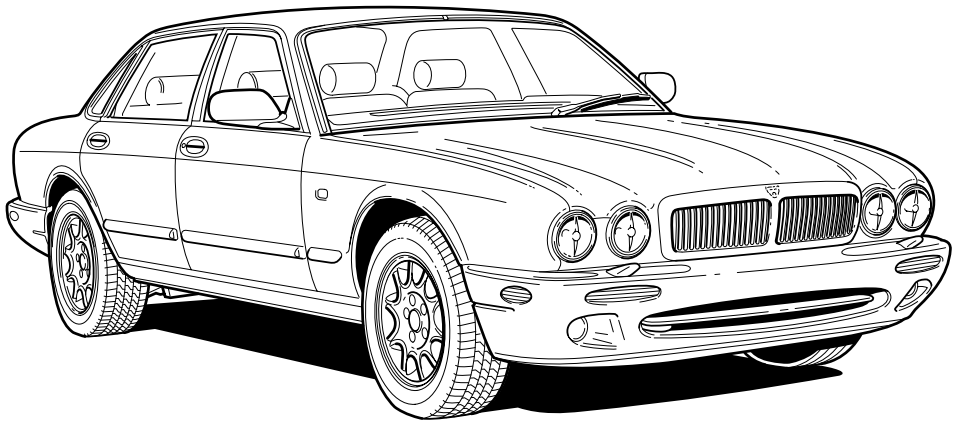
BY APPOINTMENT TO
HER MAJESTY QUEEN ELIZABETH II
MANUFACTURERS OF DAIMLER AND JAGUAR CARS
JAGUAR CARS LIMITED COVENTRY

BY APPOINTMENT TO
HER MAJESTY QUEEN ELIZABETH
THE QUEEN MOTHER
MANUFACTURERS OF DAIMLER AND JAGUAR CARS
JAGUAR CARS LIMITED COVENTRY

BY APPOINTMENT TO
HIS ROYAL HIGHNESS THE PRINCE OF WALES
MANUFACTURERS OF DAIMLER AND JAGUAR CARS
JAGUAR CARS LIMITED COVENTRY

XJ Series Sedan 1999
Electrical Guide



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Electrical Guide Format

This Electrical Guide is made up of two major sections. The first section, at the front of the book, provides general information for and about the use of the book, and information and illustrations to aid in the understanding of the XJ Series electrical / electronic systems, as well as the location and identification of components.

The second section includes the Figures, which are the basis of the book. Each Figure is identified by a Figure Number (i.e. Fig. 01.1) and Title, and is accompanied by a page of data containing information specific to that Figure.

It is recommended that the user read through the front section of the book to develop a familiarity with the layout of the book and with the system of symbols and abbreviations used. The Table of Contents on the following pages should help to guide the user.

Standard Abbreviations

The following abbreviations are used throughout this Electrical Guide:

B+	Battery Voltage
CAN	Controller Area Network
DI	Direction Indicator
LH	Left-Hand
LHD	Left-Hand Drive
LWB	Long Wheelbase
N/A	Normally Aspirated
NAS	North American Specification
RH	Right-Hand
RHD	Right-Hand Drive
ROW	Rest of World
SC	Supercharged
SCP	Standard Corporate Protocol Network
VIN	Vehicle Identification Number

Refer to the Vehicle Service Manual for a glossary of standard terms and their abbreviations.

Vehicle Identification Numbers (VIN)

VIN ranges are presented throughout the book in the following manner:

⟶ VIN 123456 indicates "up to VIN 123456"; VIN 123456 ⟶ indicates "from VIN 123456 on".

XJ Series Electrical System Architecture

The XJ Series system architecture features vehicle "multiplexing". Multiplexing allows for simplified wiring harnesses while providing greater flexibility in programming market variants. Two data networks are used in the system: a controller area network (CAN) for the engine, drive train and related systems, and a standard corporate protocol network (SCP) for the body systems. Any vehicle subsystem depicted on the figures with the CAN or SCP included uses data derived from the network or transmits data via the network to achieve control. Messages for both networks are cataloged in the Appendix of this book. When appropriate, the user will be referred to the Appendix by a note on the Data page. In addition to the two networks, the XJ Series uses two serial data buses (ISO) for diagnostics, for the security system and for the programming of certain control modules.

The XJ Series uses both power and logic grounds; however, it does not use a common logic ground stud connection as in previous Sedan vehicles.

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SEAT BELT SWITCH ..... Fig. 08.2

SEAT CONTROL MODULE – DRIVER ..... Fig. 12.1
..... Fig. 12.2
..... Fig. 19.1

SEAT CONTROL MODULE – PASSENGER ..... Fig. 12.4
..... Fig. 12.5
..... Fig. 19.1

SEAT CONTROL MODULE – REAR ..... Fig. 12.8

SEAT CUSHION HEATERS – DRIVER ..... Fig. 12.1
..... Fig. 12.2
..... Fig. 12.3
..... Fig. 12.6
..... Fig. 12.7

SEAT CUSHION HEATERS – PASSENGER ..... Fig. 12.4
..... Fig. 12.5
..... Fig. 12.6
..... Fig. 12.7

SEAT CUSHION HEATERS – REAR ..... Fig. 12.8
..... Fig. 12.10

SEAT FORE / AFT MOTORS – REAR ..... Fig. 12.8

SEAT HEADREST MOTORS – REAR ..... Fig. 12.8

SEAT HEATER RELAY – DRIVER ..... Fig. 12.1
..... Fig. 12.2
..... Fig. 12.3
..... Fig. 12.6
..... Fig. 12.7

SEAT HEATER RELAY – PASSENGER ..... Fig. 12.4
..... Fig. 12.5
..... Fig. 12.6
..... Fig. 12.7

SEAT HEATER SWITCHES ..... Fig. 12.1
..... Fig. 12.2
..... Fig. 12.3
..... Fig. 12.4
..... Fig. 12.5
..... Fig. 12.6
..... Fig. 12.7

SEAT HEATER SWITCHES – REAR ..... Fig. 12.9
..... Fig. 12.10

SEAT HEATER TIMERS – REAR ..... Fig. 12.9
..... Fig. 12.10

SEAT LOWER RELAY ..... Fig. 12.3

SEAT LUMBAR PUMP – DRIVER ..... Fig. 12.1
..... Fig. 12.2

SEAT LUMBAR PUMP – PASSENGER ..... Fig. 12.4
..... Fig. 12.5

SEAT LUMBAR PUMPS – REAR ..... Fig. 12.8

SEAT LUMBAR SWITCHES – REAR ..... Fig. 12.8

SEAT MOTOR – DRIVER (RAISE / LOWER ONLY) ..... Fig. 12.3

SEAT MOTORS – DRIVER ..... Fig. 12.1
..... Fig. 12.2

SEAT MOTORS – PASSENGER ..... Fig. 12.4
..... Fig. 12.5

SEAT RAISE RELAY ..... Fig. 12.3

SEAT SWITCH – PASSENGER FORE / AFT – REAR ..... Fig. 12.5

SEAT SWITCH – PASSENGER RECLINE – REAR ..... Fig. 12.5

SECURITY ACTIVE INDICATOR ..... Fig. 13.3
..... Fig. 13.4

SECURITY AND LOCKING CONTROL MODULE ..... Fig. 09.3
..... Fig. 09.4
..... Fig. 13.1
..... Fig. 13.2
..... Fig. 13.3
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SIDE AIRBAGS ..... Fig. 17.1

SIDE DI REPEATERS ..... Fig. 09.2

SIDE MARKERS – FRONT ..... Fig. 09.1

SIDE MARKER AND NUMBER PLATE LAMP RELAY ..... Fig. 09.3
..... Fig. 09.4

SLIDING ROOF CONTROL MODULE ..... Fig. 15.1
..... Fig. 15.2

SLIDING ROOF MOTOR ..... Fig. 15.1
..... Fig. 15.2

SLIDING ROOF SWITCH (ROOF CONSOLE) ..... Fig. 15.1
..... Fig. 15.2

SOLAR SENSOR ..... Fig. 07.1

SPEAKER, 'A' POST TWEETERS ..... Fig. 16.2

SPEAKER, FRONT DOOR MID-BASS ..... Fig. 16.1
..... Fig. 16.2

SPEAKER, FRONT DOOR TWEETER ..... Fig. 16.1

SPEAKER, REAR DOOR MID-BASS ..... Fig. 16.1
..... Fig. 16.2

SPEAKER, REAR DOOR TWEETER ..... Fig. 16.1
..... Fig. 16.2

SQUAB HEATERS – DRIVER ..... Fig. 12.1
..... Fig. 12.2
..... Fig. 12.3
..... Fig. 12.6
..... Fig. 12.7

SQUAB HEATERS – PASSENGER ..... Fig. 12.4
..... Fig. 12.5
..... Fig. 12.6
..... Fig. 12.7

SQUAB HEATERS – REAR ..... Fig. 12.9
..... Fig. 12.10

STABILITY / TRACTION CONTROL SWITCH ..... Fig. 06.1

STARTER MOTOR ..... Fig. 03.1
..... Fig. 03.2

STARTER RELAY ..... Fig. 03.1
..... Fig. 03.2

STEERING COLUMN MOTORS ..... Fig. 11.2

STOP LAMP RELAY ..... Fig. 09.3
..... Fig. 09.4

SUBWOOFER ..... Fig. 16.2

SUPPRESSION MODULE ..... Fig. 03.1
..... Fig. 03.2

SWITCH PACK – DRIVER DOOR ..... Fig. 10.2

SWITCH PACK – DRIVER REAR DOOR ..... Fig. 10.2
..... Fig. 15.1
..... Fig. 15.2

SWITCH PACK – DRIVER SEAT (RAISE / LOWER ONLY) ..... Fig. 12.3

SWITCH PACK – DRIVER SEAT ..... Fig. 12.1
..... Fig. 12.2

SWITCH PACK – PASSENGER DOOR ..... Fig. 10.2
..... Fig. 15.1
..... Fig. 15.2

SWITCH PACK – PASSENGER REAR DOOR ..... Fig. 10.2
..... Fig. 15.1
..... Fig. 15.2

SWITCH PACK – PASSENGER SEAT ..... Fig. 12.4
..... Fig. 12.5

TAIL LAMP UNITS ..... Fig. 09.3
..... Fig. 09.4

TELEPHONE ANTENNA ..... Fig. 16.3

TELEPHONE HANDSET ..... Fig. 16.3

TELEPHONE MICROPHONE ..... Fig. 16.3

TELEPHONE TRANSCEIVER ..... Fig. 16.3

THROTTLE MOTOR ..... Fig. 04.1
..... Fig. 04.2
..... Fig. 04.3
..... Fig. 04.5
..... Fig. 04.6

THROTTLE MOTOR POWER RELAY ..... Fig. 04.1
..... Fig. 04.2
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..... Fig. 04.5
..... Fig. 04.6

THROTTLE POSITION SENSOR ..... Fig. 04.1
..... Fig. 04.2
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..... Fig. 04.5
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TRAILER CONNECTOR ..... Fig. 09.3
..... Fig. 09.4

TRANSIT ISOLATION DEVICE ..... Fig. 01.1

TRANSMISSION CONTROL MODULE: AJ26 N/A ..... Fig. 05.1
..... Fig. 19.1

TRANSMISSION CONTROL MODULE: AJ26 SC ..... Fig. 05.2
..... Fig. 19.1

TRANSMISSION ELECTRICAL CONNECTOR: AJ26 N/A ..... Fig. 05.1

TRANSMISSION ELECTRICAL CONNECTOR: AJ26 SC ..... Fig. 05.2

TRANSMISSION ROTARY SWITCH ..... Fig. 05.1

TRIP COMPUTER SWITCH PACK ..... Fig. 08.1
..... Fig. 10.2

TRIP CYCLE SWITCH ..... Fig. 08.1

TRUNK ACCESSORY CONNECTOR ..... Fig. 18.1

TRUNK LAMPS ..... Fig. 10.1

TRUNK RELEASE ACTUATOR ..... Fig. 13.1
..... Fig. 13.2

TRUNK RELEASE SWITCHES ..... Fig. 13.1
..... Fig. 13.2

TRUNK SWITCH ..... Fig. 10.1
..... Fig. 13.1
..... Fig. 13.2
..... Fig. 13.3
..... Fig. 13.4

VACUUM SWITCHING VALVES ..... Fig. 04.5
..... Fig. 04.6

VALET SWITCH ..... Fig. 13.1
..... Fig. 13.2
..... Fig. 13.3
..... Fig. 13.4

VANITY LAMPS ..... Fig. 10.1
..... Fig. 10.1

VARIABLE STEERING CONVERTER ..... Fig. 11.1

VARIABLE VALVE TIMING SOLENOID VALVES ..... Fig. 04.1
..... Fig. 04.2

VENT ASSEMBLY ..... Fig. 07.1

WASH / WIPE STALK ..... Fig. 14.1

WHEEL SPEED SENSORS ..... Fig. 06.1

WINDOW LIFT MOTORS ..... Fig. 15.1
..... Fig. 15.2

WINDOW LIFT SWITCHES ..... Fig. 15.1
..... Fig. 15.2

WINDSHIELD HEATER RELAYS ..... Fig. 07.2

WINDSHIELD HEATERS ..... Fig. 07.2

WINDSHIELD WASH PUMP AND FLUID LEVEL SENSOR ..... Fig. 14.1

WIPER FAST / SLOW RELAY ..... Fig. 14.1

WIPER MOTOR ..... Fig. 14.1

WIPER RUN / STOP RELAY ..... Fig. 14.1

Figure and Data Page Layout

Figure Pages

Each Figure represents a specific electrical system of the vehicle. The Figures are arranged numerically by system (**01 – Power Distribution, 02 – Ground Distribution**, etc.) with variations in the system identified by a numeral following a decimal point (**01.1, 01.2**, etc.). Refer to the Table of Contents for a complete list of the Figures.

