter	121
872047	D	Harmonic Balancer, Race — Chevrolet 350 (5.7L) LS2, LS6 Corvette, SSR	121
872048	C	Harmonic Balancer, Race — Chevrolet Small Block 400 (6.6L) with 7" diameter	121
872049	D	Harmonic Balancer, Race — Crank Flange Hub - Chevrolet 350 (5.7L) LT1 F-Body 1966-97 and Corvette 1996 O.A.L. 3.417	121
872050	D	Harmonic Balancer, Race — Chevrolet 350 (5.7L) LS2, LS6 Corvette SSR with 10% underdrive	121
872052	D	Harmonic Balancer, Race — Ford 330(5.4L) SOHC and DOHC V8 with 6 groove pulley	122
872053	D	Harmonic Balancer, Race — Ford 330 (5.4L) SOHC and DOHC V8 with 6 Grove pulley with 10% underdrive	122
872055	C	Harmonic Balancer, Race — Chevrolet 350 (5.7L) LS1 Camaro, Firebird & GTO with 25% underdrive	121
872056	C	Harmonic Balancer, Street — Ford 390 (6.4L)	122
872057	C	Harmonic Balancer, Race — Ford 390 (6.4L)	122
872058	C	Harmonic Balancer, Race — Chevrolet 350 (5.7L) LS2, LS6 Corvette, SSR with 25% underdrive	121
• 872060	NEW	Harmonic Balancer, Race — Chevrolet - 90° V6 and Small Block V8 w/6-1/4"; Big Block Snout	121
• 872061	NEW	Harmonic Balancer, Race — Chevrolet - 90° V6 and Small Block V8 w/7" Dia.; Big Block Snout	121
• 872063	NEW	Harmonic Balancer, Race — Chevrolet - 350 Gen. 111 LS1/LS2/LS6 Corvette, SSR w/8" Rib Pulley for Super Charger Conversion	121
873001	B	Heavy Duty Pilot Bushing - Buick 1975-98, 231(3.8L) Chevrolet 1957-98, All Small Block & Big Block V8 Oldsmobile 1968-80, 350(5.7L), 403(6.6L), 455(7.5L)	123
873008	A	Heavy Duty Pilot Bushing, Roller - Buick 1975-98, 231(3.8L) Chevrolet 1957-98, All Small Block & Big Block V8 Oldsmobile 1968-80, 350(5.7L), 403(6.6L), 455(7.5L)	123
890001	C	Valve Guide Cutting Body - .530 Diameter	123
890002	C	Valve Guide Cutting Body - .500 Diameter	123
890003	C	Machining Tool Pilot - .343 Diameter	123
890004	D	Machining Tool Pilot - .375 Diameter	123
890006	D	Valve Spring Counter Bore - .625 x 1.500 Diameter	123
890100	C	Push Rod Length Gauge Kit - Adjustable Lengths	123
890103	B	Degree Wheel Kit - w/Adapter And Reducers	124
890108	C	Valve Train Checking Spring	124
890109	C	Rod Bolt Stretch Gauge	124
890110	D	Valve stem seal tool - for 11/32" valve seals	125
890111	D	Valve stem seal tool - for 3/8" valve seals	125
890112	D	Degree wheel pointer kit - use with 890103 degree wheel	125

• NEW ITEM

**a**

Adjustable Timing Indicator - Cat. Code #839 .....106  
 Adjusters, Rocker Arm - Cat. Code #850 .....108  
 Adjusters, Valve Spring- Cat. Code# 819 .....97  
 Aluminum Roller Rocker Arms- Cat. Code #818 .....96  
 Auto Transmission Pan Bolt Kit- Cat. Code #859 .....116  
 Auto Transmission Pan Stud Kit-Cat. Code #859 .....115

