

## CONTROL MODULE PIN OUT INFORMATION

### AIR CONDITIONING CONTROL MODULE

Pin	Description	Active	Inactive
I	CC28-1 COMPRESSOR CLUTCH STATUS	B+ (ON)	0 V
O	CC30-1 AIR CONDITIONING ELECTRICAL LOAD SIGNAL	B+	0 V
I	CC31-7 LOAD INHIBIT	0 V	B+
O	CC31-9 COMPRESSOR CLUTCH ON REQUEST	B+	0 V
I	CC31-17 REFRIGERANT 4-WAY PRESSURE SWITCH	0 V (2 – 30 BAR)	B+ (OUT OF ACTIVE RANGE)

### ENGINE CONTROL MODULE

Pin	Description	Active	Inactive
I	EM80-10 REFRIGERANT 4-WAY PRESSURE SWITCH HIGH PRESSURE	GROUND @ 20 BAR (290 PSI)	
I	EM80-11 A/CCM COMPRESSOR CLUTCH REQUEST	B+	GROUND
O	EM80-12 ELECTRICAL LOAD INHIBIT	GROUND	B+
O	EM80-16 CRUISE CONTROL ON STATUS LED	GROUND	B+
D	EM80-17 SERIAL COMMUNICATIONS		
D	EM80-18 SERIAL COMMUNICATIONS		
D	EM80-19 ECM PROGRAMMING		
I	EM80-20 CRUISE CONTROL BRAKE CANCEL REQUEST	GROUND	B+
I	EM80-22 REFRIGERANT 4-WAY PRESSURE SWITCH HIGH PRESSURE	GROUND @ 12 BAR (174 PSI)	
I	EM80-23 A/CCM ELECTRICAL LOAD REQUEST (HEATED WINDSHIELD)	B+	GROUND
O	EM80-25 AIR CONDITIONING COMPRESSOR RELAY ACTIVATE	GROUND	B+
O	EM81-04 PARALLEL (HIGH) SPEED FAN ACTIVATE	GROUND	B+
O	EM81-05 SERIES (LOW) SPEED FAN ACTIVATE	GROUND	B+
I	EM81-13 CRUISE CONTROL ON REQUEST	B+	GROUND
I	EM81-14 CRUISE CONTROL SET +/-	7.3 V = (+), 8.8 V = (-)B+	
I	EM81-15 CRUISE CONTROL CANCEL / RESUME	7.3 V = RESUME, 8.8 V = CANCEL B+	
I	EM83-04 FUEL PUMP RELAY ACTIVATE	GROUND	B+
I	EM83-10 IGNITION MODULES 1A, 2B, 3B, 4A OBD MONITOR	23 Hz @ IDLE (5 V)	
I	EM83-11 IGNITION MODULES 1B, 2A, 3A, 4B OBD MONITOR	23 Hz @ IDLE (5 V)	
O	EM84-02 INJECTOR 1A ACTIVATE	GROUND	B+
O	EM84-03 INJECTOR 3B ACTIVATE	GROUND	B+
O	EM84-04 INJECTOR 2B ACTIVATE	GROUND	B+
O	EM84-05 INJECTOR 4A ACTIVATE	GROUND	B+
O	EM84-06 INJECTOR 1B ACTIVATE	GROUND	B+
O	EM84-09 IGNITION MODULE 4A SWITCHING	GROUND (85 – 90% DUTY CYCLE @ IDLE)	B+
O	EM84-10 IGNITION MODULE 3A SWITCHING	GROUND (85 – 90% DUTY CYCLE @ IDLE)	B+
O	EM84-11 IGNITION MODULE 2A SWITCHING	GROUND (85 – 90% DUTY CYCLE @ IDLE)	B+
O	EM84-12 IGNITION MODULE 1A SWITCHING	GROUND (85 – 90% DUTY CYCLE @ IDLE)	B+
I	EM84-13 INJECTOR 4B ACTIVATE	GROUND	B+
I	EM84-14 INJECTOR 3A ACTIVATE	GROUND	B+
O	EM84-17 IGNITION MODULE 4B SWITCHING	GROUND (85 – 90% DUTY CYCLE @ IDLE)	B+
O	EM84-18 IGNITION MODULE 3B SWITCHING	GROUND (85 – 90% DUTY CYCLE @ IDLE)	B+
O	EM84-19 IGNITION MODULE 2B SWITCHING	GROUND (85 – 90% DUTY CYCLE @ IDLE)	B+
O	EM84-20 IGNITION MODULE 1B SWITCHING	GROUND (85 – 90% DUTY CYCLE @ IDLE)	B+
O	EM84-21 INJECTOR 2A ACTIVATE	GROUND	B+

