



SI B 24 01 98  
Automatic Transmission

September 2001  
Service Engineering

This Service Information bulletins supersedes S.I. 24 01 98 dated January 1999.

**NEW** designates changes to this revision

#### SUBJECT

**Transmission Fluid Level Checking Procedure and Application Chart**

#### MODEL

All with the ZF and GM automatic transmission

#### SITUATION

Checking the fluid level may be necessary if there is evidence of a leak, a complaint related to fluid level or in the event repairs are made to the transmission.

**NOTE: USE ONLY THE TRANSMISSION FLUID THAT IS APPROVED FOR USE WITH THE SPECIFIC TRANSMISSION AS INDICATED IN THE ATTACHED FLUIDS APPLICATION CHART. ALL OTHER FLUIDS WILL CAUSE NON WARRANTABLE TRANSMISSION DAMAGE.**

#### PROCEDURE

**Fluid Level Checking Procedure for all Transmissions without a Dipstick:**

1. The transmission temperature must be between 30°C and 50°C before checking can begin. Use the DIS or the MODIC to determine the transmission temperature.
2. The vehicle must be level and without load. With the engine running, switch on the air conditioning. This will increase the idle speed and ensure that all oil passages in the transmission are filled with oil.
3. Step on the brake firmly, apply parking brake fully and move the selector lever through each gear position, pausing briefly in each gear.
4. With the engine running and the selector lever in Park position, remove the filler plug located on the transmission (see picture for location). If a small stream of oil runs out, the fluid level is correct.
5. If no oil runs out when the filler plug is removed, the fluid level is too low. Add oil until it starts to overflow.
6. With the engine running, reinstall the oil filler plug and tighten to proper torque. (Refer to section F below for proper tightening torque)

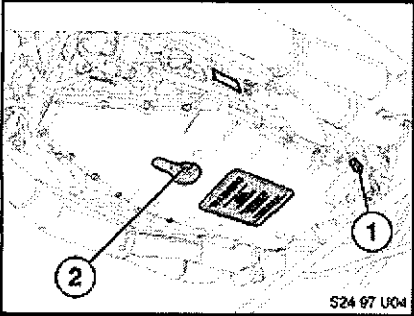
**Transmission Filler & Drain Plug Locations:**

**ZF Transmissions**

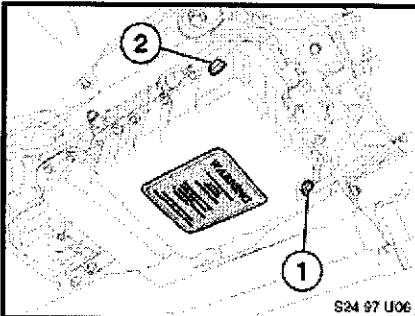
**GM Transmissions**

**079654**

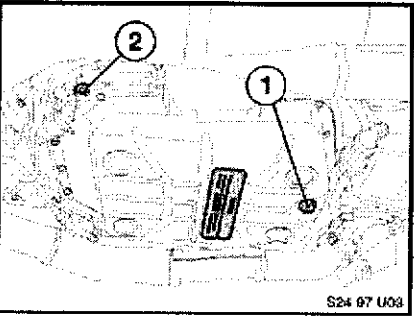
5 HP 30 (A5S 560Z)



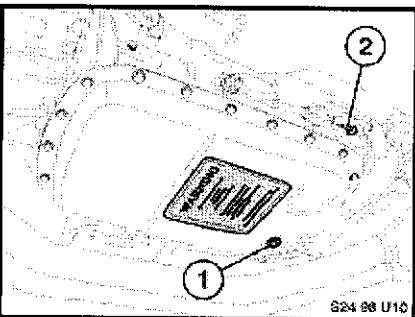
THM R1 (A4A 310R & A4S 270R)



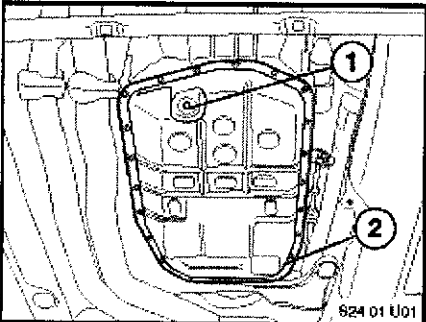
5 HP 24 (A5S 440Z)



5L40-E (A5S 360R and A5S 390R)

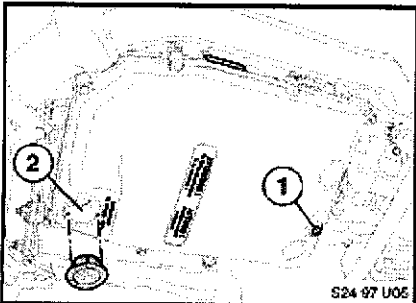


5HP 19 (A5S 325Z)