**b**

Balancer - Cat. Code # 872 .....121-122  
 Balancer Bolt Kits - Cat. Code #859 .....116  
 Banner - Cat. Code #890 .....158  
 Bellhousing Bolt Kit- Cat. Code #854 .....112  
 Bellhousing Dowel Kit-Cat. Code #839 .....104  
 Bolts:  
   Auto Trans Pan - Cat. Code #859 .....116  
   Balancer- Cat. Code #859 .....121-122  
   Bellhousing- Cat. Code #854 .....112  
   Cam Gear- Cat. Code #839 .....103  
   Connecting Rod-Cat. Code #853 .....111  
   Cylinder Head-Cat. Code #851 .....108  
   Flexplate-Cat. Code #859 .....117  
   Flywheel-Cat. Code #859 .....117  
   Front Timing Cover (Hex) - Cat. Code #859 .....116  
   Header-12 Pt. - Cat. Code #854 .....112  
   Header - Hex Head - Cat. Code #859 .....117  
   Main Bolt Kits- Cat. Code# 855 .....113  
   Oil Pan Kits (12 Point) - Cat. Code #854 .....112  
   Oil Pan Kits (Hex) - Cat. Code # 859 .....115  
   Oil Pump, Cat. Code #854 .....112  
   Pressure Plate Kits- Cat. Code #859 .....118  
   Torque Converter, Cat. Code #859 .....117  
   Transmission- Cat. Code# 859 .....118  
 Brass Expansion Plug Kits- Cat. Code #830 .....100  
 Brass Freeze Plug Kits- Cat. Code #830 .....100  
 Bronze Distributor Gear- Cat. Code #839 .....102  
 Bronze Towershaft Bushing-Cat. Code 839# .....101  
 Bushings, Pilot- Cat. Code #873 .....123

**C**

Cam Correct - Cat. Code #839 .....105  
 Cam Gear Bolts- Cat. Code #839 .....103  
 Cam Gear Locking Plate w/ Bolts-Cat. Code #839 .....103  
 Cam Sprocket Dowel - Cat. Code #839 .....101  
 Camshaft Thrust Button, Cat. Code #839 .....102  
 Clutch Cable and Quadrant Kit, Mustang - Cat. Code #839 .....107  
 Clutch Cables, Mustang - Cat. Code #839 .....107  
 Clutch Pilot Bushings, Roller- Cat. Code #873 .....123  
 Clutch Quadrant, Mustang - Cat. Code #839 .....107  
 Connecting Rod Bolt Kits- Cat. Code #853 .....111  
 Crank Flange Hubs - Cat. Code #872 .....121  
 Crankshaft Woodruff Keys- Cat. Code #839 .....102  
 Cylinder Head Stud Kits- Cat. Code #851 .....109

**d**

Decimal Equivalents Chart- .....18  
 Degree Wheel Kit- Cat. Code #890 .....124  
 Degree Wheel Pointer Kit - Cat. Code #890 .....125  
 Distributor Gear, Bronze- Cat. Code #839 .....102  
 Distributor Hold Down Clamp - Cat. Code #839 .....107  
 Distributor Shaft Bushing- Cat. Code #839 .....101  
 Dowel Pins- Cat. Code #839 .....101  
 Dowel Pins, Bellhousing to Block- Cat. Code #839 .....104  
 Drill Bushing - Cat. Code #839 .....105

**e**

Engine Builder's Tools & Equipment .....127-142  
 Expansion Plug Kits, Brass- Cat. Code #830 .....100

**f**

Flat Washers- Cat. Code #852 .....110  
 Flange Nuts, Kits-Cat. Code #852 .....109  
 Flexplates, Heavy Duty- Cat. Code #871 .....118-119  
 Flexplate Bolt Kits- Cat. Code #859 .....117  
 Flywheel, Auto Trans. - Cat. Code #871 .....118-119  
 Flywheel Bolt Kits- Cat. Code #859 .....117  
 Freeze Plug Kits, Brass-Cat. Code #830 .....100  
 Front Timing Cover Bolts Kits (Hex) - Cat. Code #859 .....116  
 Front Timing Cover Stud Kits- Cat. Code #859 .....114  
 Fuel Pump Block Off Plates- Cat. Code #839 .....104  
 Fuel Pump Mounting Plate - Cat. Code #839 .....105  
 Fuel Pump Push Rods- Cat. Code #839 .....104

**g**

## Gears:

  Cam Gear Locking Plate w/ Bolts- Cat. Code #839 .....103  
   Distributor, Bronze- Cat. Code #839 .....102  
   Gauge, Push Rod- Cat. Code #890 .....123  
   Guide Plates-Cat. Code #821 .....99  
   Guides, Valve- Cat. Code #813 .....92  
   Girdle, Rocker Stud - Cat. Code #823 .....99

**h**

Harmonic Balancers - Cat. Code #872 .....121-122  
 Harmonic Balancer Bolt Kit- Cat. Code #859 .....116  
 Harmonic Balancer Repair Sleeves- Cat. Code #835 .....100  
 Head Bolt Kits- Cat. Code #851 .....108  
 Head Bolt Washer Kits- Cat. Code #852 .....110  
 Head Stud Kits- Cat. Code #851 .....109  
 Header Bolt Kits (12 Point) - Cat. Code #854 .....112  
 Header Bolt Kits (Hex) - Cat. Code #859 .....117  
 Hex Nuts:  
   Connecting Rod- Cat. Code #853 .....109  
   Serrated Flange- Cat. Code #852 .....109