The Figures **01 – Power Distribution** detail the distribution of power to each of the systems. Numbered reference symbols refer the user to a specific Figure and from a specific Figure back to the Power Distribution Figures. This method eliminates the need to include detailed Power Distribution information on each of the Figures. Similarly, the Figure **02 – Ground Distribution** details the ignition switched ground distribution. The reference symbols are defined on page 14.

Each Figure appears on a right-hand page with a corresponding Data page to the left. The Figure and Data pages are folding pages. The user must fold out both pages in order to access all the information provided.

Data Pages

The Data page includes information to assist the user in identifying and locating components, connectors and grounds. This information is supplemented by the illustrations in this front section of the book.

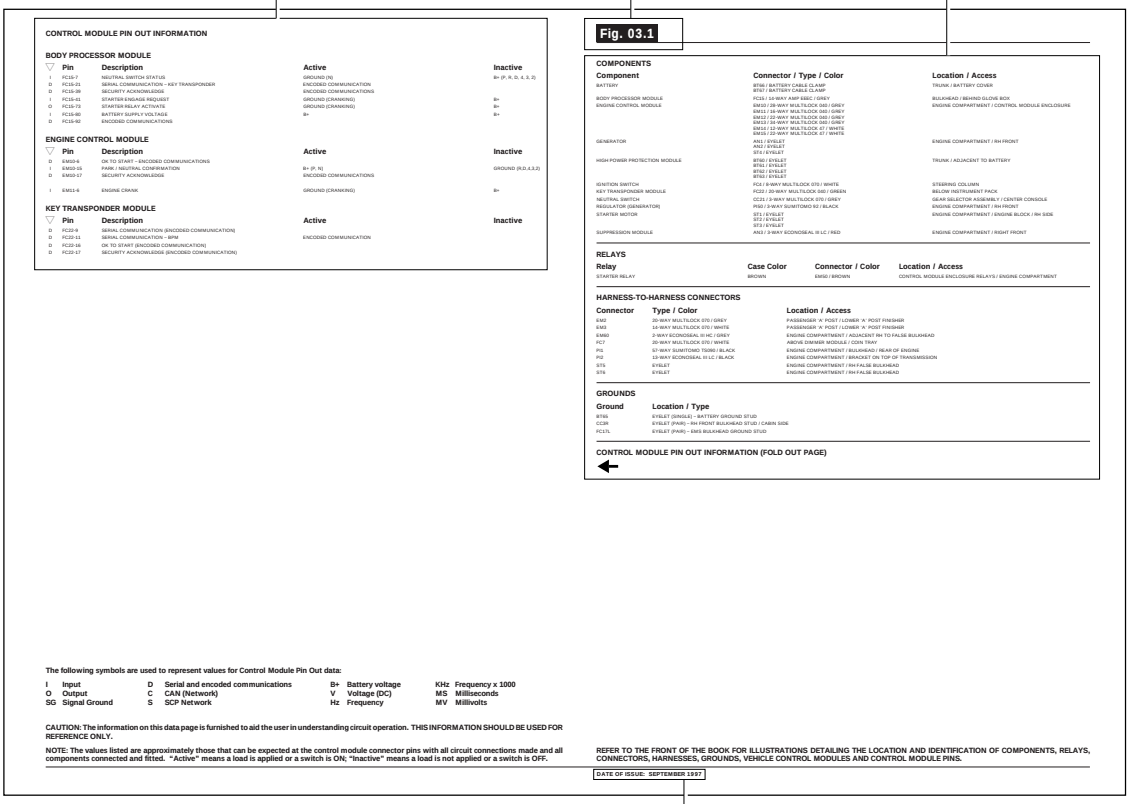
When network data is required for the understanding of a particular circuit, the user is directed to the Appendix.

Where circuits include a Control Module, Pin Out information is provided with values for "active" and "inactive" states. 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. This information is provided to assist the user in understanding circuit operation and should be used FOR REFERENCE ONLY.

CONTROL MODULE PIN OUT INFORMATION

FIGURE NUMBER

COMPONENT, RELAY, CONNECTOR AND GROUND INFORMATION



CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC15-7	NEUTRAL SWITCH STATUS	GROUND (N)	B+ (P, R, D, 4, 3, 2)
D	FC15-21	SERIAL COMMUNICATION – KEY TRANSPONDER	ENCODED COMMUNICATION	
D	FC15-39	SECURITY ACKNOWLEDGE	ENCODED COMMUNICATIONS	
I	FC15-41	STARTER ENGAGE REQUEST	GROUND (CRANKING)	B+
O	FC15-73	STARTER RELAY ACTIVATE	GROUND (CRANKING)	B+
I	FC15-80	BATTERY SUPPLY VOLTAGE	B+	B+
D	FC15-92	ENCODED COMMUNICATIONS		

ENGINE CONTROL MODULE

▽	Pin	Description	Active	Inactive
D	EM32-6	OK TO START – ENCODED COMMUNICATIONS		
I	EM32-15	PARK / NEUTRAL CONFIRMATION	B+ (P, N)	GROUND (R,D,4,3,2)
D	EM32-17	SECURITY ACKNOWLEDGE	ENCODED COMMUNICATIONS	
I	EM11-6	ENGINE CRANK	GROUND (CRANKING)	B+

KEY TRANSPONDER MODULE

▽	Pin	Description	Active	Inactive
D	FC22-9	SERIAL COMMUNICATION (ENCODED COMMUNICATION)	ENCODED COMMUNICATION	
D	FC22-11	SERIAL COMMUNICATION – BPM		
D	FC22-16	OK TO START (ENCODED COMMUNICATION)		
D	FC22-17	SECURITY ACKNOWLEDGE (ENCODED COMMUNICATION)		

The following symbols are used to represent values for Control Module Pin Out data:

I	Input	D	Serial and encoded communications	B+	Battery voltage	KHz	Frequency x 1000
O	Output	C	CAN (Network)	V	Voltage (DC)	MS	Milliseconds
SG	Signal Ground	S	SCP Network	Hz	Frequency	MV	Millivolts

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.

Fig. 03.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
BATTERY	BT60 / BATTERY CABLE CLAMP BT67 / BATTERY CABLE CLAMP	TRUNK / BATTERY COVER
BODY PROCESSOR MODULE	FC15 / 16-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
ENGINE CONTROL MODULE	EM10 / 39-WAY MULTILOCK 040 / GREY EM11 / 16-WAY MULTILOCK 040 / GREY EM12 / 22-WAY MULTILOCK 040 / GREY EM13 / 12-WAY MULTILOCK 040 / GREY EM14 / 12-WAY MULTILOCK 07 / WHITE EM15 / 22-WAY MULTILOCK 07 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
GENERATOR	AN1 / EYELET AN2 / EYELET ST2 / EYELET	ENGINE COMPARTMENT / RH FRONT
HIGH POWER PROTECTION MODULE	BT60 / EYELET BT61 / EYELET BT62 / EYELET BT63 / EYELET	TRUNK / ADJACENT TO BATTERY
IGNITION SWITCH	FC2 / 8-WAY MULTILOCK 070 / WHITE	STEERING COLUMN
KEY TRANSPONDER MODULE	FC22 / 20-WAY MULTILOCK 040 / GREEN	BELOW INSTRUMENT PACK
NEUTRAL SWITCH	CC31 / 3-WAY MULTILOCK 070 / GREY	GEAR SELECTOR ASSEMBLY / CENTER CONSOLE
REGULATOR (GENERATOR)	P6B2 / 3-WAY SUMITOMO 62 / BLACK	ENGINE COMPARTMENT / RH FRONT
STARTER MOTOR	ST1 / EYELET ST2 / EYELET ST3 / EYELET	ENGINE COMPARTMENT / ENGINE BLOCK / RH SIDE
SUPPRESSION MODULE	AN3 / 3-WAY ECONOSEAL III LC / RED	ENGINE COMPARTMENT / RIGHT FRONT

RELAYS

Relay	Case Color	Connector / Color	Location / Access
STARTER RELAY	BROWN	EM50 / BROWN	CONTROL MODULE ENCLOSURE RELAYS / ENGINE COMPARTMENT

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
EM2	20-WAY MULTILOCK 070 / GREY	PASSENGER 'A' POST / LOWER 'A' POST FINISHER
EM3	16-WAY MULTILOCK 070 / WHITE	PASSENGER 'A' POST / LOWER 'A' POST FINISHER
EM50	2-WAY ECONOSEAL III HC / GREY	ENGINE COMPARTMENT / ADJACENT RH TO FALSE BULKHEAD
FC7	20-WAY MULTILOCK 070 / WHITE	ABOVE DIMMER MODULE / CDN TRAY
P01	57-WAY SUMITOMO TS090 / BLACK	ENGINE COMPARTMENT / BULKHEAD / REAR OF ENGINE
P02	13-WAY ECONOSEAL III LC / BLACK	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
ST5	EYELET	ENGINE COMPARTMENT / RH FALSE BULKHEAD
ST6	EYELET	ENGINE COMPARTMENT / RH FALSE BULKHEAD

GROUNDS

Ground	Location / Type
BT65	EYELET (SINGLE) – BATTERY GROUND STUD
CC2R	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE
FC17L	EYELET (PAIR) – EM15 BULKHEAD GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

DATE OF ISSUE: SEPTEMBER 1997

DATE OF ISSUE

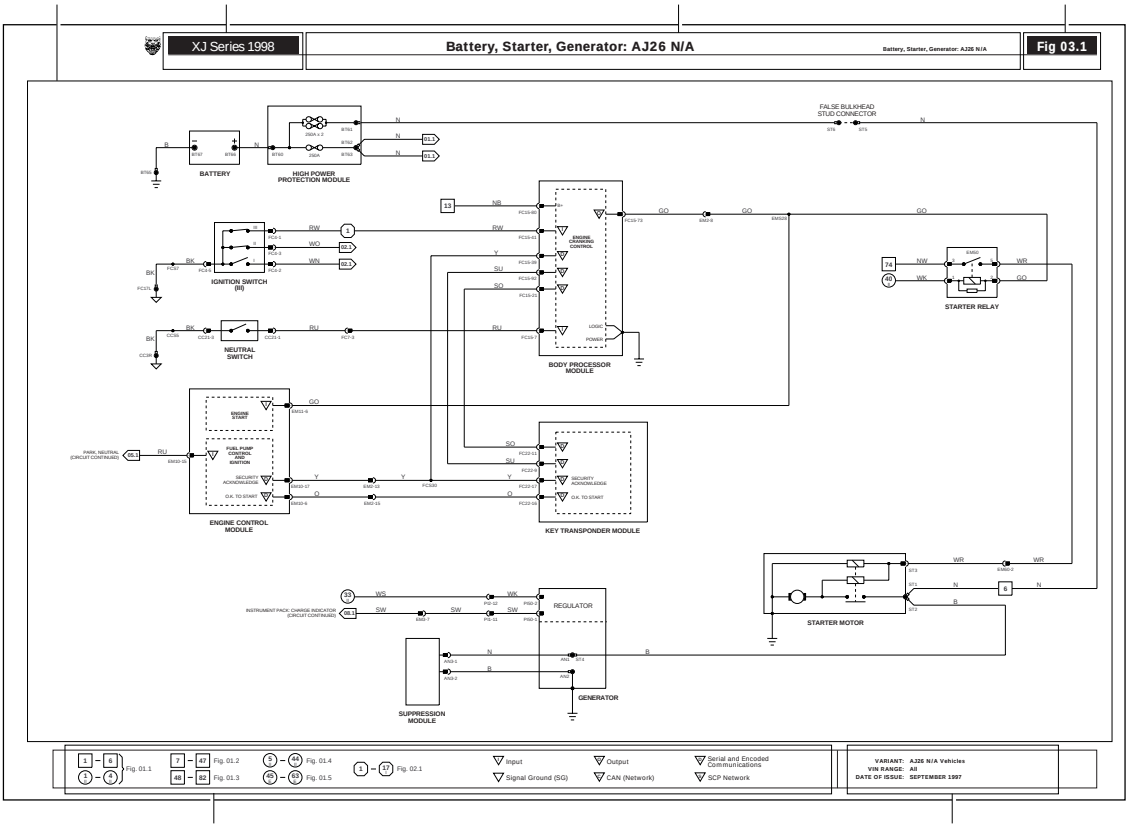
DATA PAGE

FIGURE

MODEL RANGE AND YEAR

TITLE

FIGURE NUMBER



KEY TO REFERENCE SYMBOLS

VARIANT, VIN RANGE AND DATE OF ISSUE

FIGURE PAGE

NOTE: In the examples shown on this page, an 'X' is used where a number would appear on an actual Figure.

