About Exedy
EXEDY Corporation of Japan (formerly known as Daikin Manufacturing Company) is one of the largest independent OEM suppliers. We supply all of the major Japanese vehicle manufacture’s as well as Ford and GM in the US. We are also the leading manufacturer of racing clutches in Japan and supply all six factory vehicle manufacturer’s race teams. Unlike our competitors, our clutches are NOT rebuilt OE, or modified stock clutches. All EXEDY racing and performance clutches are engineered, designed and built from the ground up as race clutches, in the shadow of the OEM products. EXEDY’s product innovations are patented worldwide and developed in house using state of the art design, inspection and testing equipment. Before any design goes into production it goes through rigorous tests that simulate severe driving conditions, which ensure perfect performance in your vehicle. Additionally, no part will leave the EXEDY factory without a robotic and visual inspection, which guarantees quality you can stand behind.

Design
In addition to accumulated know-how as a clutch specialist, the latest CAD equipment has been introduced. By utilizing CATIA (3D Design) and FEA (Finite Element Analysis) engineering, the most appropriate designs and configurations are tailored to meet each customer’s individual requirements. Diaphragm springs are a key component of the clutch assembly, they are designed and made by EXEDY for ultimate performance.

Inspection
EXEDY Multi Plate Clutches are assembled by hand with the finished products being individually assessed for clamp load and release characteristics ensuring the highest quality at all times.
Vehicle Test
At the EXEDY test track, various driving conditions, from normal to severe, are evaluated with information being fed back to the clutch design department. In the actual vehicle, clutch systems are tuned to attain the best clutch performance for the given circumstances.

Expert Check
Clutches developed for mass production have been tested in the field before being introduced into the market place. Experts in each category perform a thorough evaluation of performance clutches which ensures the products will be fit for sale after they pass these given tests.
Terms & Conditions

1. All orders accepted by, and goods/products supplied by, EXEDY GLOBALPARTS CORPORATION, hereafter referred to as the Company, are subject to the following Terms and Conditions of Sale. Any exceptions and/or variations must be specifically agreed to in writing by both parties on sports and performance clutch products, warranties offered by the company on standard clutch products, do not apply to sports and performance clutch products.

2. Manufacturers’ Names, Part Numbers, Symbols or any other references appearing in the Company’s listing and/or on the Company Packaging, are used for reference purposes only and in no way indicate the goods/products are made by, for, and/or guaranteed by such manufacturers.

3. All data, applications and/or interchanges, contained in the Company’s listing have been complied as carefully as possible from reliable and official sources of information available at the time of printing and appears as a general guide only. The information contained herein is correct to the best of the Company’s knowledge and belief. However, the Company cannot, and will not, assume any responsibility for possible errors contained in this publication.

Correct Selection of Products is the Responsibility of the Purchaser.

4. All goods/products supplied by the Company are warranted against faulty material and/or workmanship but will not cover maltreatment and damage caused by collision, incorrect fitting or normal wear and tear sustained and which is common in a sports clutch application. Due to the nature of the intended use of these products, they are warranted for 90 days or 6,000 miles from the date of purchase.

5. When the Company’s clutch cover, clutch discs, or bearings are repackaged with another manufacturer’s parts all warranties are void.

6. Claims will be rejected where clutch kits and/or clutch components have been fitted to incorrect or unlisted applications. Flywheel must be resurfaced/machined before new clutch kit is fitted otherwise warranty will be void.
Claim Warranty Procedures

7. Any goods/product deemed by the customer to be faulty must be accompanied with a completed EXEDY Globalparts Corporation Warranty Claim Form, then the merchandise should be sent to the company freight prepaid or given to a company representative. An RGA may be obtained by phoning our Sales office (an RGA will be given at our discretion). Additional claim forms may be obtained by phoning a customer service representative.

7a. In the event the original purchaser of the clutch needs an urgent replacement kit, the purchaser must buy a new clutch kit from the original distributor. EXEDY Globalparts Corporation will credit the price of this clutch if the said part sent in for a warranty claim is found to be faulty. A credit will be issued for the value at distributors pricing. Under no circumstance is the distributor without written authorization from the company to issue a credit to the said purchaser of a faulty clutch.

