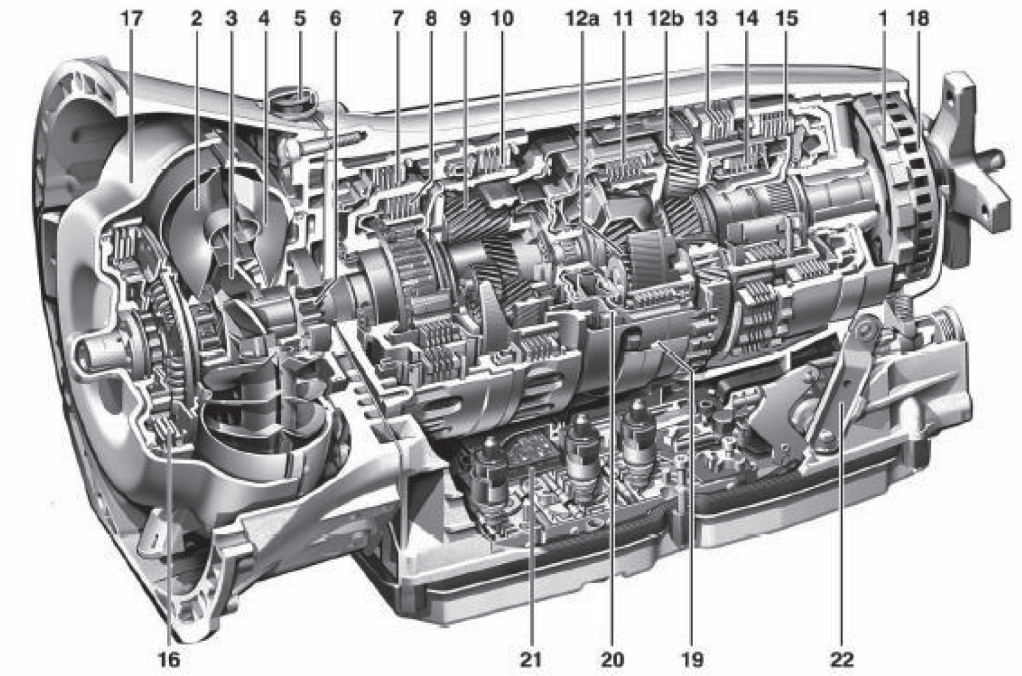
TRANStec®

Mercedes 722.9



Major Components Legend

1. Park pawl gear
2. Turbine wheel
3. Stator
4. Impeller
5. Transmission housing ventilation
6. Oil pump
7. B1 multi-disk brake
8. K1 multi-disk clutch
9. Ravigneaux gear set
10. B3 multi-disk brake
11. K2 multi-disk clutch

12a. Front simple planetary gear set (Also referred to as center gear set)

12b. Rear simple planetary gear set

13. BR multi-disk brake
14. K3 multi-disk clutch
15. B2 multi-disk brake
16. Torque converter lockup clutch
17. Torque converter housing
18. Exciter ring for speed measurement (Output speed)
19. Ring magnet for speed measurement (Internal speed)
20. Ring magnet for speed measurement (Turbine speed)
21. Electro hydraulic control unit
22. Range selector lever

