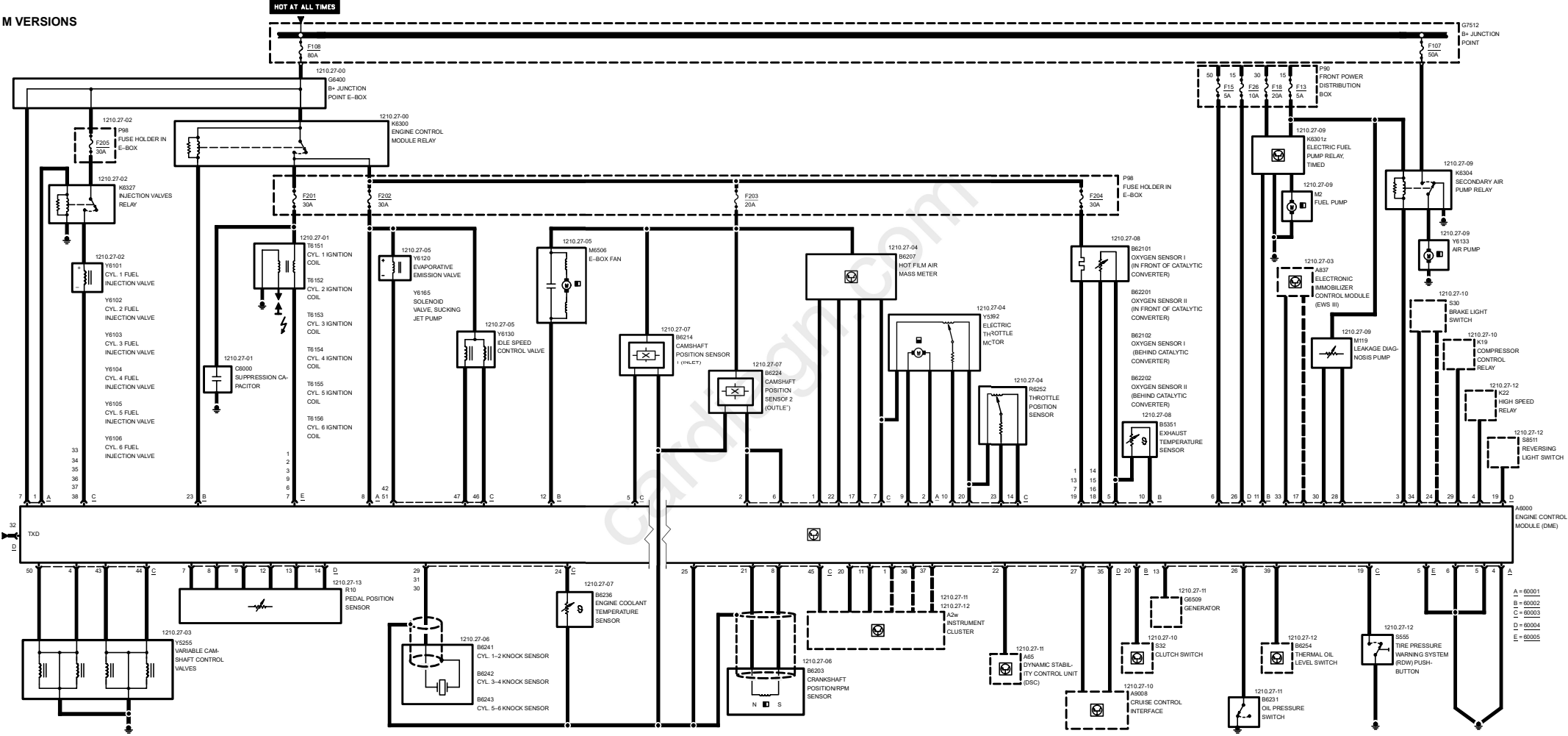
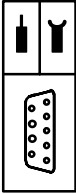


1210.27 ENGINE CONTROL SYSTEM MSS54 (6-CYLINDER S54 B32)

M VERSIONS





Pin Assignments (M Versions)

F = X60001	9 Pins, black
G = X60002	24 Pins, black
H = X60003	52 Pins, black
I = X60004	40 Pins, black
J = X60005	9 Pins, black

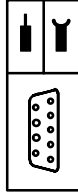
X60001

Pin	Type	Signal	Description/Function	Connection
1	A	15	Activate relay	Relay, injection valves
2	A	P_DKSM+	Voltage supply	Electric throttle motor
3			Not used	
4	M	31E	Ground	Ground point
5	M	31L	Ground	Ground point
6	M	31L	Ground	Ground point
7	E	30	Voltage supply	B+ junction point E-box
8	E	U_HR<2	Voltage supply	Fuse holder in E-box, fuse F202
9	M	P_DKSM-	Ground	Electric throttle motor

X60002

Pin	Type	Signal	Description/Function	Connection
1	M	T_LHV1	Oxygen sensor heating ground	Oxygen sensor 1 (in front of catalytic converter)
2			Not used	
3			Not used	
4			Not used	
5	M	M_CAN	Ground	Oxygen sensors, exhaust temperature sensor
6			Not used	
7	M	T_LHH1	Oxygen sensor heating ground	Oxygen sensor 1 (behind catalytic converter)
8			Not used	

E = Input, A = Output, M = Ground



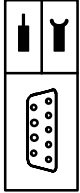
Pin Assignments (M Versions)

Pin	Type	Signal	Description/Function	Connection
9			Not used	
10	E	A_TABGAS	Temperature signal	Exhaust temperature sensor
11	A	A_PEKP	Activate relay	Electrical fuel pump relay, timed
12	A	S_EBOX	Signal E-box fan	E-box fan
13	M	T_LHV2	Oxygen sensor heating ground	Oxygen sensor 2 (in front of catalytic converter)
14	E	A_LSV1	Sensor signal	Oxygen sensor 1 (in front of catalytic converter)
15	E	A_LSV2	Sensor signal	Oxygen sensor 2 (in front of catalytic converter)
16	E	A_LSH1	Sensor signal	Oxygen sensor 1 (behind catalytic converter)
17			Not used	
18	E	A_LSH2	Sensor signal	Oxygen sensor 2 (behind catalytic converter)
19	M	T_LHH2	Oxygen sensor heating ground	Oxygen sensor 2 (behind catalytic converter)
20	E	S_KUPPLU	Clutch pedal depressed	Clutch switch
21			Not used	
22			Not used	
23	A	S_HR	Activate relay	Engine control module relay
24			Not used	

X60003

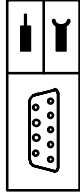
Pin	Type	Signal	Description/Function	Connection
1	E	A_HFM	Signal air mass meter	Hot film air mass meter
2	E	P_NWGA1	Signal camshaft position	Camshaft position sensor 2 (outlet)
3			Not used	
4	A	TNWE_F1	Activate valve	Variable camshaft control valve (inlet) – advance
5	E	P_NWGE1	Signal camshaft position	Camshaft position sensor 1 (inlet)
6	E	P_NWGA1	Signal camshaft position	Camshaft position sensor 2 (outlet)

E = Input, A = Output, M = Ground

**Pin Assignments (M Versions)**

Pin	Type	Signal	Description/Function	Connection
7	A	U_DKG1	Voltage supply	Electric throttle motor, hot film air mass meter
8	E	P_KWG	Signal crankshaft position	Crankshaft position sensor
9			Not used	
10	E	A_EDRP	Throttle position signal	Electric throttle motor
11			Not used	
12			Not used	
13	E	S_61-1	Charge signal	Generator
14	A	U_DKG2	Voltage supply	Throttle position sensor
15			Not used	
16			Not used	
17	M	M_HFM	Ground	Hot film air massmeter
18			Not used	
19	E	S_RDKS	Teach-in process	Pushbutton, tire pressure warning system
20	M	M_DKG1/2	Ground	Throttle position sensor, electric throttle motor
21	M	M_KWG	Ground	Crankshaft position sensor
22	E	A_TANS	Temperature signal intake air	Hotfilm air mass meter
23	E	A_DKG1	Throttle position signal	Throttle position sensor
24	E	A_TMOT	Temperature signal	Engine coolant temperature sensor
25	M	31_ANA	Ground	Various sensors
26	E	A_OLD	Oil pressure signal	Oil pressure switch
27			Not used	
28			Not used	
29	E	A_KS1	Knock sensor signal	Cyl. 1-2 knock sensor
30	E	A_KS3	Knock sensor signal	Cyl. 3-4 knock sensor
31	E	A_KS2	Knock sensor signal	Cyl. 5-6 knock sensor
32			Not used	
33	A	P_EVZ1	Activate valve	Cyl. 1 fuel injection valve
34	A	P_EVZ2	Activate valve	Cyl. 2 fuel injection valve
35	A	P_EVZ3	Activate valve	Cyl. 3 fuel injection valve
36	A	P_EVZ4	Activate valve	Cyl. 4 fuel injection valve

