Heli-Coil has the most effective and universally accepted method of thread repair. Heli-Coil inserts quickly and permanently restore stripped, worn or damaged threads to their original size and condition. The inserts work in just about any part or material; aluminum, magnesium, cast iron, bronze, etc. The use of light weight (and soft) materials in fuel efficient cars means more thread damage... there is a Heli-Coil insert to repair virtually every application.

Damaged threads can be restored to better than new condition in spark plug ports, carburetor fuel inlets, transmission housings, oil drain plugs, exhaust and intake manifolds, head bolt holes, brake calipers and more!

The Heli-Coil system makes all other thread repair methods basically obsolete: welding, plugging, oversized fasteners and oversized drilling of mating parts. It’s faster — you save time, increase your shop’s repair capabilities and restore parts that otherwise would have to be scrapped.

Heli-Coil repairs are available in the following standard thread series and size ranges: Inch Coarse (#8 thru 1-1/2), Inch Fine (#10 thru 1-1/2), Metric Coarse (M3 thru M20), Metric Fine (M8 thru M18), Spark Plug (10mm, 12mm, 14mm, 18mm & 7/8”), and Pipe Thread (1/8” thru 1”). In addition to the above, custom sizes are available for various repairs.

**Installation**

**Drill**
Drill out the damaged threads using the drill size specified on the kit or set. Drill to sufficient depth to accommodate the insert length and bolt or screw being used.

**Tap**
Use the Heli-Coil tap supplied in the kit or set. Check the size on the shank to make sure you have the right one. Tap the hole to sufficient depth to accommodate the insert length and bolt or screw being used.

**Install**
Use the installation tool supplied in the kit or set. Just wind the insert into the hole until the top coil is 1/4 - 1/2 turn into the tapped thread. Now you’re back to the original size and the original size fastener can be used.

**Tang Removal**
The tang must be removed to allow full passage of the bolt or screw through the insert. Place square (unchamfered) end of a punch on the tang and strike sharply. For inserts over 1/2”, M14 and up, and all spark plug sizes, use long nose pliers. Holding the tang with the pliers, bend it alternately in and out until it comes free.

**Note:** For Spark Plug repairs, **NO** drilling is necessary. The Heli-Coil spark plug kit contains a piloted reamer tap. With this tap, the damaged threads are removed and new threads are cut in one continuous operation.

**Heli-Coil Stainless Steel Inserts**
Heli-Coil inserts are precision formed coils of extremely hard stainless steel (18-8) diamond-shaped wire. When installed into a Heli-Coil tapped hole, the insert provides permanent conventional screw threads. The insert has a driving “tang” for installation which is notched for easy removal.

**The Retention Principle**
Heli-Coil inserts are larger in diameter before installation than the tapped hole. During installation, the inserting tool reduces the diameter of the leading coil so it can enter the tapped hole. After the installation, each high tensile stainless steel coil expands outward against the tapped hole to permanently anchor the insert.

**Stripped & Fixed**
When threads become stripped, worn or damaged for any reason, the strength and reliability are greatly reduced. Potentially dangerous situations are eliminated when the damaged thread is repaired with Heli-Coil inserts. The Heli-Coil threaded insert provides stronger, more reliable threads than the original tapped hole and at the same time eliminates the possibility of thread wear, corrosion, galling, seizing and rust.
Spark Plug & Sav-A-Thread® Master Sets

Spark Plug Repair Kit
The 1st choice of Professional Mechanics and Rebuilders. Heli-Coil is the original in Spark Plug port repair. Available in M10, M12, M14, M18 and 7/8".
Kits contain:
- Piloted reamer tap (no drilling necessary)
- Installation tool
- Quantity of packaged inserts (can be re-ordered)

The M12 and M14 kits contain several insert lengths to accommodate all spark plug reaches.
Heli-Coil inserts are preferred by virtually all US and foreign vehicle manufacturers.

Note: Do not use Heli-Coil inserts wire to repair taper seat spark plug ports.

