

This Service Information bulletin supersedes S.I. 23 01 88 (1581) **dated February 1988** which should be removed and discarded from your S.I. binder.

SUBJECT: Manual Transmission Difficult to Shift - Diagnostic Tips

MODEL: All with Manual Transmission

Situation: Transmission may be difficult to shift especially first gear engagement and/or gear shift linkage binding.

Note: Field observations have indicated that a transmission which is difficult to shift (especially into first gear) is primarily a clutch related problem and only in isolated cases a failure in the transmission itself.

Procedure: If the above customer complaint is received the following diagnostic tips will assist in troubleshooting a clutch, gear shift linkage or transmission problem.

Verify the customer complaint:

Note: Engage the parking brake and assure that no people or objects are in the vehicle's path.

- Run the engine at idle speed
- Press the clutch pedal to the floor
- From the neutral stick shift position engage first gear

If first gear is difficult to engage, hold the stick shift at the resistance point (approximately half of the total stick shift travel) with constant force.

Then switch the ignition off with the other hand.

Diagnosis 1:

If first gear now engages completely, i.e. the stick shift moves to the end position without any additional pressure applied, **there is a problem in the clutch system.**

Explanation:

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

Turning the engine off relieves the input shaft of this torque thus simulating a completely uncoupled clutch.

Diagnosis 2:

If the stick shift remains at the resistance point, **there is a problem in the external gear shift linkage or in the transmission.**

Cause:

Diagnosis 1:

Possible causes for a clutch problem as per Diagnosis 1 above are:

- Input shaft taper splines not lubricated properly / grease dried out.
- Clutch disc difficult to move on transmission input shaft.
- Clutch disc wobble.
- Air in the hydraulic system of clutch mechanism.
- Release bearing defective or difficult to move on the guide sleeve.
- Clutch disc or pressure plate broken / worn out.

Diagnosis 2:

Possible causes for gear shift linkage binding and/or internal transmission problems as per Diagnosis 2 above:

- External gearshift linkage binding (shift rod joints stiff).
- Stick shift bellows boot incorrectly installed (positioned too high or too low on the stick shift lever).
- Sound deadening between the outer gear shift linkage and the body incorrectly installed and/or distorted.

Possible causes inside of the transmission:

- Faulty synchronization.
- Internal gear shift linkage binding.
- Water in the transmission fluid. (rare)

Correction:

Diagnosis 1:

- Remove the transmission.
- Remove and/or inspect the pressure plate, clutch disc and release bearing. (Replace components if necessary.)
Note: The plastic sliding sleeve which the clutch release bearing slides on should never be lubricated since the grease will allow the clutch wear particles and other contamination to build up and cause an increase in clutch pedal effort.
See Service Information bulletin 21 01 94 for further information.
- Carefully clean the transmission input shaft (tapered splines and guide section of shaft).
- Using a paint brush, apply a thin coating of "Esso UNIREX S2" grease on the transmission input shaft (tapered splines and guide section of the shaft).

Note: "Esso UNIREX S2" taper spline grease was phased into production approximately 4/98 and replaces "Microlube GL261 BMW" grease. The new grease has proven to be more resistant to lubrication breakdown under all operating conditions and is available under BMW part number 83 23 9 416 138.

Only use "Esso UNIREX S2" taper spline grease when repairs become necessary which involve the cleaning and lubrication of the transmission input shaft.

-- Reinstall the transmission.

For additional information on troubleshooting the clutch refer to the repair manual section 2190.

Diagnosis 2:

-- Carefully inspect the gear shift linkage areas described in Diagnosis 2 section above. Repair as necessary.

-- If the gear shift linkage is functioning properly without binding the cause is an internal fault in the transmission.

Note: If the transmission is replaced due to an internal fault, using a paint brush apply a thin coating of "Esso UNIREX S2" grease on the transmission input shaft (tapered splines and guide section of the shaft) before installing the new transmission.

Parts Information:	Part Number	Qty	Description
	83 23 9 416 138	1	"Esso UNIREX S2" (40g tube)

Warranty Information: Information only.