

How to Free a Seized Clutch Disc

Source: mossmotoring.com

When a manual transmission vehicle is placed in storage, the fiber of the clutch disc is held captive, under considerable force, between the flywheel face and the pressure plate. From just normal operation, the friction surfaces of both the flywheel and the pressure plate are highly polished, and are prone to rusting out when out of use for even a few short, consecutive weeks.

This accumulation of rust is accelerated when the parts are subject to extreme changes in temperature and humidity, as is the case when the car is stored in an unheated garage over the winter. It is little wonder, therefore, that at the end of an extended storage period, the flywheel, clutch disc, and pressure plate are often found to be fused together by rust into what seems to be a solid unit. This makes it appear that the crankshaft is permanently connected to the input shaft of the transmission, since no amount of pumping the clutch pedal will cause the clutch disc to disengage.

At this point, the object of the sport is to free the clutch disc while simultaneously subjecting all the components to minimum levels of mechanical stress. To this end, the car, while still in the driveway or garage, is prepared as follows.

With the transmission in neutral, the engine is started, and such tune-up tasks as required are performed to obtain a reasonably smooth idle. The engine is allowed to warm up so that it starts easily and reliably. Then the engine is switched OFF and the car is taken to a "safe" location (such as an empty parking lot or field) so that, should it lurch forward unexpectedly during the clutch freeing operation, there will be no objects in front of the car into which it might collide. (You really do not want to be featured on America's Funniest Home Videos.) Now, get down to business with the following suggested procedure:

1. With the engine and parking brake OFF and the vehicle pointed in a safe direction, use a gas station type hydraulic jack to lift both rear wheels so they are clear of the ground by about two inches.
2. The driver then climbs into the car and confirms that there are no obstacles or people in front of the vehicle.
3. With the engine and parking brake still OFF, the transmission is shifted into high gear.
4. The engine is started and throttled up to a constant tachometer reading of about 1500 rpm.
5. The driver depresses the clutch pedal and **KEEPS IT DEPRESSED**.
6. With the clutch pedal depressed, the brakes (parking or foot pedal, it doesn't matter which) are **GENTLY** applied.

If the rust bond between the flywheel and the clutch disc is fairly weak, the clutch disc should pop free during light to medium braking.

A. Brakes should not be applied excessively hard or allowed to slip for extended periods, because this will only overheat the shoes and drums unnecessarily. However, we do have a back-up plan!

B. If the clutch disc does not come free after a few gentle attempts, as described thus, proceed to more drastic measures as offered in step 7, and here you will need an assistant!

7. Confirm that the following conditions are extant:

- Engine is at 1500 rpm.
- Clutch pedal is depressed fully.
- Transmission is in high gear.
- Rear wheels are off the ground and turning.
- NO obstacles are in front of the car.
- Driver is prepared to stop vehicle and switch engine off immediately!

Your assistant “snaps” open the valve of the hydraulic jack and the rear of the car drops to the ground. Because the clutch pedal is depressed, only rust is holding the clutch disc to the flywheel. When the rear wheels hit the ground, the engine attempts to move the car forward (transmission in high gear, remember?), but the rust bond between the clutch disc and the flywheel breaks under the torque load. The clutch disc should break away from the flywheel with the finesse comparable to that of an experienced child who can separate an Oreo cookie from the white stuff without generating a crumb.

This method is gentle and effective even if step 7 must be repeated (a rare situation), because the vehicle is never subjected to the “irresistible force meeting an immovable object scenario,” since the car can move forward should the clutch disc not break free when the rear wheels hit the ground.

© Copyright 2020 Moss Motors