## Fig. 04.2

### COMPONENTS

Component	Connector / Type / Color	Location / Access
AIR CONDITIONING COMPRESSOR CLUTCH	PI36 / 1-WAY SUMITOMO 90 A TYPE / BLACK	ENGINE COMPARTMENT / A/C COMPRESSOR
A/CCM: AIR CONDITIONING CONTROL MODULE	CC28 / 26-WAY MULTILOCK 47 / GREY CC29 / 16-WAY MULTILOCK 47 / GREY CC30 / 12-WAY MULTILOCK 47 / GREY CC31 / 22-WAY MULTILOCK 47 / GREY CC40 / 4-WAY MULTILOCK 070 / WHITE CC20 / 10-WAY AMP MICRO QUAD LOCK / NATURAL SW3 / 3-WAY EPC / BLACK	RH SIDE OF TRANSMISSION TUNNEL / GLOVE BOX ASSEMBLY
BRAKE CANCEL SWITCH	EM80 / 31-WAY AMP 403 / NATURAL	ADJACENT TO THE BRAKE PEDAL MOUNTING ASSEMBLY
CRUISE CONTROL ON / OFF SWITCH	EM81 / 24-WAY AMP 403 / NATURAL	CENTER CONSOLE ASSEMBLY
CRUISE CONTROL SWITCHES (STEERING WHEEL)	EM82 / 17-WAY AMP 403 / NATURAL EM83 / 28-WAY AMP 403 / NATURAL EM84 / 22-WAY AMP 403 / NATURAL EM85 / 12-WAY MULTILOCK 070 / WHITE	CENTER OF STEERING WHEEL ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
ENGINE CONTROL MODULE	PI7 / 2-WAY AMP JUNIOR POWER TIMER / BLACK PI11 / 2-WAY AMP JUNIOR POWER TIMER / BLACK PI8 / 2-WAY AMP JUNIOR POWER TIMER / BLACK PI12 / 2-WAY AMP JUNIOR POWER TIMER / BLACK PI9 / 2-WAY AMP JUNIOR POWER TIMER / BLACK PI13 / 2-WAY AMP JUNIOR POWER TIMER / BLACK PI10 / 2-WAY AMP JUNIOR POWER TIMER / BLACK PI14 / 2-WAY AMP JUNIOR POWER TIMER / BLACK BT17 / 6-WAY SUMITOMO DL090 / NATURAL BT10 / 10-WAY U.T.A. FUSE BOX / NATURAL BT11 / 10-WAY U.T.A. FUSE BOX / BLACK BT12 / 10-WAY U.T.A. FUSE BOX / GREEN BT13 / 10-WAY U.T.A. FUSE BOX / BLUE BT64 / EYELET	ENGINE COMPARTMENT / INTAKE MANIFOLD / FUEL RAIL ENGINE COMPARTMENT / INTAKE MANIFOLD / FUEL RAIL ENGINE COMPARTMENT / INTAKE MANIFOLD / FUEL RAIL ENGINE COMPARTMENT / INTAKE MANIFOLD / FUEL RAIL ENGINE COMPARTMENT / INTAKE MANIFOLD / FUEL RAIL ENGINE COMPARTMENT / INTAKE MANIFOLD / FUEL RAIL ENGINE COMPARTMENT / INTAKE MANIFOLD / FUEL RAIL ENGINE COMPARTMENT / INTAKE MANIFOLD / FUEL RAIL ENGINE COMPARTMENT / INTAKE MANIFOLD / FUEL RAIL EVAPORATIVE FLANGE / TOP OF FUEL TANK TRUNK ELECTRICAL CARRIER
FUEL INJECTOR – 1A	PI51 / 4-WAY YAZAKI / BLACK	ENGINE COMPARTMENT / CAMSHAFT COVER
FUEL INJECTOR – 1B	PI55 / 4-WAY YAZAKI / BLACK	ENGINE COMPARTMENT / CAMSHAFT COVER
FUEL INJECTOR – 2A	PI52 / 4-WAY YAZAKI / BLACK	ENGINE COMPARTMENT / CAMSHAFT COVER
FUEL INJECTOR – 2B	PI56 / 4-WAY YAZAKI / BLACK	ENGINE COMPARTMENT / CAMSHAFT COVER
FUEL INJECTOR – 3B	PI53 / 4-WAY YAZAKI / BLACK	ENGINE COMPARTMENT / CAMSHAFT COVER
FUEL INJECTOR – 4A	PI57 / 4-WAY YAZAKI / BLACK	ENGINE COMPARTMENT / CAMSHAFT COVER
FUEL INJECTOR – 4B	PI54 / 4-WAY YAZAKI / BLACK	ENGINE COMPARTMENT / CAMSHAFT COVER
FUEL PUMP	PI58 / 4-WAY YAZAKI / BLACK	ENGINE COMPARTMENT / CAMSHAFT COVER
FUSE BOX – TRUNK	LF31 / 8-WAY TRW / BLACK CF1 / 2-WAY REINSHAGEN / BLACK CF2 / 2-WAY REINSHAGEN / BLACK LF26 / 6-WAY ECONOSEAL III LC / BLACK	ENGINE COMPARTMENT / BELOW LH FAN ENGINE COMPARTMENT / BELOW RH FAN ENGINE COMPARTMENT / ADJACENT TO LH SIDE OF RADIATOR
IGNITION COIL – 1A		
IGNITION COIL – 1B		
IGNITION COIL – 2A		
IGNITION COIL – 2B		
IGNITION COIL – 3A		
IGNITION COIL – 3B		
IGNITION COIL – 4A		
IGNITION COIL – 4B		
RADIATOR FAN CONTROL RELAY MODULE		
RADIATOR FAN – LH		
RADIATOR FAN – RH		
REFRIGERANT 4-WAY PRESSURE SWITCH		

