50% of UK vehicles are now fitted with Dual Mass Flywheels (DMF) and Damped Flywheel Clutches (DFC). These are essential components that not only provide an enhanced level of driveability but also reduce harmful torsional vibration that would otherwise be transmitted into the gearbox and driveline.

It is essential that you check the DMF/DFC (the procedure is the same for both) during every clutch replacement - if you fit a new clutch to a worn DMF/DFC, the flywheel will completely destroy it!! Solid Flywheel alternatives can also lead to severe and expensive damage to gearbox and driveline components.

If the customer complains of any unexplained noises, vibration or intermittent clutch slip it could be caused by a worn DMF.

Testing procedure

Step One
First listen for...
- Rattles and clonks during engine start up or turn off
- Excessive gear rattle
- Unusual noises

Step Two
After removing the clutch from the vehicle check the clutch for...
- Driven plate damage
- Drive strap damage
- Friction face scored
- Overheated/blueing
- Stress cracks
- Grease loss

Step Three - Freplay
With the flywheel still fitted...
- Rotate the secondary mass anti-clockwise until spring pressure can be felt, then allow it to return
- Zero the Special tool gauge or mark the position of the secondary mass relative to the ring gear
- Do the same in a clockwise direction, mark the flywheel position again count the ring gear teeth between the marks or read off the freplay angle from the Special Tool

Step Four - Rock
To check the bearing or bush for wear...
- Gently measure the amount of rock at the outer edge of the secondary mass or on the Special Tool adaptor with a DTI (included in the Special Tool kit)
- Replace if movement is...
  - More than 1.6mm for a roller type bearing
  - More than 2.9mm for a bush type bearing

Measuring Freplay with the Special Tool

DMF with Friction Control Device
Friction Control devices will restrict the Freplay movement. The DMF Special Tool is designed to overcome this device.

When rotating the secondary mass if a hard stop can be felt before the spring in either direction, continue to rotate the secondary mass a few millimetres at a time until the spring can be felt, then allow it to return. At this point you can either set the zero on the gauge or read off the Freplay.

Maximum Freplay and Rock values can be found on
- www.rexpert.com
- www.schaeffler-aftermarket.com

Further consideration should be given to...
- How the vehicle is used or (abused) and whether the DMF will last another clutch duty cycle.