Reference Symbols

Reference symbols are used for three purposes:

- to allow the user to complete the individual system circuit to power supply or ground
- to refer the user to a related circuit
- to identify control module inputs, outputs and signal grounds

X Battery Power Supply

This symbol represents a direct battery power supply and refers the user to Figure 01.1, 01.2 or 01.3.

X I X II X E Ignition Switched Power Supply

This symbol represents ignition switched power supply and refers the user to Figure 01.1, 01.4 or 01.5.

The suffix I indicates auxiliary power. Power is supplied in ignition switch key positions I (AUXILIARY) and II (IGNITION).

The suffix II indicates ignition power. Power is supplied in ignition switch key positions II (IGNITION) and III (ENGINE CRANK).

The suffix E indicates engine management switched power. Power is supplied in ignition switch key positions II (IGNITION) and III (ENGINE CRANK) under ECM control.

X XX I XX II Ignition Switched Ground

This symbol represents an ignition switched ground and refers the user to Figure 02.1.

This symbol without a suffix indicates CRANK. Ground is completed in ignition switch key position III (ENGINE CRANK).

The suffix I indicates auxiliary ground. Ground is completed in ignition switch key positions I (AUXILIARY) and II (IGNITION).

The suffix II indicates ignition ground. Ground is completed in ignition switch key positions II (IGNITION) and III (ENGINE CRANK).

XX.X BPM Figure Number Reference Flag

This symbol refers the reader to a figure number only. It does not refer to a flag with the same number on a different figure.

As used in Figures 01.1 through 02.1, the reference flag refers the user to a continuation of the circuit. In this instance, the user matches the number to a Power Supply or Ground symbol to trace the circuit.

In most other cases, it is not necessary to refer to another figure for completion of a circuit, as the reference flags are used to indicate parallel circuits and circuits that share components. Most of the circuits where this situation occurs are overlapped to avoid the necessity for cross-referencing to another figure. Exceptions to this rule are instances where signals are transmitted to or received from other system circuits. When circuits are not overlapped, they are noted by (CIRCUIT CONTINUED).

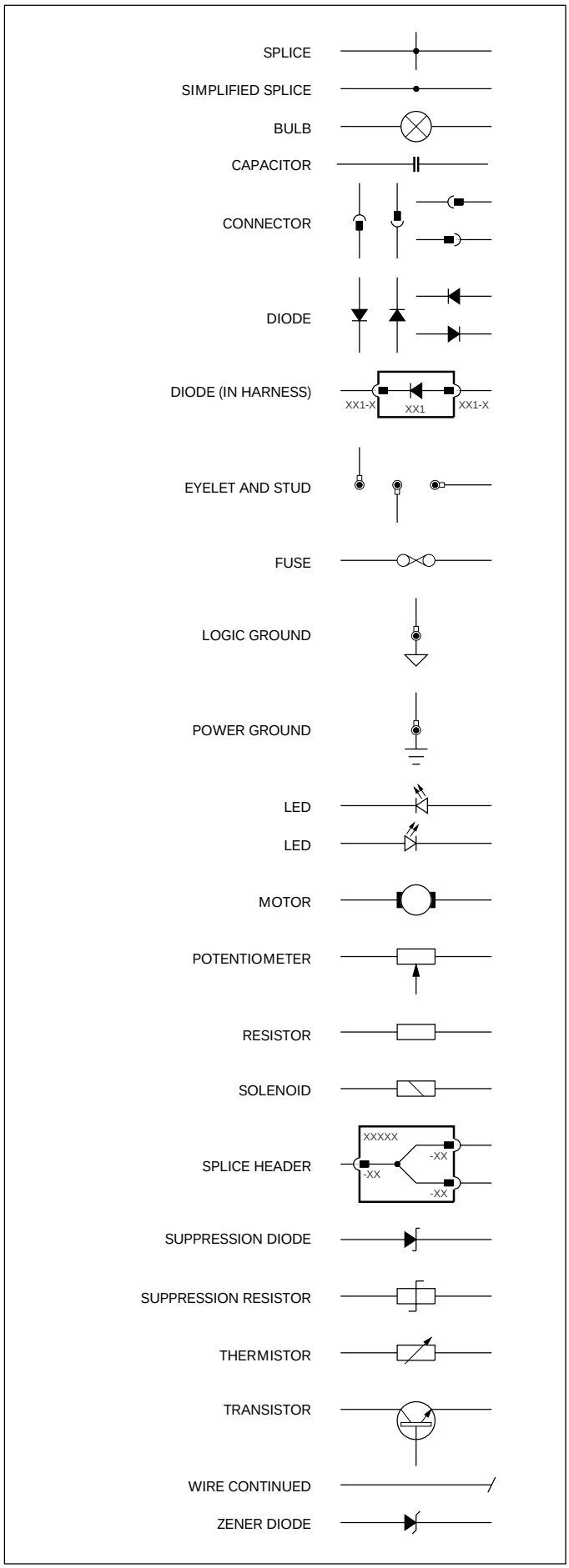
BPM Because the Body Processor Module appears numerous times, the abbreviation BPM is used in the reference flags on Figures 01.2 and 02.1 in order to conserve space.

Control Module Input, Output, Data Link, Signal Ground and Network(s)

I Input | O Output | D Serial and Encoded Communications | Signal Ground (SG) | C CAN (Network) | S SCP Network

These six symbols are employed to assist the user in visualizing the 'logic' of circuits containing control modules. The symbols identify control module input, output, data link, signal ground and network pins. These symbols are also employed on the corresponding data page.

Wiring Symbols



Wiring Color Codes

N	Brown	O	Orange
B	Black	S	Slate
W	White	L	Light
K	Pink	U	Blue
G	Green	P	Purple
R	Red	BRD	Braid
Y	Yellow		

When a wire has two or more color code letters, the first letter indicates the main color and the subsequent letter(s) indicate the tracer color(s).

Wiring Harness Codes

Code	Description
AN	Generator link harness
BB	Rear seat motors and heaters harness
BC	Rear seat center console harness
BL	Bumper harness – LH front
BR	Bumper harness – RH front
BS	Rear seat link harness
BT	Trunk harness
CA	Cabin harness
CC	Center console harness
CF	Radiator cooling fan harness
DD	Driver door harness
EM	Engine management harness
FC	Fascia harness
FL	Axle harness – LH front
FP	Fuel tank pressure sensor link harness
FR	Axle harness – RH front
GB	Transmission harness
HP	Steering wheel horn switch harness
IC	In-car entertainment harness
IJ	Fuel injector harness – supercharged
LA	Axle harness – LH rear
LL	Power steering link harness
LS	Forward harness
PD	Passenger door harness
PI	Engine harness
RA	Axle harness – RH rear
RD	Rear driver door harness
RP	Rear passenger door harness
RT	Radio telephone harness
SC	Steering column switchgear harness
SH	Windshield heater link harness
SM-D	Driver seat harness
SM-P	Passenger seat harness
SR	Sliding roof motor link harness
ST	Main power harness
SW	Steering wheel harness

Code Numbering

When numbering connectors, grounds and splices, Jaguar Engineering uses a three-position format: CA001, CA002, etc. Because space is limited in this Electrical Guide, the codes have been shortened. Thus CA001-001 becomes CA1-1, CA002-001 becomes CA2-1, etc.

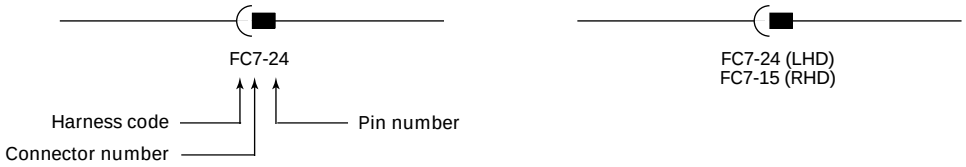
Harness Component Numbers

Connectors

HARNESS CODE + CONNECTOR NUMBER + PIN NUMBER

EXAMPLE: FC7-24 (pin number is separated by a dash)

Where the pin number differs from LHD to RHD, the connector number will be further identified by (LHD) or (RHD).

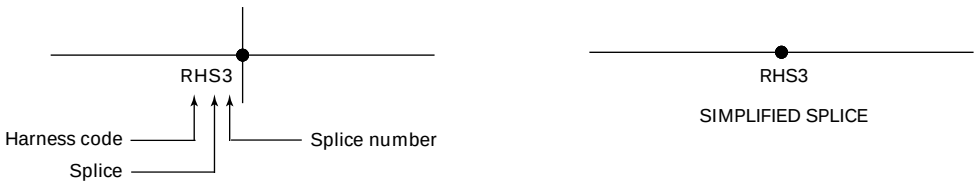


Splices

HARNESS CODE + S (SPLICE) + SPLICE NUMBER

EXAMPLE: RHS3 (no dash is used)

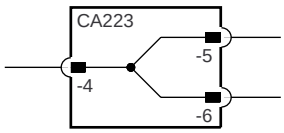
NOTE: In order to avoid unnecessary circuit complication, multiple splices (more than two wires) within components, in wires leading from input components to multiple circuits and in harness 'ground' sides, are simplified so as not to show wires from other circuits.



Splice Headers

Three non-serviceable splice headers are used in the system harness. Splice headers are depicted as components and identified by a connector number within the component. The splice header number appears at the upper left hand corner; pin numbers appear adjacent to each pin.

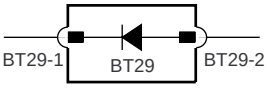
EXAMPLE:



Diodes

Harness diodes occur at connectors and are depicted as components and identified by a connector number.

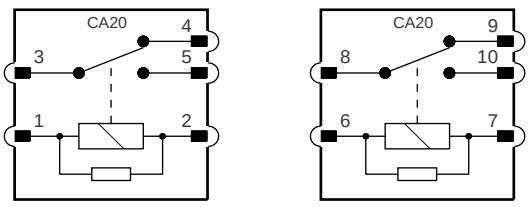
EXAMPLE:



Relay Connectors

Relay connector numbers are shown within the relay. The connector number is shown in the upper portion of the relay; the pin (terminal) number is shown adjacent to the pin. Certain relays are paired and share a modular connector. In this instance, the connector number remains the same for both relays while the pin numbers of the second relay are identified by numbers 6 – 10.

EXAMPLE:



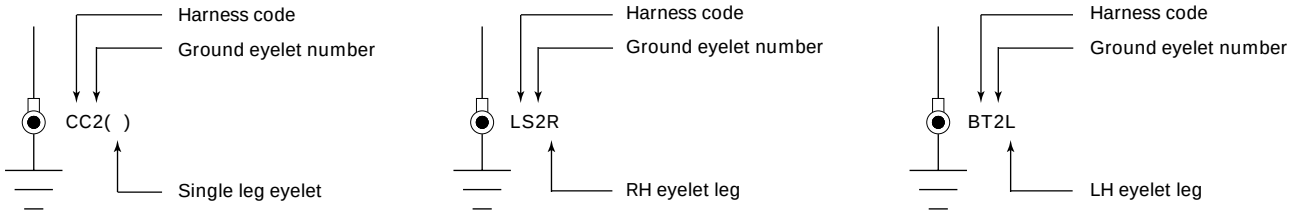
Grounds

HARNESS CODE + GROUND EYELET NUMBER + EYELET DESIGNATION (L or R where applicable)

Eyelet designation

Two eyelet variations are used: a single eyelet and an eyelet pair. The single eyelet has a single 'leg' and can be identified by the absence of a suffix. The eyelet pair has two 'legs', identified by the suffix L (left) or R (right).

EXAMPLES:



Where the ground designation differs from LHD to RHD, the RHD ground is shown in parentheses. If the ground designation is the same for LHD and RHD, only one ground designation is used.

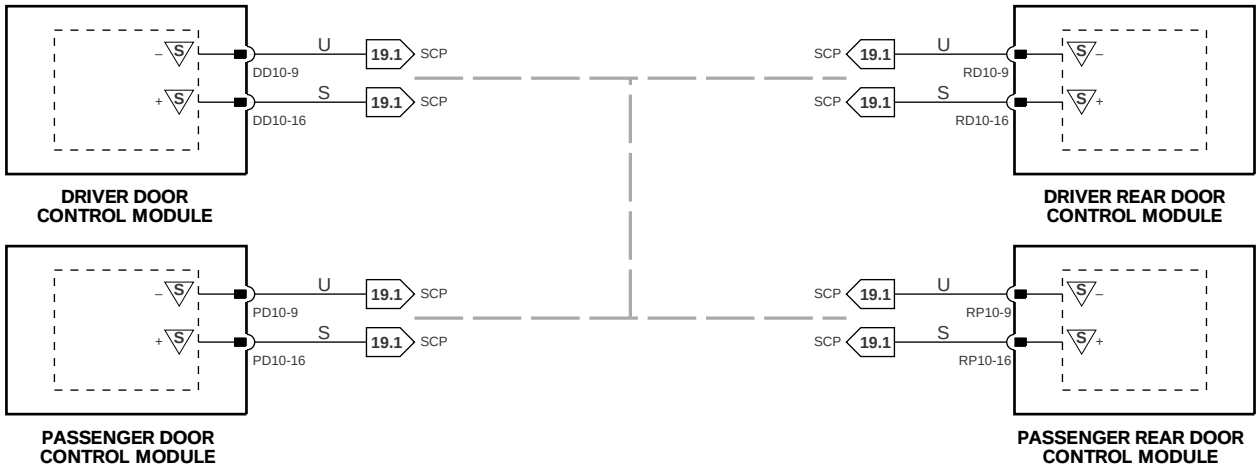
EXAMPLES:

NOTE: The XJ Series ground studs are not identified by code. Therefore, multiple eyelets with different harness codes may be connected to a ground stud.