E = Input, A = Output, M = Ground

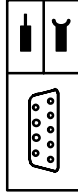
**Pin Assignments (M Versions)**

Pin	Type	Signal	Description/Function	Connection
37	A	P_EVZ5	Activate valve	Cyl. 5 fuel injection valve
38	A	P_EVZ6	Activate valve	Cyl. 6 fuel injection valve
39	E	F_OLN	Oil level/temperature signal	Thermal oil level switch
40			Not used	
41			Not used	
42	A	T_TEV	Activate valve	Evaporative emission valve
43	A	T_NWA_S1	Activate valve	Variable camshaft control valve (outlet) – retard
44	A	T_NWA_F1	Activate valve	Variable camshaft control valve (outlet) – advance
45	A	S_DMTL-LED	Tire pressure warning lamp control	Instrument cluster
46	A	T_LLFSS	CLOSE signal	Idle speed control valve
47	A	T_LLFSSO	OPEN signal	Idle speed control valve
48			Not used	
49			Not used	
50	A	T_NWE_S1	Activate valve	Variable camshaft control valve (inlet) – retard
51	A	S_SSP	Activate valve	Solenoid valve, sucking jet pump
52			Not used	

X60004

Pin	Type	Signal	Description/Function	Connection
1	A	61	Battery charge indicator	Instrument cluster
2			Not used	
3	A	S_SLP	Activate relay	Secondary air pump relay
4	E	ELUE	Signal, auxiliary fan ON	High speed relay
5			Not used	
6	E	S_50	Signal start	Fuse 15
7	M	M_FW1	Ground	Pedal position sensor
8	E	A_FW1	Signal, pedal position 1	Pedal position sensor
9	A	U_FW1	Voltage supply	Pedal position sensor
10			Not used	

E = Input, A = Output, M = Ground



Pin Assignments (M Versions)

Pin	Type	Signal	Description/Function	Connection
11	A	OELD	Signal, oil pressure	Instrument cluster
12	M	M_FW2	Ground	Pedal position sensor
13	E	A_FW2	Signal, pedal position 2	Pedal position sensor
14	A	U_FW2	Voltage supply	Pedal position sensor
15			Not used	
16			Not used	
17	A	TD	Crankshaft RPM speed signal (TD)	Electronic immobilizer control module (EWS III)
18			Not used	
19	E	RFL	Reversing light signal	Reversing light switch
20	A	TOG	Signal oil level	Thermal oil level switch
21			Not used	
22	E	DFAHR	Speed signal right rear	Dynamic stability control unit
23			Not used	
24	E	KL 54 ON	Brake signal	Brake light switch
25			Not used	
26	E	15A26	Terminal 15	Fuse 26
27	E	MFL	Cruise control signal	Cruise control interface
28	E	A_S_LDPV	Leakage diagnosis	Leakage diagnosis pump
29	A	KOREL	Activate relay	Compressor control relay
30	E	A_T_LDP	Leakage diagnosis	Leakage diagnosis pump
31			Not used	
32	E/A	TXDII	TXD diagnosis data link	Data link connector
33	E	S_DWA	Drive-away protection signal (code)	Electronic immobilizer control module (EWS III)
34	E	S_BLTS	Signal test	Brake light switch
35	M	31	Ground	Cruise control interface
36	E/A	CAN+	CAN-bus High	Splice, CAN-bus High
37	E/A	CAN-	CAN-bus Low	Splice, CAN-bus Low
38			Not used	
39			Not used	
40			Not used	

E = Input, A = Output, M = Ground



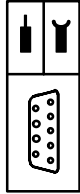
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Z3

