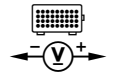
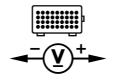
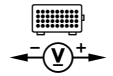
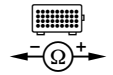
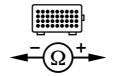
Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
1.0	021	**ETC Control Module (N15/3)** Voltage supply Circuit 87	N15/3  30 — 29	Ignition: **ON**	11 – 14 V	Wiring, Base module, DM, Chassis and Drivetrain, section 1.1 or 1.2
2.0		**Diagnosis output**	N15/3  30 — 1	Ignition: **ON**	8 – 14 V	Wiring, N15/3
3.0	010	**Solenoid valves** Voltage supply	N15/3  30 — 38	Ignition: **ON**	11 – 14 V	23⇒ 1.0, Electrical conductor plate, ETC control module (N15/3)
4.0	002	**1-2/4-5 shift solenoid valve (Y3/6y3)** Internal resistance	N15/3  14 — 38	Disconnect ETC control module (N15/3). Ignition: **OFF**	2.5 – 6.5 Ω	Wiring, Y3/6y3
5.0	003	**2-3 shift solenoid valve (Y3/6y5)** Internal resistance	N15/3  16 — 38	Disconnect N15/3 Ignition: **OFF**	2.5 – 6.5 Ω	Wiring, Y3/6y5

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
6.0	004	**3-4 shift solenoid valve (Y3/6y4)** Internal resistance	N15/3 15 — Ω — 38	Disconnect N15/3 Ignition: **OFF**	2.5 – 6.5 Ω	Wiring, Y3/6y4
7.0	005	**PWM solenoid valve (Y3/6y6)** Internal resistance	N15/3 17 — Ω — 38	Disconnect N15/3 Ignition: **OFF**	2 – 4 Ω	Wiring, Y3/6y6
8.0	006	**Modulator pressure regulating solenoid valve (Y3/6y1)** Internal resistance	N15/3 36 — Ω — 38	Disconnect N15/3 Ignition: **OFF**	4 – 8 Ω	Wiring, Y3/6y1
9.0	007	**Shift pressure regulating solenoid valve (Y3/6/2)** Internal resistance	N15/3 37 — Ω — 38	Disconnect N15/3 Ignition: **OFF**	4 – 8 Ω	Wiring, Y3/6y2

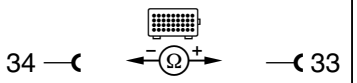
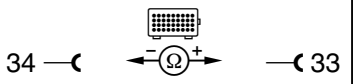
Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
10.0	008	**R/P lock solenoid (Y66/1)** Internal resistance **Note:** Test step applies to: 722.6 up to 6/30/99 in Models 202, 208, 210 without touch shift. 722.6 in Models 129, 140, 163 without touch shift. 722.602/605 in Model 170 without touch shift.	Y66/1 1 – Ω + 2	Test directly at Y66/1	20 – 35 Ω	Y66/1

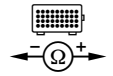
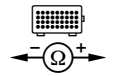
Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
11.0	009	**Starter lock-out relay module (K38/3)** Internal resistance **Note:** Test step applies to: 722.6 in Model 129 with engine 104, 112. 722.6 in Model 140 with engine 104, 606. 722.6 in Model 170 up to 6/30/99 with engine 111. 722.6 in Model 202 up to 6/30/99 with engine 104, 111, 112. 722.6 in Model 208 up to 6/30/99 with engine 112. 722.6 in Model 210 up to 6/30/99 with engine 104, 112, 606	K38/3 85 — (Ω) — 86	Test directly at K38/3	50 Ω	K38/3
12.0	011	**RPM sensors** Voltage supply	N15/3 33 — (V) — 13	Ignition: **ON**	4 – 8 V	Wiring, Electrical conductor plate, N15/3