8. No Claim Credit will be issued until the said goods/products have been tested and deemed faulty by the Company. The Company will not be liable for any labor charges or other expenses incurred nor shall it be liable for any damages or injury to persons or property resulting from misuse or improper installation.

9. **The Company will not pay any claim for goods/products repaired by the Customer and/or claims sight unseen.**

10. It is the responsibility of the EXEDY distributor to advise his customer on all aspects of this warranty and/or warranty procedures on any claim.

11. All special ordered goods/products will not be accepted back for credit.

---

Attention

Please read before installation and advise driver of vehicle

**All Sports & Performance Clutches & Flywheels**

When installing a sports/performance clutch in certain vehicles, there can be an increase in transferred harmonic noises from the engine to the gearbox. This may also cause gearbox rattle. These transmitted noises in no way affect the performance of the clutch or the vehicle, and is accepted in the performance industry, where engine and/or clutch modifications have been carried out.

**For example:**

Replacing an OEM, EXEDY Silent Design or a long travel clutch disc with a high torque center EXEDY sports/performance clutch disc can be the cause of some additional transmitted noise.
Choosing the Correct Exedy Sports Clutch

1. What vehicle does the customer have? You will want to know the following.
   a. Manufactures exact model and model year.
   b. Engine size and engine code.
   c. If they have altered the vehicle by doing a engine swap or a transmission swap.
   d. If they have updated or back dated any of the engine and/or transmission components.
   e. Good to know information if at all possible
      1. Input shaft size (measure the outer most diameter of the input shaft spline)
      2. Disc size outer diameter
      3. Vehicle chassis code

2. How much power does the vehicle make? Always ask the customer for torque output at the wheels. Horsepower is a very subjective figure so try to avoid using this figure.
   a. If your customer is unsure about their torque output you will need to find out what modifications they have done to the vehicle. Knowing the vehicles base line torque output and basic research on how much additional power each component has added you can figure out the estimated torque output.
   b. Since your estimated torque output will generally be a flywheel torque figure you will want to remove 20% from your estimated torque output to come up with your estimated wheel torque figure.
   c. If the customer has not done any modifications there is no need for a sports/ racing clutch. Sport/racing clutches are intended to handle a increase in torque above and beyond the capacity of the OEM clutch. Sports/racing clutches are not going
Choosing the Correct Exedy Sports Clutch

to last longer than that of a OEM clutch even if the vehicle is stock as that is not the purpose of a sports/racing clutch.

3. What type of driving is the customer going to be doing?
   a. Street driving
   b. Street / Strip / Weekend racer
   c. Dedicated race car

4. Now that we know the vehicle model, torque output and type of driving the vehicle is being used for we can give the customer a good recommendation on clutch type (stage).
   a. EXEDY Stage 1 clutch is great for the customer looking for a very smooth engaging clutch that is going to drive similar to the OEM unit but capable to handle moderate levels of modifications. This is a great option for the “street driver”.

   b. EXEDY Stage 2, 3, 4 Cerametallic disc with sprung hub center section is a great choice for the “street / strip / weekend racer” with applications to handle moderate to aggressive levels of modifications. These units offer a very consistent operation whether being raced or daily driven. The sprung hub center offers ease of engagement and absorbs many of the driveline vibrations at idle and during acceleration/deceleration.

   c. EXEDY Stage 4, 5 Cerametallic disc with solid hub center section is a great choice for the “dedicated race car” or very highly modified “street / strip / weekend racer” who doesn’t not mind sacrificing drivability for performance. This type of clutch will offer a very consistent operation however chatter and driveline vibrations will be experienced due to the solid hub center section.
Choosing the Correct Exedy Sports Clutch

d. EXEDY Stage 3, 4 Carbon** disc with sprung hub center section is a great choice for the “dedicated race car” who wants a very smooth engaging clutch with little to no driveline vibrations. The carbon disc is a very lightweight resulting in extremely quick shifts.

e. EXEDY Stage 3, 4, 5 Carbon** disc with solid hub center section is a great choice for the “dedicated race car” who wants a very smooth engaging clutch that is very lightweight for extremely quick shifts.

