Technical Service Bulletin

Clutch Disc Configuration

A clutch disc is a mechanical assembly with friction material on both sides. It connects the engine to the transmission by a splined hub when squeezed between the Pressure Plate and flywheel. Most clutch discs use torsional springs in the splined hub to make engagement smoother.

Different terms are used to describe their friction material from supplier to supplier. The following list groups these materials by similar attributes (i.e. aggressiveness, engagement and wear.)

Organic clutches

Organic clutches are the most used type of clutch. They offer smooth engagement and a long life under normal driving conditions. Organic clutches do not respond well to high rpm shifting and prolonged abuse. Generally, these are made of carbon and woven aramid or metal fibers.

Kevlar Clutches

Kevlar is a more aggressive friction material that still offers fairly smooth engagement. It will chatter at low speed and in reverse. Kevlar glazes easily in traffic and will slip until the glaze is worn off. Once a Kevlar clutch is overheated, it should be replaced.

Hybrid Organic

A hybrid clutch usually has full face organic material on one side and a more aggressive segmented material on the other. These clutches offer smooth engagement and increased power handling.

Ceramic /Metallic/ Cera-metallic/ Carbon Composite

The engagement of these materials is more abrupt and may chatter, shudder, or have a stepped engagement. These clutches will wear flywheel surfaces faster, especially in traffic situations. They tend to come in “segmented” style discs.

Sintered Iron/Sintered Bronze/Sintered Metallic

Sintered clutches are the most aggressive clutch material. They have an on/off engagement. Mostly used in drag cars and other competitions, these clutches often require special flywheels. They come in “paddle” style discs and wear the clutch assembly and flywheel quickly.

The following chart gives some guidelines for clutch disc selection. Always refer to the clutch manufacturer’s specifications for power handling and use.

Material Type	Single Disc Max HP	Twin Disc Max HP	Best Uses
Organic	400-450 HP	700 -750 HP	Street Light Track Light Off-Road and Towing
Kevlar	500-550 HP	N/A	Track Off-Road and Towing
Hybrid Organic	500-600 HP	900-1000 HP	Street Track Off-Road and Towing
Ceramic Metallic Cera-metallic Carbon Composite	550-650 HP	1100-1200 HP	Street Track Off-Road and Heavy Towing
Sintered Iron Sintered Bronze Sintered Metallic	700+ HP	1400 HP	Track Extreme Off-Road

**Note: For heavy vehicles, sticky tires, racing, or towing heavy loads, stick to the low end of the horsepower range.*