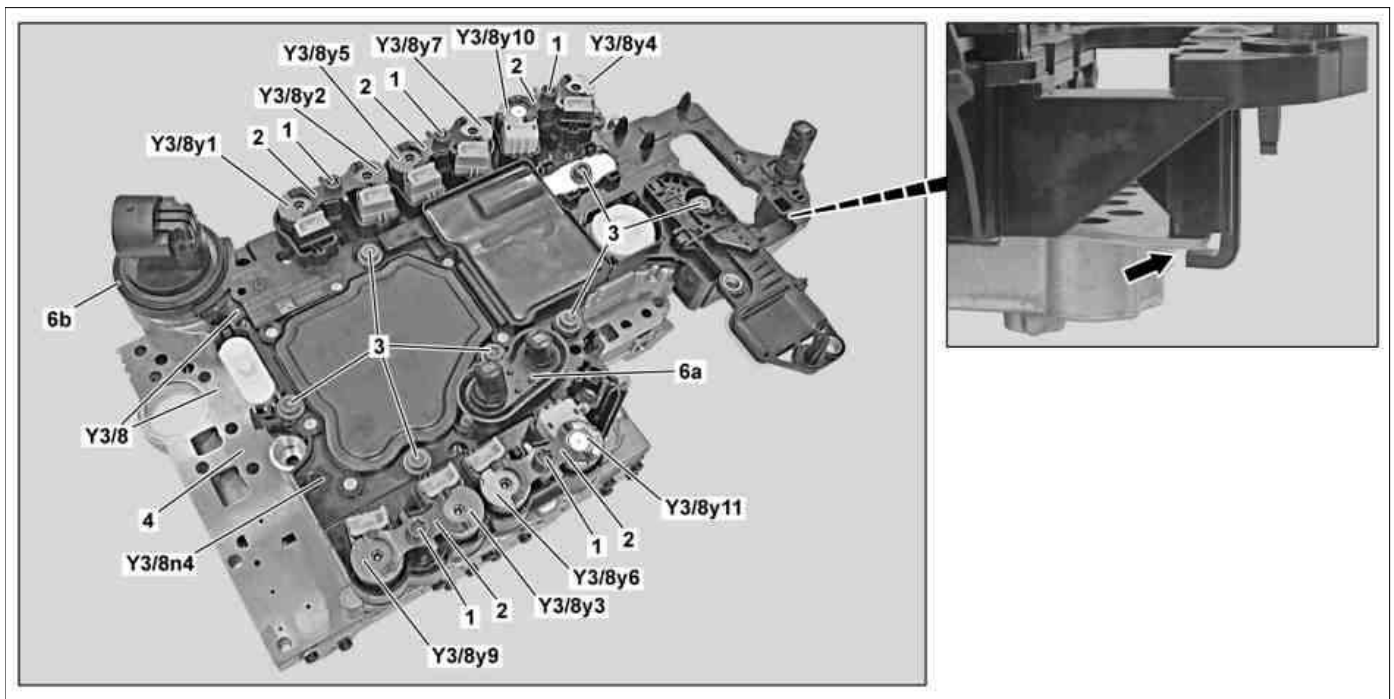


Transmission

722.9, 724.2



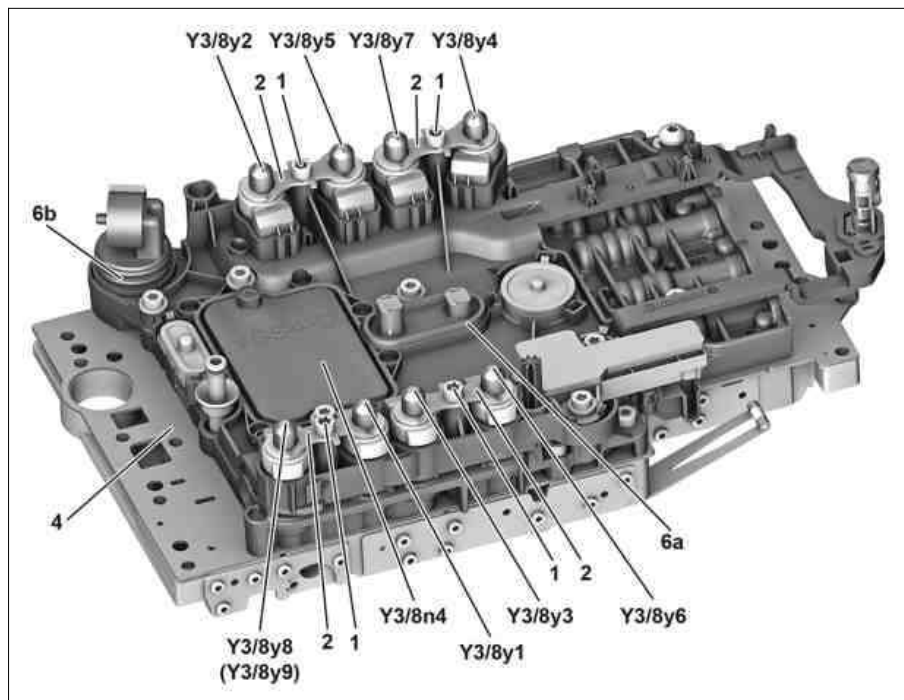
P27.19-2637-09

Illustration shows transmission 724.2 in model 222.157

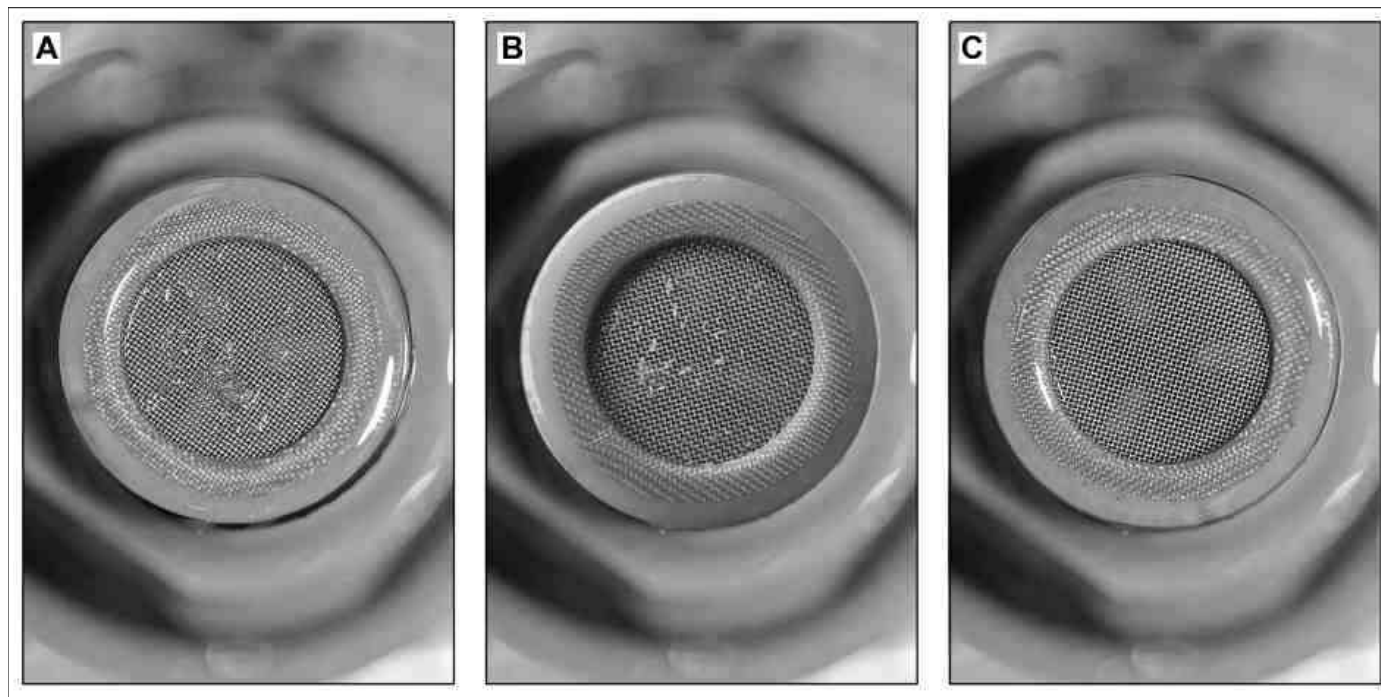
1	Bolts	Y3/8n4	Fully integrated transmission control control unit	Y3/8y6	Control solenoid valve disk brake control B2 (blue contact housing)
2	Leaf springs	Y3/8y1	Control solenoid valve working pressure (black contact housing)	Y3/8y7	Control solenoid valve disk brake control B3 (blue contact housing)
4	Valve body assembly	Y3/8y2	Clutch control solenoid valve K1 (blue contact housing)	Y3/8y9	Control solenoid valve wet clutch (blue contact housing)
6a	Seal	Y3/8y3	Clutch control solenoid valve K2 (blue contact housing)	Y3/8y10	D/R switchover valve
6b	Seal	Y3/8y4	Clutch control solenoid valve K3 (black contact housing)	Y3/8y11	Park pawl switchover valve
Y3/8	Fully integrated transmission control control unit	Y3/8y5	Control solenoid valve disk brake control B1 (blue contact housing)		