**Carbon clutches are not recommended for street use due to the inconsistent friction coefficient from hot to cold. Carbon clutches require a warm up procedure before being driven aggressively. Due to this nature we only recommend carbon clutches for race only applications or to customers who completely understand the characteristics of a carbon clutch. A very big misconception of a carbon clutch is that the vehicle is warm so isn’t the clutch? These units work excellent on dedicated race cars due to the driver being able to do the warm up procedure prior to the start of the race and every time driver upshifts or downshifts at higher RPM he is continuing to add heat to the clutch disc. In a street car you often stop at lights, drive in a specific gear, or shift at a lower RPM not allowing adequate heat to be given to the clutch disc. Without heat in a carbon clutch the friction coefficient is significantly lower than when heated. It is at these points in a street car that the customer may decide to put the pedal to the metal causing the clutch to slip and wear out prematurely due to inadequate heat being in the clutch disc.

5. Lightweight flywheels for the Stage 1, 2 clutch kits are great options to;
   a. Improve throttle response.
   b. Allow the engine to rev more quickly.
   c. Allow the clutch to operate cooler.
Choosing the Correct Exedy Sports Clutch

d. Burst tested and SFI approved. Rated to 10,000+RPM.

e. Remove the OEM dual mass flywheels.

All EXEDY lightweight flywheels are made from a one piece forged chromoly steel which utilize a nitrate hardening process, unique cooling ducts and distribute the weight evenly to allow for better drivability on the street.

6. How to set-up and what to expect from an EXEDY sport/racing product.

   a. Break in period should be that of 500 miles of city type driving, double the break in period for highway driving. No aggressive driving. No hole shots or drag launches. Gear changes should be made at 4,000 RPM or less. No speed shifting.

   b. Installing a sports/racing clutch to suit various vehicles can transfer harmonic noises from the engine to the gearbox. This is also called gearbox rattle. This can occur at idle and during acceleration/deceleration.

   c. Clutch engagement can be compromised by installing a sports/racing clutch. This is due to the heavier torsional dampening springs and/or the solid hub center on the clutch disc. Another factor is due to reduction in cushion plate thickness within an organic clutch disc and/or no cushion plate on the cerametalic and carbon clutch discs. The best way to remedy this situation is a take off at a slightly higher RPM and/or let the clutch out a bit quicker.

   d. Since most of the stage 4 and 5 multi-plate clutch kits have a free floating pressure plate and intermediate plate there will be a metal on metal noise when the clutch is depressed. This is common on most multi-plate clutches and is acceptable within the racing industry.
Choosing the Correct EXEDY Sports Clutch

### Exedy Racing Hyper Series Clutch Selection Guide

<table>
<thead>
<tr>
<th>Type of Usage</th>
<th>Clutch Series</th>
<th>Approx. Torque @ Flywheel</th>
<th>300</th>
<th>350</th>
<th>400</th>
<th>500</th>
<th>600</th>
<th>700</th>
<th>800</th>
<th>900</th>
<th>1000</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>STREET</strong></td>
<td>Cerametallic Series</td>
<td>Hyper Single 300mm</td>
<td>300</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hyper Single 255mm</td>
<td>350</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hyper Multi - Twin</td>
<td>500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hyper Multi - Triple</td>
<td>700</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Carbon Series</td>
<td>Hyper Single 200mm</td>
<td>330</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hyper Single 225mm</td>
<td>370</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hyper Multi - Twin</td>
<td>470</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hyper Multi - Triple</td>
<td>550</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ROAD COURSE / CIRCUIT RACING</strong></td>
<td>Cerametallic Series</td>
<td>Hyper Single 300mm</td>
<td>350</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hyper Single 255mm</td>
<td>400</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hyper Multi - Twin</td>
<td>600</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hyper Multi - Triple</td>
<td>800</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Carbon Series</td>
<td>Hyper Single 200mm</td>
<td>400</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hyper Single 225mm</td>
<td>430</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hyper Multi - Twin</td>
<td>650</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hyper Multi - Triple</td>
<td>720</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>DRAG / DRIFT</strong></td>
<td>Cerametallic Series</td>
<td>Hyper Single 300mm</td>
<td>320</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hyper Single 255mm</td>
<td>350</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hyper Multi - Twin</td>
<td>500</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hyper Multi - Triple</td>
<td>700</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Carbon Series</td>
<td>Hyper Single 200mm</td>
<td>330</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hyper Single 225mm</td>
<td>370</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hyper Multi - Twin</td>
<td>550</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Hyper Multi - Triple</td>
<td>720</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SFI Foundation Inc. sets special specifications in automotive parts to protect both the driver and spectator. Many racing organizations and tracks now require SFI specifications for different classes and parts used. In general, as cars produce more power and go faster, these specifications become more and more strict. To ensure our customers can race without risk of disqualification EXEDY has tested and certified many of our clutch kits and flywheels such as Stages 1, 2, 3, 4, 5, Carbon Series and the Lightweight Flywheels.
Stage 1 - Organic Friction Disc