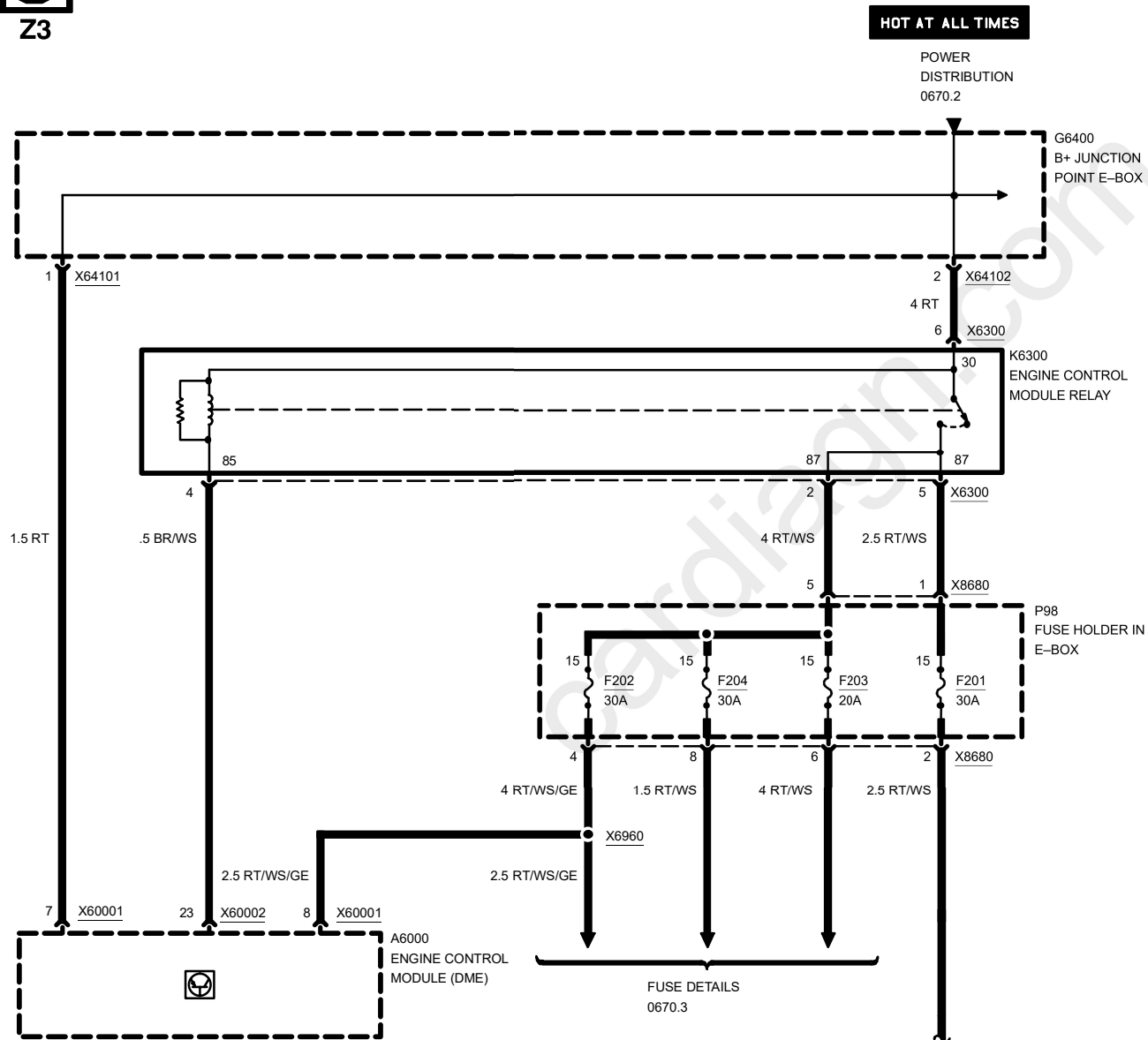
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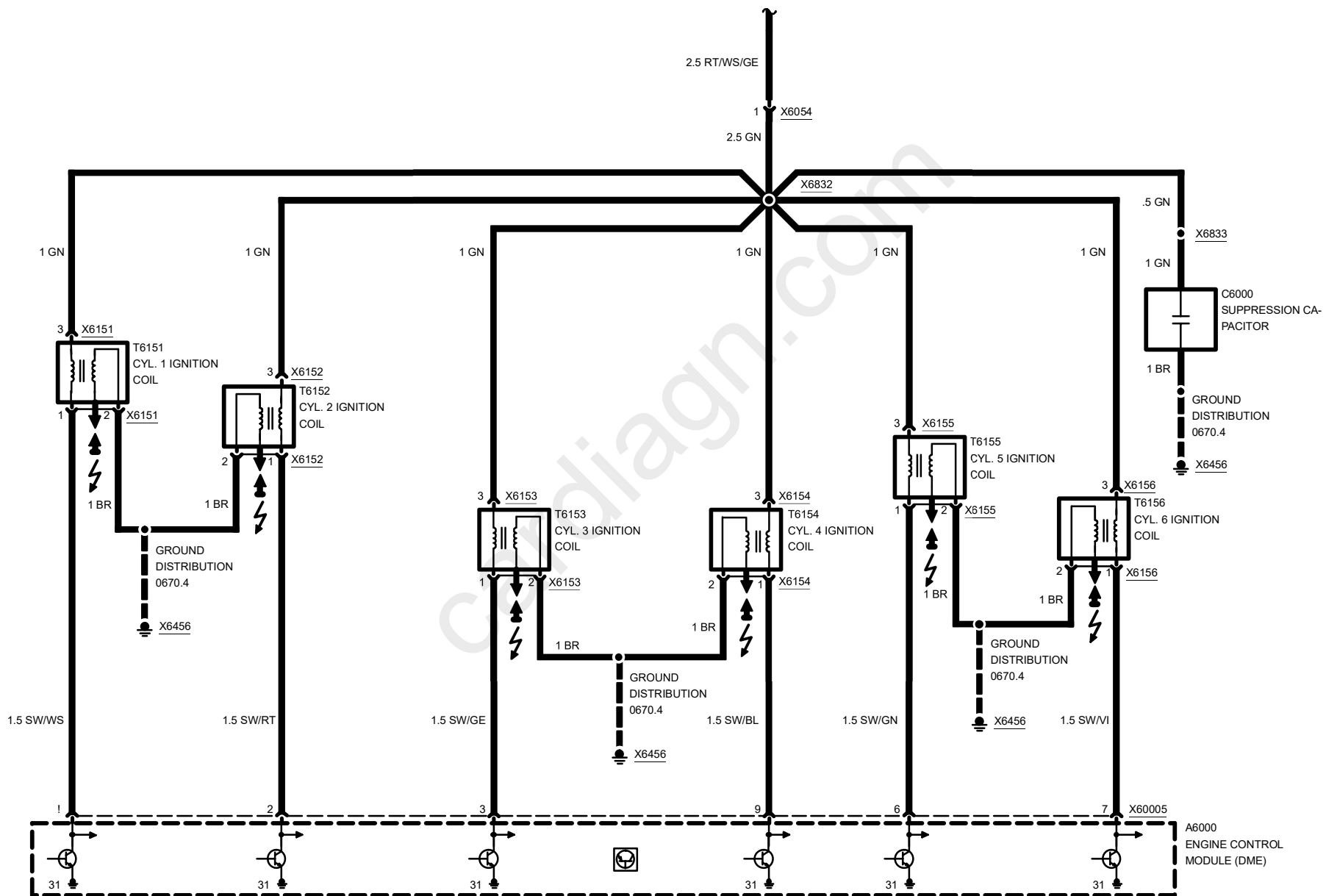
2001

**Pin Assignments (M Versions)****X60005**

Pin	Type	Signal	Description/Function	Connection
1	A	P_ZSZ1	Ignition coil signal	Cyl. 1 ignition coil
2	A	P_ZSZ2	Ignition coil signal	Cyl. 2 ignition coil
3	A	P_ZSZ3	Ignition coil signal	Cyl. 3 ignition coil
4			Not used	
5	M	31L	Ground	Ground point
6	A	P_ZSZ5	Ignition coil signal	Cyl. 5 ignition coil
7	A	P_ZSZ6	Ignition coil signal	Cyl. 6 ignition coil
8			Not used	
9	A	P_ZSZ4	Ignition coil signal	Cyl. 4 ignition coil

E = Input, A = Output, M = Ground





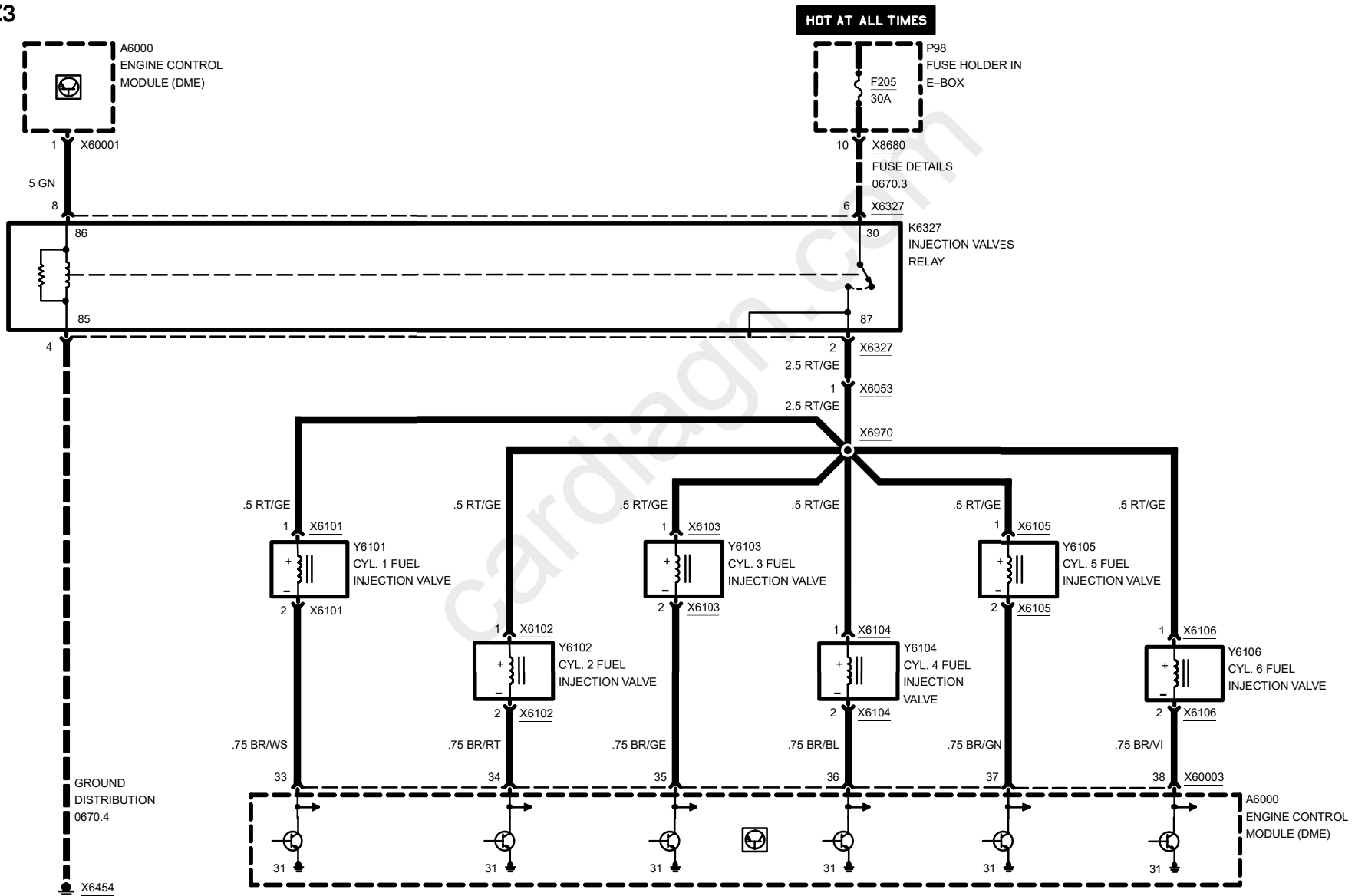


ENGINE CONTROL SYSTEM MSS54 (6-CYLINDER S54 B32)