Sav-A-Thread®
Spark Plug Repair Kit
Sav-A-Thread® solid bushing inserts are specifically designed to accept taper seat spark plug ports and will also repair gasketed spark plug configurations. Sav-A-Thread provides the easiest way to permanently repair spark plug hole threads. Virtually all engines built today have aluminum cylinder heads. The need for quick and easy repairs makes Sav-A-Thread® a must for every store and shop.

Note: Heli-Coil recommends removing the head before installation to insure chips do not enter cylinder.

- Positive mechanical locking feature means the insert will never come out!
- The piloted reamer tap means no drilling is necessary and perfect alignment of the tapped hole.
- Available in kit or set for the do-it-yourselfer and professional engine rebuilder.
Special Applications

**Custom Kits**

Custom application kits round out the complete line of Heli-Coil Thread Repair Kits. They are recommended by both domestic and foreign automakers and include kits for carburetors, various heavy duty applications, and several specially-designed repairs for a number of Volkswagen models.

All kits contain a Heli-Coil tap, installation tool, a quantity of inserts, and detailed instructions. The American Bosch kit and Detroit Diesel kit also include high speed steel drill bits.

**Motorcycle Kits**

Heli-Coil offers a complete range of kits and sets for the repair of damaged threads on motorcycles. The Heli-Coil Motorcycle Thread Repair Set contains M6, M8 and M10 sizes. Two lengths of M10 inserts are available: 15mm for most repairs and 25mm for head bolt repairs.

Also available are special sizes for specific Harley Davidson applications. All kits come with tap, installation tool, a quantity of inserts and complete instructions.

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**Sav-A-Thread® Spark Plug Repair Kits**

**Part No. 5396-14**

This M14 Kit is typically used in 4.6 and 5.4 liter Ford® engines. Product offers the highest quality and most durable repair available. Remove the head before installation to ensure chips do not enter the cylinder.

Kit includes:
- piloted reamer
- steel installation tool
- expanding tool
- 12 inserts.

(Refill package R5326-14E is available; includes 6 inserts)

**Part No. 5396-16**

This M16 kit is specifically designed for Ford® 4.6 and 5.4 liter – 3 Valve engines. For repair on ports containing Autolite® HT and Mororcraft® Platinum PZT spark plugs.

Kit includes:
- piloted reamer
- steel installation tool
- expanding tool
- 12 inserts.

(Refill package R5326-16E is available; includes 6 inserts)

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**Oxygen Sensor Thread Repair Kit – Part No. 4833**

Quickly and permanently restore damaged M18 x 1.5 oxygen sensor threads in exhaust manifolds with this kit. No drilling is necessary with the piloted reamer tap, resulting in perfect alignment of the new tapped hole. Corrosion resistant stainless steel inserts improve future serviceability.

This application is easy to use, works in minutes, and eliminates exhaust manifold replacement. Perfect for the professional engine rebuilder and the do-it-yourselfer.

**Head Bolt Thread Repair Kit – Part No. 1130**

The Metric Head Bolt Kit is typically used in 4.0 and 4.2 liter GM® engines including Cadillac® as well as many other imports such as Honda® and Toyota®. The 1130 product will permanently restore stripped head bolts, has an extended reach for easy installation and a stop collar to control the installation depth.

The Kit contains:
- High speed steel drill bit
- High speed steel tap
- 12 Heli-Coil stainless steel inserts
The world’s only power broken bolt and stud extractor has these state-of-the-art features:

- Specially designed drill tip that will not walk or wander even on the rough surface of a broken bolt.
- Left-hand cutting edge helps to loosen the bolt, and possibly remove it, during drilling.
- Short drill body helps you control the drill tip with ease while allowing easy access to hard-to-reach bolts.
- Requires shallow drilling depth so there is less chance of drilling off center and less drilling time.
- Heat created during drilling helps loosen the bolt making extraction easier.
- Uses power of the drill to extract bolt.
- MADE IN U.S.A. — covered by U.S. and foreign patents.
- REUSABLE!

**Point-Of-Purchase Display**

Offers an effective way to organize your Drill-Out inventory. It contains (3) Drill-Out four-piece kits and (1) each of the Micro Drill-Out four-piece kit and individual tools. It can be counter or pegboard positioned and is designed with hard hitting graphics.

