



# CLUTCHTECH



## TSB-CP07

### Causes of Hard Clutch Pedal Action and Clutch Cable Failure Problems

Investigation of hard clutch pedal action and clutch cable failure problems has shown that these problems are caused by release mechanism wear and the fitment of poor quality clutch cables, which cannot be rectified by replacing the clutch parts as is often believed. In fact, some customers have replaced clutches a few times in the same vehicle without success in an effort to solve hard pedal action problems.

The most important advantage of a diaphragm spring cover assembly is its low release load in comparison to a coil spring cover assembly. This low release load translates into reduced clutch pedal effort and increased driver comfort.

Coil spring cover assemblies generate clampload by compressing the coil springs to a specified height as the driven plate facings wear down the coil springs extend, reducing the clampload. The clampload therefore has to be over-designed to ensure that it remains sufficient to prevent clutch slipping before the driven plate facings are worn down completely. Over-designing the clampload means that release load will also be high. However, release load does not decrease as clampload decreases and clutch pedal effort remains high throughout the life of a coil spring clutch.

Diaphragm spring cover assemblies do not require clampload to be over-designed, as the diaphragm spring clampload does not decrease as the driven plate facings wear down. Release load is therefore much lower than a coil spring cover assembly. Release load is a tightly-controlled specification during the design and manufacture of any diaphragm spring cover assembly, and it is clear that problems such as hard clutch pedal action and clutch cable failure are not caused by the cover assembly.

Hard pedal action problems are seldom experienced in vehicles fitted with a hydraulic clutch release mechanism, and it is therefore clear that these problems are commonly caused by cable release mechanism defects.

The clutch release mechanism components, and particularly the clutch cable, are subject to the same wear as the clutch components during the life of a clutch. It is not possible to test the operation of an old clutch cable in a workshop situation, and a new clutch cable should always be fitted at the same time a new clutch is fitted to a vehicle.

When replacing a clutch cable it is essential that the original vehicle manufacturer's part is fitted, or a part is used from an aftermarket manufacture that meets the same standards set by OE.

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