

## Transmission difficult to shift/diagnostic aid

all model series

- Complaint:**
- Gears difficult to engage, especially 1st gear
  - Gearshift mechanism catches

**Note:**

Field observations have shown the cause of transmissions being difficult to shift, especially of 1st gear being difficult to engage, to be primarily the clutch and only in a few cases to be the transmission itself. In order to trace the cause in the event of a complaint, the diagnostic aid described below under the heading Procedure has been compiled.

- Cause:**
1. For possible causes if a clutch problem is diagnosed, please refer to procedure described below:
    - Taper spline of transmission input shaft not greased or grease dried out
 

**Note on greasing taper spline:**  
Analyses have shown that grease used until now for greasing the taper spline "Microlube GL261 BMW" is not suitable for prolonged exposure to high bell housing temperatures.
    - Drive plate on transmission input shaft difficult to move
    - Drive plate wobble
    - Air in hydraulic system of clutch mechanism
    - Release bearing defective or difficult to move in the guide sleeve
    - Drive plate or clutch pressure plate broken
  2. For possible causes if a transmission problem is diagnosed:
    - External gearshifts difficult, e.g. shift rod joints stiff
    - Gear lever rubber bellows incorrectly fitted, e.g. positioned too high or too low on the gear lever
    - Soundproofing between the outer gear mechanism and the body incorrectly inserted, e.g. on the wrong side or crumpled

Cause in transmission

- Synchronization faulty
- Inner gearshift mechanism stiff
- Water in transmission fluid (rare)

**Affected vehicles:** All Models

**Remedy:** Actions to remedy difficult to move drive plate on transmission input shaft taper spline:

In 04/1998, the grease used to date to grease the taper spline "Microlube GL261 BMW" was superseded by the more temperature-resistant grease "Esso UNIREX S2".

In case of repair, the transmission input shaft taper spline is now only to be lubricated using the new "Esso UNIREX S2" grease.

The old grease "Microlube GL261 BMW" is no longer to be used.

**Procedure:** In case of customer complaint, localize the cause by following the diagnostic aid described below:

- **The engine runs at idling speed**
- **Depress the clutch**
- **Try to engage 1st gear from neutral**

If 1st gear is difficult to engage, hold the gear lever at the resistance point (about half total travel) with constant force. Then switch the engine off with the other hand (ignition off).

**Diagnosis 1:**

If 1st gear is then engaged completely, i.e. the gear lever moves to the end position without any additional pressure, **there is a problem in the clutch.**

Explanation:

Because the clutch does not uncouple completely, the transmission drive shaft transmits a residual torque when the engine is running. This inhibits the release and meshing of the sliding sleeve at the end of the synchronization process.

Switching the engine off relieves the drive shaft of this torque.

A completely uncoupled clutch is thus simulated.

**Remedial action for diagnosis 1:**

Carefully clean the transmission input shaft taper spline and guide spigot to ensure that they are free from any residue.

Then apply the taper spline grease "Esso UNIREX 2" evenly and thinly with a paintbrush in the entire area of the taper spline, including in the taper groove, and on the guide spigot.

Renew the drive plate.

For additional notes on troubleshooting and remedy:

Please refer to Service Information bulletin 21 01 97 (251).

**Diagnosis 2:**

If the gear lever remains at the resistance point, **there is a problem in the outer gearshift mechanism or in the transmission .**

**Remedial action for diagnosis 2:**

troubleshooting as per cause 2.

**Note on transmission installation:**

Apply the taper spline grease "Esso UNIREX 2" evenly and thinly with a paintbrush in the entire area of the taper spline, including in the taper groove, and on the guide spigot. If the transmission is to be used again, the taper spline must be thoroughly cleaned to ensure that it is free from any residue.

**Parts:**

The new taper spline grease "Esso UNIREX S2" is available through the customary parts ordering channels.

<b>Description</b>	<b>Part number</b>
"Esso UNIREX S2" (40g tube)	83 23 9 416 138