Ultra Fiber Disc
This advanced facing material provides the high heat resistance essential for motorsports. It was developed by reviewing both the copper wire ratio and the composition of the high strength fiber. The Ultra Fiber Disc maintains the superior half-engagement feeling specific to the Organic material. With improved high heat resistance, it provides the functionality essential for street performance and mild racing applications.

Organic Disc
Newly developed asbestos free friction facing is used, which has high heat resistance and high burst strength characteristics. No steel back is required which can cause high RPM “lock-out” and/or synchro damage. Superior in shift operations and half-engagement feel, this clutch disc is recommended for any sports/performance use.

Clutch Cover
These clutch covers are designed to achieve a clamping load that is approx. 40% higher than the genuine part allowing a higher torque transmitting capacity. Ductile material is used for all pressure plates and, high burst strength can be achieved in all temperature ranges.
EXEDY cerametallic clutches are designed to handle the abuse of high power modified engines. Our cerametallic friction material can handle much more abuse than stock type disc assemblies without slipping and fading.

All EXEDY Stage 2 cerametallic clutch discs have sprung center dampers to reduce the impact and shock loads transmitted through the drivetrain. We offer two types of cerametallic discs, “thick” and “thin.”

**Thick Disc**
The “thick” discs have better heat capacity and therefore better durability in demanding applications. Even with the “thick” disc, our three and four puck designs typically have less inertia than a stock disc and work well for street, rally and track use.

**Thin Disc**
The “thin” discs offer greatly reduced inertia to improve shift effort, allow for quicker shifting, and improve synchro durability. These discs are approximately 1/2 the thickness of a stock disc and are recommended for circuit track use only.
EXEDY flywheels combine low weight, low inertia and high thermal capacity. They are designed for lightly tuned racing cars for drag racing, autocross and rally events, as well as street usage. They are made from solid one-piece billet chromoly steel or chromoly steel forgings. They are specifically designed to reduce weight and inertia for better engine response. Most incorporate special design features to enhance the airflow which improves the cooling of the clutch. The ring gear teeth are integrated onto the flywheel unlike an aluminum flywheel where the ring gear is pressed onto the flywheel and has the possibility of separating from the flywheel due to the different expansion coefficients of aluminum versus steel. EXEDY steel billet and forged steel flywheels have passed engineering tests to 15,000-18,000 rpm. They are guaranteed not to fail to the said rpm, and are all SFI approved.
The Hyper Single Clutch is engineered to optimize the performance of cars that are moderately modified, but do not require the clutch capacity of a multi-plate clutch. Similar to our multi-plate clutches, it has a purple anodized, forged aluminum cover. The aluminum cover is stiffer than a stamped cover and therefore allows a higher lever ratio to maintain the pedal efforts at a reasonable level. There is no clamp load deflection as found in a pressed metal type cover.

All Hyper Single clutches come with a chromoly steel flywheel, 6-puck cerametallic facing and a spring center damper disc assembly. The disc is generally smaller and thinner than the OEM disc making for lower inertia and therefore quicker, easier shifting and less wear and tear on the transmission synchros. The higher clamp load and cerametallic friction facings give approximately twice the holding torque of the OEM clutch and generally higher than other single plate clutches. An additional feature of the pressure plate is a series of turbine-like, air flow enhancing vanes that keep the clutch cooler under extreme operating conditions to improve wear life.