Shown here transmission 722.9 in model 205

- 1 Bolts
- 2 Leaf springs
- 4 Valve body assembly
- 6a Seal
- 6b Seal
- Y3/8n4 Fully integrated transmission control control unit
- Y3/8y1 Control solenoid valve working pressure (black cap)
- Y3/8y2 Clutch control solenoid valve K1 (blue cap)
- Y3/8y3 Clutch control solenoid valve K2 (black cap)
- Y3/8y4 Clutch control solenoid valve K3 (black cap)
- Y3/8y5 Control solenoid valve disk brake control B1 (black cap)
- Y3/8y6 Control solenoid valve disk brake control B2 (blue cap)
- Y3/8y7 Control solenoid valve disk brake control B3 (blue cap)
- Y3/8y8 Control solenoid valve torque converter lockup clutch (blue cap)
- Y3/8y9 Control solenoid valve wet clutch (blue cap)



P27.19-2756-06




















P27.19-2500-09






A If the control solenoid valve looks like this after cleaning, it needs to be replaced





B Clean control solenoid valve; if it looks like this after cleaning, it can be installed again



















C Control solenoid valve OK, can be installed again

	Information on preventing damage to electronic components due to electrostatic discharge		AH54.00-P-0001-01A
	Notes on self-locking nuts and bolts		AH00.00-N-0001-01A
	Notes on automatic transmission		AH27.19-P-0001-01NKB
	Remove		

