

2 Wheel Drive Selected

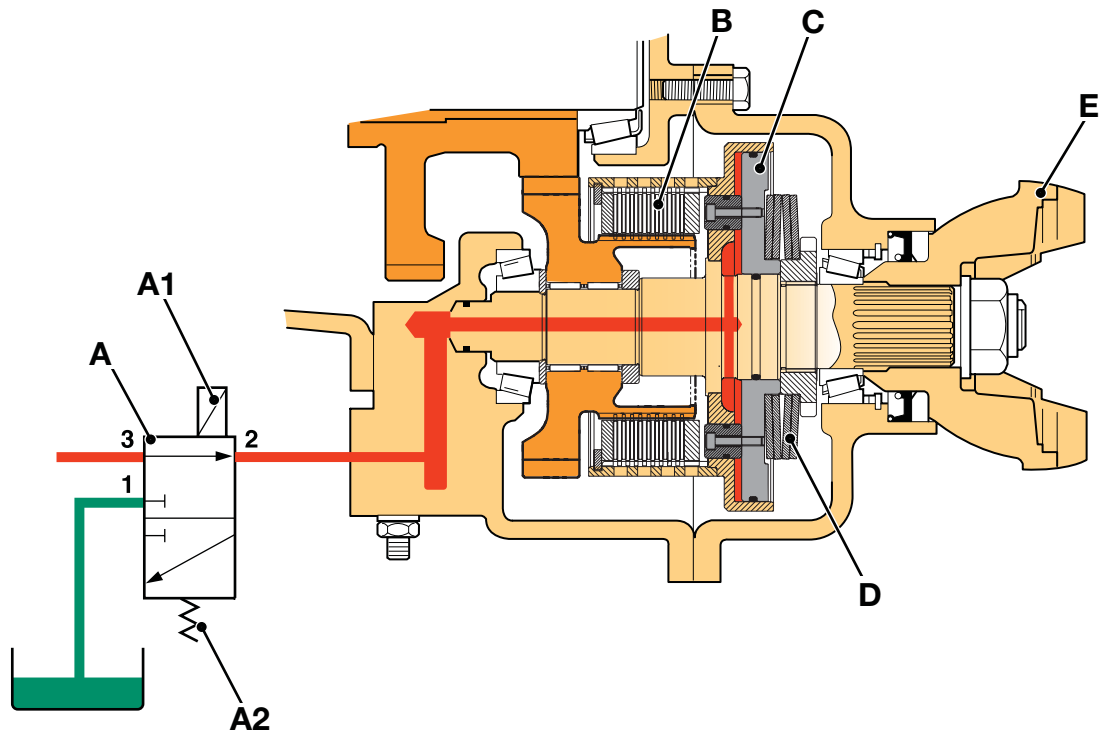


Fig 6.

C093201

When 2 wheel drive is selected, the solenoid **A1** is energised. The solenoid moves the valve spool to connect ports **3** and **2**. Pressurised oil is then directed to the piston **C**.

Because of the oil pressure behind piston **C**, the piston moves against the disc springs **D**, releasing the spring force on the clutch friction/counter plates **B**. The clutch friction/counter plates now freely rotate on the output shaft, thus disengaging drive to the front axle.

Solenoid Control Valve Cartridge - Solenoid Coil

Removal and Replacement

The solenoid coil is an integral part of the valve cartridge. If the solenoid coil is faulty the complete valve cartridge must be renewed.

⇒ [Solenoid Control Valve Cartridge - Single Fixing Type \(□ F10-15\)](#)

⇒ [Solenoid Control Valve Cartridge - Twin Fixing Type \(□ F10-16\)](#)

Solenoid Control Valve Cartridge - Single Fixing Type

Removal and Replacement

The gearbox control valve assembly features 7 (4 speed) or 8 (6 speed) solenoid control valve cartridges **7-A**. The removal and replacement procedure is identical for all valve cartridges.

Removal

- 1 Clean off all debris, dirt and grit from around the solenoid control valves. There must be no ingress of debris, dirt or grit inside the valve block **7-H**.