### RELAYS

Relay	Case Color	Connector / Color	Location / Access
AIR CONDITIONING COMPRESSOR CLUTCH RELAY	BROWN	EM52 / BROWN	CONTROL MODULE ENCLOSURE RELAYS / ENGINE COMPARTMENT
FUEL INJECTION RELAY	BLACK	EM25 / BLACK	CONTROL MODULE ENCLOSURE RELAYS / ENGINE COMPARTMENT
FUEL PUMP RELAY	BROWN	BUS	RELAY #4, TRUNK FUSE BOX / TRUNK
IGNITION COIL RELAY	BROWN	EM26 / BROWN	CONTROL MODULE ENCLOSURE RELAYS / ENGINE COMPARTMENT

### HARNESSTO-HARNES CONNECTORS

Connector	Type / Color	Location / Access
BT4	54-WAY THROUGH PANEL / GREY	BELOW PARCEL SHELF / TRUNK / REAR BULKHEAD / RH SIDE
EM1	12-WAY AUGAT 1.6 / BLACK	ENGINE COMPARTMENT / ADJACENT TO ABS PUMP
EM3	18-WAY MULTILOCK 070 / WHITE	PASSENGER 'A' POST / LOWER 'A' POST FINISHER
EM51	12-WAY AUGAT 1.6 / GREY	ENGINE COMPARTMENT / ADJACENT TO ABS PUMP
EM53	20-WAY MULTILOCK 070 / WHITE	PASSENGER 'A' POST / LOWER 'A' POST FINISHER
FC1	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW PASSENGER SIDE AIR VENT / GLOVE BOX ASSEMBLY
LF32	4-WAY YAZAKI / GREY	FORWARD OF LH FRONT SUSPENSION ARM
PI1	57-WAY SUMITOMO TS090 / BLACK	ENGINE COMPARTMENT / BULKHEAD / REAR OF ENGINE
PI2	13-WAY ECONOSEAL III LC / BLACK	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
SC3	12-WAY MULTILOCK 070 / GREY	ADJACENT TO STEERING COLUMN MOTOR
SW1	12-WAY MULTILOCK 040 / BLACK	INSIDE STEERING COLUMN COWL
SW2	6-WAY JST / BLACK	CENTER OF STEERING WHEEL

### GROUND

Ground	Location / Type
BT20	EYELET (SINGLE) – TRUNK / RH REAR GROUND STUD
EM8R	EYELET (PAIR) – EMS LH GROUND STUD
EM16R	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
EM17	EYELET (SINGLE) – EMS BULKHEAD GROUND STUD
FC17R	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
LF10L	EYELET (PAIR) – LH FORWARD GROUND STUD
LF10R	EYELET (PAIR) – LH FORWARD GROUND STUD
LF20L	EYELET (PAIR) – RH FORWARD GROUND STUD

FOR CONTROL MODULE PIN OUT INFORMATION, UNFOLD PAGE TO LEFT.