Electrical Test Program – Test

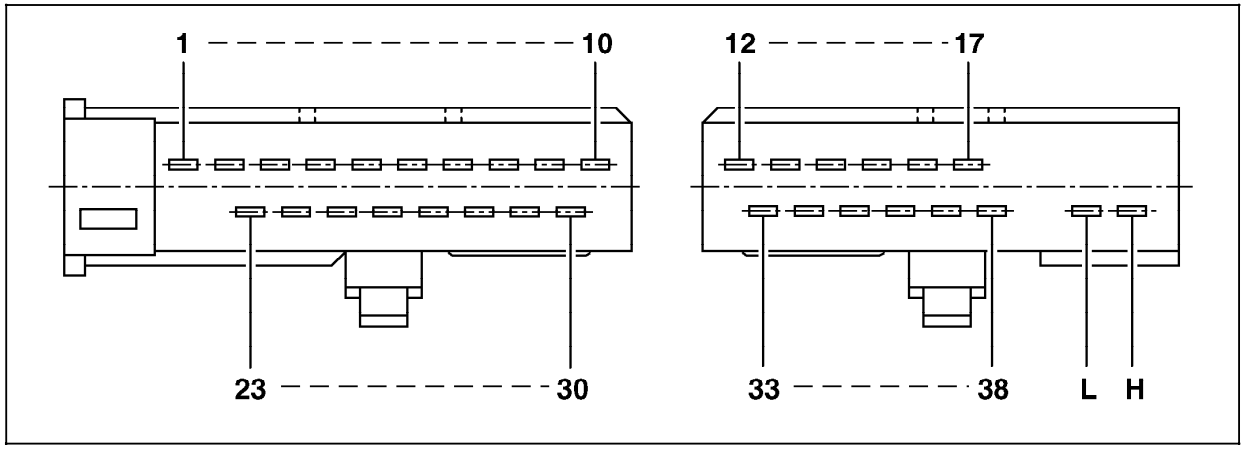
⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
13.0	020	**Starter lock-out contact (Y3/6s1)** Function **Note:** Test step applies to: 722.6 up to 6/30/99 in Models 202, 208, 210 without touch shift. 722.6 in Models 129, 140, 163 without touch shift. 722.602/605 in Model 170 without touch shift.	N15/3  34 — 33	Disconnect N15/3 R/D/4/3/2/1 selected P/N selected	 0.5 – 2.5 kΩ >20 kΩ	Wiring, Adjustment of shift linkage, Starter lock-out contact (Y3/6s1), Electrical conductor plate, Transmission range recognition switch (S16/10).
14.0	020	**Starter lock-out contact (Y6/6s1)** Function **Note:** Test step applies to: 722.6 as of 7/01/99 in Models 202, 208, 210 with touch shift. 722.6 in Model 163 with touch shift. 722.616/618 in Model 170 with touch shift.	N15/3  34 — 33	Disconnect N15/3 R/D/4/3/2/1 selected P/N selected	 0.5 – 2.5 kΩ >20 kΩ	Wiring, Adjustment of shift linkage, Starter lock-out contact (Y6/6s1), Electrical conductor plate.

Electrical Test Program – Test

⇒		Test scope	Test connection	Test condition	Nominal value	Possible cause/Remedy
15.0		**CAN element in RCL control module (N54)** Resistance	N54  L H	Disconnect 2-pole connector at N54 and test directly at control module.	115 – 125 Ω	N54
16.0		**CAN element in ETC control module (N15/3)** Resistance	N15/3  L H	Disconnect 14-pole connector at N15/3 and test directly at control module.	50 – 100 Ω	N15/3

Electrical Test Program – Test

Connector Layout - ETC control module (N15/3), applies to:
722.6 up to 6/30/99 in Models 202, 208, 210 without touch shift.
722.6 in Models 129, 140, 163 without touch shift.
722.602/605 in Model 170 without touch shift.