Important: Cleanliness is of the utmost importance when working on the gearbox. Any ingress of dirt or grit inside the valve block can cause serious damage to the control valves and gearbox.

- 2 Uncouple the electrical connector **7-B**.

Note: If more than 1 valve cartridge is to be removed, label the electrical connectors to ensure correct assembly.

- 3 Note the phasing of the electrical connector block **7-G** to ensure correct assembly.
- 4 Undo screw **7-C** and remove clamp **7-D**.
- 5 Pull the valve cartridge **7-A** from the valve block. DO NOT grip the unit by its electrical connector block **7-G**. The connector block is not designed as a leverage point.

Replacement

Replacement is the reversal of the removal procedure. Note the following:

Make sure that the 3 'O' ring seals **7-E** are undamaged. If the seals are damaged, or the valve is leaking, renew the complete valve cartridge assembly.

Before inserting the valve cartridge lubricate the 3 'O' ring seals **7-E** and sealing bores **7-F** in the valve block with gearbox oil.

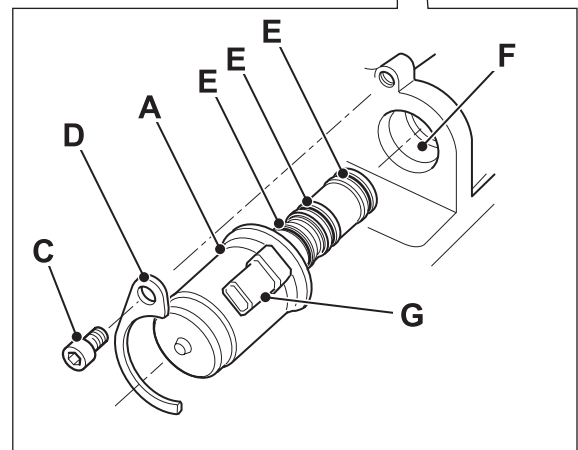
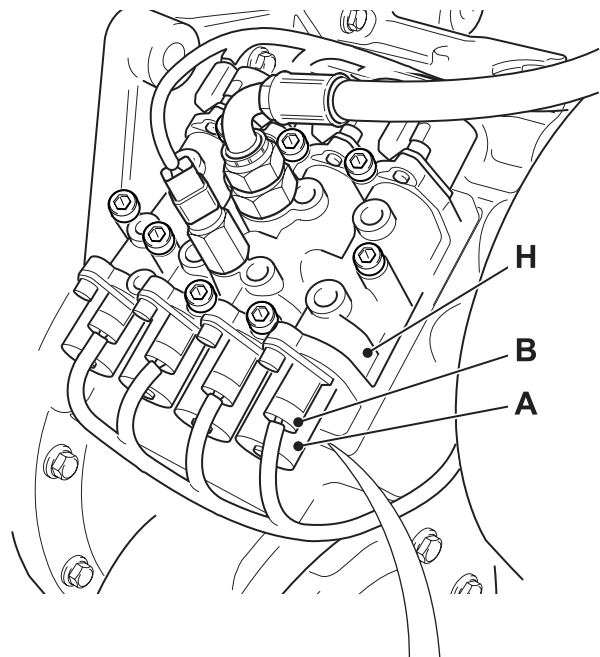


Fig 7.

Table 4. Torque Settings

Item	Nm	kgf m	lbf ft
7C	10 - 12	1 - 1.2	8 - 9

Solenoid Control Valve Cartridge - Twin Fixing Type

The gearbox control valve assembly features 7 (4 speed) or 8 (6 speed) solenoid control valve cartridges **A**. The removal and replacement procedure is identical for all valve cartridges.

Important: Cleanliness is of the utmost importance when working on the gearbox. Any ingress of dirt or grit inside the valve block can cause serious damage to the control valves and gearbox.

2 Uncouple the electrical connector **B**.

Note: The phasing of the electrical connectors varies between solenoids.

Note: If more than 1 valve cartridge is to be removed, label the electrical connectors to ensure correct assembly.

3 Undo screws **C**.

4 Pull the valve cartridge **A** from the valve block. DO NOT grip the unit by its electrical connector block **G**. The connector block is not designed as a leverage point.