- (1) Drain plug
- (2) Filler plug

5 HP 18 (A5S 310Z)



- (1) Drain plug
- (2) Filler plug

## Fluid Level Checking Procedure for all Transmissions with a Dipstick

(As of 02/91 the THM R1 transmissions are not equipped with a dipstick):

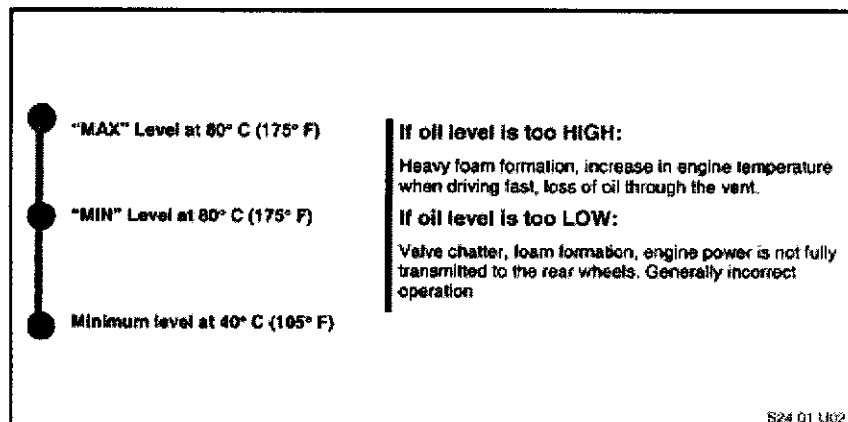
1. The transmission temperature must be between 30°C and 50°C before checking can begin. Use the DIS or the MODIC to determine the transmission temperature.
2. The vehicle must be level and without load. With the engine running, switch on the air conditioning. This will increase the idle speed and ensure that all oil passages in the transmission are filled with oil.
3. Step on the brake firmly, apply parking brake fully and move the selector lever through each gear position, pausing briefly in each gear.
4. Pull out dipstick and wipe clean with a lint free cloth
5. Reinsert dipstick completely. Pull out dipstick and place bottom tip on a level surface, measure level from bottom tip as shown.

Compare measurement and oil temperature reading from MoDiC or DIS with Table below.

Oil °C	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90
MIN (mm)	3	5	8	11	13	14	16	17	19	21	22	24	26	29	31
MAX (mm)	15	17	20	22	25	26	27	28	29	32	34	36	38	41	43

6. Add additional oil if needed.

Reinsert dipstick completely. Pull out dipstick and look at level. Level should be between MAX and MIN marks as shown.



Amount of oil between MAX and MIN marks is 0.3 lit (0.6 pts)

**On vehicles with a dipstick tube if transmission fluid is needed use only Dexron III.**

**Adding Oil after Transmission Repairs:**

1. With the engine stopped, add oil to the transmission until it overflows.
2. Insert the filler plug and tighten by hand. Place the selector lever in Park position and start the engine.
3. Follow the fluid level checking procedure as described under step A or B.

**Notes on fluid level checking and adding transmission oil:**

- **Whenever all lifetime use oils (Shell LA 2634, Esso LT71141 or Texaco ETL 7045 or 8072B) are to be collected in a clean container and reused .**
- It is preferred to check the transmission fluid level at 30°C, this way the transmission will hold extra oil versus topping off at 50°C.
- If the transmission temperature rises above 50°C during the fluid level checking procedure, the resulting oil level will be too low.
- Have necessary equipment, oil pump and transmission fluid available before starting the fluid level checking procedure.

**NEW Tightening Torque**

ZF Trans	Oil Filler Plug	Oil Drain Plug	GM Trans	Oil Filler Plug	Oil Drain Plug
A5S310Z	100 Nm	15 Nm	A4S270R	25 Nm	33 Nm
A5S560Z	100 Nm	50 Nm	A4S310R	25 Nm	33 Nm
A5S440Z	35 Nm	30 Nm	A5S360R	20 Nm	20 Nm
A5S325Z	30 Nm	35 Nm	A5S 390R	20 Nm	20 Nm

**NEW PARTS INFORMATION**

Attached to this bulletin are copies of the Transmission Fluids Application Charts which identify what type of transmission fluid is to be used with each model based on production date. These charts can be ordered from Product Engineering (a pre-printed order form is attached).

Item Number	Description	Price
SD 92-113	Set of Transmission Fluid Application Charts-ZF/GM	\$4.00
SD 92-114	Transmission Fluid Check/Filling Card-ZF/GM	\$2.00
SD 92-115	Set of Transmission Fluid Application & Filling Procedure Wall Charts-ZF/GM	\$10.00

**ATTACHMENTS**

view PDF attachment **240198OrderForm.**

view PDF attachment **SD92-113.**

view PDF attachment **SD92-114.**

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