1	Remove electrohydraulic controller unit	Transmission 724.2 Transmission 722.9	AR27.19-P-0200EH AR27.19-P-0200W
	Disassemble/assemble		
2	Unscrew bolts (1) and remove leaf springs (2)	 Transmission 724.2 Bolt, solenoid valves to shift plate  Transmission 722.9 Bolt, solenoid valve to shift plate	*BA27.19-P-1007-01C *BA27.19-P-1002-01A
3.1 	Pull control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) and switchover valves (Y3/8y10, Y3/8y11) carefully out of fully integrated transmission control unit (Y3/8n4)	Transmission 724.2  Assembly: The Specifications for Operating Fluids must be strictly observed. Otherwise damage will occur.  Mark control solenoid valve (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) and switchover valve (Y3/8y10, Y3/8y11) relative to their installation location.  Assembly: Always install each control solenoid valve (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) and switchover valve (Y3/8y10, Y3/8y11) at original installation location again. Moisten seals with transmission oil.	BB00.40-P-0236-15A
3.2 	Pull control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y8) carefully out of fully integrated transmission control unit (Y3/8n4)	Transmission 722.9 (except 722.930)  Assembly: The Specifications for Operating Fluids must be strictly observed. Otherwise damage will occur.  Mark control solenoid valve (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y8) relative to their installation location.  Assembly: Always install each control solenoid valve (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y8) at original installation location again. Moisten seals with transmission oil.	BB00.40-P-0236-15A
3.3 	Pull control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) carefully out of fully integrated transmission control unit (Y3/8n4)	Transmission 722.930  Assembly: The Specifications for Operating Fluids must be strictly observed. Otherwise damage will occur.  Mark control solenoid valve (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) relative to their installation location.  Assembly: Always install each control solenoid valve (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) at original installation location again. Moisten seals with transmission oil.	BB00.40-P-0236-15A
	Check		
4.1	Determine degree of soiling for control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) and switchover valves (Y3/8y10, Y3/8y11)	Transmission 724.2  If more than 4 control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) and switchover valves (Y3/8y10, Y3/8y11) are damaged or soiled, notify the Market Performance Center (MPC) or general distributor (GV) and they will then determine how to proceed.	

		<p>i If there are traces of abrasion or soiling (picture A, picture B), the control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) and switchover valves (Y3/8y10, Y3/8y11) must be replaced.</p> <p>i If there are no traces of abrasion or soiling (picture C), the control solenoid valve (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) and switchover valves (Y3/8y10, Y3/8y11) can be installed again.</p>	
4.2	Determine degree of soiling in control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y8)	<p>Transmission 722.9 (except 722.930)</p> <p>i If more than 4 control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y8) are damaged or soiled, notify the Market Performance Center (MPC) or the general distributor (GV), they will then decide how to proceed further.</p> <p>i If there are traces of abrasion or soiling (picture A, picture B), the control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y8) must be replaced.</p> <p>i If there are no traces of abrasion or soiling (picture C), the control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y8) can be installed again.</p>	
4.3	Determine degree of soiling in control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9)	<p>Transmission 722.930</p> <p>i If more than 4 control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) are damaged or soiled, notify the Market Performance Center (MPC) or the general distributor (GV), they will then decide how to proceed further.</p> <p>i If there are traces of abrasion or soiling (picture A, picture B), the control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) must be replaced.</p> <p>i If there are no traces of abrasion or soiling (picture C), the control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) can be installed again.</p>	
	Clean		
5.1  BB	Clean sieves of control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) and switchover valves (Y3/8y10, Y3/8y11)	<p>Transmission 724.2</p> <p> The Specifications for Operating Fluids must be strictly observed. Otherwise damage will occur.</p> <p>i To clean, use only fresh transmission oil and do not use compressed air, rags, brake cleaner, etc..</p> <p>i Use magnet to carefully clean sieves of control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) and switchover valves (Y3/8y10, Y3/8y11). Then clean the sieves by rinsing them in fresh transmission oil until the wear debris and dirt are removed.</p>	BB00.40-P-0236-15A
5.2  BB	Clean sieves of control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y8)	<p>Transmission 722.9 (except 722.930)</p> <p>Transmission 722.9 (except 722.930) as of 6/21/10</p> <p> The Specifications for Operating Fluids must be strictly observed. Otherwise damage will occur.</p>	BB00.40-P-0236-15A