**i-j-k**

Inserts, Valve Spring- Cat. Code #819 .....97  
 Keys, Valve-Cat. Code #816 .....95

**l**

Lifter Valley Screen Kit - Cat. Code #839 .....106  
 Lifter Valley Vent Tubes - Cat. Code #839 .....105  
 Lifters, Valve- Cat. Code #812 .....91  
 Locks, Valve- Cat. Code #816 .....95  
 Long Slot Rocker Arms- Cat. Code #818 .....96

(Continued on next page)

## m

Machining Tools:

- Oil Seal- Cat. Code #890 .....123
- Valve Spring Seat- Cat. Code #890 .....123
- Magnetic Oil Drain Plug- Cat. Code #859 .....114
- Main Bolt Cap Conversion- Cat. Code #839 .....103
- Main Bolt Kit-Cat. Code #855 .....113
- Main Stud Kits-Cat. Code #855 .....113
- Metric Conversion Chart .....18

## n

- Nuts, Connecting Rod- Cat. Code #852 .....109
- Nut, 12 Point- Cat. code #852 .....110
- Numerical List .....143-155

## O

- Oil Drain Plugs, Magnetic- Cat. Code #859 .....114
- Oil Pan Bolt Kits (12 Point) - Cat. Code #854 .....112
- Oil Pan Bolt Kits (Hex) - Cat. Code #859 .....115
- Oil Pan Stud Kit, Cat. Code #859 .....114
- Oil Pumps- Cat. Code #836 .....100
- Oil Pump Bolt Kits- Cat. Code #854 .....112
- Oil Pump Pick Up Retainer - Cat. Code #839 .....106
- Oil Pump Screens- Cat. Code #837 .....101
- Oil Pump Shafts- Cat. Code #838 .....101
- Oil Pump Stud Kit- Cat. Code #859 .....117
- Oil Restrictor Kit- Cat. Code #839 .....104
- Oil Seal Tools- Cat. Code #890 .....125
- Oil Seals, Valve Stem - Cat. Code #811 .....90

## p-q

- Pilot Bushings, Roller-Cat. Code #873 .....123
- Posi-Locks, Rocker Arm - Cat. Code #850 .....108
- Pressure Plate Bolt Kit-Cat. Code #859 .....118
- Push Rods- Cat. Code #815 .....93-94
- Push Rod, Fuel Pump- Cat. Code #839 .....104
- Push Rod, Gauge Kit- Cat. Code #890 .....123
- Push Rod, Guide Plates- Cat. Code #821 .....99

## r

- Restrictor, Oil Kit- Cat. Code #839 .....104
- Retainers, Valve Spring- Cat. Code #817 .....95
- Rocker Arms:
  - Adjusters-Cat. Code #850 .....108
  - Balls- Cat. Code #822 .....99
  - Kits- Cat. Code #818 .....96
  - Stamped Steel-Cat. Code #818 .....96
  - Stud Girdle - Cat. Code #823 .....99
  - Stud Kits-Cat. Code #850 .....107
  - Rod Bolt Kits, Connecting- Cat. Code #853 .....111
  - Rod Nuts, Kits- Cat. Code #852 .....109
  - Rod Nut, 12 Point- Cat. Code #852 .....110
  - Rod Bolt Stretch Gauge - Cat. Code #890 .....124

## S

- Screens, Oil Pump- Cat. Code #837 .....101
- Seals, Valve Stem - Cat. Code #811 .....90
- Seats, Valve-Cat. Code #814 .....92
- Serrated Flange Nuts- Cat. Code #852 .....109
- Shims, Valve Spring - Cat. Code #819 .....97
- Stickers - Cat. Code #800 .....158
- Spring, Valve- Cat. Code #810 .....89
- Stainless Steel Valves- Cat. Code #820 .....98
- Stainless Steel Washers, Kits- Cat. Code #852 .....110
- Stud Kits:
  - Auto Trans Pan- Cat. Code #859 .....115
  - Cylinder Head- Cat. Code #851 .....109
  - Front Timing Cover- Cat. Code #859 .....114
  - Main - Cat. Code #855 .....113
  - Oil Pan- Cat. Code #859 .....114
  - Oil Pump- Cat. Code #859 .....117
  - Rocker Arm-Cat. Code #850 .....107
  - Valve Cover- Cat. Code #859 .....115

