

SUBJECT

M Double-Clutch Transmission with Drivelogic - Transmission Filling and Fluid Level Checking Procedure

MODEL

E90, E92, E93 M3 with S65 and M DCT transmission

SITUATION

The current version of BMW TIS does not contain the M DCT (GS7D36SG) transmission fluid filling (fluid checking) procedure. Use the following procedure when the M DCT fluid fill (check) is required.

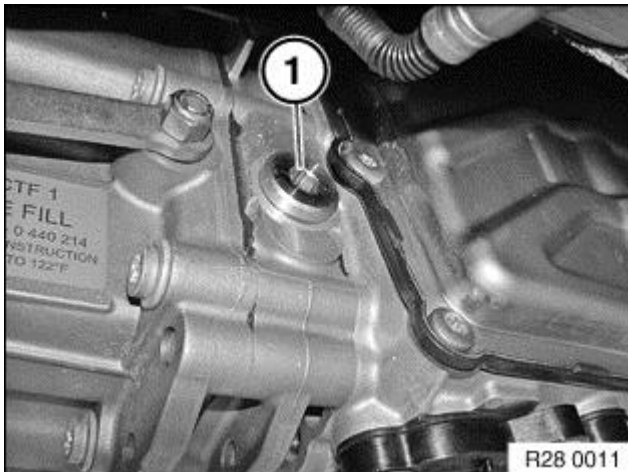
Important:

The M Double-Clutch Transmission (DCT) requires a special lubricant/hydraulic fluid: DCTF-1 Pentosin (P/N 83 22 2 147 477). This fluid is specific to the double-clutch transmission and should not be substituted with any other product.

Substituting the DCTF-1 Pentosin in M Double-Clutch Transmission (GS7D36SG) may cause significant damage to the internal clutches of the transmission assembly, requiring replacement of the complete gearbox, transmission oil cooler, and cooler lines.

The BMW DCTF-1 Pentosin fluid does not require regular service. It is an extended-life type of fluid and should not be replaced. Currently the fluid is in extremely short supply, and can be obtained only after a PuMA case is submitted to TeileClearing (Enhanced Technical Support). Refer to [SI B28 02 08](#) (May 2008) for more information related to M DCT TeileClearing.

1. The vehicle needs to be leveled and secured on the appropriate workshop lift. Connect the vehicle to the DIS/GT1 loaded with the current version of diagnostic software (V53 or higher).



2. Remove the transmission's under-cover to gain access to the refilling plug (1). Make sure that the transmission is at ambient temperature (engine should not be warmed up).
3. Using an Allen M8 wrench, loosen the fluid filling plug (1).
4. **For refilling** (empty gearbox after repair):

- Remove the filling plug

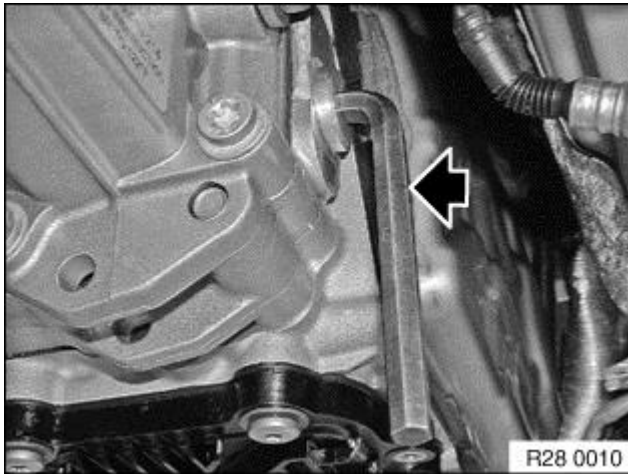
from the transmission housing and refill the transmission with approximately 8 liters of DCTF-1 fluid, until it starts to overflow.

5. For checking the fluid level:

Carefully start removing the filler plug until the DCTF-1 fluid starts to flow.

Do not remove the filler plug completely!!!

With the correct fluid level and the gearbox filler plug removed while the engine is NOT running, approximately 1.5 liters of transmission fluid will escape, leaving the gearbox underfilled. (The total capacity of the DCT transmission with oil cooler and cooler lines is approximately 9.5 liters.)



6. Install the filler plug (do not torque it yet).

7. From the DIS/GT1 diagnosis menu, select Service Functions, Transmission Controls, Calibrations, and Oil calibration.

8. Start the engine with the DCT gearbox in the P position.

9. Follow the "Oil calibration" test plan by running the engine at 2,000 rpm for 1 minute (reaching the maximum cooler line pressure of 5 bars).

10. Using DIS/GT1, observe the transmission fluid temperature. When it reaches approximately 40° C, open the filler plug again (**with the engine running**), and

top off the fluid level
until it starts to
overflow.
11. Install the filler
plug and torque it to 25
+/- 3 Nm.

WARRANTY INFORMATION

For information only

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