M VERSIONS

Z3

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2001

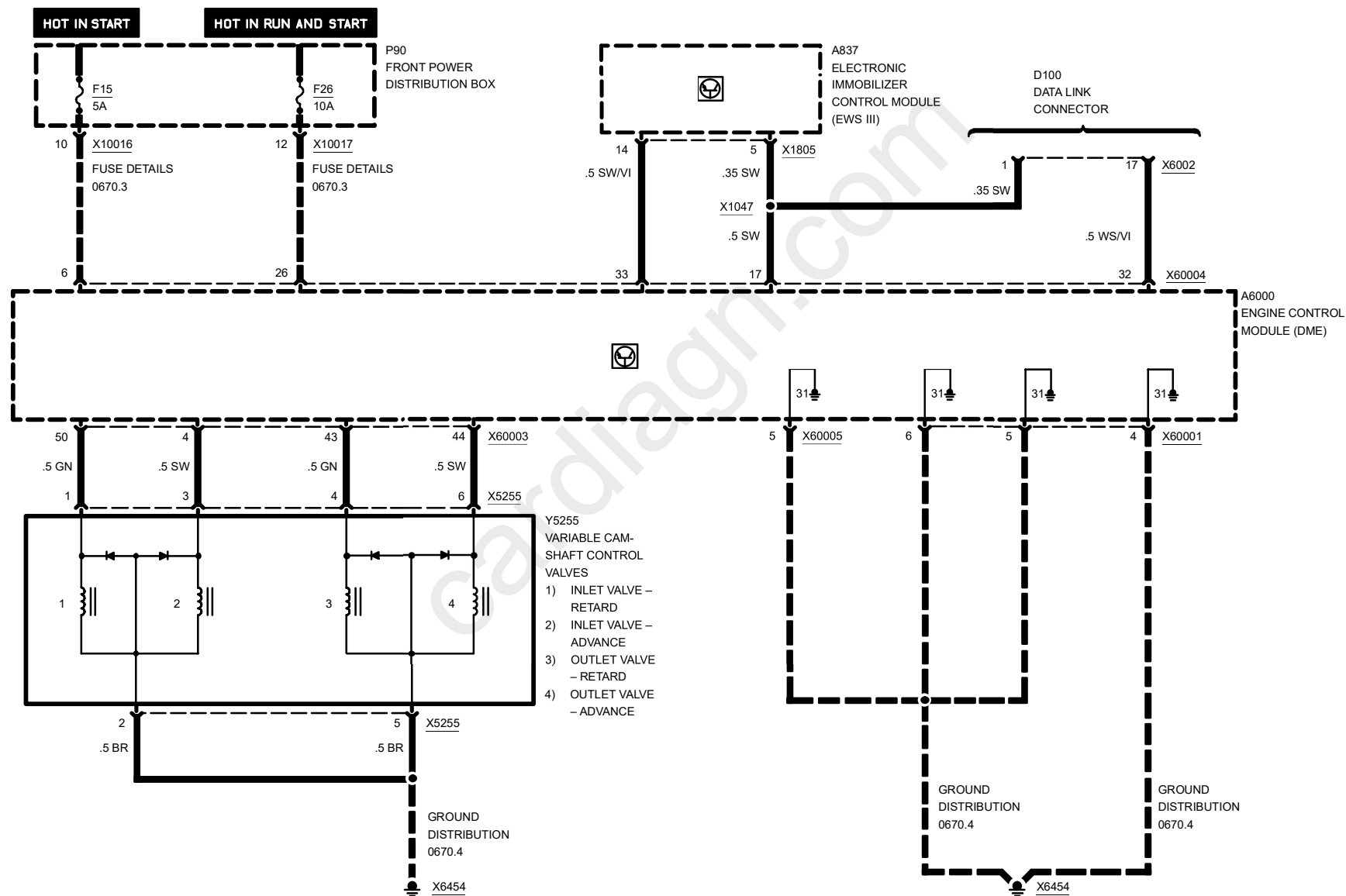


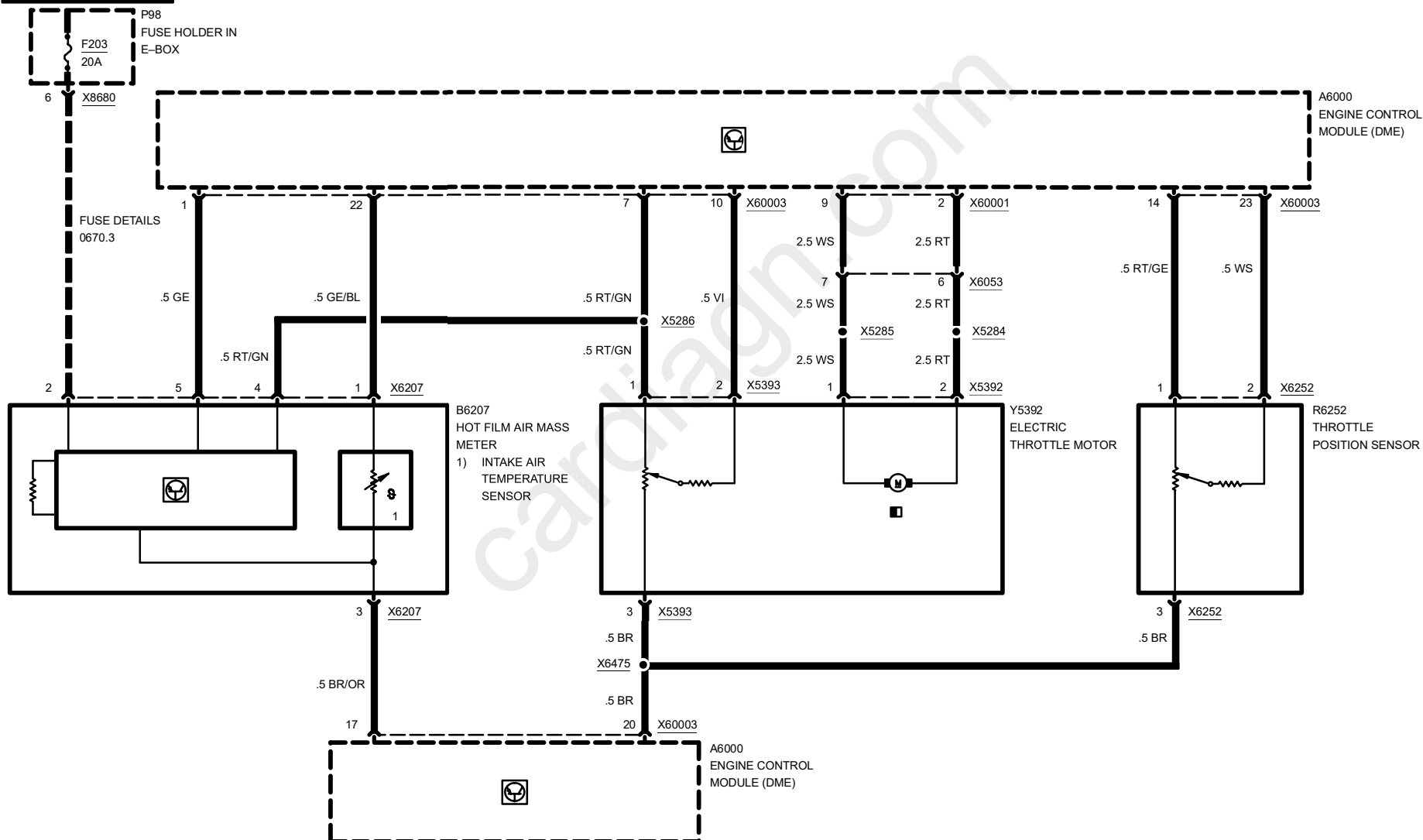