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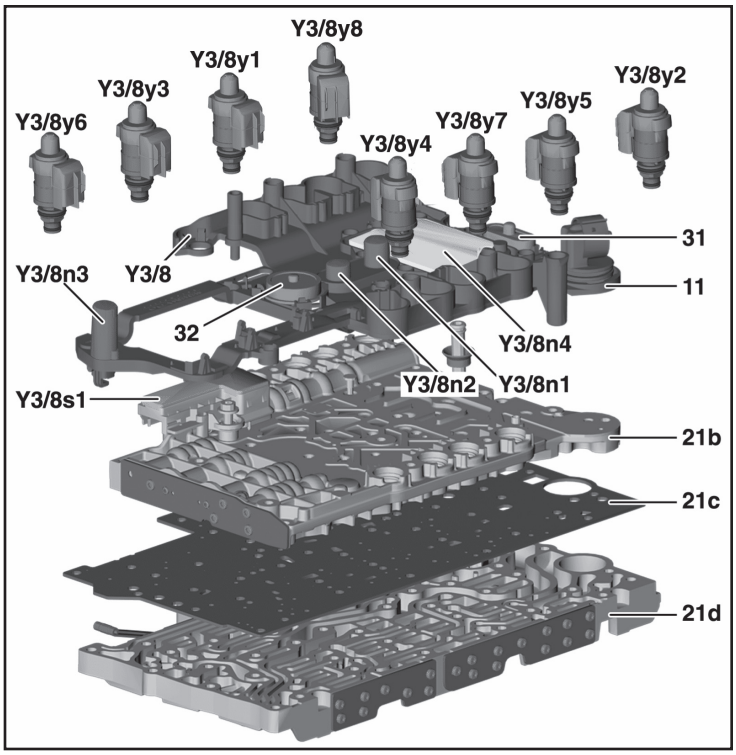
Electrohydraulic Control Module Component I.D.

11	Plug connection
21b	Valve body upper
21c	Intermediate panel
21d	Valve body lower / Shift housing
31	Oil control float 1
32	Oil control float 2
Y3/8	Electric control module
Y3/8n1	Turbine rpm sensor
Y3/8n2	Internal rpm sensor
Y3/8n3	Output rpm sensor
Y3/8n4	Transmission control module
Y3/8s1	Selection range sensor
Y3/8y1	Working pressure control solenoid valve
Y3/8y2	K1 clutch control solenoid valve
Y3/8y3	K2 clutch control solenoid valve
Y3/8y4	K3 clutch control solenoid valve
Y3/8y5	B1 brake control solenoid valve
Y3/8y6	B2 brake control solenoid valve
Y3/8y7	B3 brake control solenoid valve
Y3/8y8	Torque converter lockup clutch control solenoid valve



Shift Members & Solenoid Valve State

Shift Member / Shift Valve / Valve State		B1 Y3/8y5 Pressure/Current	B2 * Y3/8y6 Pressure/Current	B3 Y3/8y7 Pressure/Current	BR * Y3/8y6 Pressure/Current	K1 Y3/8y2 Pressure/Current	K2 Y3/8y3 Pressure/Current	K3 Y3/8y4 Pressure/Current
Gear	Ratio	◣	◢	◢		◢	◣	◣
1	4.377	C=Max / P=0	**X** / C=V / P=V	**X** / C=V / P=V		C=0 / P=0	C=Max / P=0	**X** / C=V / P=V
2	2.859	**X** / C=V / P=V	**X** / C=V / P=V	C=0 / P=0		C=0 / P=0	C=Max / P=0	**X** / C=V / P=V
3	1.921	C=Max / P=0	**X** / C=V / P=V	C=0 / P=0		**X** / C=V / P=V	C=Max / P=0	**X** / C=V / P=V
4	1.368	C=Max / P=0	**X** / C=V / P=V	C=0 / P=0		**X** / C=V / P=V	**X** / C=V / P=V	C=Max / P=0
5	1	C=Max / P=0	C=0 / P=0	C=0 / P=0		**X** / C=V / P=V	**X** / C=V / P=V	**X** / C=V / P=V
6	0.82	**X** / C=V / P=V	C=0 / P=0	C=0 / P=0		C=0 / P=0	**X** / C=V / P=V	**X** / C=V / P=V
7	0.728	C=Max / P=0	C=0 / P=0	**X** / C=V / P=V		C=0 / P=0	**X** / C=V / P=V	**X** / C=V / P=V
N (1)		C=Max / P=0	C=0 / P=0	**X** / C=V / P=V	C=0 / P=0	C=0 / P=0	C=Max / P=0	**X** / C=V / P=V
N (2)		**X** / C=V / P=V	C=0 / P=0	C=0 / P=0	C=0 / P=0	C=0 / P=0	C=Max / P=0	**X** / C=V / P=V
R (1)	-3.416	C=Max / P=0	see BR	**X** / C=V / P=V	**X** / C=V / P=V	C=0 / P=0	C=Max / P=0	**X** / C=V / P=V
R (2)	-2.231	**X** / C=V / P=V	see BR	C=0 / P=0	**X** / C=V / P=V	C=0 / P=0	C=Max / P=0	**X** / C=V / P=V