SCP Network

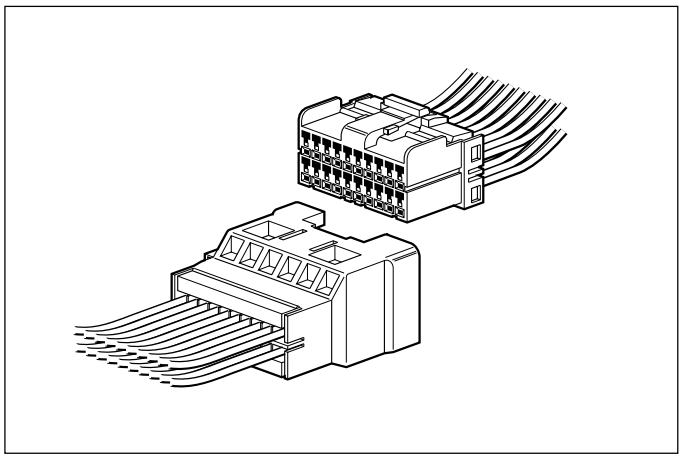
Due to circuit complexity and because space is limited, the SCP Network is, in most cases, shown as a broken grey line indicating that there is network communication between the depicted control modules. Refer to Fig. 19.1 for circuit details.

EXAMPLE:

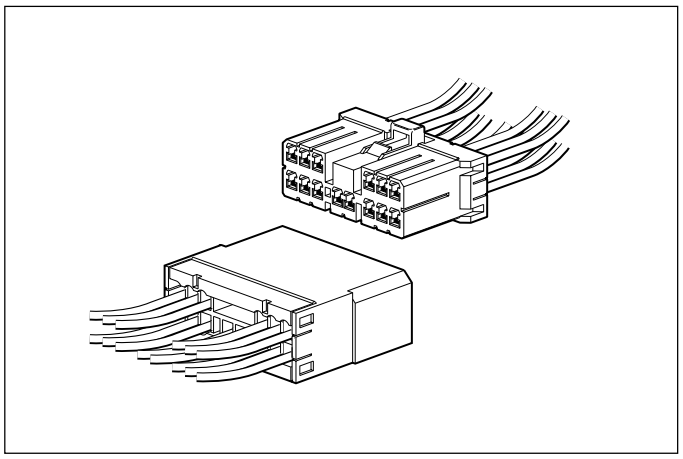


The following connectors are the common harness-to-harness connectors used throughout the vehicle.

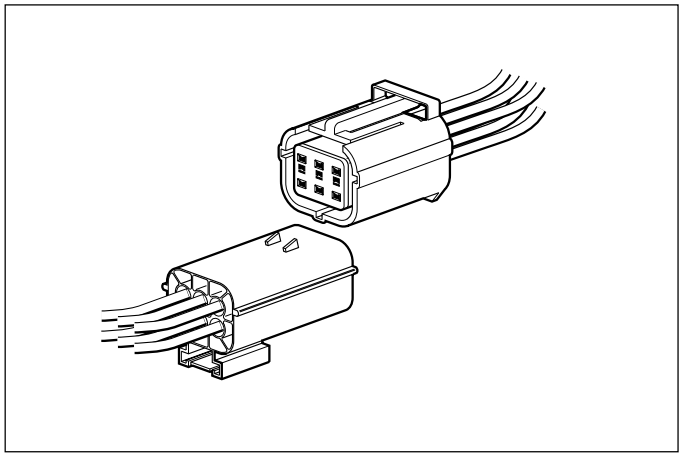
Multilock 040
Low current (harness and 'direct' connection connector).



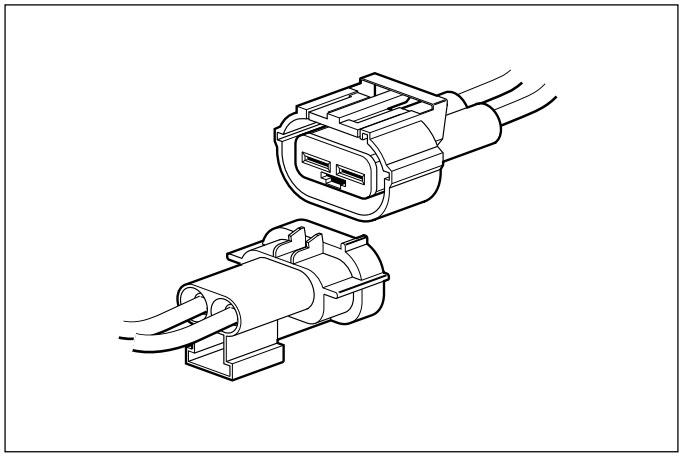
Multilock 070
High current (harness and 'direct' connection connector).



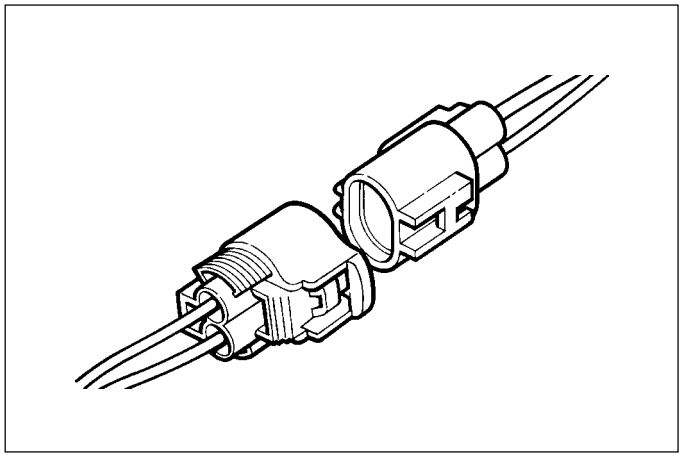
Econoseal III LC
Low current sealed connector.



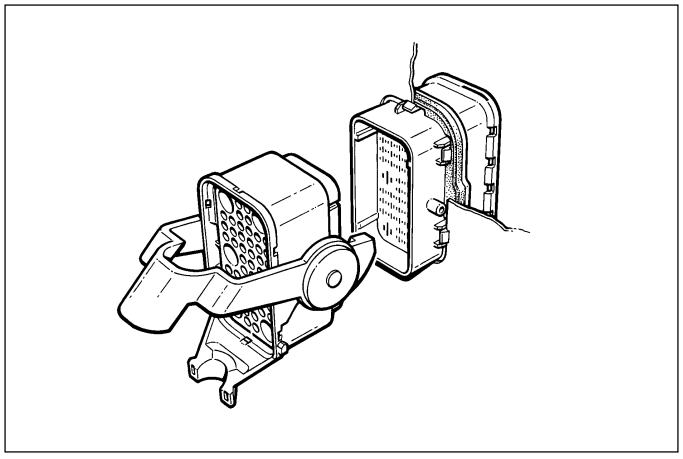
Econoseal III HC
High current sealed connector.



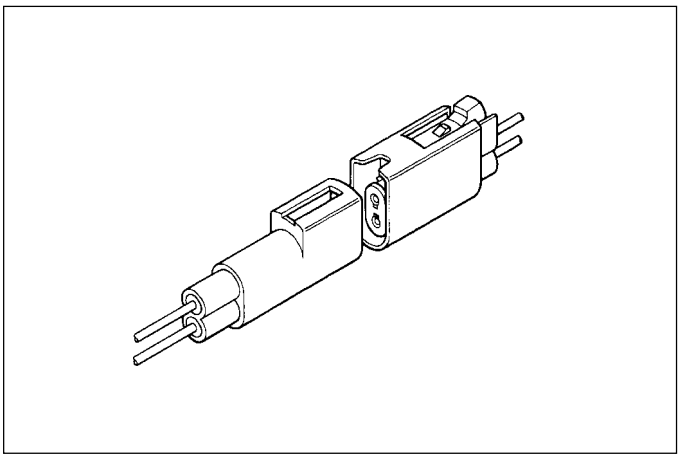
Ford Card
Used for SRS only.



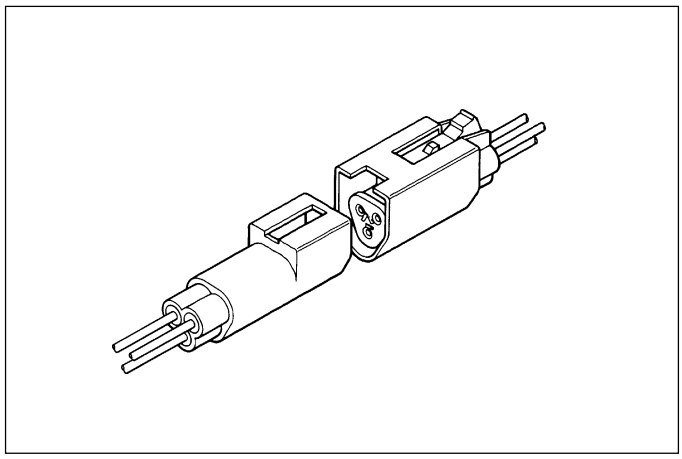
Through Panel
54-way connector.



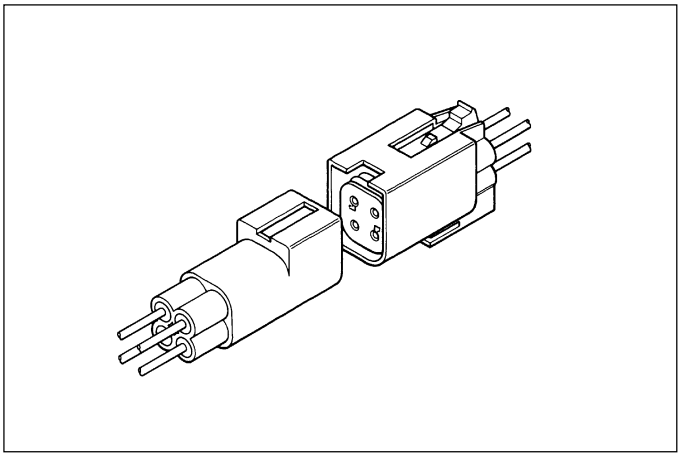
Augat 1.6
2-way connector.



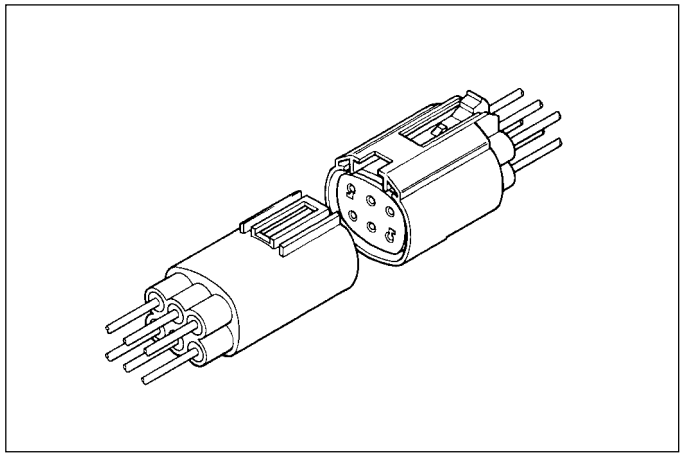
Augat 1.6
3-way connector.



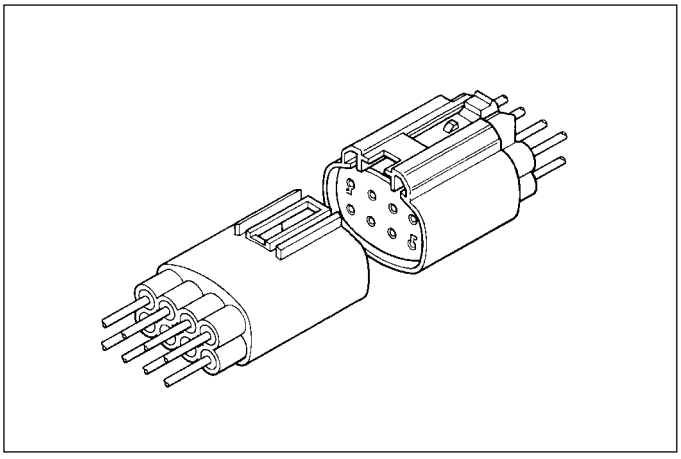
Augat 1.6
4-way connector.