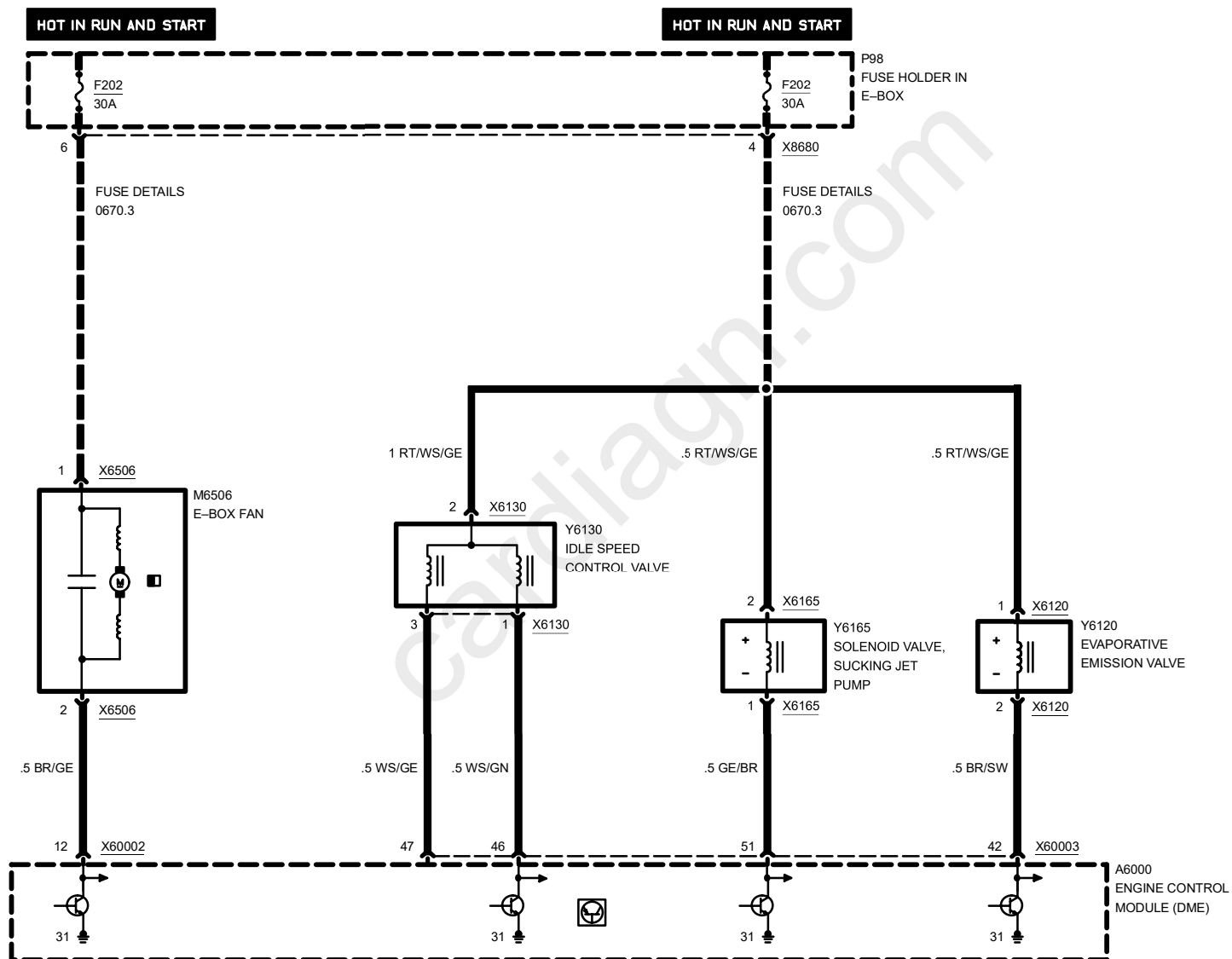
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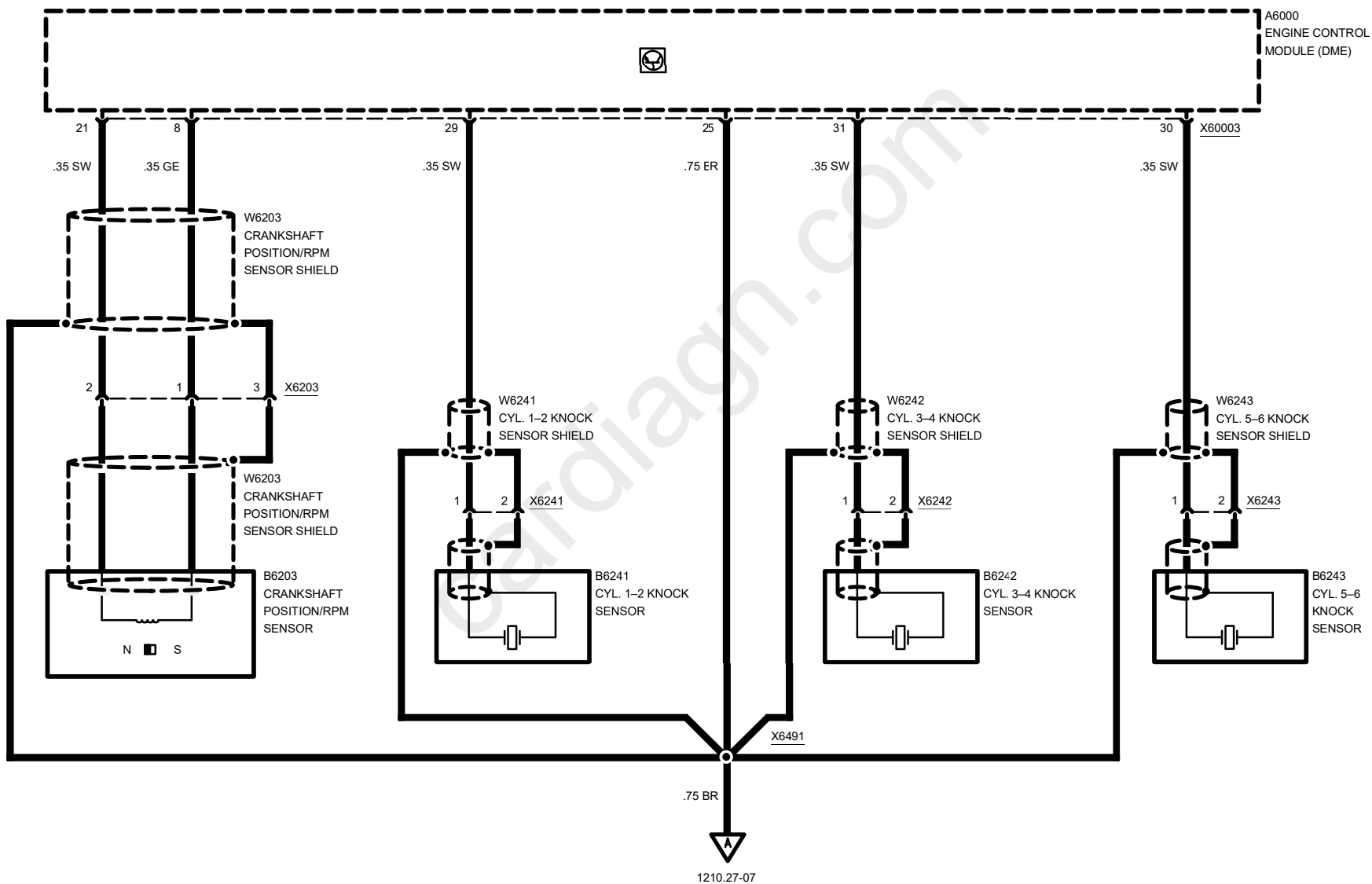
ENGINE CONTROL SYSTEM MSS54 (6-CYLINDER S54 B32)