## t-u

- TechForum .....4-18
- Thrust Button, Camshaft- Cat. Code #839 .....102
- Timing Cover Bolt Kit (Hex) - Code #859 .....116
- Timing Cover Dowel Kit - Cat. Code #839 .....101
- Timing Cover Stud Kit- Cat. Code #859 .....114
- Timing Indicators - Cat. Code #839 .....106
- Torque Converter Bolt Kits- Cat. Code #859 .....117
- Tower, Distributor Shaft Bushing- Catalog Code #839 .....101
- Transmission Bolt Kit- Cat. Code #859 .....118
- Twelve (12) Point Nut-Cat. Code #852 .....110

## V

Valve :

- Cover Stud Kits- Cat. Code #859 .....115
- Guides- Cat. Code #813 .....92
- Keys- Cat. Code #816 .....95
- Lifters- Cat. Code #812 .....91
- Locks- Cat. Code #816 .....95
- Seats- Cat. Code #814 .....92
- Springs- Cat. Code #810 .....89
- Stainless Steel- Cat. Code #820 .....98

Valve Spring:

- Adjusters- Cat. Code #819 .....97
- Inserts- Cat. Code #819 .....97
- Machining Tools-Cat. Code #890 .....123
- Retainers- Cat. Code #817 .....95
- Shims- Cat. Code #819 .....97
- Valve Stem Oil Seals- Cat. Code #811 .....90
- Valve Stem Oil Seal Tools- Cat. Code #890 .....125
- Valve Train Checking Spring .....124

## W-X-Y-Z

- Washers, Flat- Cat. Code #852 .....110
- Washers, Stainless Steel, Kits- Cat. Code #852 .....110
- Washers,Head Bolt, Kits- Cat. Code #852 .....110
- Woodruff Keys- Cat. Code #839 .....102

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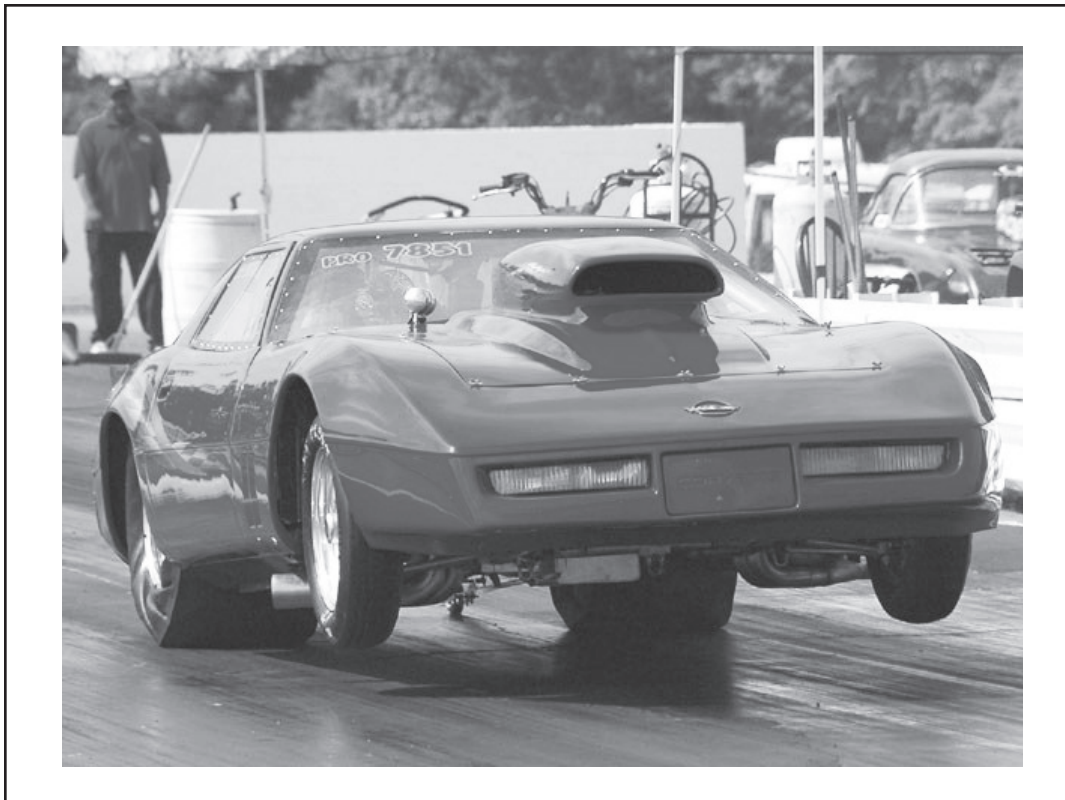
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