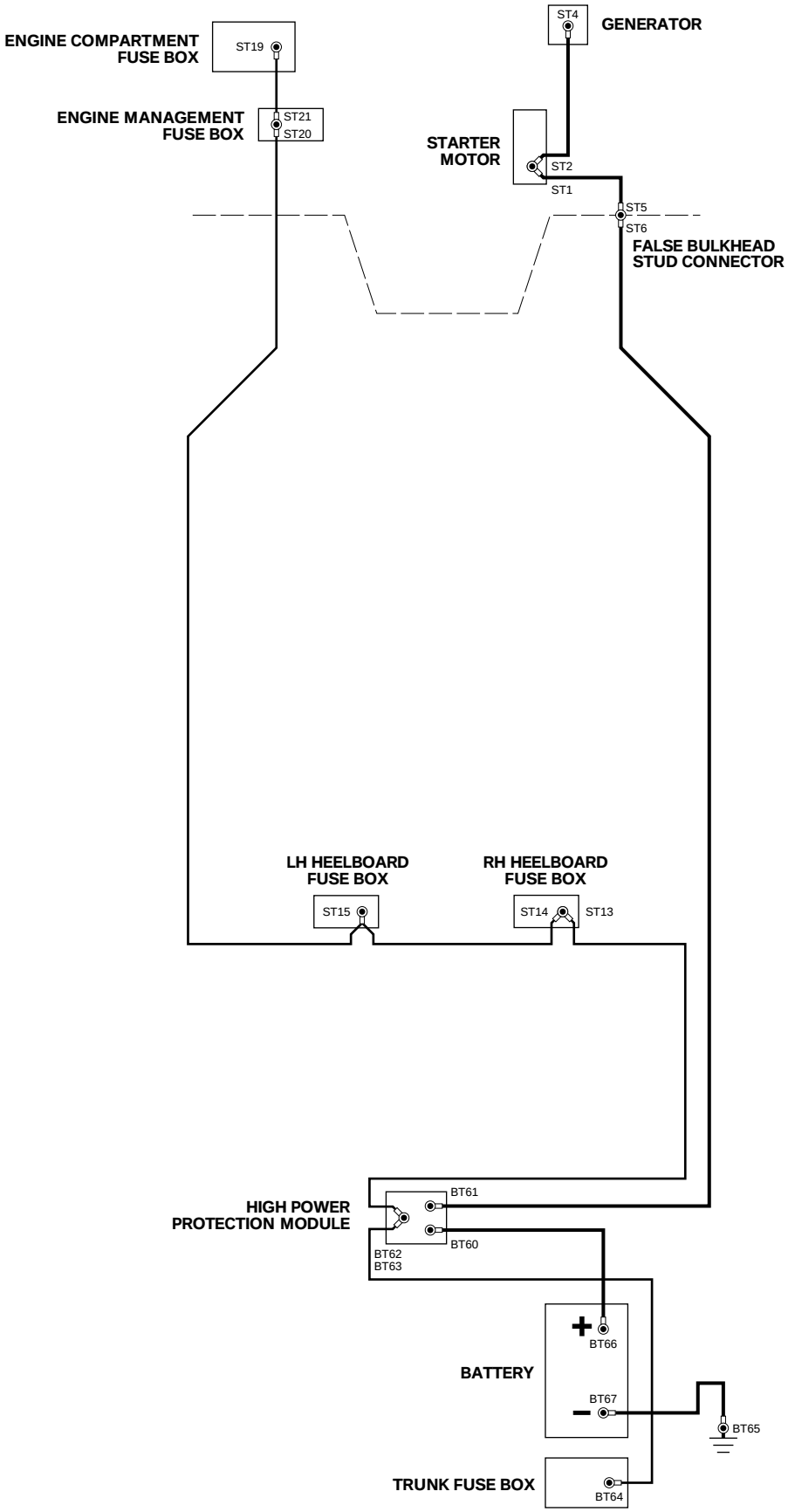


Augat 1.6
6-way connector.

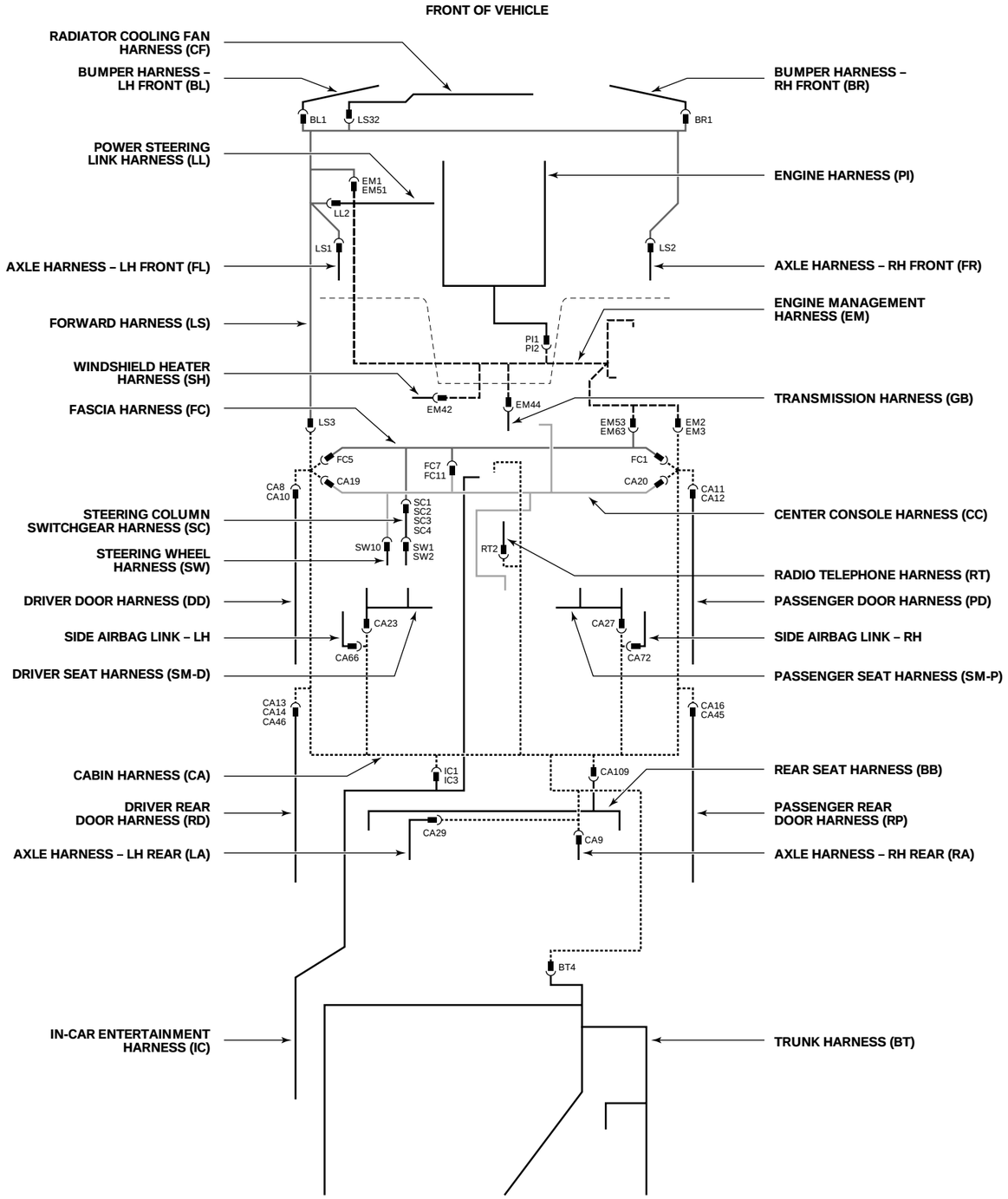


Augat 1.6
8-way connector.