M VERSIONS











Z3

ENGINE CONTROL SYSTEM MSS54 (6-CYLINDER S54 B32)

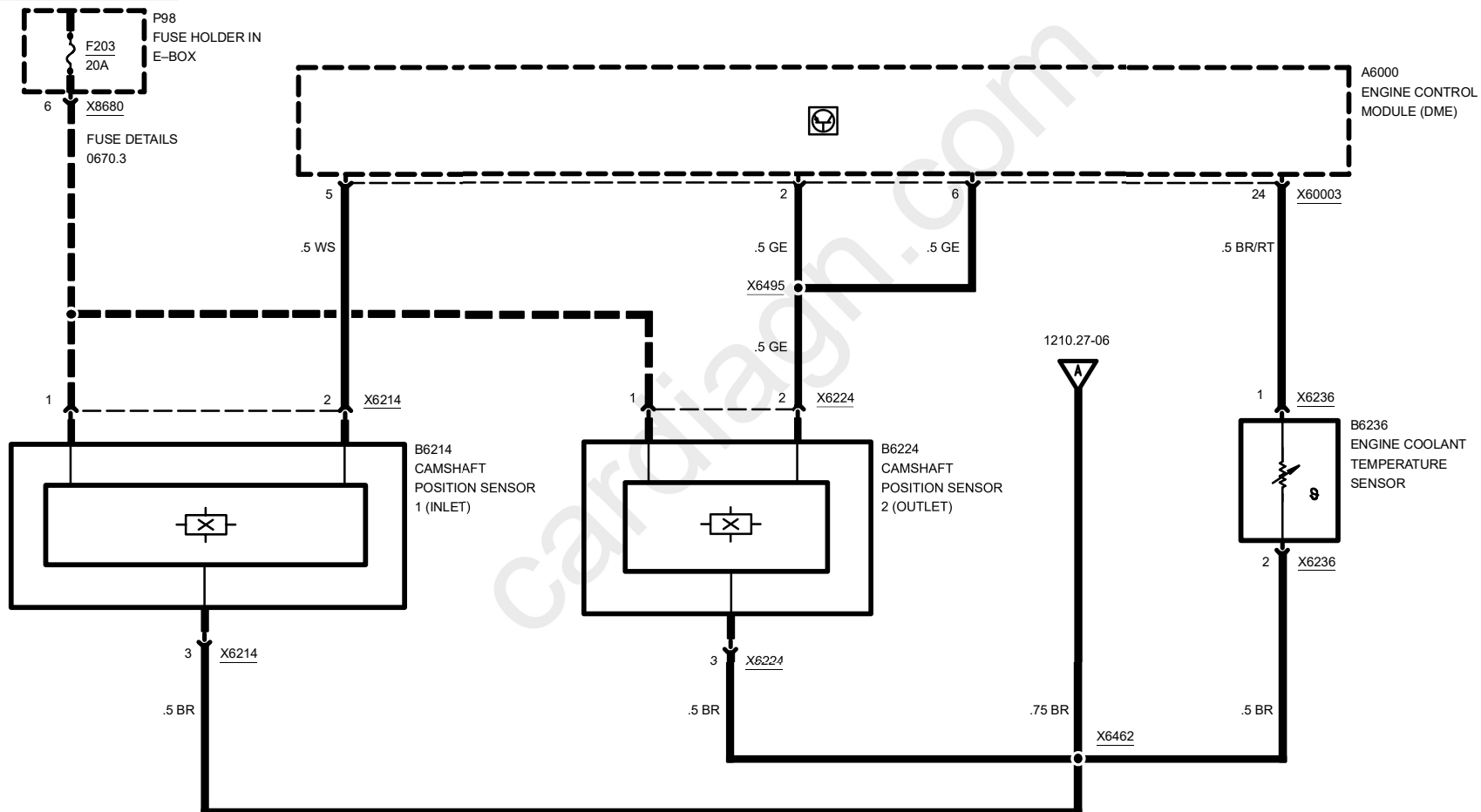
M VERSIONS

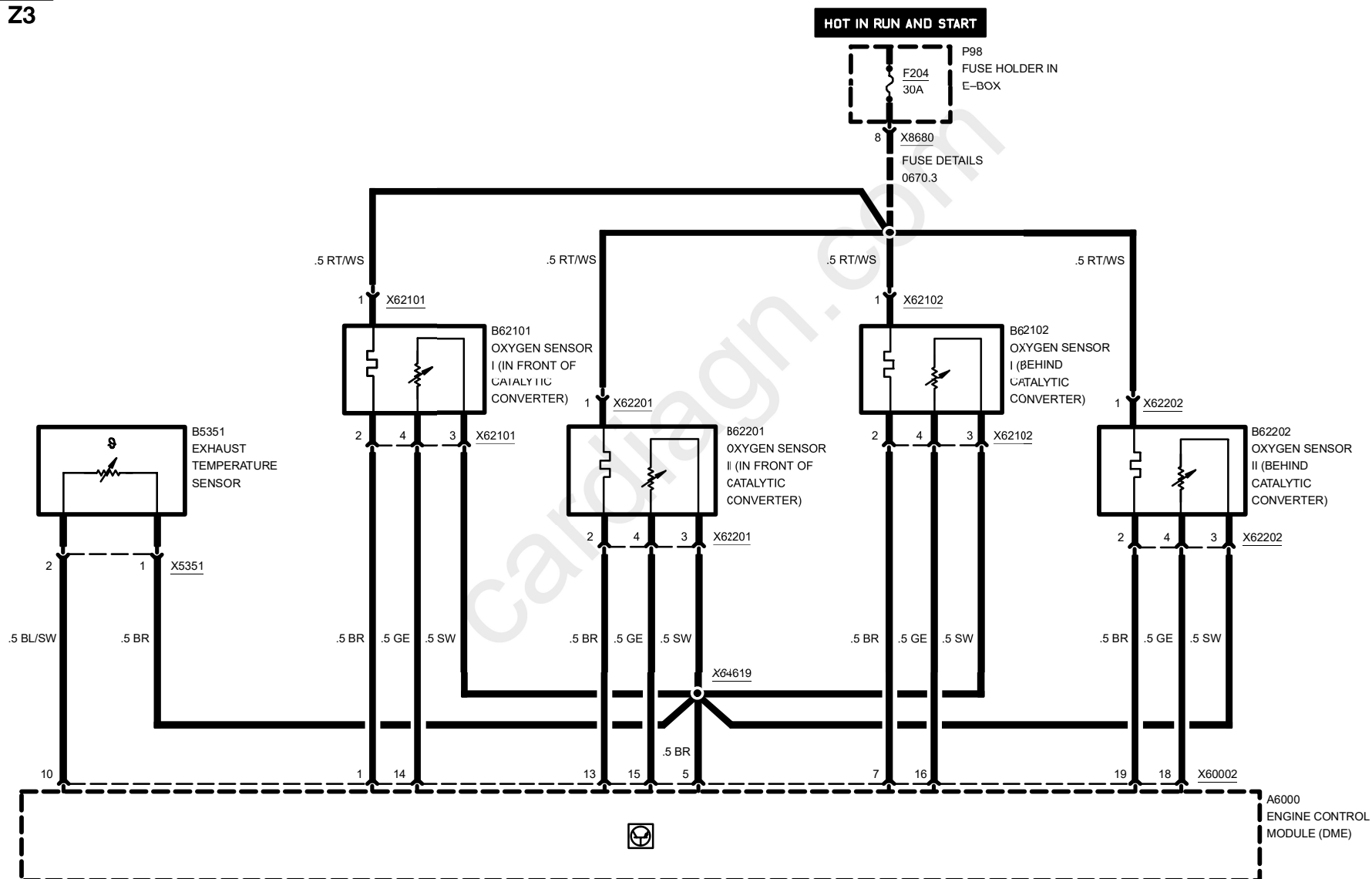
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2001