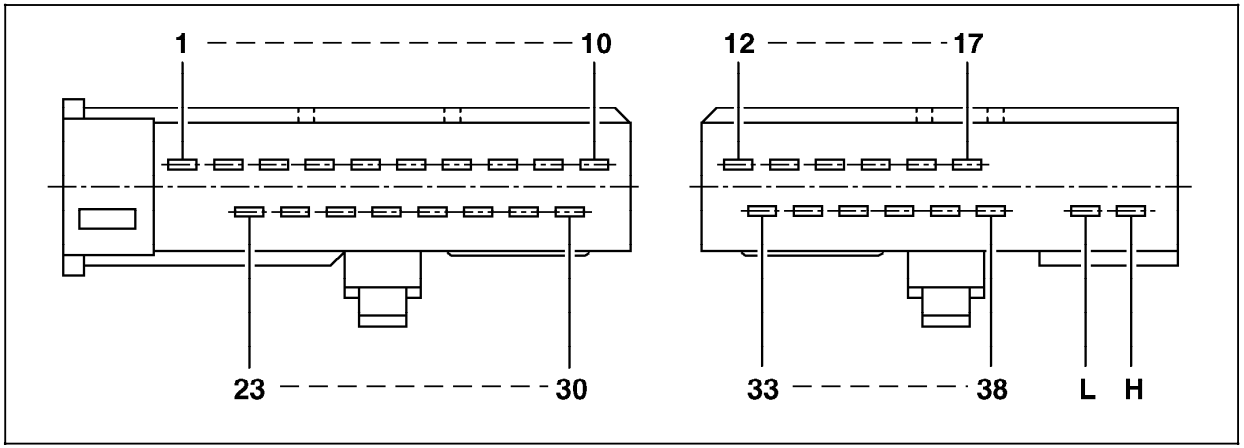


P27.19-0301-04

1	Diagnosis (output)
2	Kickdown switch (S16/6)
3	W/S program switch (S16/10s2) (not in Model 163)
4	R/P lock solenoid (Y66/1)
5–6	–
7	P/N signal to engine control module
8	–
9	Brake lamp switch (S9/1) (in Model 210)
10	–
12	RPM sensor 2 (Y3/6n2)
13	Sensor voltage supply
14	Valve unit, 1-2/4-5 shift solenoid valve (Y3/6y3)
15	Valve unit, 3-4 shift solenoid valve (Y3/6y4)
16	Valve unit, 2-3 shift solenoid valve (Y3/6y5)
17	PWM solenoid valve (torque converter lock-up) (Y3/6y6)
23–24	–
25–28	Transmission range recognition switch (S16/10) (voltage coded)
29	ETC control module (N15/3) (voltage supply)
30	Ground (electronic output ground) (W15)
33	Sensor ground
34	Valve unit, temperature sensor (Y3/6b1) / Starter lock-out contact (Y3/6s1)
35	Valve unit, RPM sensor 3 (Y3/6n3)
36	Valve unit, modulator pressure regulating solenoid valve (Y3/6y1)
37	Valve unit, shift pressure regulating solenoid valve (Y3/6y2)
38	Solenoid valves (Y3/6y1- y6), voltage supply
L	CAN data line (–) (Low)
H	CAN data line (+) (High)

Electrical Test Program – Test

Connector Layout - ETC control module (N15/3), applies to:
722.6 as of 7/01/99 in Models 202, 208, 210 with touch shift.
722.6 in Model 163 with touch shift.
722.616/618 in Model 170 with touch shift.

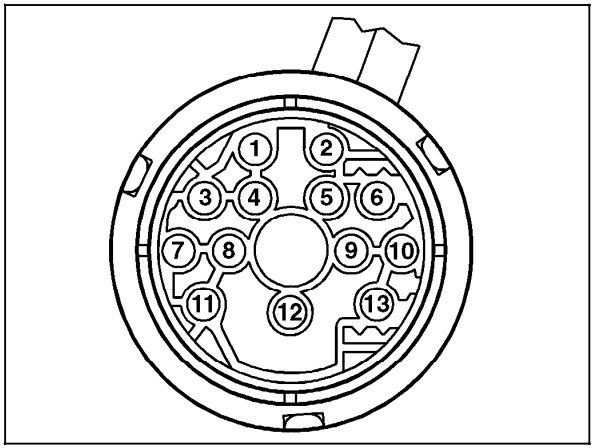


P27.19-0301-04

1	Diagnosis (output)	30	Ground (electronic output ground) (W15)	L	CAN data line (–) (Low)
2–10	–	33	Sensor ground	H	CAN data line (+) (High)
12	RPM sensor 2 (Y3/6n2)	34	Temperature sensor (Y3/6b1) / Starter lock-out contact (Y3/6s1)		
13	Sensor voltage supply	35	RPM sensor 3 (Y3/6n3)		
14	Valve unit, 1-2/4-5 shift solenoid valve (Y3/6y3)	36	Modulator pressure regulating solenoid valve (Y3/6y1)		
15	Valve unit, 3-4 shift solenoid valve (Y3/6y4)	37	Shift pressure regulating solenoid valve (Y3/6y2)		
16	Valve unit, 2-3 shift solenoid valve (Y3/6y5)	38	Solenoid valves (Y3/6y1- y6), voltage supply		
17	PWM solenoid valve (torque converter lock-up) (Y3/6y6)				
23–28	–				
29	ETC control module (N15/3) (voltage supply)				

Electrical Test Program – Test

Connector Layout - 13 position round connector at transmission



P27.19-0276-01

1	RPM sensor 3 (Y3/6n3)
2	Modulating pressure regulating solenoid valve (Y3/6y1)
3	RPM sensor 2 (Y3/6n2)
4	Signal in: temperature sensor (Y3/6b1) and starter lock-out contact (Y3/6s1)
5	–
6	Solenoid valves voltage supply
7	Sensor voltage supply
8	2-3 shift solenoid valve (Y3/6y5)
9	3-4 shift solenoid valve (Y3/6y4)
10	Shift pressure regulating solenoid valve (Y3/6y2)
11	PWM solenoid valve (torque converter lock-up) (Y3/6y6)
12	Sensor ground
13	1-2/4-5 shift solenoid valve (Y3/6y3)