

2000

**BMW Z3 (E36/7)
Z3 Roadster, Z3
Coupe, M Roadster,
M Coupe**

**Electrical
Troubleshooting
Manual**

Vehicles produced 4/99 thru Present



ELECTRICAL TROUBLESHOOTING MANUAL

SERIES 3 – E36/7 (Z3 Roadster, Z3 Coupe, M Roadster, and M Coupe)

SCHEMATICS

MODEL YEAR 1999

0100.0	INDEX	6160.1	WIPER/WASHER MODULE (WWM)
0110.0	INTRODUCTION	6167.1	HEADLIGHT WASHER (SRA)
0140.0	SYMBOLS	6169.0	WINDSHIELD WASHER JET HEATERS
0670.0	POWER DISTRIBUTION CHART	6211.0	INSTRUMENT CLUSTER
0670.1	FUSE CHART	6213.1	ANALOG CLOCK
0670.2	POWER DISTRIBUTION	6213.3	DIGITAL CLOCK
0670.3	FUSE DETAILS	6300.0	LIGHT SWITCH DETAILS
0670.4	GROUND DISTRIBUTION	6312.0	HEADLIGHTS/FOG LIGHTS
0670.5	DATA LINK	6313.0	TURN/HAZARD LIGHTS
1210.17	ENGINE CONTROL SYSTEM MS41.1 (6-CYLINDER S52)	6314.0	PARK/TAIL/UNDERHOOD LIGHTS
1210.25	ENGINE CONTROL SYSTEM MS42.1 (6-CYLINDER M52)	6320.0	LICENSE PLATE/LUGGAGE COMPARTMENT LIGHTS
1230.0	CHARGING SYSTEM	6322.0	BACK UP LIGHTS
1240.0	START	6325.0	BRAKE LIGHTS
1290.0	E-BOX FAN	6330.3	INTERIOR LIGHTS
2460.2	ELECTRONIC TRANSMISSION CONTROL (EGS A4S 270R)	6332.0	INTERIOR ACCESSORIES
3234.0	SUPPLEMENTAL RESTRAINT SYSTEM (AIR BAG)	6350.0	CRASH CONTROL MODULE
3450.1	SLIP CONTROL (ABS/ASC)	6424.0	REAR WINDOW DEFOGGER
3452.1	DYNAMIC STABILITY CONTROL (DSC III)	6450.6	INTEGRATED HEATING- AND CLIMATE CONTROL
3614.0	TIRE INFLATION SYSTEM	6510.1	RADIO/HIFI
5116.0	POWER MIRRORS	6561.0	CELLULAR TELEPHONE (PROVISIONS)
5126.0	ZKE CENTRAL LOCKING (ZV)	6571.0	CRUISE CONTROL (TEMPOMAT)
5133.0	ZKE POWER WINDOWS (FH)	6575.2	ANTI-THEFT SYSTEM (ALPINE)
5200.0	POWER SEATS	6581.3	BOARD COMPUTER (BC – LOW)
5203.0	HEATED SEATS	7000.0	COMPONENT LOCATION CHART
5410.5	POWER TILT SUNROOF	7100.0	COMPONENT LOCATION VIEWS
5430.2	ELECTRO-HYDRAULIC CONVERTIBLE TOP	8000.0	SPLICE LOCATION VIEWS
6100.0	CENTRAL BODY ELECTRONICS (ZKE IV)	8500.0	CONNECTOR VIEWS
6133.0	HORN		
6135.1	DRIVE-AWAY PROTECTION (EWS III)		



0100.0 INDEX

Z3

ABS HYDRAULIC UNIT, Y1w	3450.1-01
AIR BAG GAS GENERATOR, DRIVER'S, G5	3234.0-00
AIR BAG GAS GENERATOR, LEFT SIDE, G14	3234.0-01
AIR BAG GAS GENERATOR, PASSENGER'S, G6	3234.0-00
AIR BAG GAS GENERATOR, RIGHT SIDE, G15	3234.0-01
AIR CONDITIONING COMPRESSOR, Y2	6450.6-02
AIR CONDITIONING COMPRESSOR, Y2	6450.6-06
AIR CONDITIONING RELAY, MOTRONIC, K33a	6450.6-04
AIR CONDITIONING/RECIRCULATING SWITCH ASSEMBLY, S220	6450.6-01
AIR CONDITIONING/RECIRCULATING SWITCH ASSEMBLY, S220	6450.6-05
AIR PUMP, Y6133	1210.17-05
AIR PUMP, Y6133	1210.25-04
ANALOG CLOCK	6213.1-00
ANALOG CLOCK, N5	6211.0-06
ANALOG CLOCK, N5	6213.1-00
ANTENNA AMPLIFIER AM/FM, N8	6510.1
ANTI-THEFT CONTROL MODULE (ALPINE), N12w	6575.2
ANTI-THEFT HORN (ALPINE), H1w	6575.2-01
ANTI-THEFT SYSTEM (ALPINE)	6575.2
ASC SWITCH, S6	3450.1-03
ASC SWITCH, S6	3450.1-06
ASHTRAY LIGHT, FRONT, E25	6300.0-01
ASHTRAY LIGHT, FRONT, E25	6332.0-00
AUTOMATIC TRANSMISSION RANGE SWITCH, S3	2460.2-04
AUXILIARY FAN MOTOR, M9	6450.6-03
AUXILIARY FAN MOTOR, M9	6450.6-07
AUXILIARY FUSE BOX, P900	0670.2-03
AUXILIARY FUSE BOX, P901	0670.2-07
AUXILIARY FUSE BOX, P95	0670.2-06
AUXILIARY FUSE BOX, P97	0670.2-06
AUXILIARY THROTTLE POSITION MOTOR (ADS), M93	3450.1-02
AUXILIARY THROTTLE POSITION SENSOR, R31	3450.1-02
AUXILIARY TURN LIGHT, LEFT FRONT, H9	6313.0-02

AUXILIARY TURN LIGHT, RIGHT FRONT, H8	6313.0-02
B+ JUMP START JUNCTION POINT, G6430	0670.2-00
B+ JUMP START JUNCTION POINT, G6430	0670.2-05
B+ JUNCTION POINT E-BOX, G6400	0670.2-01
B+ JUNCTION POINT, G7512	0670.2-00
BACK UP LIGHT, LEFT, H27	6322.0-00
BACK UP LIGHT, RIGHT, H28	6322.0-00
BACK UP LIGHTS	6322.0-00
BATTERY SAFETY TERMINAL, G19	0670.2-00
BATTERY SAFETY TERMINAL, G19	0670.2-05
BATTERY SAFETY TERMINAL, G19	3234.0-00
BATTERY, G1	0670.2-00
BATTERY, G1	0670.2-05
BLOWER MOTOR, M30	6450.6-00
BLOWER MOTOR, M30	6450.6-04
BLOWER RELAY, K4	6450.6-00
BLOWER RELAY, K4	6450.6-04
BLOWER RESISTORS, R11	6450.6-00
BLOWER RESISTORS, R11	6450.6-04
BLOWER SWITCH, S75	6450.6-00
BLOWER SWITCH, S75	6450.6-04
BOARD COMPUTER (BC - LOW)	6581.3-00
BOARD COMPUTER (BC - LOW), A35y	6581.3-00
BODY ELECTRONICS CONTROL MODULE (ZKE IV), A104	6100.0
BRAKE FLUID LEVEL RELAY, K10485	3452.1-01
BRAKE FLUID LEVEL SWITCH, B18	6211.0-03
BRAKE LIGHT SWITCH, S30	6325.0
BRAKE LIGHT, LEFT, H24	6325.0
BRAKE LIGHT, RIGHT, H31	6325.0
BRAKE LIGHTS	6325.0
BRAKE PAD SENSOR, LEFT FRONT, B16	6211.0-01
BRAKE PAD SENSOR, RIGHT REAR, B17	6211.0-01
CAMSHAFT POSITION SENSOR (CYLINDER IDENTIFICATION), B6204	1210.17-06
CAMSHAFT POSITION SENSOR 1 (INLET), B6214	1210.25-05



