

Mercedes Benz Transmission Adaption (Adaption of the ETC 722.6)

Definition:

Transmission adaption optimizes shift comfort through the automatic matching of data.

In order to compensate for tolerances and wear, there is an automatic matching of:

- Shift time
- Fill time
- Fill pressure
- Activation of torque convertor lock-up clutch

The retrieved data is shown by the CS2000 using the data stream function. The data can also be reset using the CS2000.

After resetting, the electronic control of the transmission must be re-adapted to the transmission using the following adaption procedure.

Requirements:

These conditions must be met before re-adapting transmission control values:

ATF temperature must be a min of 60° C to a max. of 105° C.
A/C system OFF.

Connect the CS2000 to the appropriate diagnostic port for the vehicle being reset (38 pin socket at pin 10 or OBD-II socket at pin).

General

There are two possible ways to perform transmission adaption:

Perform a test drive, using a second technician to observe the data shown on the CS2000.

or

Use a vehicle dynamometer.

Re: Engine RPM Limit:

It is important not to exceed the specified engine RPM during the adaption procedure. If the RPM limits are exceeded, adaption of the transmission will not take place.

Engine Torque Values, see Engine Torque Value Table page [3](#).

Adaption procedure

During the adaption procedure, it is important to maintain the engine torque values as indicated in the Engine Torque Value Table on the following page.

Following the replacement/swap or repair of a transmission, the following shifts must be adapted after resetting the values:

Acceleration upshifts

4 X the 1 -> 2 shift

4 X the 2 -> 3 shift

(Torque values: see Engine Torque Value Table on page [3](#)).

In case of complaints regarding shift quality, the following shifts must be adapted:

Acceleration upshifts

4 X the 1 => 2 shift

4 X the 2 => 3 shift

3 X the 3 => 4 shift

3 X the 4 => 5 shift

(Torque values: see Engine Torque Value Table on page [3](#)).

Deceleration downshifts (while coasting)

3 X the 5 => 4 shift

3 X the 4 => 3 shift

(Torque values are not needed for these shifts).

Upon completion of the adaption procedure, allow the engine to idle for an additional 10 minutes. This is necessary, so that all measured values from the CS2000 are transmitted completely into the memory of the transmission control module (N75/3). If this does not occur, or if only some of the values are stored in the memory, the transmission must be re-adapted after a subsequent test drive.

Engine Torque Value Table for Adaption Procedure

	Shift	Count	Torque Engine 104.941	Torque Engine 111.973	Torque Engine 111.974	Torque Engines 112.941/942	Torque Engines 606.912/962	Torque Engines 119.981/985 113.940	Torque Engines 119.980/982 120
Acceleration Upshift	1 => 2	4 X	14 - 36 Nm	15 - 36 Nm	15 - 28 Nm	14 - 36 Nm	14 - 27 Nm	13 - 40 Nm	17 - 50 Nm
	2 => 3	4 X	20 - 59 Nm	20 - 59Nm	20 - 59 Nm	17 - 59Nm	20 - 55 Nm	25 - 50 Nm	29 - 60 Nm
	3 => 4	3 X	0 - 45 Nm	0 - 45Nm	0 - 46 Nm	15 - 59Nm	15 - 54 Nm	22-70Nm	29-80Nm
	4 => 5	3 X	0 - 121 Nm	0 - 121 Nm	0 - 82Nm	0 -121 Nm	0 - 81 Nm	0-110Nm	0-140Nm
Max. Engine RPM*	-	-	2400 rpm	2400 rpm	2400 rpm	2400 rpm	1800 rpm	1800 rpm	1600 rpm

* It is important not to exceed the removed engine rpm during the adoption procedure, as in this case adaption of the transmission will not take place.