



How to properly choose a sports/racing 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.

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 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.
- 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.
 - 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 cerametallic 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.