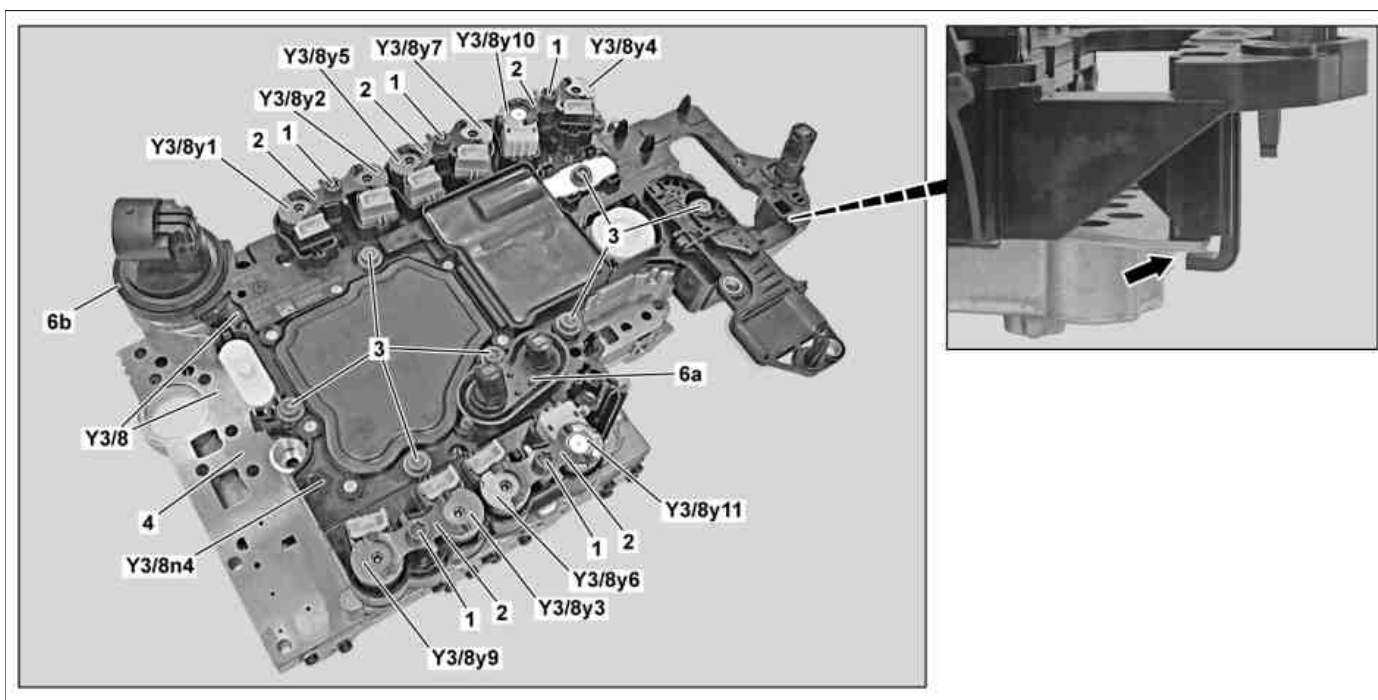


Transmission 722.9, 724.2



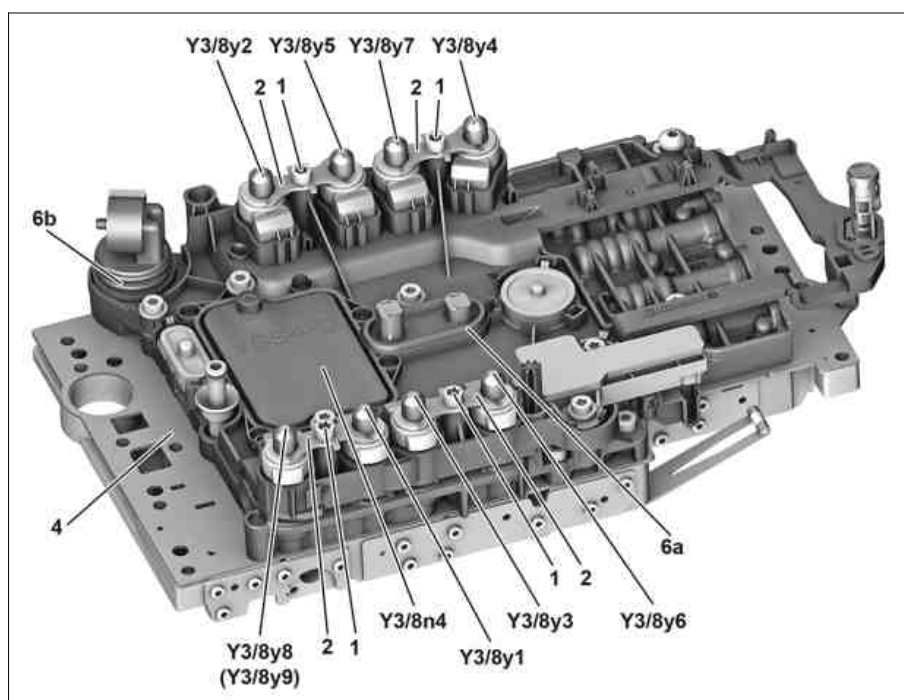
P27.19-2637-09

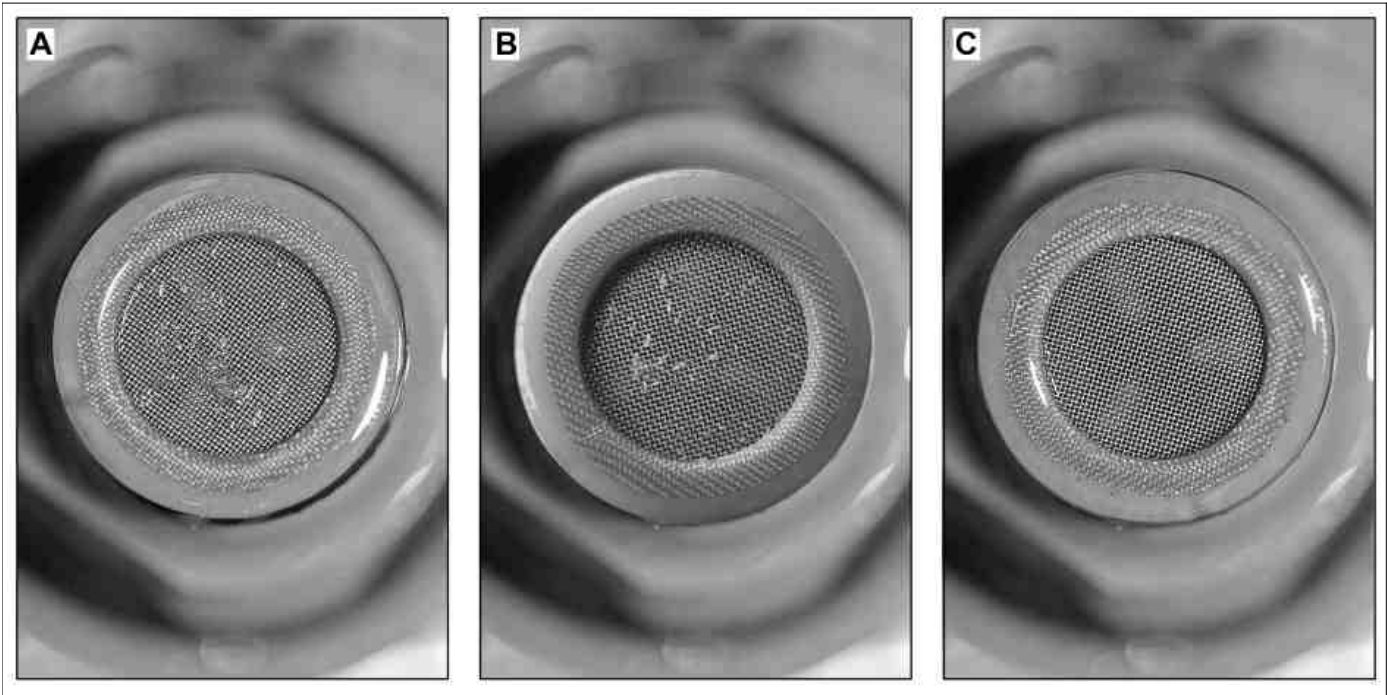
Illustration shows transmission 724.2 in model 222.157

1	Bolts	Y3/8n4	Fully integrated transmission control control unit	Y3/8y6	Multidisk brake control solenoid valve B2
2	Leaf springs	Y3/8y1	Working pressure control solenoid valve	Y3/8y7	Multidisk brake control solenoid valve B3
4	Valve body assembly	Y3/8y2	Clutch control solenoid valve K1	Y3/8y9	Wet clutch control solenoid valve
6a	Seal	Y3/8y3	Clutch control solenoid valve K2	Y3/8y10	D/R switchover valve
6b	Seal	Y3/8y4	Clutch control solenoid valve K3	Y3/8y11	Park pawl switchover valve
Y3/8	Fully integrated transmission control control unit	Y3/8y5	Multidisk brake control solenoid valve B1		

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	Working pressure control solenoid valve
Y3/8y2	Clutch control solenoid valve K1
Y3/8y3	Clutch control solenoid valve K2
Y3/8y4	Clutch control solenoid valve K3
Y3/8y5	Multidisk brake control solenoid valve B1
Y3/8y6	Multidisk brake control solenoid valve B2
Y3/8y7	Multidisk brake control solenoid valve B3
Y3/8y8	Torque converter lockup clutch control solenoid valve
Y3/8y9	Wet clutch control solenoid valve





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, valves to electrohydraulic controller unit 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. Disassemble: 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.	