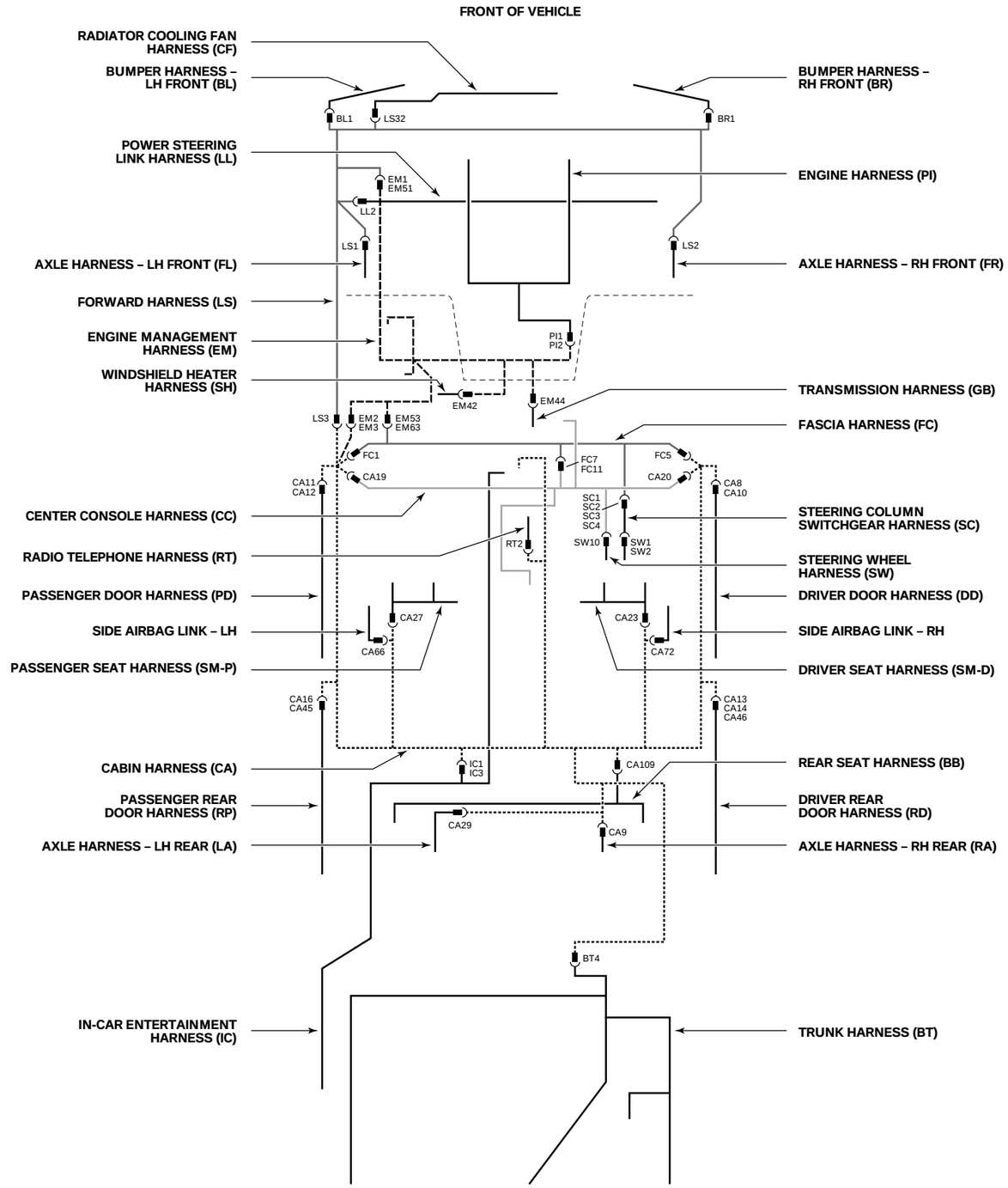


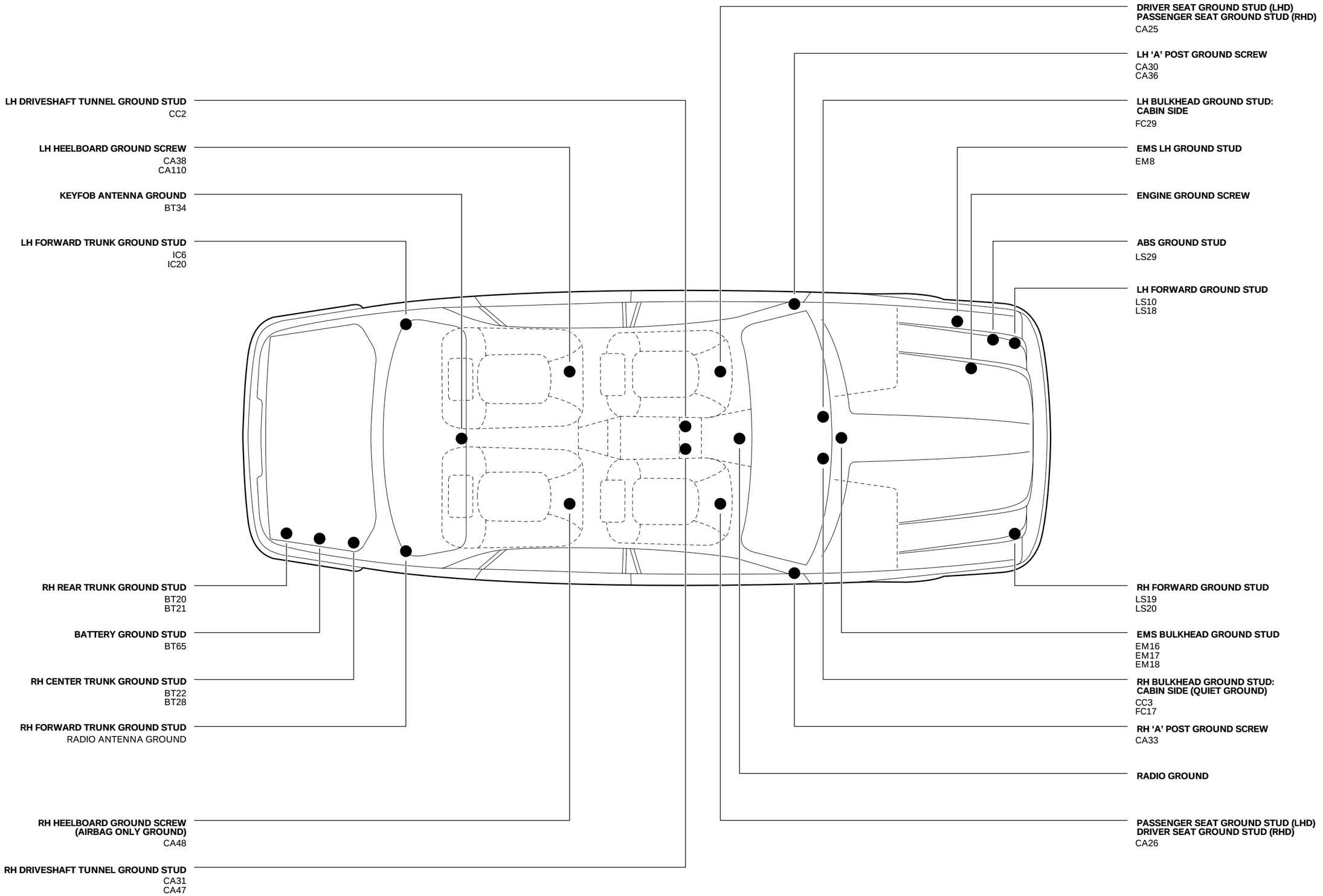

ENGINE COMPARTMENT FUSE BOX
ST19
ENGINE MANAGEMENT FUSE BOX
ST21
ST20
ST4
GENERATOR
STARTER MOTOR
ST2
ST1
ST5
ST6
FALSE BULKHEAD STUD CONNECTOR
LH HEELBOARD FUSE BOX
ST15
RH HEELBOARD FUSE BOX
ST14
ST13
HIGH POWER PROTECTION MODULE
BT61
BT60
BT62
BT63
BT66
BATTERY
BT67
BT65
TRUNK FUSE BOX
BT64

LHD

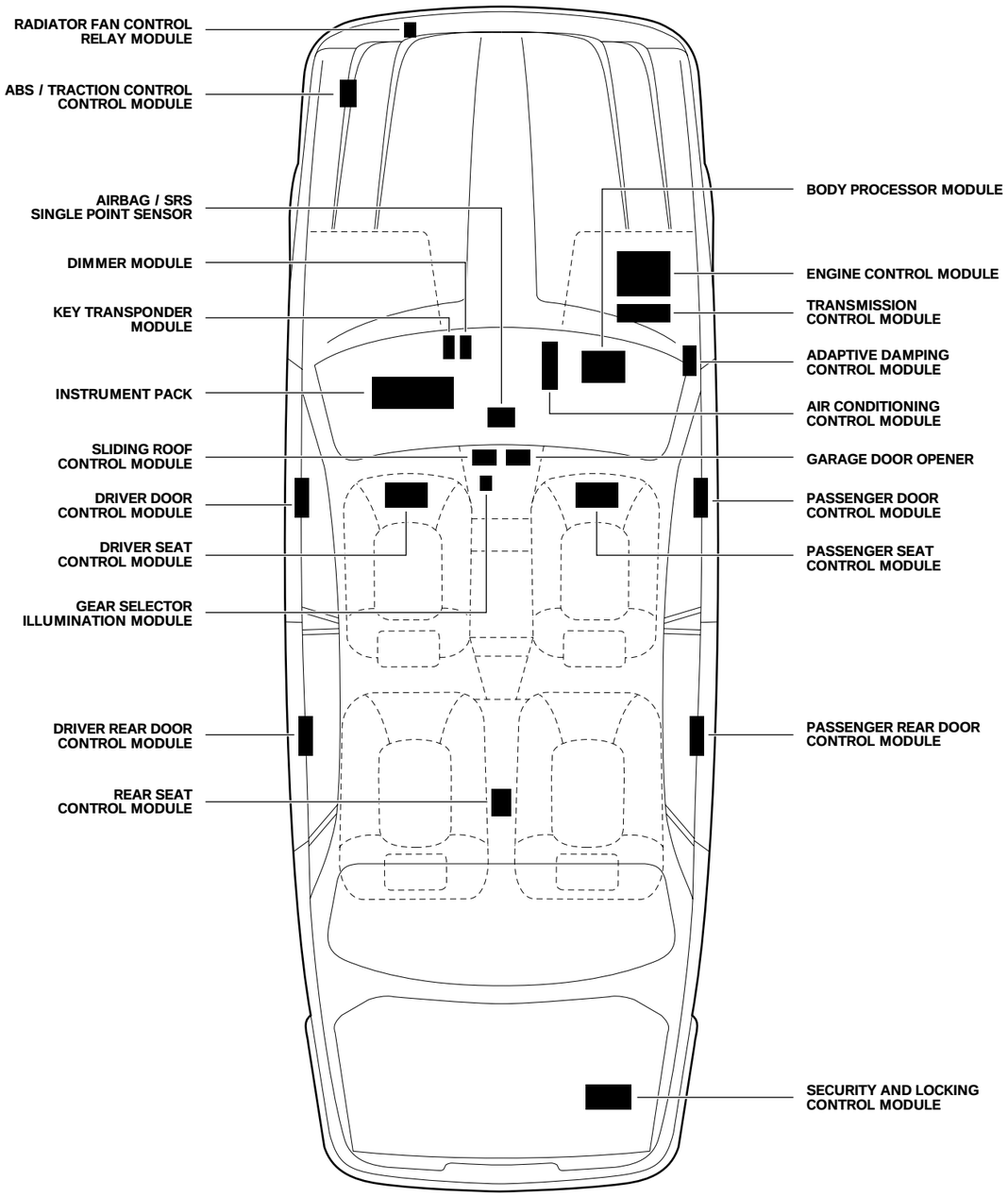

FRONT OF VEHICLE
RADIATOR COOLING FAN HARNESS (CF)
BUMPER HARNESS – LH FRONT (BL)
BUMPER HARNESS – RH FRONT (BR)
POWER STEERING LINK HARNESS (LL)
ENGINE HARNESS (PI)
AXLE HARNESS – LH FRONT (FL)
AXLE HARNESS – RH FRONT (FR)
FORWARD HARNESS (LS)
ENGINE MANAGEMENT HARNESS (EM)
WINDSHIELD HEATER HARNESS (SH)
FASCIA HARNESS (FC)
TRANSMISSION HARNESS (GB)
CENTER CONSOLE HARNESS (CC)
STEERING COLUMN SWITCHGEAR HARNESS (SC)
STEERING WHEEL HARNESS (SW)
RADIO TELEPHONE HARNESS (RT)
DRIVER DOOR HARNESS (DD)
PASSENGER DOOR HARNESS (PD)
SIDE AIRBAG LINK – LH
SIDE AIRBAG LINK – RH
DRIVER SEAT HARNESS (SM-D)
PASSENGER SEAT HARNESS (SM-P)
CABIN HARNESS (CA)
REAR SEAT HARNESS (BB)
DRIVER REAR DOOR HARNESS (RD)
PASSENGER REAR DOOR HARNESS (RP)
AXLE HARNESS – LH REAR (LA)
AXLE HARNESS – RH REAR (RA)
IN-CAR ENTERTAINMENT HARNESS (IC)
TRUNK HARNESS (BT)
BL1
LS32
BR1
EM1
EM51
LL2
LS1
LS2
PI1
PI2
EM42
EM44
LS3
EM53
EM63
EM2
EM3
FC5
FC7
FC11
FC1
CA19
CA20
CA8
CA10
CA11
CA12
SC1
SC2
SC3
SC4
SW10
SW1
SW2
RT2
CA23
CA66
CA27
CA72
CA13
CA14
CA46
CA16
CA45
IC1
IC3
CA109
CA29
CA9
BT4

RHD

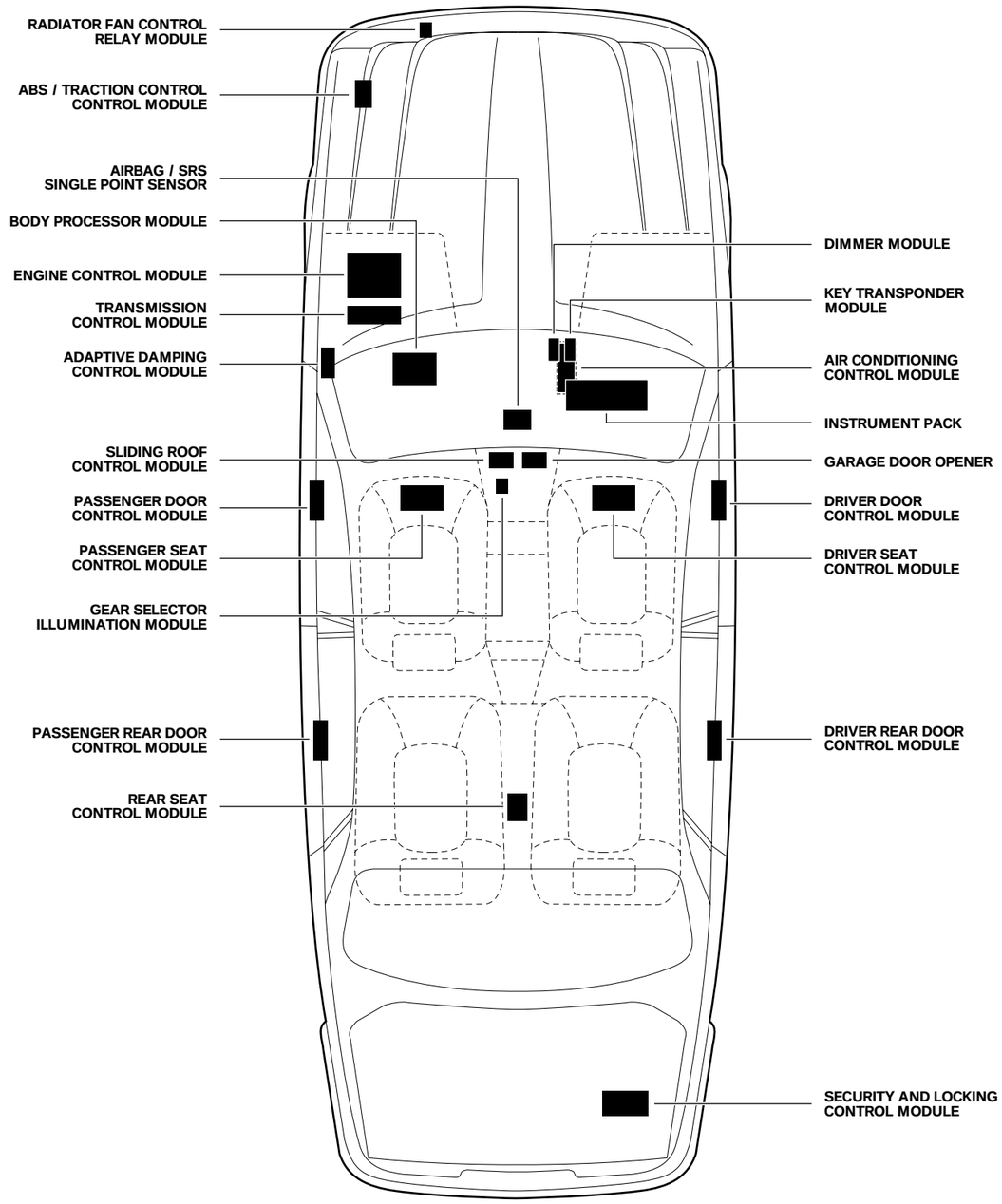

FRONT OF VEHICLE
RADIATOR COOLING FAN HARNESS (CF)
BUMPER HARNESS – LH FRONT (BL)
BUMPER HARNESS – RH FRONT (BR)
POWER STEERING LINK HARNESS (LL)
ENGINE HARNESS (PI)
AXLE HARNESS – LH FRONT (FL)
AXLE HARNESS – RH FRONT (FR)
FORWARD HARNESS (LS)
ENGINE MANAGEMENT HARNESS (EM)
WINDSHIELD HEATER HARNESS (SH)
TRANSMISSION HARNESS (GB)
FASCIA HARNESS (FC)
CENTER CONSOLE HARNESS (CC)
STEERING COLUMN SWITCHGEAR HARNESS (SC)
RADIO TELEPHONE HARNESS (RT)
STEERING WHEEL HARNESS (SW)
PASSENGER DOOR HARNESS (PD)
DRIVER DOOR HARNESS (DD)
SIDE AIRBAG LINK – LH
SIDE AIRBAG LINK – RH
PASSENGER SEAT HARNESS (SM-P)
DRIVER SEAT HARNESS (SM-D)
CABIN HARNESS (CA)
REAR SEAT HARNESS (BB)
PASSENGER REAR DOOR HARNESS (RP)
DRIVER REAR DOOR HARNESS (RD)
AXLE HARNESS – LH REAR (LA)
AXLE HARNESS – RH REAR (RA)
IN-CAR ENTERTAINMENT HARNESS (IC)
TRUNK HARNESS (BT)
BL1
LS32
BR1
EM1
EM51
LL2
LS1
LS2
PI1
PI2
EM42
EM44
LS3
EM2
EM3
EM53
EM63
FC1
FC7
FC11
FC5
CA19
CA20
CA11
CA12
CA8
CA10
SC1
SC2
SC3
SC4
SW10
SW1
SW2
RT2
CA27
CA66
CA23
CA72
CA16
CA45
CA13
CA14
CA46
IC1
IC3
CA109
CA29
CA9
BT4