INDEX

Z3

CAMSHAFT POSITION SENSOR 2 (OUTLET), B6224	1210.25-05
CD CHANGER, N22	6510.1
CELLULAR TELEPHONE (PROVISIONS)	6561.0-00
CENTRAL BODY ELECTRONICS (ZKE IV)	6100.0
CENTRAL LOCKING LUGGAGE COMPARTMENT LID	
MOTOR RELAY (ZV), K70	5126.0-05
CHARCOAL FILTER SHUT-OFF VALVE, B6247	1210.17-09
CHARGING SYSTEM	1230.0
CHIME MODULE, H10	6211.0-00
CIGAR LIGHTER CONNECTION, E28a	3614.0-00
CIGAR LIGHTER LIGHT, FRONT, E29	6300.0-01
CIGAR LIGHTER LIGHT, FRONT, E29	6332.0-00
CIGAR LIGHTER, FRONT, E28	6332.0-00
CLUTCH SWITCH, S32	6571.0-01
CLUTCH SWITCH, S32	6571.0-03
COMBINATION SWITCH, S7	6313.0-00
COMPONENT LOCATION CHART	7000.0
COMPONENT LOCATION VIEWS	7100.0
COMPRESSOR CONTROL RELAY, K19	6450.6-02
COMPRESSOR CONTROL RELAY, K19	6450.6-06
COMPRESSOR MAIN SWITCH, S232	3614.0-00
COMPRESSOR RELAY, K6394	3614.0-00
CONNECTOR VIEWS	8500.0
CONTACT RING, C100	6133.0-00
CONTACT RING, C101	3234.0-00
CONVERTIBLE TOP ACTUATING SWITCH, S143	5430.2-01
CONVERTIBLE TOP END-POSITION MICRO SWITCH, S164	5430.2-01
CONVERTIBLE TOP MOTOR, M101	5430.2-00
CONVERTIBLE TOP RELAY I (CLOSE), K18363	5430.2-00
CONVERTIBLE TOP RELAY II (OPEN), K18364	5430.2-00
CRANKSHAFT POSITION/RPM SENSOR, B6203	1210.17-06
CRANKSHAFT POSITION/RPM SENSOR, B6203	1210.25-05
CRASH CONTROL MODULE	6350.0
CRASH CONTROL MODULE, N17	6350.0-01
CRUISE CONTROL (TEMPOMAT)	6571.0

CRUISE CONTROL ACTUATOR (TEMPOMAT), M25	6571.0-01
CRUISE CONTROL INTERFACE, A9008	6571.0-02
CRUISE CONTROL MODULE (TEMPOMAT), A8	6571.0
CRUISE CONTROL SWITCH, S28	6571.0-00
CRUISE CONTROL SWITCH, S28	6571.0-02
DATA LINK	0670.5
DATA LINK CONNECTOR, D100	0670.5
DAY LIGHT RELAY MODULE, K46z	6312.0-01
DEFOGGER I, REAR, E9	6424.0
DIGITAL CLOCK	6213.3-00
DIGITAL CLOCK, A110	6213.3-00
DOME LIGHT/MAP READING ASSEMBLY, FRONT, E34	6330.3-00
DOOR JAMB SWITCH, DRIVER'S, S14	5126.0-01
DOOR JAMB SWITCH, PASSENGER'S, S13	5126.0-01
DOOR LOCK MOTOR, DRIVER'S, M12	5126.0-02
DOOR LOCK MOTOR, DRIVER'S, M12	5126.0-04
DOOR LOCK MOTOR, PASSENGER'S, M13	5126.0-02
DOOR LOCK MOTOR, PASSENGER'S, M13	5126.0-04
DOOR LOCK SWITCH, DRIVER'S, S47	5126.0-00
DOOR LOCK SWITCH, PASSENGER'S, S49	5126.0-00
DRIVE-AWAY PROTECTION (EWS III)	6135.1
DSC SWITCH, S6y	3452.1-02
DUAL TEMPERATURE SENSOR (COOLANT TEMPERATURE), B6256	1210.17-02
DYNAMIC STABILITY CONTROL (DSC III)	3452.1
DYNAMIC STABILITY CONTROL UNIT (DSC), A65	3452.1
E-BOX FAN	1290.0-00
E-BOX FAN, M6506	1290.0-00
ELECTRICAL COMPRESSOR, M805	3614.0-00
ELECTRO-HYDRAULIC CONVERTIBLE TOP	5430.2
ELECTROCHROMIC REAR VIEW MIRROR, A22z	5116.0-02
ELECTRONIC IMMOBILIZER CONTROL MODULE (EWS III), A837	6135.1
ELECTRONIC TRANSMISSION CONTROL (EGS A4S 270R)	2460.2
ENGINE CONTROL MODULE (DME), A6000	1210.17



INDEX

Z3

ENGINE CONTROL MODULE (DME), A6000	1210.25	FUEL INJECTION VALVE, CYL. 6, Y6106	1210.25-02
ENGINE CONTROL MODULE RELAY, K6300	1210.17-00	FUEL PUMP RELAY, K6301w	1210.17-04
ENGINE CONTROL MODULE RELAY, K6300	1210.25-00	FUEL PUMP, M2	1210.17-04
ENGINE CONTROL RELAY (ABS/ASC), K94	3450.1-00	FUEL SENSOR, B6y	6211.0-02
ENGINE CONTROL SYSTEM MS41.1 (6-CYLINDER S52)	1210.17	FUEL TANK PRESSURE SENSOR, B65	1210.17-09
ENGINE CONTROL SYSTEM MS42.1 (6-CYLINDER M52)	1210.25	FUSE CHART	0670.1
ENGINE COOLANT TEMPERATURE SENSOR, B6232	1210.17-02	FUSE DETAILS	0670.3
ENGINE COOLANT TEMPERATURE SENSOR, B6232	6211.0-04	FUSE HOLDER IN E-BOX, P98	0670.2-01
ENGINE COOLANT TEMPERATURE SENSOR, B6236	1210.17-02	FUSE HOLDER, P99	0670.2-00
ENGINE COOLANT TEMPERATURE SENSOR, B6236	1210.25-07	GAS FILLER LOCK MOTOR, M16	5126.0-02
ENGINE HOOD SWITCH, S21w	6575.2-00	GAS FILLER LOCK MOTOR, M16	5126.0-04
EVAPORATIVE EMISSION VALVE, Y6120	1210.17-05	GEAR SHIFT LEVER INDICATOR, E96	6300.0-01
EVAPORATIVE EMISSION VALVE, Y6120	1210.25-03	GENERATOR, G6509	1230.0
EVAPORATOR CONTROLLER, S221	6450.6-01	GROUND DISTRIBUTION	0670.4
EVAPORATOR CONTROLLER, S221	6450.6-05	HARD TOP CONNECTOR 1, E99	6424.0-01
EVAPORATOR TEMPERATURE SENSOR, B14	6450.6-01	HAZARD FLASHER RELAY, K16	6313.0-00
EVAPORATOR TEMPERATURE SENSOR, B14	6450.6-05	HAZARD SWITCH, S18	6313.0-01
EWS TOROIDAL COIL, L1	6135.1	HEADLIGHT WASHER (SRA)	6167.1-00
FOG LIGHT RELAY, FRONT, K47	6312.0-00	HEADLIGHT, LEFT, E7	6312.0-01
FOG LIGHT SWITCH, S10	6312.0-00	HEADLIGHT, RIGHT, E8	6312.0-01
FOG LIGHT, LEFT, E26	6312.0-00	HEADLIGHT/FOG LIGHT WASHER PUMP, M7	6160.1-00
FOG LIGHT, RIGHT, E27	6312.0-00	HEADLIGHT/FOG LIGHT WASHER PUMP, M7	6167.1-00
FRESH AIR RECIRCULATION MOTOR, M111	6450.6-01	HEADLIGHTS/FOG LIGHTS	6312.0
FRESH AIR RECIRCULATION MOTOR, M111	6450.6-05	HEAT/A/C CONTROL PANEL ILLUMINATION, E105	6300.0-02
FUEL INJECTION VALVE, CYL. 1, Y6101	1210.17-01	HEAT/A/C CONTROL PANEL ILLUMINATION, E105	6300.0-03
FUEL INJECTION VALVE, CYL. 1, Y6101	1210.25-02	HEAT/A/C CONTROL PANEL ILLUMINATION, E106	6300.0-02
FUEL INJECTION VALVE, CYL. 2, Y6102	1210.17-01	HEAT/A/C CONTROL PANEL ILLUMINATION, E106	6300.0-03
FUEL INJECTION VALVE, CYL. 2, Y6102	1210.25-02	HEATED SEATS	5203.0
FUEL INJECTION VALVE, CYL. 3, Y6103	1210.17-01	HIFI AMPLIFIER, A18	6510.1
FUEL INJECTION VALVE, CYL. 3, Y6103	1210.25-02	HIGH BEAM LIGHT RELAY, K46	6312.0-01
FUEL INJECTION VALVE, CYL. 4, Y6104	1210.17-01	HIGH BEAM LIGHT, LEFT, E11	6312.0-01
FUEL INJECTION VALVE, CYL. 4, Y6104	1210.25-02	HIGH BEAM LIGHT, RIGHT, E12	6312.0-01
FUEL INJECTION VALVE, CYL. 5, Y6105	1210.17-01	HIGH LEVEL STOP LIGHT, H34	6325.0
FUEL INJECTION VALVE, CYL. 5, Y6105	1210.25-02	HIGH RANGE SPEAKER, LEFT FRONT, H59	6510.1
FUEL INJECTION VALVE, CYL. 6, Y6106	1210.17-01	HIGH RANGE SPEAKER, LEFT FRONT, H59	6510.1-03