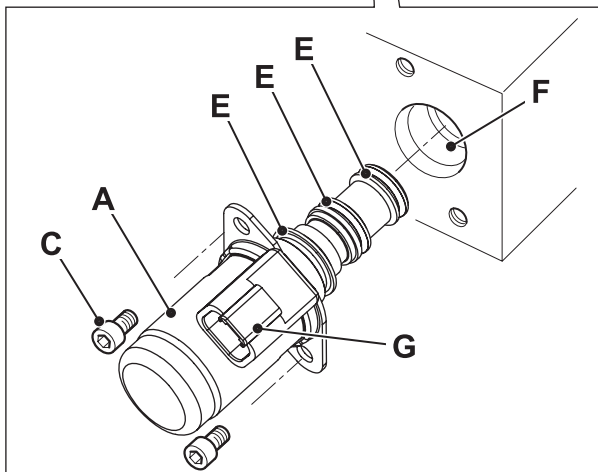
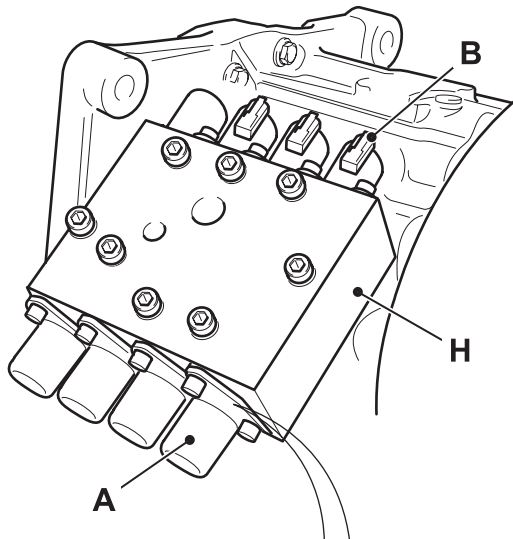


Fig 8.

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Removal

1 Clean off all debris, dirt and grit from around the solenoid control valves. There must be no ingress of debris, dirt or grit inside the valve block **H**.

Replacement

Replacement is the opposite of the removal procedure.

During the replacement procedure do this work also:

- Make sure that the 3 'O' ring seals **E** are undamaged. If the seals are damaged, or the valve is leaking, renew the complete valve cartridge assembly.
- Before inserting the valve cartridge lubricate the 3 'O' ring seals **E** and sealing bores **F** in the valve block with gearbox oil.
- Make sure that the electrical connectors are phased correctly. The phasing varies between solenoids. [⇒ Fig 9. \(□ F10-17\)](#)
- Torque tighten the screws **C**. [⇒ Table 5. Torque Settings \(□ F10-17\)](#)

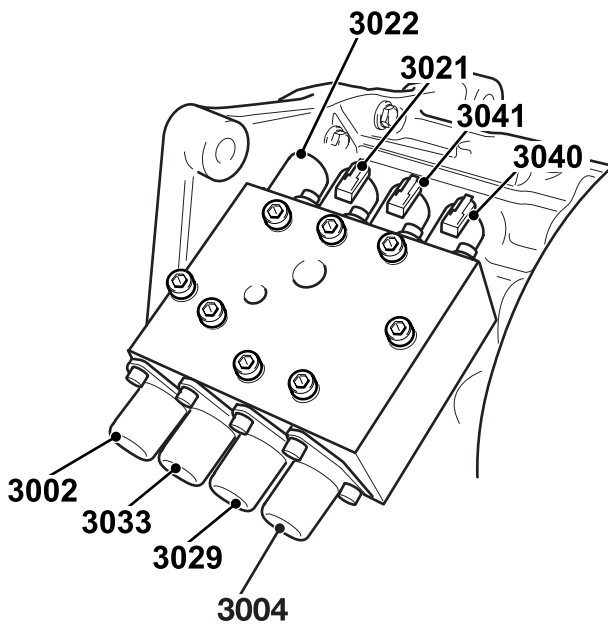


Fig 9.

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Table 5. Torque Settings

Item	Nm	kgf m	lbf ft
C	3 - 4	0.3 - 0.4	2.2 - 3