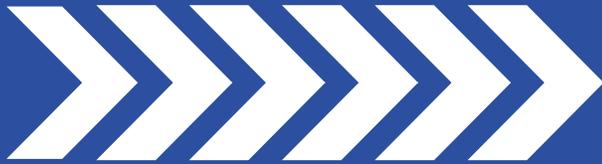


# E-Z RIDER®

Heavy Duty Clutches  
Made in the U.S.A.



## Technical Hot Sheet

### CLUTCH FUNCTIONS



- Transmitting Torque •*
- Interrupting Torque •*
- Isolator for Vibrations •*

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# CLUTCH FUNCTIONS

## 3 Functions of a Clutch

### **Transmit Torque (Engaged)**

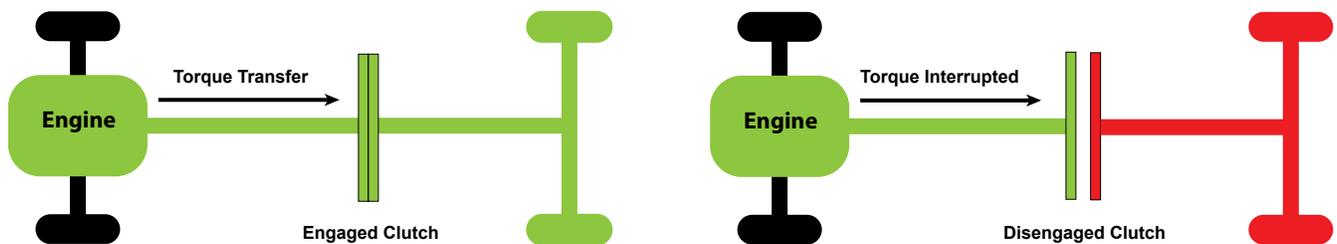
Maintain the torque path from the engine to the drivetrain when you want the vehicle to move.

### **Interrupt Torque Transmission (Disengaged)**

Interrupt the torque when you do not want the vehicle to move or when you want to change gears.

### **Isolator for Engine Vibrations (Engaged)**

The clutch acts as an isolator for the drivetrain to protect it from damaging vibrations caused by the engine.



## Transmit Torque To Drivetrain

When the clutch is **engaged**, the engine is connected to the transmission through the splined hubs in the clutch discs driving the input shaft.

When the clutch pedal is in the 'up' or engaged position, the pressure springs in the cover assembly are forcing the retainer and levers toward the engine which apply pressure to the pressure plate. This pressure clamps the rear disc, center plate, and front disc between the flywheel and pressure plate.



## How Disc Transmits Torque

When the clutch is engaged, the friction material transfers the torque from the engine flywheel into the main damper springs of the disc. The main damper springs transfer the torque through the disc carrier and into the splined hub. The splined hub transfers the torque into the transmission input shaft. (Fig. 1)

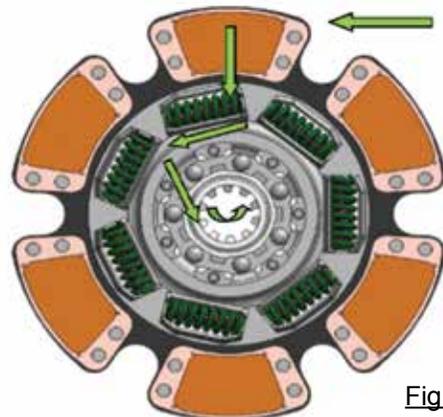


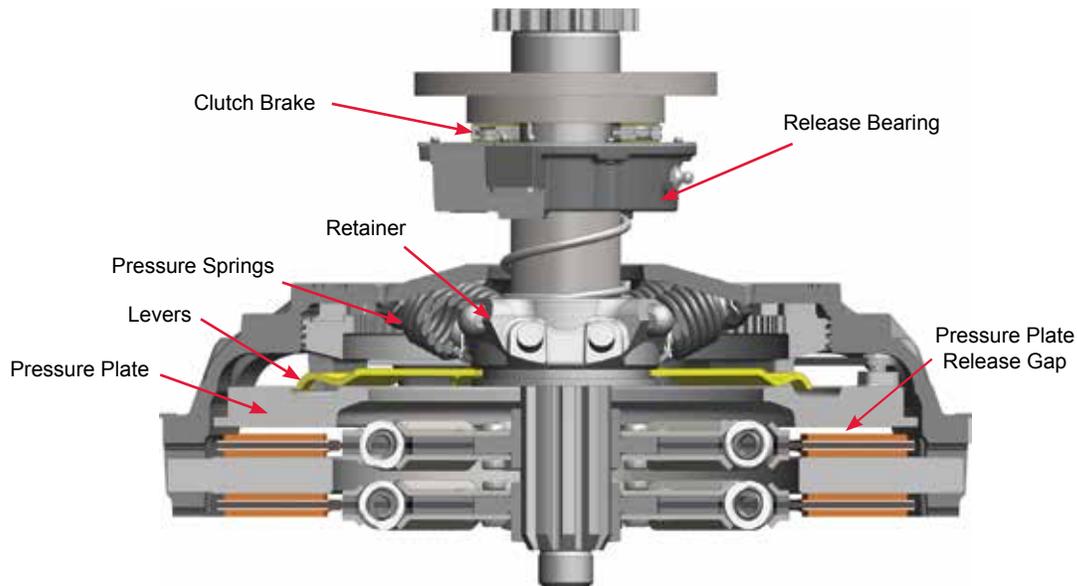
Fig. 1

# CLUTCH FUNCTIONS

## Interrupt Torque Transmission

When the clutch is **disengaged** by depressing the clutch pedal, the engine is separated from the transmission. Pressing the pedal actuates the linkage system. This pulls the bearing and retainer towards the transmission. The movement of the retainer compresses the pressure springs, allowing the levers to pivot and remove the pressure from the pressure plate.

The pressure plate is retracted by straps that are attached to the cover. Removing this clamping force allows the clutch discs and center plate to separate. The flywheel and the input shaft can now turn at different speeds permitting gear changes or stopping of the vehicle.



## Isolator For Vibration Caused By The Engine

- Coast - Spring in the main damper are compressed clockwise when letting off the throttle. (Fig. 1)
- Idle - Free travel in the hub or a predamper is used to reduce engine vibrations at idle. (Fig. 2)
- Drive - Springs in the main damper are compressed counter-clockwise when the disc is under load while driving. (Fig. 3)

Fig. 1



Fig. 2

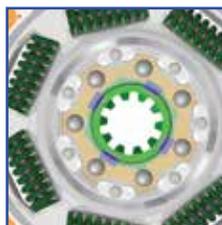
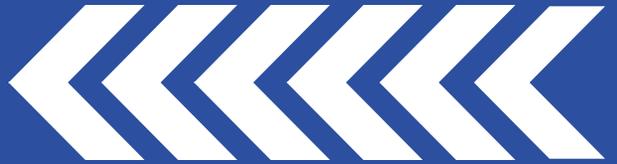


Fig. 3



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