INDEX

Z3

HIGH RANGE SPEAKER, LEFT REAR, H56	6510.1-03
HIGH RANGE SPEAKER, RIGHT FRONT, H50	6510.1
HIGH RANGE SPEAKER, RIGHT REAR, H53	6510.1-03
HIGH SPEED RELAY, K22	6450.6-03
HIGH SPEED RELAY, K22	6450.6-07
HORN	6133.0-00
HORN RELAY, K2	6133.0-00
HORN SWITCH, S4	6133.0-00
HORN, LEFT, H2	6133.0-00
HORN, RIGHT, H3	6133.0-00
HOT FILM AIR MASS METER, B6207	1210.17-05
HOT FILM AIR MASS METER, B6207	1210.25-05
IDLE SPEED CONTROL VALVE, Y6130	1210.17-01
IDLE SPEED CONTROL VALVE, Y6130	1210.25-03
IGNITION COIL, CYL. 1, T6151	1210.17-03
IGNITION COIL, CYL. 1, T6151	1210.25-01
IGNITION COIL, CYL. 2, T6152	1210.17-03
IGNITION COIL, CYL. 2, T6152	1210.25-01
IGNITION COIL, CYL. 3, T6153	1210.17-03
IGNITION COIL, CYL. 3, T6153	1210.25-01
IGNITION COIL, CYL. 4, T6154	1210.17-03
IGNITION COIL, CYL. 4, T6154	1210.25-01
IGNITION COIL, CYL. 5, T6155	1210.17-03
IGNITION COIL, CYL. 5, T6155	1210.25-01
IGNITION COIL, CYL. 6, T6156	1210.17-03
IGNITION COIL, CYL. 6, T6156	1210.25-01
IGNITION SWITCH, S2	0670.2-04
IGNITION SWITCH, S2	0670.2-08
INDEX	0100.0
INDEX	0100.0
INSTRUMENT CLUSTER	6211.0
INSTRUMENT CLUSTER, A2w	6211.0
INTAKE AIR TEMPERATURE SENSOR, B6205	1210.17-02
INTAKE AIR TEMPERATURE SENSOR, B6205	1210.25-07
INTEGRATED HEATING- AND CLIMATE CONTROL	6450.6

INTERIOR ACCESSORIES	6332.0-00
INTERIOR LIGHT SWITCH, S408	6330.3-00
INTERIOR LIGHT, LEFT FRONT, E800	6330.3-00
INTERIOR LIGHTS	6330.3-00
INTERMEDIATE PRESSURE SWITCH, B9	6450.6-03
INTERMEDIATE PRESSURE SWITCH, B9	6450.6-07
INTRODUCTION	0110.0
JET HEATER THERMOSWITCH, S198	6169.0-00
KICK-DOWN SWITCH, S8507	2460.2-02
KNOCK SENSOR, B6240	1210.17-06
KNOCK SENSOR, B6240	1210.25-09
LEAKAGE DIAGNOSIS PUMP, Y6139	1210.25-04
LICENSE PLATE LIGHT, LEFT, E43	6320.0-01
LICENSE PLATE LIGHT, LEFT, E43	6320.0-02
LICENSE PLATE LIGHT, RIGHT, E44	6320.0-01
LICENSE PLATE LIGHT, RIGHT, E44	6320.0-02
LICENSE PLATE/LUGGAGE COMPARTMENT LIGHTS	6320.0-00
LIGHT ASSEMBLY, LEFT REAR, E16	0670.4-12
LIGHT ASSEMBLY, RIGHT REAR, E17	0670.4-12
LIGHT SWITCH DETAILS	6300.0
LIGHT SWITCH, S8	6300.0-00
LOW BEAM LIGHT RELAY, K48	6312.0-01
LOW BEAM LIGHT, LEFT, E13	6312.0-01
LOW BEAM LIGHT, RIGHT, E14	6312.0-01
LOW RANGE SPEAKER, LEFT FRONT, H58	6510.1
LOW RANGE SPEAKER, LEFT REAR, H57	6510.1
LOW RANGE SPEAKER, RIGHT FRONT, H51	6510.1
LOW RANGE SPEAKER, RIGHT REAR, H52	6510.1
LUGGAGE COMPARTMENT LID LOCKING SWITCH, S117	5126.0-05
LUGGAGE COMPARTMENT LIGHT SWITCH, S826	6320.0-03
LUGGAGE COMPARTMENT LIGHT, E32	6320.0-03
LUGGAGE COMPARTMENT LOCK MOTOR, M17	5126.0-03
LUGGAGE COMPARTMENT LOCK MOTOR, M17	5126.0-05
MARKER LIGHT, LEFT FRONT, E21	6314.0-01
MARKER LIGHT, RIGHT FRONT, E22	6314.0-01



MID-HIGH RANGE SPEAKER, LEFT REAR, H55z 6510.1
MID-HIGH RANGE SPEAKER, LEFT REAR, H70 6510.1-08
MID-HIGH RANGE SPEAKER, RIGHT REAR, H71 6510.1-08
MIDRANGE SPEAKER, LEFT FRONT, H55 6510.1
MIDRANGE SPEAKER, LEFT FRONT, H55 6510.1-03
MIDRANGE SPEAKER, RIGHT FRONT, H54 6510.1
MIRROR CONTROL SWITCH, S17 5116.0-00
MIRROR, DRIVER'S SIDE, Y5 5116.0-01
MIRROR, PASSENGER'S SIDE, Y6 5116.0-01
NORMAL SPEED RELAY, K21 6450.6-03
NORMAL SPEED RELAY, K21 6450.6-07
OBD II CONNECTOR, D110 0670.5-03
OBD II CONNECTOR, D110 0670.5-06
OIL PRESSURE SWITCH, B6231 1210.25-08
OIL PRESSURE SWITCH, B6231 6211.0-04
OIL PRESSURE SWITCH, B6231 6211.0-09
OIL TEMPERATURE GAUGE, B59 6211.0-06
OIL TEMPERATURE SENSOR, B6238 1210.25-07
OIL TEMPERATURE SENSOR, B6238 6211.0-06
ON-BOARD COMPUTER TEMPERATURE SENSOR,
B21 6581.3-00
OXYGEN SENSOR I
(BEHIND CATALYTIC CONVERTER), B62102 1210.17-04
OXYGEN SENSOR I
(BEHIND CATALYTIC CONVERTER), B62102 1210.25-06
OXYGEN SENSOR I
(IN FRONT OF CATALYTIC CONVERTER), B62101 1210.17-04
OXYGEN SENSOR I
(IN FRONT OF CATALYTIC CONVERTER), B62101 1210.25-06
OXYGEN SENSOR II
(BEHIND CATALYTIC CONVERTER), B62202 1210.17-04
OXYGEN SENSOR II
(BEHIND CATALYTIC CONVERTER), B62202 1210.25-06
OXYGEN SENSOR II
(IN FRONT OF CATALYTIC CONVERTER), B62201 1210.17-04