		<p>i To clean, use only fresh transmission oil and do not use compressed air, rags, brake cleaner, etc..</p> <p>i Carefully clean sieves of control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y8) using magnet. Then clean the sieves by rinsing them in fresh transmission oil until the wear debris and dirt are removed.</p>	
5.3	Clean sieves of control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9)	<p>Transmission 722.930</p> <p>Transmission 722.930 as of 6/21/10</p> <p> The Specifications for Operating Fluids must be strictly observed. Otherwise damage will occur.</p> <p>i To clean, use only fresh transmission oil and do not use compressed air, rags, brake cleaner, etc..</p> <p>i Carefully clean sieves of control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) using magnet. Then clean the sieves by rinsing them in fresh transmission oil until the wear debris and dirt are removed.</p>	BB00.40-P-0236-15A
6	Clean seals (6a, 6b)	<p> The Specifications for Operating Fluids must be strictly observed. Damage will otherwise occur.</p> <p>i Assembly: Check condition and correct seating, replace if necessary. Moisten new seals (6a, 6b) with transmission oil.</p>	
	Check		
7.1	Check control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) and switchover valves (Y3/8y10, Y3/8y11) for cleanliness and damage	<p>Transmission 724.2</p> <p>i If there are no traces of soiling or damage (picture B, picture C), the control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) or the switchover valves (Y3/8y10, Y3/8y11) can be used again. If traces of soiling or damage are found (picture A), the corresponding control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) or switchover valves (Y3/8y10, Y3/8y11) must be replaced.</p>	
7.2	Check control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y8) for cleanliness and damage	<p>Transmission 722.9 (except 722.930)</p> <p>i If there are no traces of soiling or damage (picture B, picture C), the control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y8) can be used again. If there are traces of soiling or damage (picture A), the corresponding control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y8) must be replaced.</p>	
7.3	Check control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) for cleanliness and damage	<p>Transmission 722.930</p> <p>i If there are no traces of soiling or damage (picture B, picture C), the control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) can be used again. If there are traces of soiling or damage (picture A), the corresponding control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) must be replaced.</p>	
	Clean		

8.1 	Check seats of control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) and switchover valves (Y3/8y10, Y3/8y11) in valve body assembly (4) for soiling and clean, if necessary	Transmission 724.2  The Specifications for Operating Fluids must be strictly observed. Damage will otherwise occur.  To clean, use only fresh transmission oil and do not use compressed air, rags, brake cleaner, etc..  If necessary, turn over valve body assembly (4) and rinse out any contamination.	BB00.40-P-0236-15A
8.2 	Check seats of control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y8) in valve body assembly (4) for soiling and clean, if necessary	Transmission 722.9 (except 722.930)  The Specifications for Operating Fluids must be strictly observed. Damage will otherwise occur.  To clean, use only fresh transmission oil and do not use compressed air, rags, brake cleaner, etc..  If necessary, turn over valve body assembly (4) and rinse out any contamination.	BB00.40-P-0236-15A
8.3 	Check seats of control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) in valve body assembly (4) for soiling and clean, if necessary	Transmission 722.930  The Specifications for Operating Fluids must be strictly observed. Damage will otherwise occur.  To clean, use only fresh transmission oil and do not use compressed air, rags, brake cleaner, etc..  If necessary, turn over valve body assembly (4) and rinse out any contamination.	BB00.40-P-0236-15A
9	Assemble in the reverse order		
	Install		
10	Install electrohydraulic controller unit	Transmission 724.2 Transmission 722.9  Thoroughly clean oil pan and magnet, then replace oil filter.	AR27.19-P-0200EH AR27.19-P-0200W
11.1  	Perform gear selection adaptation of replaced control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) using diagnostic system	Transmission 724.2 Model 205, 222, 253 with transmission 724.2 Model 166, 212 with transmission 724.2  The adaptation values of the fully integrated transmission control controller unit (Y3/8) must not be reset.  After replacing the control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) the corresponding gears must be adapted. Clutch control solenoid valve K1 (Y3/8y2) 6th to 5th gear and 2nd to 3rd gear Clutch control solenoid valve K2 (Y3/8y3) 3rd to 4th gear Clutch control solenoid valve K3 (Y3/8y4) 4th to 3rd gear and 4th to 5th gear Brake control solenoid valve B1 (Y3/8y5) 3rd to 2nd gear and 1st to 2nd gear Brake control solenoid valve B2 (Y3/8y6) 5th to 4th gear Brake control solenoid valve B3 (Y3/8y7) 2nd to 1st gear	AD00.00-P-2000-04B AD00.00-P-2000-04A