- High friction coefficient, low wear, and a special heat resistant material (T5001) has been developed enabling clutch size to be reduced and increased durability to be achieved.
- Durability is improved with the use of a stronger, smaller damper disc, specifically redesigned for the Hyper Single Clutch.
- A lower level of inertia is achieved over the genuine fitment clutch which improves shift response for faster gear changes particularly for racing applications.
Pull Type Clutch
The pull type clutch accommodates higher torque, in conjunction with lighter pedal efforts to produce a superior clutch operation, when adapted to most high-powered vehicles. An EXEDY Original design.

Advantages
- Unlike the push type cover, when a pull type cover flexes, it will flex in the direction of disengagement, assisting in positive pedal feel.
- A longer lever ratio achieves a direct decrease in pedal effort.

Patented One Touch Snap in Function
The problem of detachment difficulties is solved by the use of EXEDY original one-touch snap in bearing design. Detachment can easily be accomplished with the use of a screwdriver, alternatively, the bearing can be snapped back into place while activating the release fork.

What is Inertia?
Inertia is the tendency of the clutch and flywheel to maintain rotation even when not connected to the engine torque. This affects the responsiveness of the engine and also the feel of low rpm torque and start up driveability.

In the case of the clutch disc, lower inertia is always better to improve shift efforts and reduce the wear on the transmission synchros.
Twin and Triple Plate
For high-powered applications, EXEDY offers twin and triple Multi-Plate Clutches. These are designed for high power street action as well as drag, road and rally racing.

The twin plate clutches are rated for approximately 500 ft.lbs. TQ @ FW. The triple plate clutches are rated for up to and over 800 ft.lbs. TQ @ FW. Twins come with both spring damper discs or solid discs depending on application. Triples are all solid discs and not recommended for street use.

All of our multi-plate clutches come with a lightweight, chromoly steel flywheel and the famous purple anodized forged aluminum clutch cover. Depending on the application, we have both strap drive and lug drive models. All have T5001 cerametallic friction materials for extreme heat resistance.

SD Type
This model has been developed for high powered street cars and race cars with up to approximately 600TQ @ FW. They feature ventilated, thick intermediate plates for improved life and spring damper discs to protect your transmission and drive line.

SR Type
This model has twin or triple plates developed to be lightweight for quick response. The Triple plate model is available for over 800TQ @ FW and the twin plate model is rated to approximately 600TQ @ FW. The combination of ultra lightweight solid discs and a lightweight chromoly flywheel gives the driver a lightened pedal effort and quick response. This can improve your times when running at the drag strip or road course. They feature ventilated, thick intermediate plates for improved life.

HR Type
This model has three plates and is developed specifically for high power applications such as over 800TQ @ FW for drag racing. It handles high torque loads and shifts smooth, and because of the lightweight clutch discs, you can reduce your shift times.
Patented Clutch Cushioning Function
The “cushion” function is a new innovation unique to EXEDY. The half engaged “zone” is expanded as a result of a decrease in rigidity of the pivot ring. Ideal pedal effort is achieved as a result of a longer lever ratio of the diaphragm spring coupled with the cushion reaction force.

Engine Modifications
Cam, timing, turbo modifications etc., cause engine pulsation and vibrations. These vibrations can cause clutch rattle when the clutch pedal is depressed by movement on the intermediate separator plate, in some applications. These noises will in no way affect the performance of the EXEDY Multi Plate Clutch. This rattle is well accepted in the performance industry where engine modifications have been carried out.

Patented Center Plate Self Leveling Function
The amount of center plate travel during release is always maintained in a neutral position by the reaction force of the lifting plate attached to both sides of the center plate.
• Improved disengagement (accelerated separation from friction surface).
• Improved disc life by eliminating unbalanced wear at the T/M and F/W side.
• Prevents and lowers mechanical noise.

Working Theory
Due to high temperatures generated by the clutch system during operation, the pressure plate tends to absorb a large portion of that heat, accelerating the wear of the pressure plate side disc. The Lifting plate location remains steady between the location area on the pressure plate shown as (A) and F/W location area shown as (B) on the chart above. Accordingly, the wear of the pressure plate side disc is accelerated, resulting in the F/W side disc automatically being engaged earlier than the pressure plate side, which in turn increases the F/W side disc’s work and wear rate. Therefore, due to an increase in workload during half engaged operations, wear on the F/W side disc will be accelerated causing a reduction in the overall friction material thickness, resulting in the F/W disc registering a similar thickness friction material to that on the pressure plate side.
The flagship model of EXEDY clutches, the Carbon Steel Multi Plate Clutch. These Clutches are lightweight, durable and resilient to high heat, contributing to an improvement in track times.