OXYGEN SENSOR II
(IN FRONT OF CATALYTIC CONVERTER), B62201 1210.25-06
PARK BRAKE SWITCH, S31 6211.0-05
PARK BRAKE SWITCH, S31 6211.0-07
PARK LIGHT RELAY, LEFT, K26 6314.0-02
PARK LIGHT, LEFT, E15 6314.0-01
PARK LIGHT, RIGHT, E19 6314.0-01
PARK LIGHT/LICENSE PLATE LIGHT RELAY, RIGHT, K25 6314.0-02
PARK/TAIL/UNDERHOOD LIGHTS 6314.0
PASSENGER'S WINDOW MOTOR, M23 5133.0-02
POWER DISTRIBUTION 0670.2
POWER DISTRIBUTION BOX, FRONT, P90 0670.2
POWER DISTRIBUTION CHART 0670.0
POWER MIRRORS 5116.0
POWER SEATS 5200.0
POWER TILT SUNROOF 5410.5-00
POWER WINDOW SWITCH, DRIVER'S, S126y 5133.0-01
POWER WINDOW SWITCH, PASSENGER'S, S127y 5133.0-01
PRECHARGE PUMP, M118 3452.1-00
PRESSURE SENSOR, B76 3452.1-04
PRESSURE SWITCH, B8y 6450.6-03
PRESSURE SWITCH, B8y 6450.6-07
PRESSURE SWITCH, B9508 6450.6-03
PRESSURE SWITCH, B9508 6450.6-07
PRESSURE TRANSMITTER, Y16z 3452.1-00
PROGRAM SWITCH, S8503 2460.2-03
PYROTECHNICAL BELT TENSIONER, DRIVER'S SIDE, G12 ... 3234.0-01
PYROTECHNICAL BELT TENSIONER, PASSENGER'S SIDE,
G13 3234.0-01
RADIO ANTI-THEFT SWITCH, S20w 6575.2-00
RADIO, N9 6510.1
RADIO/HIFI 6510.1
RESISTOR, R8554 1210.17-03
RESISTOR, R8554 1210.25-01
REVERSING LIGHT SWITCH, S8511 6322.0-00



RIGHT MID-HIGH RANGE SPEAKER, REAR, H54z 6510.1
RPM RATE SENSOR, B75 3452.1-04
SEAT BELT SWITCH, DRIVER'S, S58 3234.0-02
SEAT BELT SWITCH, PASSENGER'S, S59 3234.0-02
SEAT CONTROL SWITCH, DRIVER'S SEAT, S51 5200.0-00
SEAT CONTROL SWITCH, DRIVER'S SEAT, S51 5200.0-02
SEAT CONTROL SWITCH, PASSENGER'S SEAT, S56 5200.0-01
SEAT CONTROL SWITCH, PASSENGER'S SEAT, S56 5200.0-03
SEAT HEATER SWITCH, DRIVER'S SEAT, S53 5203.0
SEAT HEATER SWITCH, PASSENGER'S SEAT, S54 5203.0
SEAT HEATER, DRIVER'S, E57 5203.0
SEAT HEATER, PASSENGER'S, E58 5203.0
SEAT HEIGHT MOTOR, DRIVER'S, M52 5200.0-00
SEAT HEIGHT MOTOR, DRIVER'S, M52 5200.0-02
SEAT HEIGHT MOTOR, PASSENGER'S, M59 5200.0-01
SEAT HEIGHT MOTOR, PASSENGER'S, M59 5200.0-03
SEAT LENGTH ADJUST CUT-OFF RELAY, PASSENGER'S,
K911 5200.0-03
SEAT LENGTH ADJUST CUT-OFF RELAY, DRIVER'S, K921 ... 5200.0-02
SEAT LIMIT SWITCH, DRIVER'S, S910 5200.0-02
SEAT LIMIT SWITCH, PASSENGER'S, S911 5200.0-03
SEAT MAT, I1008 3234.0-03
SEAT MOVEMENT MOTOR, DRIVER'S, M51 5200.0-00
SEAT MOVEMENT MOTOR, DRIVER'S, M51 5200.0-02
SEAT MOVEMENT MOTOR, PASSENGER'S, M60 5200.0-01
SEAT MOVEMENT MOTOR, PASSENGER'S, M60 5200.0-03
SEAT OCCUPANCY DETECTOR, A113 3234.0-03
SEAT TILT ADJUST CUT-OFF RELAY, DRIVER'S, K920 5200.0-02
SEAT TILT ADJUST CUT-OFF RELAY, PASSENGER'S, K910 ... 5200.0-03
SEATBACK HEATER, DRIVER'S, E56 5203.0
SEATBACK HEATER, PASSENGER'S, E59 5203.0
SECONDARY AIR PUMP RELAY, K6304 1210.17-05
SECONDARY AIR PUMP RELAY, Y6304 1210.25-04
SECONDARY AIR PUMP VALVE, Y6163 1210.17-05
SECONDARY AIR PUMP VALVE, Y6163 1210.25-03

SHIFT-LOCK, Y19 2460.2-02
SIDE IMPACT SENSOR, DRIVER'S, B78 3234.0-01
SIDE IMPACT SENSOR, PASSENGER'S, B79 3234.0-01
SLIP CONTROL (ABS/ASC) 3450.1
SLIP CONTROL MODULE (ABS/ASC), A52 3450.1
SOLENOID VALVE ("RUNNING LOSSES"), Y6550 1210.17-05
SOLENOID VALVE ("RUNNING LOSSES"), Y6550 1210.25-04
SPEAKER, LEFT REAR, H46 6510.1-03
SPEAKER, RIGHT REAR, H45 6510.1-03
SPEED SENSOR - ABS, LEFT FRONT, B2 3450.1-04
SPEED SENSOR - ABS, LEFT FRONT, B2 3450.1-07
SPEED SENSOR - ABS, LEFT FRONT, B2 3452.1-05
SPEED SENSOR - ABS, LEFT REAR, B4 3450.1-04
SPEED SENSOR - ABS, LEFT REAR, B4 3450.1-07
SPEED SENSOR - ABS, LEFT REAR, B4 3452.1-05
SPEED SENSOR - ABS, RIGHT FRONT, B1 3450.1-04
SPEED SENSOR - ABS, RIGHT FRONT, B1 3450.1-07
SPEED SENSOR - ABS, RIGHT FRONT, B1 3452.1-05
SPEED SENSOR - ABS, RIGHT REAR, B3 3450.1-04
SPEED SENSOR - ABS, RIGHT REAR, B3 3450.1-07
SPEED SENSOR - ABS, RIGHT REAR, B3 3452.1-05
SPLICE LOCATION VIEWS 8000.0
START 1240.0
STARTER IMMOBILIZATION SWITCH, S235 1240.0
STARTER, M6510 1240.0
STEERING ANGLE SENSOR, R33 3452.1-02
SUBWOOFER AMPLIFIER MODULE, N44 6510.1-09
SUBWOOFER, H66 6510.1-09
SUPPLEMENTAL RESTRAINT SYSTEM (AIR BAG) 3234.0
SUPPLEMENTAL RESTRAINT SYSTEM CONTROL MODULE,
A12 3234.0
SYMBOLS 0140.0
TAIL LIGHT, LEFT, H25 6314.0-01
TAIL LIGHT, LEFT, H37 6314.0-01
TAIL LIGHT, RIGHT, H30 6314.0-01



