

## IMPORTANT INFORMATION FOR CORRECT ASSEMBLY OF CONCENTRIC SLAVE CYLINDERS (CSC)

Most premature failures of CSC's are the result of incorrect handling and fitting techniques



Image 1 : Old Seal must be present

### 1) REMOVAL OF CSC

When replacing the CSC on vehicles with push fit connector, confirm the sealing O ring from the old CSC has not been dislodged inside the connector on removal. This can be pushed into the line on fitment of the new cylinder causing a restriction and therefore resulting in inconsistent clutch release & engagement problems.



Image 2: Do not compress as above

### 2) HANDLING OF THE CSC PRIOR TO INSTALLATION

On removal of the CSC from its packaging, do not compress the cylinder by hand to replicate bearing movement. By doing this the increased air pressure can cause the back plate to move out of position and as the chamber is not filled with hydraulic fluid, damage can also be caused to the internal seals. The damage to the internal seals is the result of excess friction on the unlubricated seals.

### 3) INSTALLATION

- ⚠ It is important that CSC is mounted squarely on the gearbox surface. The mounting surfaces must be clean and free of all contaminants.
- ⚠ It must be made sure that if the CSC requires an "O" ring, it is fitted correctly. Unless specified by the manufacturer no sealant should be applied to the mating surfaces. This can cause the cylinder to not seat correctly and operate in the correct position.
- ⚠ Gently slide the CSC over the gearbox input shaft and rotate it slightly on the mating surface to make sure it is seated correctly. Torque down the bolts evenly using 8-12Nm as per the manufacturer's specification.

### 4) BLEEDING

- ⚠ Prior to attaching hydraulic lines to the new CSC make sure that all the old fluid has been completely flushed from the system. Use only the hydraulic fluid that complies with the manufacturers' specification.
- ⚠ Before attempting to bleed the clutch, ensure that the gearbox is located in the fitted position and the retaining bolts are secure. This will avoid the CSC being over stroked during the bleeding procedure causing damage to the chamber seal. Please follow the manufacturers' manual for the bleeding procedure.
- ⚠ Avoid using pressure bleeding. This can over pressurise the CSC and cause immediate loss of fluid
- ⚠ Avoid over stroking during the bleeding process. This is the result of the clutch pedal being pumped rapidly and this prevents the cylinder from coming to a rest before the next pump stroke. This can cause aeration of the fluid and distortion of the retaining ring due to the release bearing exceeding its maximum travel. When the retaining ring fails the internal seals will fail and the result will be loss of fluid past this seal.
- ⚠ To prevent the above happening, care needs to be taken during the bleeding process. The clutch pedal should be depressed and released slowly to allow the cylinder to come to rest before the pedal is depressed again. In some cases the bleed nipple may need to be locked off after every downward stroke until some pressure in the system is achieved. This process may need to be repeated numerous times before some pressure is felt.