HOT IN RUN AND START



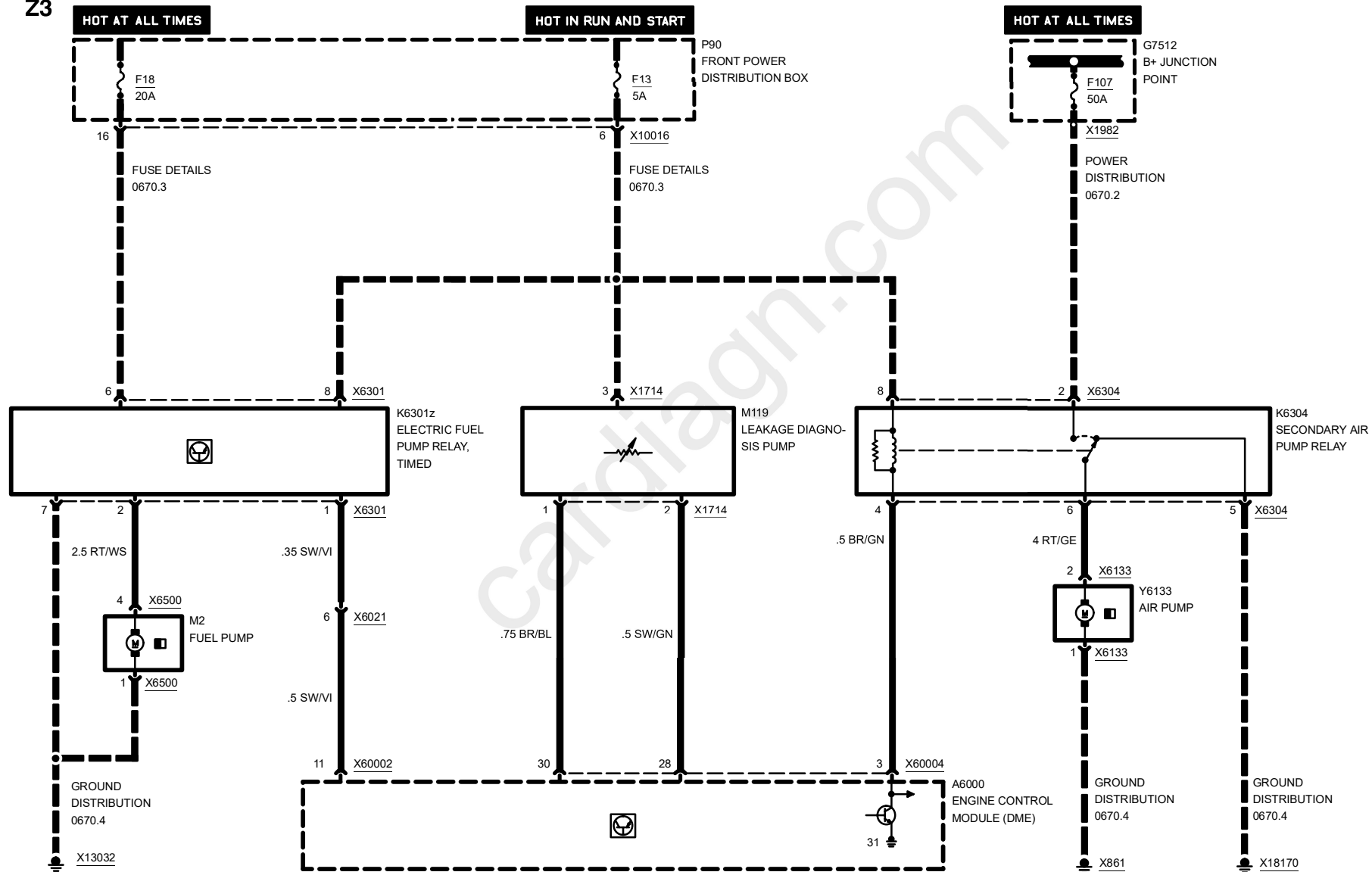




ENGINE CONTROL SYSTEM MSS54 (6-CYLINDER S54 B32)