INDEX

Z3

TAIL LIGHT, RIGHT, H39	6314.0-01
TEMPERATURE SWITCH, S36	6450.6-03
TEMPERATURE SWITCH, S36	6450.6-07
TEMPERATURE WHEEL SWITCH, S531	6450.6-01
TEMPERATURE WHEEL SWITCH, S531	6450.6-05
THERMAL OIL LEVEL SENSOR (TOENS) CONTROL MODULE, A19007	6211.0-08
THERMAL OIL LEVEL SWITCH, B6254	6211.0-09
THERMOSTAT, CHARACTERISTIC MAP COOLING, B6279 ..	1210.25-05
THROTTLE POSITION SENSOR, R6252	1210.17-05
THROTTLE POSITION SENSOR/ CRUISE CONTROL ACTUATOR, R6385	1210.25-07
THROTTLE POSITION SENSOR/ CRUISE CONTROL ACTUATOR, R6385	6571.0-03
TILT SUNROOF MOTOR, M24y	5410.5-00
TILT SUNROOF SWITCH, S38y	5410.5-00
TIRE INFLATION SYSTEM	3614.0-00
TRANSMISSION CONTROL MODULE (EGS), A8500	2460.2
TRANSMISSION POSITION INDICATOR LIGHT, E82	6300.0-02
TRANSMISSION VALVE UNIT, Y8521	2460.2-01
TRANSVERSE ACCELERATION SENSOR, B74	3452.1-04
TURN LIGHT, RIGHT REAR, H5	6313.0-03
TURN LIGHT, LEFT FRONT, H7	6313.0-02
TURN LIGHT, LEFT REAR, H6	6313.0-03
TURN LIGHT, RIGHT FRONT, H4	6313.0-02
TURN/HAZARD LIGHTS	6313.0
UNCOUPLING DIODE (LIGHTS), V10	6314.0-02
UNCOUPLING DIODE (LIGHTS), V9	6314.0-02
UNLOADER RELAY, TERMINAL 15, K6326	1210.17-02
UNLOADER RELAY, TERMINAL 15, K6326	1210.25-01
UNLOADER RELAY, TERMINAL 15, K9	6424.0
VALVE RELAY (ABS/ASC), K95	3450.1-00
VALVE, INDIVIDUAL CONTROL INTAKE SYSTEM, Y6167	1210.25-03
VARIABLE CAMSHAFT CONTROL VALVE 1 (INLET), Y6275z .	1210.25-03
VARIABLE CAMSHAFT CONTROL VALVE 1, Y6275	1210.17-01

VARIABLE CAMSHAFT CONTROL VALVE 2 (OUTLET), Y6276	1210.25-03
VEHICLE SPEED SENSOR, B10	6211.0-02
VOLTMETER, B211	6211.0-06
WASHER JET HEATER, LEFT, E51	6169.0-00
WASHER JET HEATER, RIGHT, E52	6169.0-00
WASHER PUMP, M4	6160.1-01
WASHER PUMP, M4	6160.1-02
WATER VALVE, Y4z	6450.6-01
WATER VALVE, Y4z	6450.6-05
WINDOW DEFOGGER SWITCH, REAR, S76	6424.0
WINDOW DEFOGGER, REAR	6424.0
WINDOW MOTOR, DRIVER'S, M21	5133.0-02
WINDSHIELD WASHER JET HEATERS	6169.0-00
WIPER MOTOR, M3	6160.1-00
WIPER/WASHER INTERVAL CONTROL MODULE, REAR, A36 .	6160.1-02
WIPER/WASHER MODULE (WWM)	6160.1
WIPER/WASHER MODULE, A51	6160.1
WIPER/WASHER MODULE, A51	6167.1-00
WIPER/WASHER SWITCH, S5	6160.1-01
WIPER/WASHER SWITCH, S5	6160.1-02
WOOFER, REAR, H500	6510.1
ZKE CENTRAL LOCKING (ZV)	5126.0
ZKE POWER WINDOWS (FH)	5133.0

Schematics

The schematics divide the entire vehicle electrical system into individual circuits. Interacting electrical components are shown on one common schematic.

Switches and other components are represented in such a way that their general layout and function are self-explicit. They are arranged on the sheet such that the current path can be followed from positive (top) to negative (bottom).

Important: The components and wires are not drawn to scale. For instance, a lead with a length of over 1m can be shown as a lead that is only a few cm long. To ensure clear arrangement, all connectors, lines branches and connected components from the fuses to the component and from the component to ground connection are not shown within the individual cells. If required, reference can be made to cells **0670.3 Fuse Details** and **0670.4 Ground Distribution** where all lines are illustrated with all plug connections, line branches and connected components.

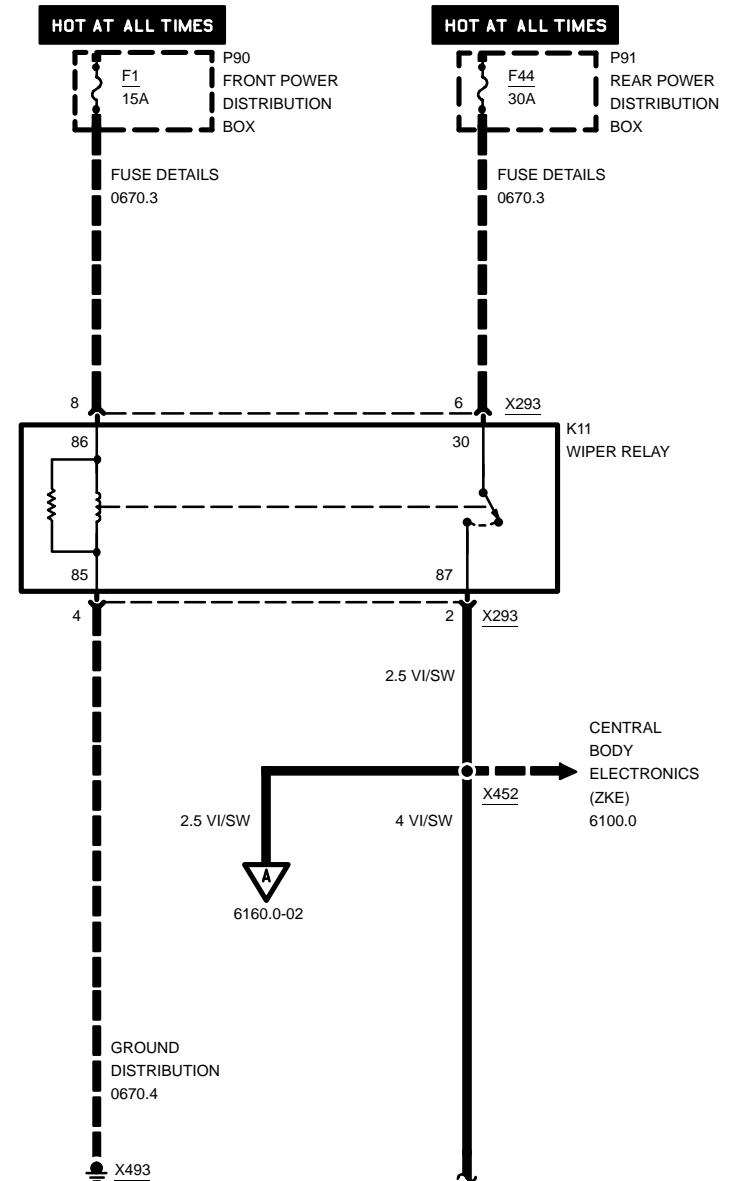
All circuit symbols used are listed and explained in cell **0140.0 Symbols**.

In cell **7000.0 Component Location Chart** all important connectors, ground points and components are listed in tabular form. It provides a precise description of the component locations in the vehicle.

In cell **7100.0 Component Location Views** the location of connectors and components which are difficult to locate are shown in line arts or illustrations. In cell **8000.0 Splice Location Views** all splices are listed in numerical order and illustrations are provided to assist in locating splices on larger harnesses. In cell **8500.0 Connector Views** diagrams of connectors with more than 2 pins are illustrated.

Example

General conventions can be explained based on the following schematic example.





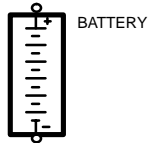
General Conventions

1. Switches and relays are always shown in rest position (e.g. K11).
2. A component shown in a dashed frame signifies that the component is illustrated only in part (e.g. P90 and P91).
3. A component shown in a completely drawn frame signifies that the component is illustrated in full (e.g. K11).
4. The dashed line between pin 8 and pin 6 of connector X293 indicates that both pins belong to connector X293.
5. The dashed line from fuse F1 to pin 8 of connector X293 shows the positive supply of relay K11. If required, refer to cell **0670.3 Fuse Details** at fuse F1 for the complete line progressing with plug connections, line branches, wire colors and cross sections.
6. The dashed line with an arrow at splice X452 indicates that several wires lead to splice X452. All lines leading to the connection are illustrated in cell **6100.0 Central Body Electronics (ZKE)**. An interrupted line with an arrow indicates that only this one wire leads to another circuit.
7. The dashed line from pin 4 of connector X293 to ground X493 shows the ground supply for relay K11. If required, refer to cell **0670.4 Ground Distribution** at ground X493 for the complete line progression with all plug connections, line branches, wire colors, and cross sections.
8. The interrupted line from splice X452 with an **A** in the open arrow is continued on page 6160.0–02. Termination of wire 4 VI/SW from splice X452 with a wavy line indicates that the wire is continued on the opposite page.