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. ⓘ Disassemble: 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.	
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. ⓘ Disassemble: 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.	
☐	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. ⓘ 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. ⓘ 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.	
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)	Transmission 722.9 (except 722.930) ⓘ 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. ⓘ 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. ⓘ 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.	
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)	Transmission 722.930	

		<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 	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> To clean, use only fresh transmission oil and do not use compressed air, rags, brake cleaner, etc.. The Specifications for Operating Fluids must be strictly observed. Otherwise damage will occur.</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 	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> To clean, use only fresh transmission oil and do not use compressed air, rags, brake cleaner, etc.. The Specifications for Operating Fluids must be strictly observed. Otherwise damage will occur.</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>	BB00.40-P-0236-15A
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> To clean, use only fresh transmission oil and do not use compressed air, rags, brake cleaner, etc.. The Specifications for Operating Fluids must be strictly observed. Otherwise damage will occur.</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	Transmission 724.2 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.	
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	Transmission 722.9 (except 722.930) 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.	
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	Transmission 722.930 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.	
	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  To clean, use only fresh transmission oil and do not use compressed air, rags, brake cleaner, etc.. The Specifications for Operating Fluids must be strictly observed. Damage will otherwise occur. i If necessary, turn over valve body assembly (4) and rinse out any contamination.	
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)  To clean, use only fresh transmission oil and do not use compressed air, rags, brake cleaner, etc.. The Specifications for Operating Fluids must be strictly observed. Damage will otherwise occur. i If necessary, turn over valve body assembly (4) and rinse out any contamination.	
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	

		<p>⚠</p> <p>To clean, use only fresh transmission oil and do not use compressed air, rags, brake cleaner, etc.. The Specifications for Operating Fluids must be strictly observed. Damage will otherwise occur.</p> <p>i If necessary, turn over valve body assembly (4) and rinse out any contamination.</p>	
9	Assemble in the reverse order		
	Install		
10	Install electrohydraulic controller unit	<p>Transmission 724.2 Transmission 722.9</p> <p>i Installation: Thoroughly clean oil pan and magnet, then replace oil filter.</p>	<p>AR27.19-P-0200EH AR27.19-P-0200W</p>
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	<p>Transmission 724.2</p> <p>Model 205, 222, 253 with transmission 724.2 Model 166, 212 with transmission 724.2</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. K1 clutch control solenoid valve (VGS) (Y3/8y2) gear 6 to 5 and gear 2 to 3 K2 clutch control solenoid valve (VGS) (Y3/8y3) gear 3 to 4 K3 clutch control solenoid valve (VGS) (Y3/8y4) gear 4 to 3 and gear 4 to 5 B1 brake control solenoid valve (VGS) (Y3/8y5) gear 3 to 2 and gear 1 to 2 B2 brake control solenoid valve (VGS) (Y3/8y6) gear 5 to 4 B3 brake control solenoid valve (VGS) (Y3/8y7) gear 2 to 1</p> <p>i The following valves/functions must be taught in: Wet clutch control solenoid valve (Y3/8y9) D/R switchover valve (Y3/8y10) Park pawl switchover valve (Y3/8y11)</p>	<p>AD00.00-P-2000-04B AD00.00-P-2000-04A</p>
11.2	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>Transmission 722.9 (except 722.930)</p> <p>Model 205, 217, 222 with transmission 722.9 (except 722.930) 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>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. K1 clutch control solenoid valve (VGS) (Y3/8y2) gear 6 to 5 and gear 2 to 3 K2 clutch control solenoid valve (VGS) (Y3/8y3) gear 3 to 4 K3 clutch control solenoid valve (VGS) (Y3/8y4) gear 4 to 3 and gear 4 to 5 B1 brake control solenoid valve (VGS) (Y3/8y5) gear 3 to 2 and gear 1 to 2 B2 brake control solenoid valve (VGS) (Y3/8y6) gear 5 to 4 B3 brake control solenoid valve (VGS) (Y3/8y7) gear 2 to 1</p> <p>i The following valve/function must undergo teach in. Torque converter lockup clutch control solenoid valve (Y3/8y8)</p>	<p>AD00.00-P-2000-04B AD00.00-P-2000-04A</p>

<p>11.3</p> <p>AD</p> <p>AD</p>	<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. K1 clutch control solenoid valve (VGS) (Y3/8y2) gear 6 to 5 and gear 2 to 3 K2 clutch control solenoid valve (VGS) (Y3/8y3) gear 3 to 4 K3 clutch control solenoid valve (VGS) (Y3/8y4) gear 4 to 3 and gear 4 to 5 B1 brake control solenoid valve (VGS) (Y3/8y5) gear 3 to 2 and gear 1 to 2 B2 brake control solenoid valve (VGS) (Y3/8y6) gear 5 to 4 B3 brake control solenoid valve (VGS) (Y3/8y7) gear 2 to 1</p> <p>i The following valve/function must undergo teach in. Wet clutch control solenoid valve (Y3/8y9)</p>	<p>AD00.00-P-2000-04B</p> <p>AD00.00-P-2000-04A</p>
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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, valves to electrohydraulic controller unit Nm	9