DRIVER SEAT GROUND STUD (LHD)
PASSENGER SEAT GROUND STUD (RHD)
CA25
LH 'A' POST GROUND SCREW
CA30
CA36
LH BULKHEAD GROUND STUD: CABIN SIDE
FC29
EMS LH GROUND STUD
EM8
ENGINE GROUND SCREW
ABS GROUND STUD
LS29
LH FORWARD GROUND STUD
LS10
LS18
LH DRIVESHAFT TUNNEL GROUND STUD
CC2
LH HEELBOARD GROUND SCREW
CA38
CA110
KEYFOB ANTENNA GROUND
BT34
LH FORWARD TRUNK GROUND STUD
IC6
IC20
RH REAR TRUNK GROUND STUD
BT20
BT21
BATTERY GROUND STUD
BT65
RH CENTER TRUNK GROUND STUD
BT22
BT28
RH FORWARD TRUNK GROUND STUD
RADIO ANTENNA GROUND
RH HEELBOARD GROUND SCREW (AIRBAG ONLY GROUND)
CA48
RH DRIVESHAFT TUNNEL GROUND STUD
CA31
CA47
RH FORWARD GROUND STUD
LS19
LS20
EMS BULKHEAD GROUND STUD
EM16
EM17
EM18
RH BULKHEAD GROUND STUD: CABIN SIDE (QUIET GROUND)
CC3
FC17
RH 'A' POST GROUND SCREW
CA33
RADIO GROUND
PASSENGER SEAT GROUND STUD (LHD)
DRIVER SEAT GROUND STUD (RHD)
CA26

LHD

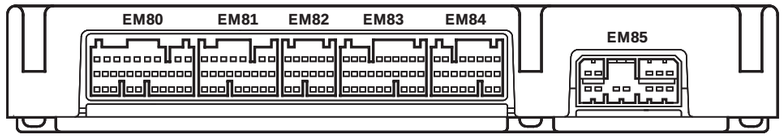

RADIATOR FAN CONTROL RELAY MODULE
ABS / TRACTION CONTROL CONTROL MODULE
AIRBAG / SRS SINGLE POINT SENSOR
DIMMER MODULE
KEY TRANSPONDER MODULE
INSTRUMENT PACK
SLIDING ROOF CONTROL MODULE
DRIVER DOOR CONTROL MODULE
DRIVER SEAT CONTROL MODULE
GEAR SELECTOR ILLUMINATION MODULE
DRIVER REAR DOOR CONTROL MODULE
REAR SEAT CONTROL MODULE
BODY PROCESSOR MODULE
ENGINE CONTROL MODULE
TRANSMISSION CONTROL MODULE
ADAPTIVE DAMPING CONTROL MODULE
AIR CONDITIONING CONTROL MODULE
GARAGE DOOR OPENER
PASSENGER DOOR CONTROL MODULE
PASSENGER SEAT CONTROL MODULE
PASSENGER REAR DOOR CONTROL MODULE
SECURITY AND LOCKING CONTROL MODULE

RHD


RADIATOR FAN CONTROL RELAY MODULE
ABS / TRACTION CONTROL CONTROL MODULE
AIRBAG / SRS SINGLE POINT SENSOR
BODY PROCESSOR MODULE
ENGINE CONTROL MODULE
TRANSMISSION CONTROL MODULE
ADAPTIVE DAMPING CONTROL MODULE
SLIDING ROOF CONTROL MODULE
PASSENGER DOOR CONTROL MODULE
PASSENGER SEAT CONTROL MODULE
GEAR SELECTOR ILLUMINATION MODULE
PASSENGER REAR DOOR CONTROL MODULE
REAR SEAT CONTROL MODULE
DIMMER MODULE
KEY TRANSPONDER MODULE
AIR CONDITIONING CONTROL MODULE
INSTRUMENT PACK
GARAGE DOOR OPENER
DRIVER DOOR CONTROL MODULE
DRIVER SEAT CONTROL MODULE
DRIVER REAR DOOR CONTROL MODULE
SECURITY AND LOCKING CONTROL MODULE

ENGINE CONTROL MODULE: AJ27 N/A

* **EARLY 1999 MY PRODUCTION VEHICLES HAVE WIRE COLOR CODES THAT DIFFER FROM THOSE SHOWN.**



AJ27 N/A NAS

EM80 / 31-WAY / NATURAL

9 GY	8 GY	7 R	6 R	5 G	4 G	3 B		2 OK	1 PN	
21 B	20 PG	19 W	18 K	17 O	16 SP	15 SG	14 —	13 —	12 UG	11 UN	10 WU
31 B	30 —	29 BK		28 —	27 P		26 —	25 RY	24 —	23 ULG	22 RW

EM81 / 24-WAY / NATURAL

7 RG	6 OG	5 W	4 WU	3 PK		2 RY	1 OY		
16 RG	15 SG	14 SR	13 WU	12 RU	11 —	10 U	9 K	8 B	
24 BG	23 —	22 OU		21 B	20 —	19 G	18 R	17 WR	

EM82 / 17-WAY / NATURAL

6 GR	5 G	4 R	3 —	2 GO	1 UW
12 GP	11 W	10 Y	9 WK	8 US	7 BG
17 UP	16 Y		15 O	14 UY	13 WR

EM83 / 28-WAY / NATURAL

9 N	8 Y	7 P		6 BG	5 UW	4 KN	3 PU	2 —	1 —		
19 G	18 B	17 O	16 G	15 G	14 S	13 BG	12 BP	11 SLG	10 SG		
28 GY	27 BY	26 BY	25 Y	24 Y	23 N		22 N	21 U	20 NO		

EM84 / 22-WAY / NATURAL

7 PG	6 BS		5 BW	4 BY	3 BO	2 BU	1 B				
15 PR	14 BG	13 BP	12 GU*	11 GR*	10 GO*	9 GW*	8 —				
22 B	21 BN	20 GB*	19 GS*	18 GK*		17 GP*	16 B				

EM85 / 12-WAY / WHITE

5 U	4 —						3 —	2 PS	1 PU		
12 —	11 —		10 —	9 —			8 WG	7 B	6 B		

AJ27 N/A ROW

EM80 / 31-WAY / NATURAL

9 GY	8 GY	7 R	6 R	5 G	4 G	3 B		2 —	1 PN	
21 B	20 PG	19 W	18 K	17 O	16 SP	15 SG	14 —	13 —	12 UG	11 UN	10 WU
31 B	30 —	29 BK		28 —	27 P		26 —	25 RY	24 —	23 ULG	22 RW

EM81 / 24-WAY / NATURAL

7 RG	6 OG	5 W	4 WU	3 PK		2 RY	1 OY		
16 —	15 SG	14 SR	13 WU	12 RU	11 —	10 U	9 K	8 B	
24 BG	23 —	22 OU		21 B	20 —	19 G	18 R	17 WR	

EM82 / 17-WAY / NATURAL

6 GR	5 G	4 R	3 —	2 GO	1 UW
12 GP	11 W	10 Y	9 WK	8 US	7 BG
17 UP	16 Y		15 O	14 UY	13 WR

EM83 / 28-WAY / NATURAL

9 N	8 Y	7 P		6 BG	5 UW	4 KN	3 PU	2 —	1 —		
19 G	18 B	17 O	16 G	15 G	14 S	13 BG	12 BP	11 SLG	10 SG		
28 GY	27 BY	26 BY	25 Y	24 Y	23 N		22 N	21 U	20 NO		

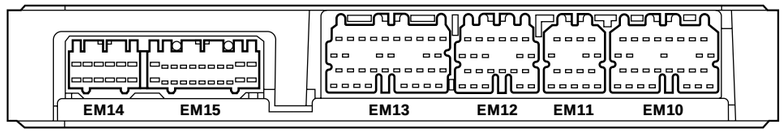
EM84 / 22-WAY / NATURAL

7 PG	6 BS		5 BW	4 BY	3 BO	2 BU	1 B				
15 PR	14 BG	13 BP	12 GU*	11 GR*	10 GO*	9 GW*	8 —				
22 B	21 BN	20 GB*	19 GS*	18 GK*		17 GP*	16 B				

EM85 / 12-WAY / WHITE

5 U	4 —						3 —	2 PS	1 PU		
12 —	11 —		10 —	9 —			8 WG	7 B	6 B		

ENGINE CONTROL MODULE: AJ26 SC



AJ26 SC NAS

EM14 / 12-WAY / WHITE

6 R	5 R	4 BK	3 WR	2 GY	1 GY
12 G	11 G	10 B	9 B	8 B	7 B

EM15 / 22-WAY / WHITE

11 B	10 —	9 —	8 —	7 BU	6 BW	5 BY	4 BO	3 PN	2 PU	1 PS	
22 B	21 —	20 —	19 —	18 BS	17 BN	16 BG	15 BP	14 —	13 —	12 B	

EM13 / 34-WAY / GREY

10 RY	9 KB	8 —	7 —	6 —	5 —	4 OK	3 SP	2 W	1 KN		
16 WU	15 W			14 GR	13 PY			12 RW	11 PW		
26 LGU	25 LGW	24 LGO	23 LGK	22 UB	21 —	20 B	19 Y	18 S	17 N		
34 LGP	33 LGS	32 LGR	31 LGY		30 —	29 O	28 P	27 BG			

EM12 / 22-WAY / GREY

6 RW	5 WU	4 YR	3 YN	2 YG	1 YU						
11 —	10 RY	9 SG			8 SLG	7 UP					
17 U	16 N	15 R	14 G	13 GY	12 UP						
22 BP	21 —	20 —			19 BY	18 BY					

EM11 / 16-WAY / GREY

4 WU	3 P	2 —	1 SR								
7 RG			6 GO	5 SG							
11 U	10 G	9 UY	8 UW								
16 K	15 R	14 BG	13 BY	12 BG							

EM10 / 28-WAY / GREY

8 —	7 —	6 O	5 WK	4 UN	3 ULG	2 UG	1 WR				
13 O	12 K		11 PG			10 US	9 NO				
21 UW	20 BG	19 —	18 —	17 Y	16 PK	15 RS	14 OU				
28 Y	27 G	26 Y	25 G		24 —	23 BK	22 B				

AJ26 SC ROW

EM14 / 12-WAY / WHITE

6 R	5 R	4 BK	3 WR	2 GY	1 GY
12 G	11 G	10 B	9 B	8 B	7 B

EM15 / 22-WAY / WHITE

11 B	10 —	9 —	8 —	7 BU	6 BW	5 BY	4 BO	3 PN	2 PU	1 PS	
22 B	21 —	20 —	19 —	18 BS	17 BN	16 BG	15 BP	14 —	13 —	12 B	

EM13 / 34-WAY / GREY

10 RY	9 KB	8 —	7 —	6 —	5 —	4 OK	3 SP	2 W	1 KN		
16 WU	15 W			14 GR	13 PYs			12 RW	11 PW		
26 LGU	25 LGW	24 LGO	23 LGK	22 UB	21 —	20 B	19 Y	18 S	17 N		
34 LGP	33 LGS	32 LGR	31 LGY		30 —	29 O	28 P	27 BG			

EM12 / 22-WAY / GREY

6 RW	5 WU	4 YR	3 YN	2 YG	1 YU						
11 —	10 RY	9 SG			8 SLG	7 UP					
17 —	16 —	15 R	14 G	13 GY	12 UP						
22 BP	21 —	20 —			19 BY	18 BY					

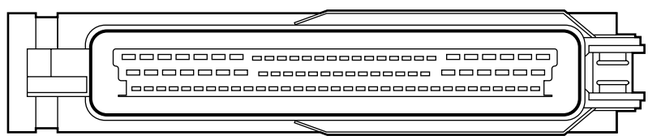
EM11 / 16-WAY / GREY

4 WU	3 P	2 —	1 SR								
7 RG			6 GO	5 SG							
11 U	10 G	9 UY	8 UW								
16 K	15 R	14 BG	13 BY	12 BG							

EM10 / 28-WAY / GREY

8 —	7 —	6 O	5 WK	4 UN	3 ULG	2 UG	1 WR				
13 O	12 K		11 PG			10 US	9 NO				
21 UW	20 BG	19 —	18 —	17 Y	16 PK	15 RS	14 OU				
28 Y	27 G	26 Y	25 G		24 —	23 BK	22 B				