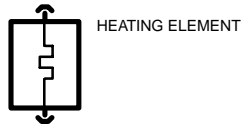


0140.0 SYMBOLS

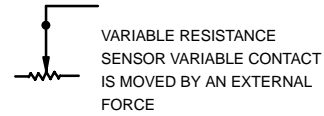
Z3



BATTERY



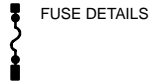
HEATING ELEMENT



VARIABLE RESISTANCE SENSOR VARIABLE CONTACT IS MOVED BY AN EXTERNAL FORCE



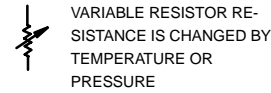
ANTENNA



FUSE DETAILS



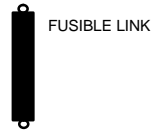
LOUDSPEAKER OR HORN



VARIABLE RESISTOR RESISTANCE IS CHANGED BY TEMPERATURE OR PRESSURE



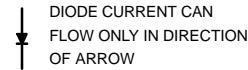
CONTROL/POWER ELECTRONICS



FUSIBLE LINK



LIGHT



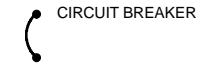
DIODE CURRENT CAN FLOW ONLY IN DIRECTION OF ARROW



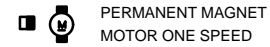
HALL EFFECT SENSOR



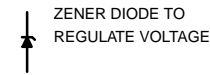
RADIO



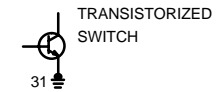
CIRCUIT BREAKER



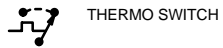
PERMANENT MAGNET MOTOR ONE SPEED



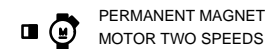
ZENER DIODE TO REGULATE VOLTAGE



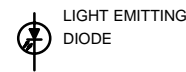
TRANSISTORIZED SWITCH



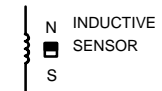
THERMO SWITCH



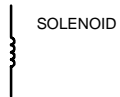
PERMANENT MAGNET MOTOR TWO SPEEDS



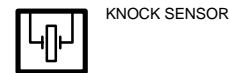
LIGHT EMITTING DIODE



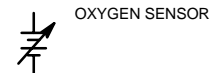
INDUCTIVE SENSOR



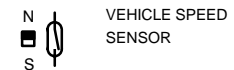
SOLENOID



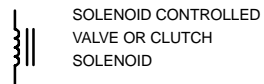
KNOCK SENSOR



OXYGEN SENSOR



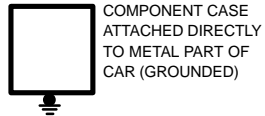
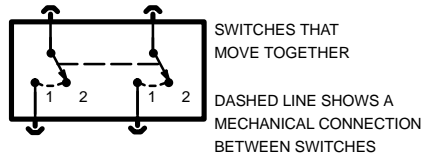
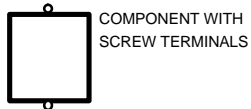
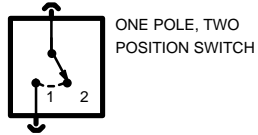
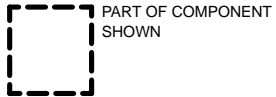
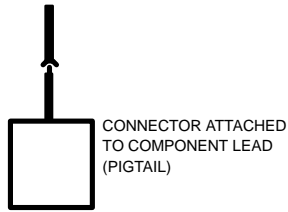
VEHICLE SPEED SENSOR



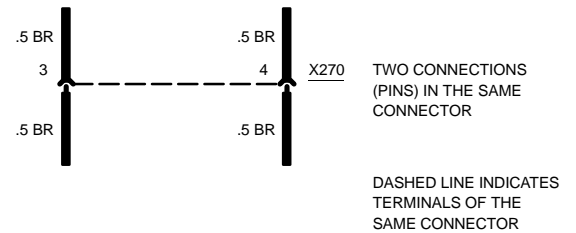
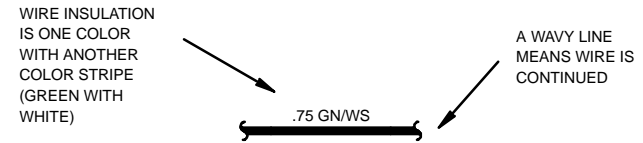
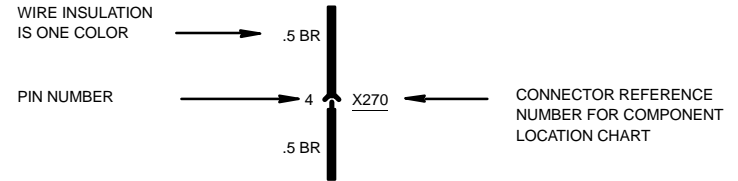
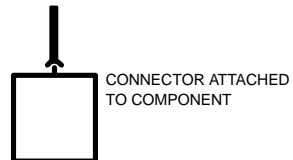
SOLENOID CONTROLLED VALVE OR CLUTCH SOLENOID

SYMBOLS

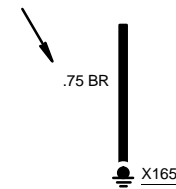
Z3

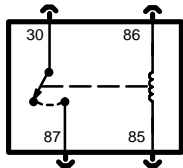


WIRE COLOR	
BL	BLUE
BR	BROWN
GE	YELLOW
GN	GREEN
GR	GRAY
OR	ORANGE
RS	PINK
RT	RED
SW	BLACK
VI	VIOLET
WS	WHITE
TR	TRANSPARENT

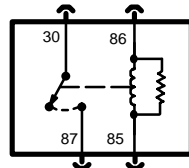


WIRE SIZE IN MM SQUARED

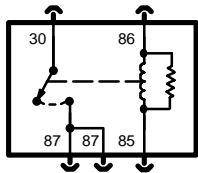




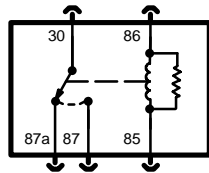
CONTACT RELAY



RELAY WITH RESISTOR ACROSS WINDING



CONTACT RELAY WITH TWO OUTPUTS



CHANGEOVER RELAY WITH TWO OUTPUTS

TERMINAL NUMBER DESCRIPTION

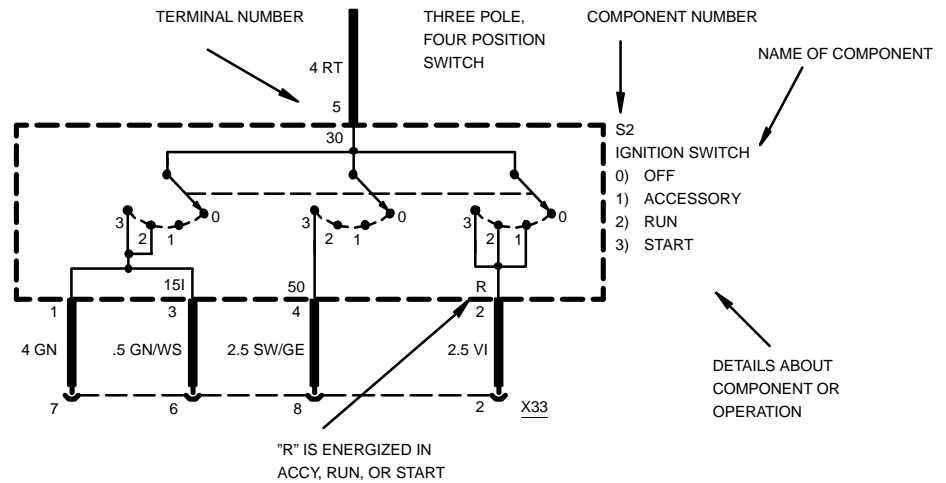
30 RELAY INPUT

85 RELAY OUTPUT (WINDING)

86 RELAY INPUT (WINDING)

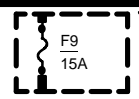
87 RELAY OUTPUT (ENERGIZED)