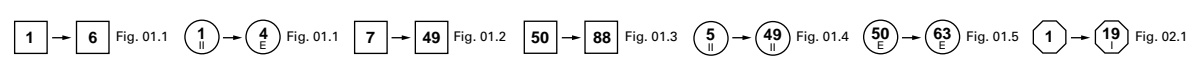
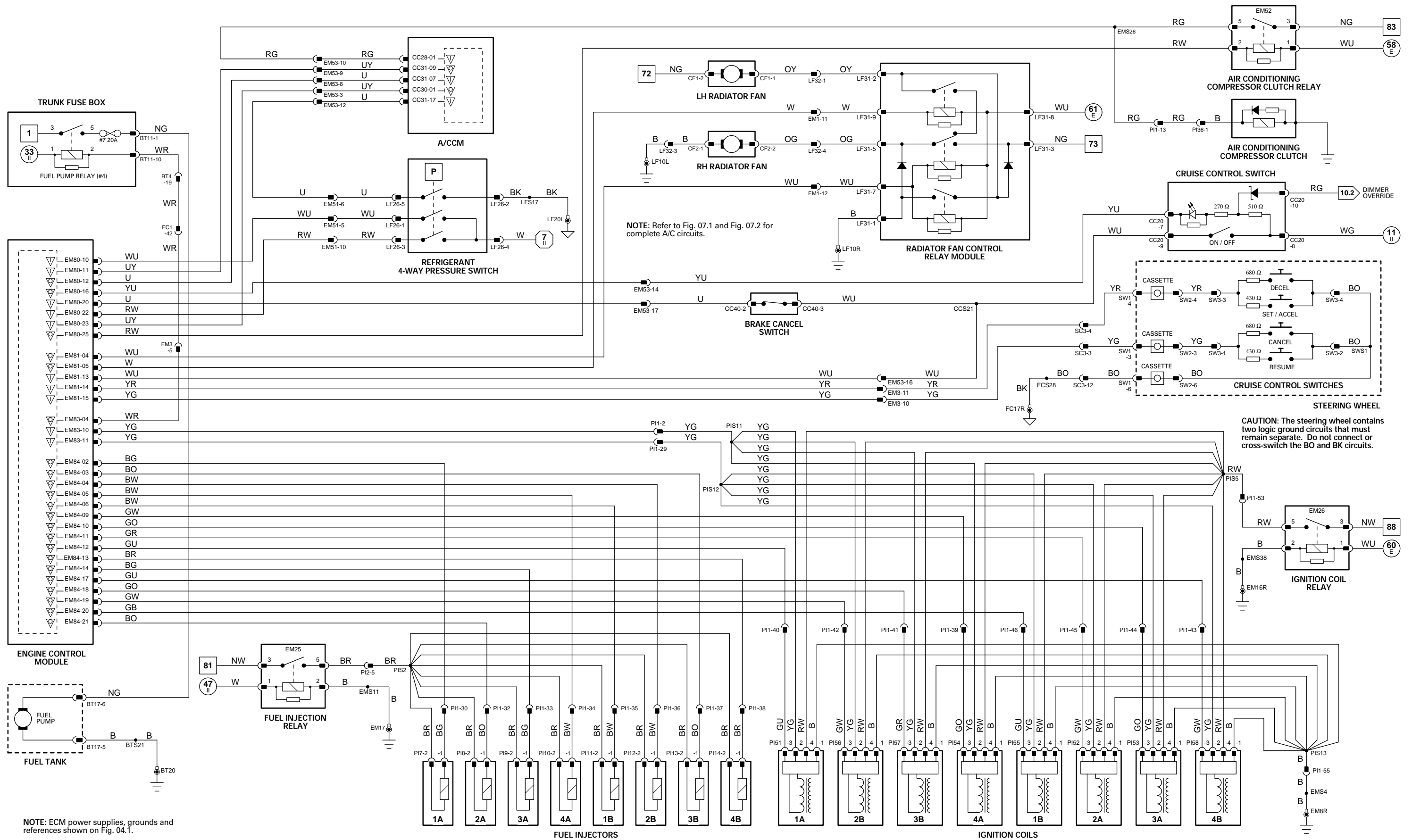
The following abbreviations are used to represent values for Control Module Pin-Out data

I	Input	SG	Sensor Ground	S	SCP Network	V	Voltage (DC)
O	Output	A	ACP Network	D	Serial and Encoded Data	Hz	Frequency
SS	Sensor Supply V	C	CAN (Network)	B+	Battery Voltage	kHz	Frequency x 1000

**CAUTION:** The information on this data page is furnished to aid the user in understanding circuit operation. THIS INFORMATION SHOULD BE USED FOR REFERENCE ONLY.

**NOTE:** The values listed are approximately those that can be expected at the control module connector pins with all circuit connections made and all components connected and fitted. "Active" means a load is applied or a switch is ON; "Inactive" means a load is not applied or a switch is OFF.

Refer to the front of this book for detailed information and illustrations regarding the location and identification of harnesses, relays, grounds, control modules and control module pins.



- ▽ Input
- ▽+ Sensor Supply V
- ▽- Sensor Ground
- ▽ Output
- ▽ ACP
- ▽ SCP
- ▽ CAN
- ▽ Serial and Encoded Data

VARIANT: AJ27 N/A Vehicles  
 VIN RANGE: F20645 →  
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