		<p>i The following valves/functions must be taught in.</p> <p>Wet clutch control solenoid valve (Y3/8y9) D/R switchover valve (Y3/8y10) Park pawl switchover valve (Y3/8y11)</p>	
11.2	<p>Perform gear selection adaptation of replaced control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y8) using diagnostic system</p>	<p>Transmission 722.9 (except 722.930)</p> <p>Model 205, 217, 222 with transmission 722.9 (except 722.930)</p> <p>Model 164, 166, 171, 172, 203, 204, 207, 209, 211, 212, 216, 218, 219, 220, 221, 230, 231, 251 with transmission 722.9 (except 722.930)</p> <p>Model 463 with transmission 722.9 (except 722.930)</p> <p>i The adaptation values of the fully integrated transmission control controller unit (Y3/8) must not be reset.</p> <p>i After replacing the control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y8) the corresponding gears must be adapted.</p> <p>Clutch control solenoid valve K1 (Y3/8y2) 6th to 5th gear and 2nd to 3rd gear Clutch control solenoid valve K2 (Y3/8y3) 3rd to 4th gear Clutch control solenoid valve K3 (Y3/8y4) 4th to 3rd gear and 4th to 5th gear Brake control solenoid valve B1 (Y3/8y5) 3rd to 2nd gear and 1st to 2nd gear Brake control solenoid valve B2 (Y3/8y6) 5th to 4th gear Brake control solenoid valve B3 (Y3/8y7) 2nd to 1st gear</p> <p>i The following valve/function must undergo teach in.</p> <p>Torque converter lockup clutch control solenoid valve (Y3/8y8)</p>	<p>AD00.00-P-2000-04B</p> <p>AD00.00-P-2000-04A</p>
11.3	<p>Perform gear selection adaptation of replaced control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) using diagnostic system</p>	<p>Transmission 722.930</p> <p>Model 205 with transmission 722.930 Model 204, 212, 216, 219, 221, 230 with transmission 722.930</p> <p>i The adaptation values of the fully integrated transmission control controller unit (Y3/8) must not be reset.</p> <p>i After replacing the control solenoid valves (Y3/8y1, Y3/8y2, Y3/8y3, Y3/8y4, Y3/8y5, Y3/8y6, Y3/8y7 and Y3/8y9) the corresponding gears must be adapted.</p> <p>Clutch control solenoid valve K1 (Y3/8y2) 6th to 5th gear and 2nd to 3rd gear Clutch control solenoid valve K2 (Y3/8y3) 3rd to 4th gear Clutch control solenoid valve K3 (Y3/8y4) 4th to 3rd gear and 4th to 5th gear Brake control solenoid valve B1 (Y3/8y5) 3rd to 2nd gear and 1st to 2nd gear Brake control solenoid valve B2 (Y3/8y6) 5th to 4th gear Brake control solenoid valve B3 (Y3/8y7) 2nd to 1st gear</p> <p>i The following valve/function must undergo teach in.</p> <p>Wet clutch control solenoid valve (Y3/8y9)</p>	<p>AD00.00-P-2000-04B</p> <p>AD00.00-P-2000-04A</p>

Nm Electrohydraulic controller unit

Number	Designation		Transmission 722.9
BA27.19-P-1002-01A	Bolt, solenoid valve to shift plate	Nm	8

Nm Electrohydraulic controller unit

Number	Designation	Transmission 724.2
BA27.19-P-1007-01C	Bolt, solenoid valves to shift plate	Nm 9