X = Shift member applied C = Current applied to solenoid valve P = Pressure from solenoid valve to shift member (0 = zero / V = variable / Max = maximum)
Y3/8y1 = Working pressure

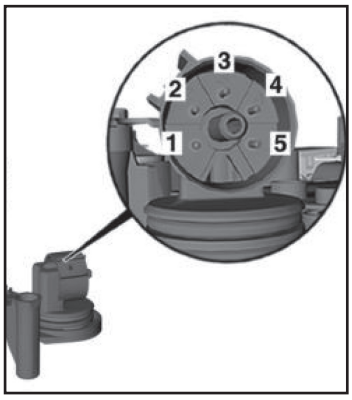
* B2 and BR share the same solenoid valve, the oil is directed to a different member via the selector shift valve.

◢ No current = no pressure (1) = S mode ◣ No current = max. pressure (2) = C mode

If transmission enters emergency mode while driving, all solenoid valves are switched off. Trans will shift into 6th gear.
? This is because the solenoid valves for B1, K2 & K3 deliver max pressure with no current applied.
? After engaging P position, then D position; only 2nd and R gear is available.

- Converter housing is die-cast aluminum.
- Transmission housing is die-cast manesium.
- Requires aluminum bolts. If replacement is necessary, aluminum bolts must be used.
- Lock-up torque converter is never fully locked.
- Lock-up clutch will be switched off and lower gear selected if oil temperature is greater than 284ºF (140ºC).
- Solenoids Y3/8y2, Y3/8y6, Y3/8y7 and Y3/8y8 are normally closed, no current = no pressure.
- Solenoids Y3/8y1, Y3/8y3, Y3/8y4 and Y3/8y5 are normally open, no current = max pressure. Limp home mode when all are de-energized.
- Transmission fluid is ATF 3353, Mercedes part #A001-989-45-03-12.

Electrical plug connector pin indentification:
1 = CAN C High
2 = CAN C Low
3 = to Diagnostic X11/4 according to wiring diagram (no known function yet)
4 = circuit 87 (relay & fuse depending on model)
5 = circuit 31



Clutch Application Chart

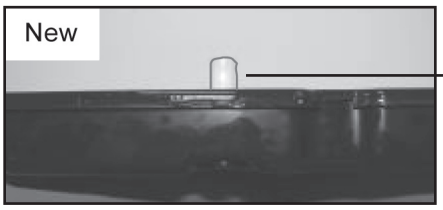
Gear	Gear Ratio W7A 700	B1	B2	B3	BR	K1	K2	K3
1	4.377		●	●				●
2	2.859	●	●					●
3	1.921		●			●		●
4	1.368		●			●	●	
5	1.000					●	●	●
6	0.820	●					●	●
7	0.728			●				●
N (1)				●				●
R (1)	-3.416			●	●			●
R (2)	-2.231	●			●			●

(1) = S mode (2) = C mode

- 2 shift members are already applied when transmission is in ‘N’, only one shift member needs to be applied when a drive gear is selected.
- A gear change is performed by applying a shift member while disengaging another shift member.

Changes compared to old pan.

New



Overflow Pipe

New pan
Mercedes part #220-270-09-12

Old

Old-style oil pan should always be replaced with the new-style oil pan. New oil pan will increase oil capacity by 0.2 liter.

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