87a RELAY OUTPUT (AT REST)



TERMINAL NUMBER	DESCRIPTION	TERMINAL NUMBER	DESCRIPTION
50	VOLTAGE: IGNITION SWITCH IN START	15I	VOLTAGE: IGNITION SWITCH IN RUN
30	VOLTAGE: SUPPLIED AT ALL TIMES	R	VOLTAGE: IGNITION SWITCH IN ACCESSORY, RUN OR START
15	VOLTAGE: IGNITION SWITCH IN RUN OR START	31	GROUND

HOT AT ALL TIMES



INDICATES THAT FUSE 9 IS SUPPLIED WITH POWER AT ALL TIMES

POWER STATUS

HOT AT ALL TIMES

HOT IN RUN AND START

HOT IN ACCY, RUN AND START

DESCRIPTION

VOLTAGE: SUPPLIED AT ALL TIMES

VOLTAGE: IGNITION SWITCH IN RUN OR START

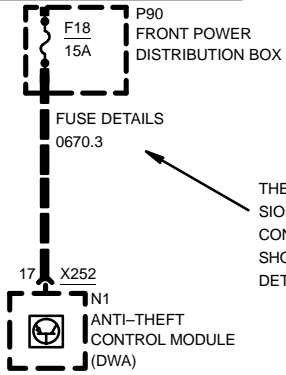
VOLTAGE: IGNITION SWITCH IN ACCESSORY, RUN OR START



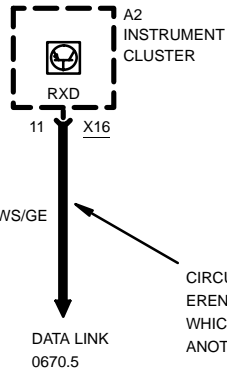
SYMBOLS

Z3

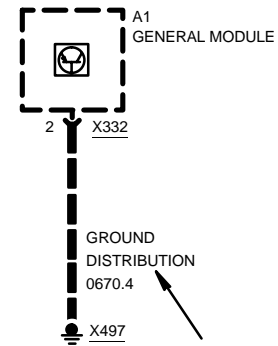
HOT IN ACCY, RUN AND START



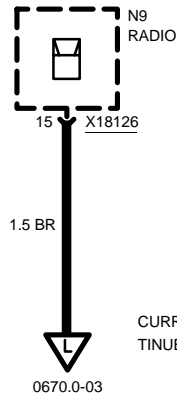
THE COMPLETE WIRE PROGRESSION AND FURTHER CIRCUITS CONNECTED TO FUSE 18 ARE SHOWN IN CELL "0670.3 FUSE DETAILS" AT FUSE 18



CIRCUIT REFERENCE-A WIRE WHICH CONNECTS TO ANOTHER CIRCUIT



THE COMPLETE WIRE PROGRESSION AND FURTHER CIRCUITS CONNECTED TO GROUND X497 ARE SHOWN IN CELL "0670.4 GROUND DISTRIBUTION" AT GROUND X497