**Warm Up Procedure**
Due to the inherent properties of the carbon material, we must specify the proper way to bring the discs up to operating temperature.

This Process will heat the discs so they will hold the specified torque rating. The correct method is three, five second “slips” of the clutch within 30 seconds at low RPM.

**High Heat Resistance**
Carbon materials are baked at more than 3600°F, which allows the carbon material to dissipate heat far better than conventional metallic material. Heat expansion rate is 1/20th of iron therefore eliminating a change in clutch feel that may happen due to distortion caused by expansion during driving. Carbon material not only has a high heat resistance but also a “non-stick” characteristic that eliminates disengagement problems.
Light in Weight
The heaviest components of the clutch system are the clutch cover, intermediate plates and flywheel. Semi-Carbon clutches incorporate an improved cover configuration and lightened flywheel also contributing to a reduction in vehicle rotating weight.

Low Inertia Design
The weight of a carbon clutch disc is one third that of a metallic disc. Utilizing a high friction coefficient Hyper Carbon disc which allows for quicker shift response. Low inertia discs allow the transmission to synchronize in a shorter space of time eliminating time loss during shift changing while also reducing the applied load to the synchronizer.

Easy to Handle
By controlling the carbon fibers and baking temperature, the cross layer type carbon material, which is the most appropriate for high revolution strength and high torque transmission, is applied to tuning car clutches. Semi-carbon clutches offer lightweight, high heat resistance and a stable friction coefficient. EXEDY Carbon clutches are tuned so that at a lower temperature, engagement feeling is improved and conversely at high temperatures, engagement is ideal for spirited driving.

Long Life
Semi-Carbon clutches allow double the life when compared to conventional metallic type material, which equates to an improved cost performance thanks to longer overhaul cycles. Full carbon clutches have more wear than metallic however, when used with over-sized pressure plates, the life is identical to metallic.
Introducing the Next Generation ...

... of clutch systems by EXEDY – Carbon-D, the revolutionary Carbon Clutch System.

Carbon-D was developed to achieve the ultimate goal of comfort and streetability by absorbing noise and vibration emitted from drivetrain components such as the differential, transmission and engine. The Carbon-D system is designed to protect the drivetrain by absorbing and dissipating “shock torque” by utilizing EXEDY Patented Technology. Superior engineering enables the Carbon-D clutch system to possess an ideal clutch engagement position, increased clamp loads and lower pedal effort, while the unique Carbon Fiber friction material allows comfortable half-engaged clutch operation and responsive gear changes.

**Carbon-D Single**

- Introduction of a damper to absorb and dissipate noise and vibration
- High clamp load, lower pedal effort and ideal clutch engagement is obtained with the use of the re-engineered diaphragm spring
- Quiet Strap Drive design to minimize mechanical noise
  Patent Pending Disc System
Gear Noise and Fluctuations in Engine Rotation (rpm)

Even engines that seem to run very smoothly always have some amount of fluctuation in engine rotation. These fluctuations, when transferred from the engine to the transmission, cause gear teeth carrying no torque to strike mating teeth, resulting in noise ("tooth hammer"). The noise is louder in the interior as well as outside the vehicle because the clutch housing acts as a speaker and magnifies the noise. Although the noise level and noise-generating speed depend on the type and model of car, such noise is more frequent in a 6-speed vehicle than in a 5-speed vehicle.

Vibration-Absorbing Damper

The conventional damper used in most sports clutches is designed to protect the transmission from shock torque caused by abrupt clutch engagement, so it does little to absorb vibration. Efficient absorption of fluctuations in engine speed requires a very flexible spring and proper setting of the hysteresis torque. The flexibility of the spring, however, is likely to run counter to the damper capacity. For this reason, Carbon-D is equipped with a new dual stage damper, a low-load stage and rapid-acceleration stage, both of which are perfectly tuned for each car type. This tuning technology is available only from EXEDY, the specialist in high performance clutch systems.