M VERSIONS

Z3

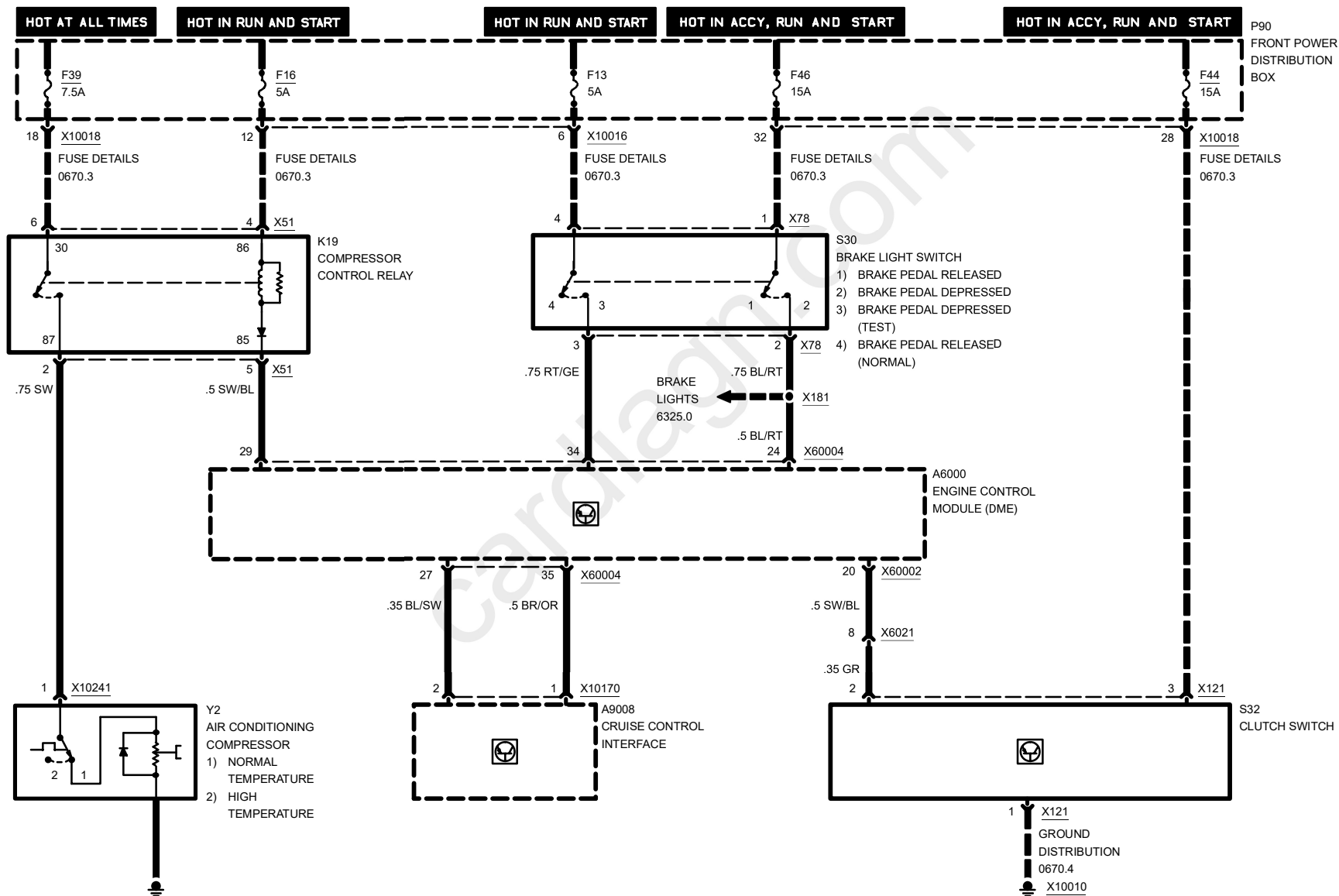


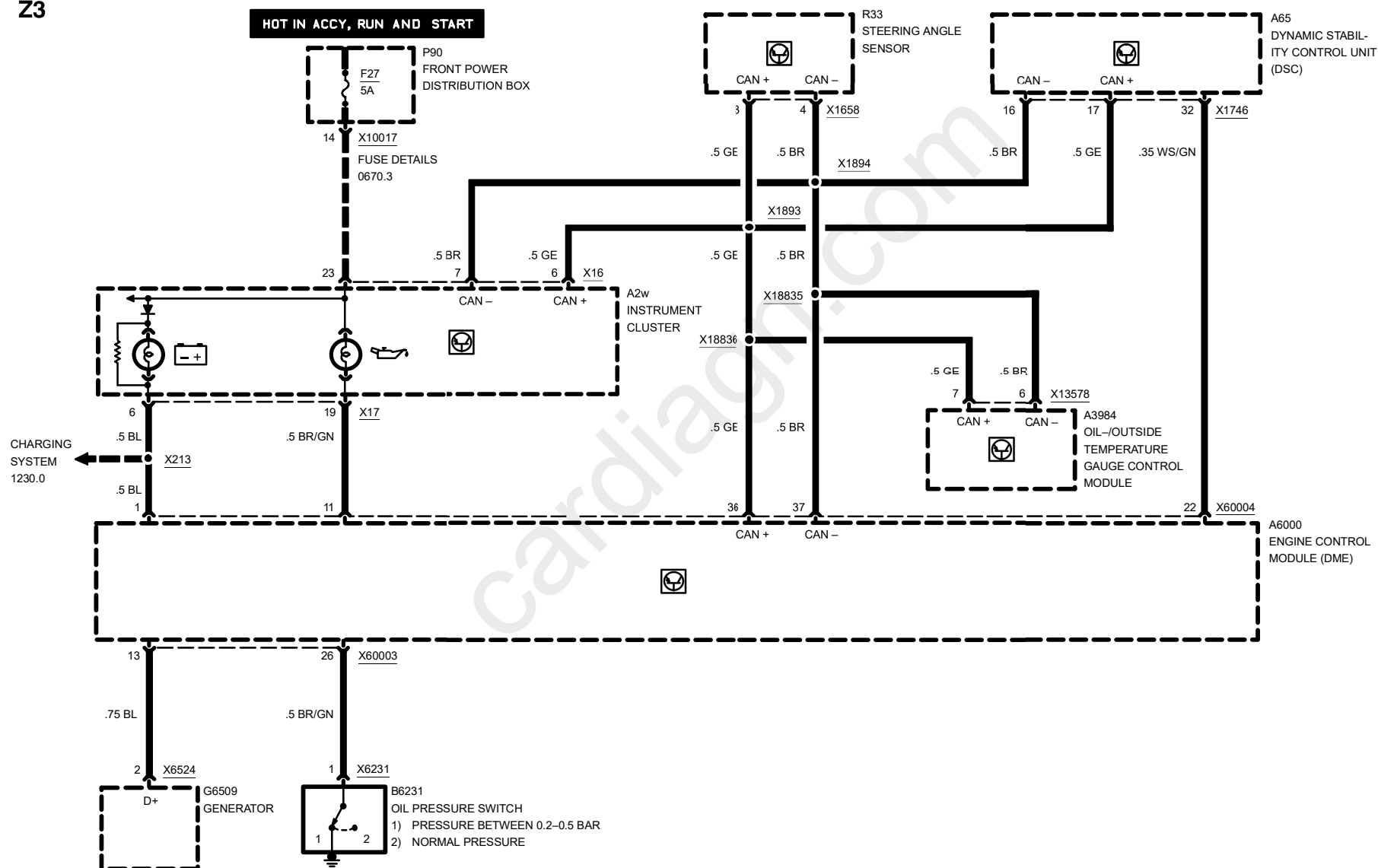
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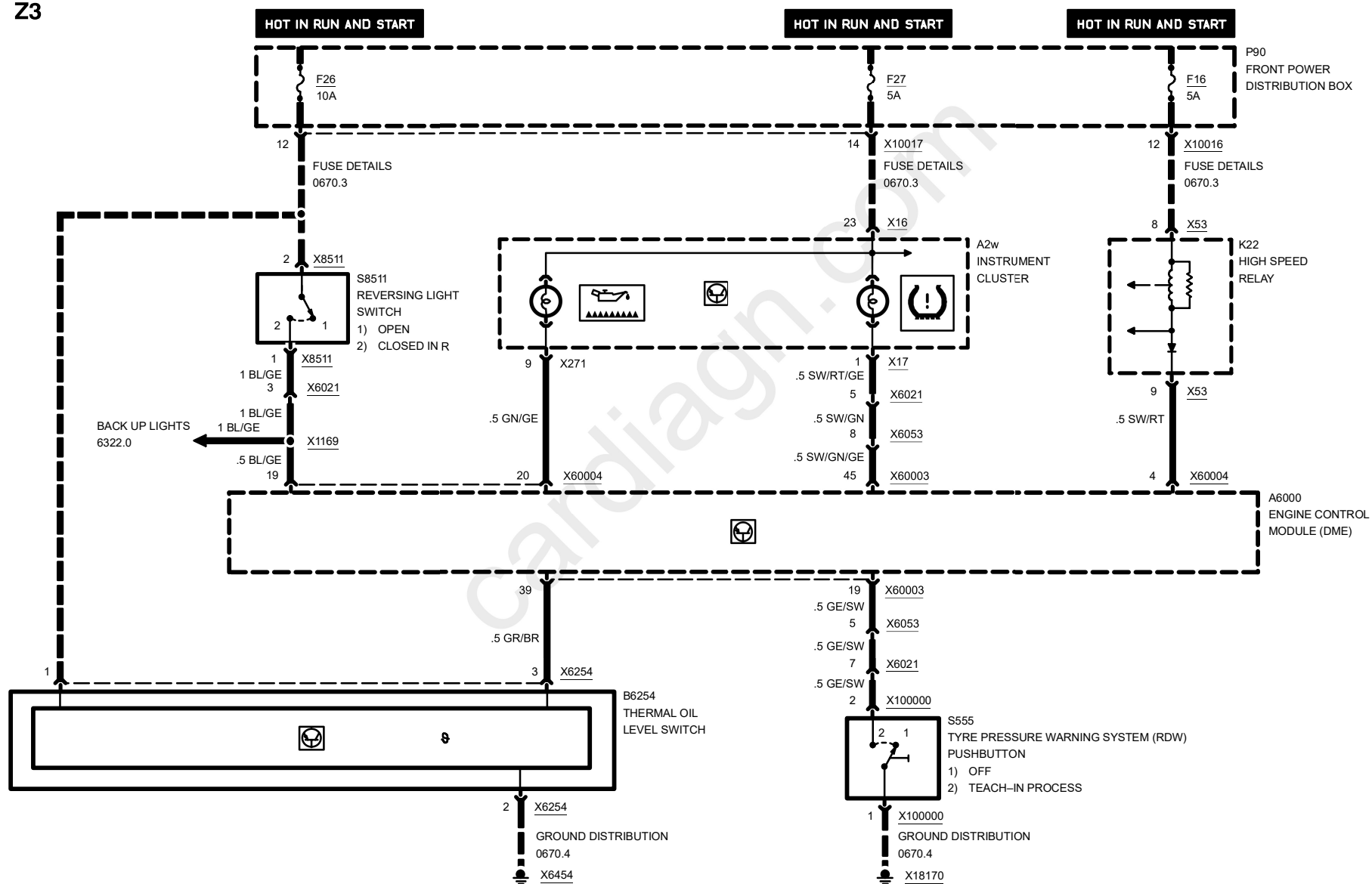
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2001

Z3









Z3

ENGINE CONTROL SYSTEM MSS54 (6-CYLINDER S54 B32)

M VERSIONS