**Kits**

The Drill-Out and Micro Drill-Out kits include all the currently manufactured sizes. They are packaged in a sturdy clamshell molded case with a large, eye-catching card.
POP is the world acknowledged leader in blind rivet fastening technology, and POP rivet tools are the state-of-the-art in design, performance and durability. In addition to being the industry's original manufacturer and pioneer, POP is constantly updating and improving its complete product line to keep pace with rapidly advancing automotive markets and the increasing needs of today's automotive service professionals.

POP rivets are more effective and practical than other fastening methods such as welding, sheet metal screws, nuts and bolts, solid rivets and adhesives. They are ideal for repairs where access is limited to one side only. No surface preparation is required. The job can be done with no special skills. Almost any material can be fastened with POP rivets, especially plastics and sheet metal. The results are uniform and vibration proof.

Installation
POP rivets consist of two parts: (A) rivet body and (B) setting mandrel. In operation, the mandrel is pulled back to expand the rivet body and form a tight vibration-free fastener. The mandrel breaks off automatically after the rivet is set.

1. After selecting the proper rivet, drill a hole corresponding to the diameter of the rivet through the materials to be fastened. When using counter-sunk head rivets a 120° countersunk bit is required. Use POP Part No. 60928 for countersink drilling.

2. Open the handle of the rivet tool and insert the rivet mandrel in the nose-piece of the tool.

3. Place the rivet body in the pre-drilled hole. Then squeeze the rivet tool handles until the rivet mandrel breaks off.

Automotive repair, shop use
POP rivets provide an effective, high strength fastening technique. They're ideal for structural repairs, body and collision work, modifications, parts and accessory mounting and countless in-shop and miscellaneous applications. The use of rivets in automotive assembly has increased significantly because of their strength and ease of use.

Choose power or manual
POP's rivet fastening system is one of the most versatile you can buy. It requires minimal capital investment and inventory. The rivets can be installed manually or by power tools. They're designed for simple operation and ease of use.

Wide application range
POP offers a complete range of rivets to meet almost every automotive, marine, small engine, hardware and shop application. POP rivets are available in various materials, types, sizes and styles for all types of fastening from plastics to dissimilar metals to pressure tight sealing.

Rivet Materials
In order to meet a variety of requirements for strength, corrosion and rust considerations and application materials, POP rivets are offered in specific materials and material combinations.

<table>
<thead>
<tr>
<th>TYPE</th>
<th>APPLICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>All Steel</td>
<td>High strength: Use with steel</td>
</tr>
<tr>
<td>Aluminum</td>
<td>Lightweight: Use with aluminum, areas susceptible to rust &amp; corrosion</td>
</tr>
<tr>
<td>Alum./Steel</td>
<td>Combines features of both materials</td>
</tr>
<tr>
<td>All Stainless</td>
<td>Very high strength: Use with stainless &amp; steel. Prevents corrosion or rust.</td>
</tr>
<tr>
<td>Stainless/Steel</td>
<td>Very high strength. Applications where corrosion resistance is not a major factor.</td>
</tr>
<tr>
<td>Copper</td>
<td>Electrical conductivity</td>
</tr>
</tbody>
</table>

TYPES & STYLES
Rivet Types
There are three basic rivet types available for automotive use.

Open End
Designed for a wide range of applications, they resemble conventional tubular rivets when set, but retain the mandrel within the rivet body for added strength. Open end rivets are available in a variety of materials in dome, countersunk or large flange head styles.

Closed End
Specially configured with a cup shaped end that forms a tight seal, POP closed end rivets are much stronger than open end rivets. They are available in dome and countersunk head styles.

T-Rivets
Made for structural and high stress applications. They feature a hardened steel mandrel which splits the rivet body into a trifurcated shape. This provides high clamping strength even in thin or fragile material.

Head Styles
Dome Head
Low profile design and neat appearance, this style is very versatile and most commonly used. The head size is twice the diameter of the rivet body. It provides enough bearing surface for all applications except soft or brittle material.

Large Flange
Features twice the under-head bearing surface as the dome style. It's ideal for fastening soft or brittle materials to a rigid backing surface.

Countersunk
Designed with a 120° head profile for flush surface mounting applications.