CURRENT PATH IS CONTINUED AS LABELED

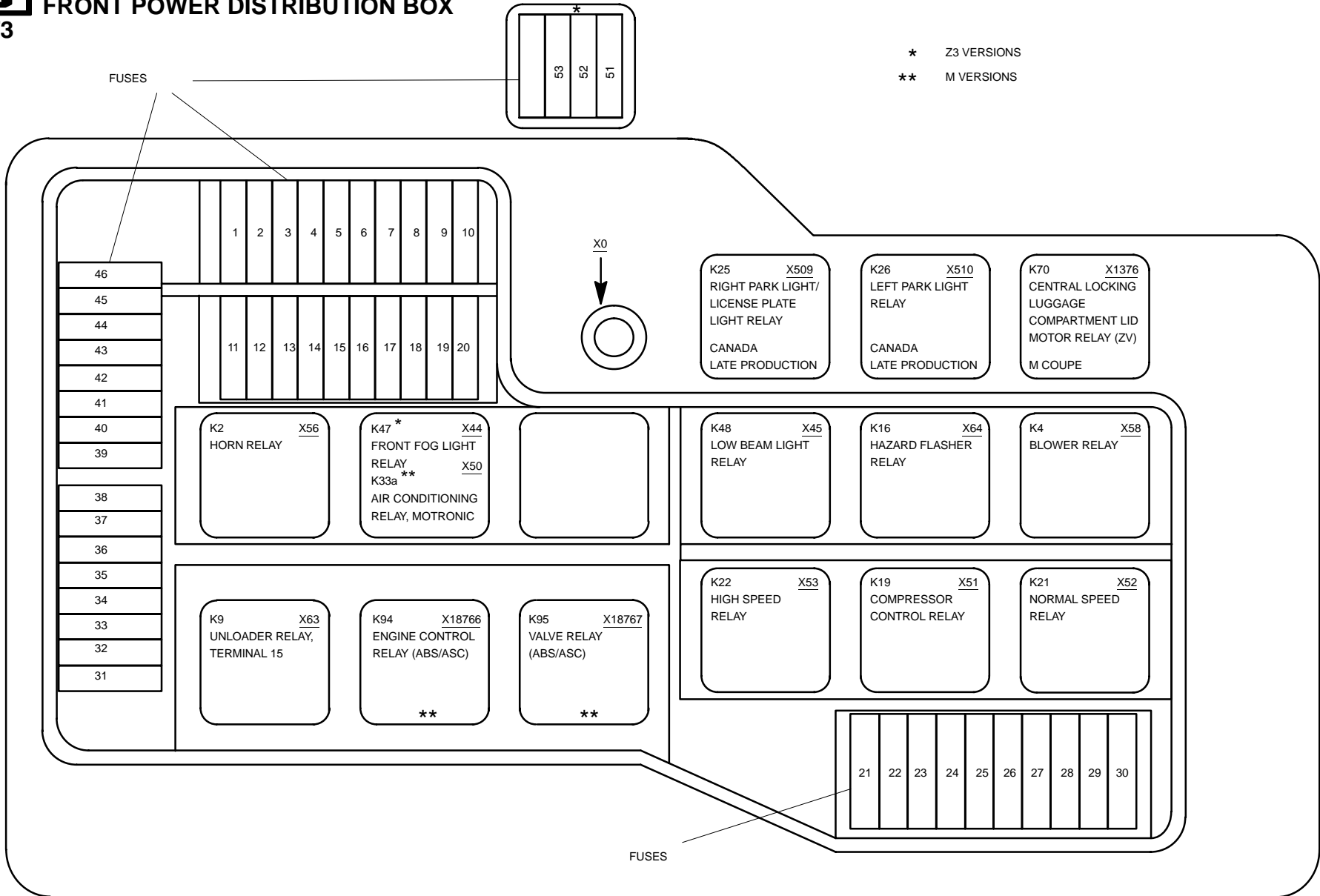


ARROW SHOWS DIRECTION OF CURRENT FLOW AND IS REPEATED WHERE CURRENT PATH CONTINUES



0670.0 POWER DISTRIBUTION CHART

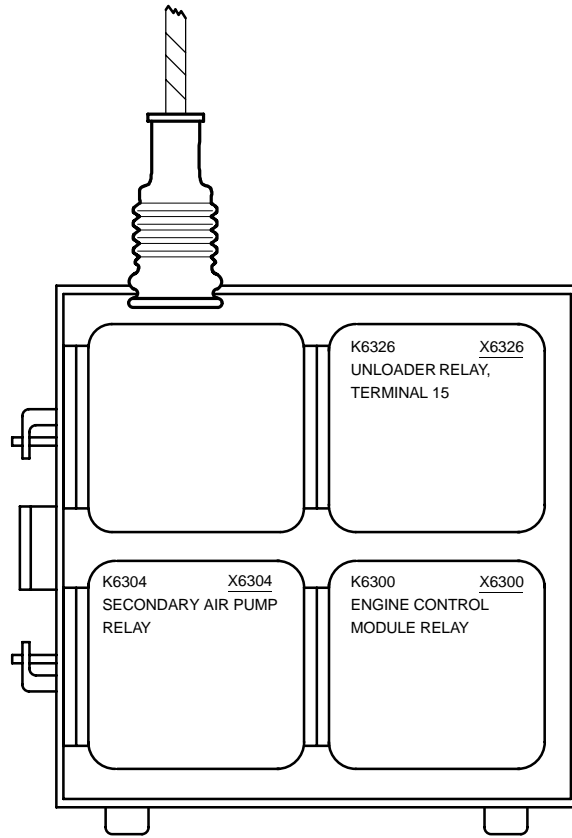
FRONT POWER DISTRIBUTION BOX



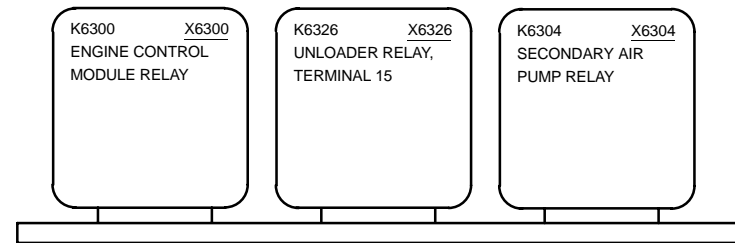


POWER DISTRIBUTION CHART

IN E-BOX



M VERSIONS



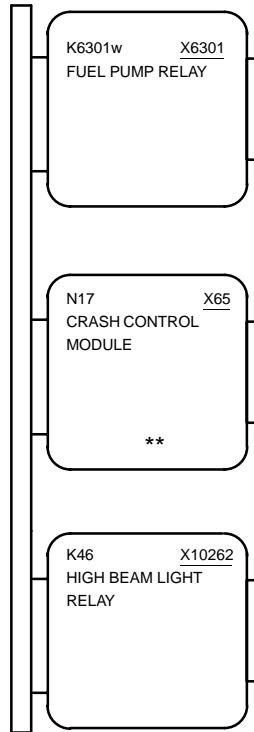
Z3 VERSIONS



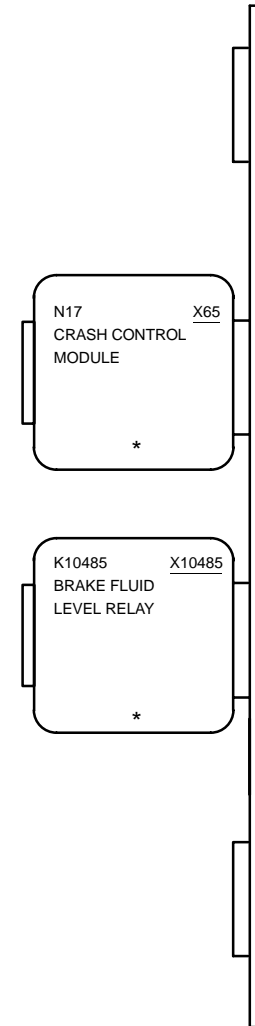
Z3

POWER DISTRIBUTION CHART RELAY PANEL UNDER DASHBOARD

LH SIDE



RH SIDE



* Z3 VERSIONS
EARLY
PRODUCTION

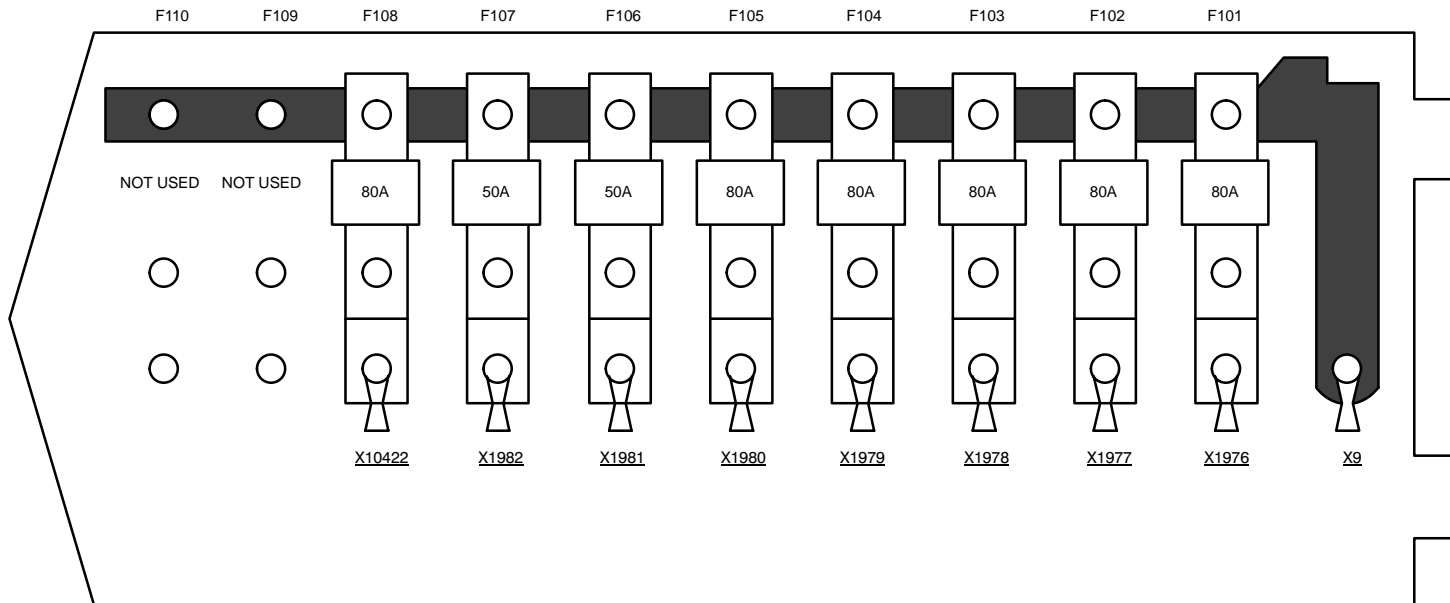
** M VERSIONS AND
Z3 VERSIONS
LATE PRODUCTION



POWER DISTRIBUTION CHART

Z3 VERSIONS

B+ JUNCTION POINT UNDER LH SIDE OF DASHBOARD





0670.1 FUSE CHART

FUSES 1 TO 29

Z3

* M VERSIONS

	FUSE NUMBER																													
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	
	30A	*15A 10A	30A 15A	30A 15A	30A 20A	5A 15A	20A 30A	7.5A 7.5A	*5A 7.5A	30A 10A	5A	15A 30A	30A 10A	5A	15A 30A	30A 5A	5A 5A	5A 10A	5A 5A	10A 5A	10A 5A	10A 5A	10A 5A	10A 5A	10A 5A	10A 5A	10A 5A	10A 5A	10A 5A	10A 5A
1210.17 ENGINE CONTROL SYSTEM MS41.1 (6-CYLINDER S52)													●			●		●												
1210.25 ENGINE CONTROL SYSTEM MS42.1 (6-CYLINDER M52)													●			●		●									●	●		
1230.0 CHARGING SYSTEM																											●	●		
1240.0 START																													●	
1290.0 E-BOX FAN																											●			
2460.2 ELECTRONIC TRANSMISSION CONTROL (EGS A4S 270R)																											●		●	
3234.0 SUPPLEMENTAL RESTRAINT SYSTEM (AIR BAG)																												●		
3450.1 SLIP CONTROL (ABS/ASC)											●		●								●							●		
3452.1 DYNAMIC STABILITY CONTROL (DSC III)							●														●							●		
3614.0 TIRE INFLATION SYSTEM																														
5116.0 POWER MIRRORS																														
5126.0 ZKE CENTRAL LOCKING (ZV)							●																							
5133.0 ZKE POWER WINDOWS (FH)															●															
5200.0 POWER SEATS					●																●									
5203.0 HEATED SEATS				●																										
5410.5 POWER TILT SUNROOF																														
5430.2 ELECTRO-HYDRAULIC CONVERTIBLE TOP	●																													
6100.0 CENTRAL BODY ELECTRONICS (ZKE IV)		●													●															
6133.0 HORN								●																						
6135.1 DRIVE-AWAY PROTECTION (EWS III)																													●	
6160.1 WIPER/WASHER MODULE (WWM)	●		●																											

10/99

0670.1-00

2000