TRANSMISSION CONTROL MODULE: AJ27 N/A

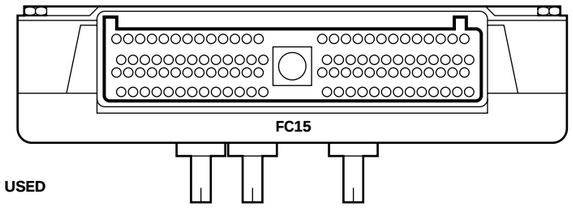


EM7

EM7 / 88-WAY / BLACK

| | | |

BODY PROCESSOR MODULE



*** NAS VEHICLES: FC15-56 NOT USED**

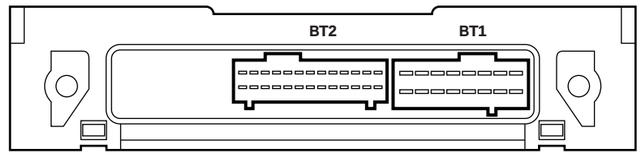
FC15 / 104-WAY / GREY (LHD)

79 NG	80 NB	81 GR	82 GR	83 GB	84 U	85 S	86 OP	87 SK	88 YG	89 YW	90 BK	91 BK	92 SU	93 YK	94 LGO	95 RS	96 PW	97 —	98 —	99 PN	100 BR	101 PW	102 NB	103 —	104 NY
53 RK	54 RB	55 SP	56* UM	57 GR	58 SB	59 PY	60 RY	61 KG	62 —	63 SG	64 —	65 —	66 PU	67 UR	68 US	69 OK	70 GS	71 SR	72 YU	73 —	74 RW	75 GR	76 GK	77 RG	78 PG
27 YK	28 RW	29 —	30 U	31 GB	32 WN	33 WY	34 LGK	35 OU	36 —	37 LGR	38 OR	39 Y	40 WU	41 RW	42 UY	43 WLG	44 OY	45 UG	46 YB	47 YLG	48 OG	49 GO	50 GY	51 RW	52 BS
1 RY	2 GY	3 GK	4 GU	5 SO	6 YW	7 —	8 —	9 LGU	10 RW	11 YB	12 OP	13 —	14 UB	15 WO	16 RY	17 OY	18 YS	19 BLG	20 OG	21 SO	22 —	23 —	24 NW	25 B	26 YG

FC15 / 104-WAY / GREY (RHD)

79 NG	80 NB	81 GR	82 GR	83 GB	84 U	85 S	86 OP	87 SK	88 YG	89 YR	90 BK	91 BK	92 SU	93 YK	94 LGO	95 RS	96 PW	97 —	98 —	99 PN	100 BR	101 PW	102 NB	103 —	104 NY
53 RK	54 RB	55 SP	56 UW	57 GR	58 SB	59 PY	60 RY	61 KG	62 —	63 SG	64 —	65 —	66 PU	67 UR	68 US	69 OK	70 GS	71 SR	72 YU	73 —	74 RW	75 GR	76 GK	77 RG	78 PG
27 YK	28 RW	29 —	30 U	31 GB	32 WN	33 WY	34 LGK	35 OU	36 —	37 LGR	38 OR	39 Y	40 WU	41 RW	42 UY	43 WLG	44 OY	45 UG	46 YB	47 YLG	48 OG	49 GO	50 GY	51 RW	52 BS
1 RY	2 GY	3 GK	4 GU	5 SO	6 YW	7 —	8 —	9 LGU	10 RW	11 YB	12 OP	13 —	14 UB	15 WO	16 RY	17 OY	18 YS	19 BLG	20 OG	21 SO	22 —	23 —	24 NW	25 B	26 YG

SECURITY AND LOCKING CONTROL MODULE



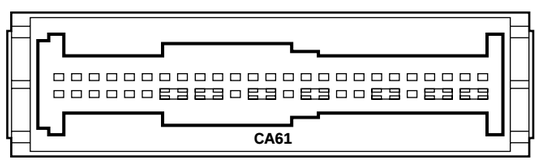
BT2 / 26-WAY / BLACK

13 —	12 —	11 —	10 —	9 —	8 LGS	7 —	6 GW	5 RY	4 —	3 —	2 —	1 US
26 YO	25 —	24 —	23 —	22 —	21 —	20 —	19 —	18 —	17 —	16 —	15 —	14 —

BT1 / 16-WAY / BLACK

8 S	7 RO	6 NK	5 YW	4 OG	3 UW	2 —	1 —
16 U	15 NY	14 BK	13 BK	12 —	11 —	10 —	9 UB

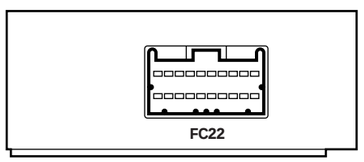
AIRBAG / SRS SINGLE POINT SENSOR



CA61 / 50-WAY / YELLOW

25 R	24 R	23 S	22 S	21 P	20 P	19 YR	18 Y	17 YU	16 Y	15 —	14 YR	13 Y	12 —	11 YU	10 Y	SO 6	8 —	7 YR	6 BK	5 WK	4 N	3 U	2 N	1 U
50 —	49 —	48 —	47 —	46 —	45 —	44 —	43 —	42 —	41 —	40 Y	39 —	38 —	37 —	36 —	35 —	34 —	33 —	32 —	31 —	30 —	29 —	28 —	27 —	26 —

KEY TRANSPONDER MODULE



FC22 / 20-WAY / GREEN

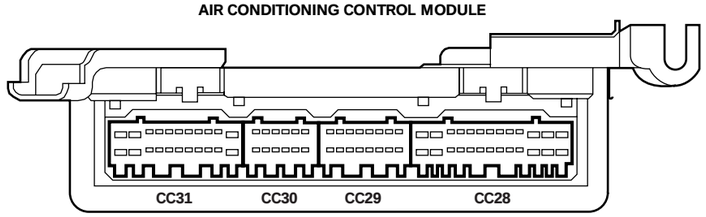
10 R	9 SU	8 OG	7 OR	6 O	5 U	4 NR	3 BRD	2 BRD	1 —
20 RB	19 RW	18 UW	17 Y	16 O	15 UB	14 WO	13 WN	12 BK	11 SO

ADAPTIVE DAMPING CONTROL MODULE

EM68 / 35-WAY / BLACK

19 —	20 PB	21 UB	22 RB	23 —	24 OB	25 U	26 US	27 NS	28 K	29 —	30 OS	31 OW	32 OW	33 OY	34 OY	35 —		
1 SO	2 —	3 UW	4 —	5 —	6 —	7 —	8 —	9 —	10 O	11 WK	12 —	13 OB	14 OG	15 OP	16 —	17 —	18 B	

AIR CONDITIONING CONTROL MODULE



CC31 / 22-WAY / GREY

12 WR	13 B	14 B	15 GW	16 OU	17 PG	18 LGW	19 BW	20 BK	21 O	22 —
1 WP	2 GY	3 WN	4 WU	5 NY	6 PY	7 UG	8 P	9 UN	10 K	11 —

CC30 / 12-WAY / GREY

7 SY	8 SR	9 —	10 —	11 UB	12 KU
1 ULG	2 S	3 SG	4 —	5 OY	6 UG

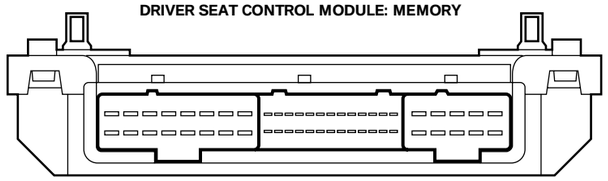
CC29 / 16-WAY / GREY

9 —	10 OR	11 YG	12 —	13 UY	14 —	15 UK	16 GP
1 OP	2 RG	3 YW	4 —	5 SU	6 SG	7 US	8 GO

CC28 / 26-WAY / GREY

14 —	15 —	16 LGN	17 RW	18 LGP	19 RU	20 SR	21 Y	22 NR	23 —	24 —	25 UR	26 GU
1 RLG	2 U	3 UY	4 PS	5 KW	6 RY	7 PR	8 PY	9 RB	10 —	11 —	12 UW	13 UO

DRIVER SEAT CONTROL MODULE: MEMORY



SM1-D / 16-WAY / BLACK

9 PY	10 PW	11 KY	12 KW	13 UW	14 UY	15 RY	16 RW
1 RO	2 RS	3 US	4 UO	5 GS	6 GO	7 PS	8 PO

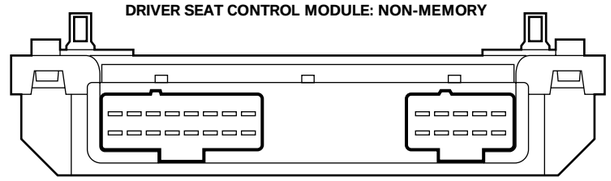
SM2-D / 26-WAY / BLACK

14 WB	15 WB	16 —	17 —	18 W	19 W	20 —	21 —	22 —	23 —	24 —	25 —	26 —
1 WB	2 WB	3 —	4 —	5 W	6 W	7 —	8 WP	9 WU	10 WO	11 WR	12 WY	13 —

SM3-D / 10-WAY / BLACK

6 GW	7 —	8 GY	9 S	10 U
1 BK	2 B	3 KS	4 KO	5 NK

DRIVER SEAT CONTROL MODULE: NON-MEMORY



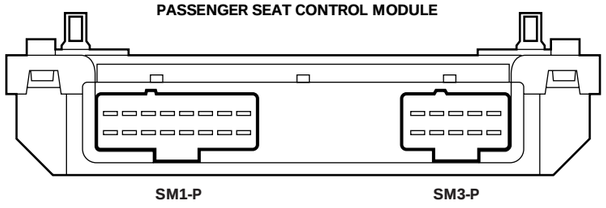
SM1-D / 16-WAY / BLACK

9 PY	10 PW	11 KY	12 KW	13 UW	14 UY	15 RY	16 RW
1 RO	2 RS	3 US	4 UO	5 GS	6 GO	7 PS	8 PO

SM3-D / 10-WAY / BLACK

6 GW	7 —	8 GY	9 S	10 U
1 BK	2 B	3 KS	4 KO	5 NK

PASSENGER SEAT CONTROL MODULE



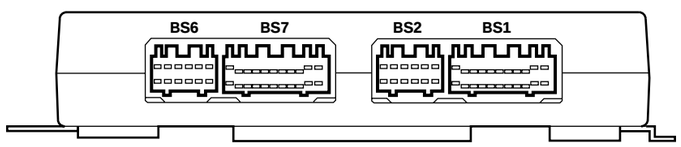
SM1-P / 16-WAY / BLACK

9 PY	10 PW	11 KY	12 KW	13 UW	14 UY	15 RY	16 RW
1 RO	2 RS	3 US	4 UO	5 GS	6 GO	7 PS	8 PO

SM3-P / 10-WAY / BLACK

6 GW	7 —	8 GY	9 S	10 U
1 —	2 B	3 KS	4 KO	5 NK

REAR SEAT CONTROL MODULE



BS6 / 12-WAY / WHITE

6 GO	5 GS	4 PO	3 PS	2 OU	1 OS
12 GR	11 GW	10 OW	9 B	8 PW	7 PR

BS7 / 22-WAY / WHITE

11 —	10 PW	9 PY	8 RY	7 —	6 —	5 —	4 —	3 —	2 —	1 —
22 —	21 —	20 RW	19 UW	18 UY	17 YW	16 YG	15 GW	14 GY	13 —	12 —

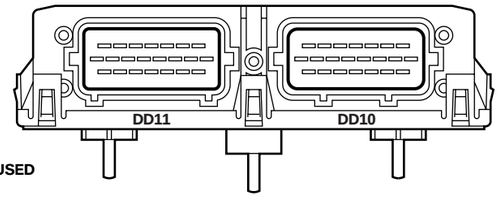
BS2 / 12-WAY / BLUE

6 NW	5 B	4 NK	3 B	2 —	1 —
12 NW	11 —	10 —	9 —	8 —	7 —

BS1 / 22-WAY / BLUE

11 SY	10 B	9 —	8 —	7 —	6 —	5 —	4 —	3 —	2 —	1 —
22 B	21 —	20 —	19 —	18 —	17 —	16 —	15 —	14 —	13 —	12 B

DRIVER DOOR CONTROL MODULE



*** ROW NON-MEMORY: DD11-2 NOT USED**

DD11 / 22-WAY / BLACK (NAS)

7 BP	6 BY	5 OB	4 OU	3 OR	2 UG	1 BK
15 BW	14 —	13 OU	12 OY	11 —	10 YN	9 YR	8 —
22 BN	21 BS	20 G	19 —	18 BO	17 SN	16 —

DD10 / 22-WAY / BLUE (NAS)

7 UW	6 —	5 SY	4 ON	3 OG	2 Y	1 NO
15 OW	14 GW	13 —	12 —	11 —	10 BG	9 U	8 BK
22 OK	21 OU	20 WU	19 BR	18 B	17 B	16 S

DD11 / 22-WAY / BLACK (ROW LHD)

7 BP	6 BY	5 OB	4 OU	3 OR	2* UG	1 BK
15 BW	14 —	13 OU	12 OY	11 —	10 YN	9 YR	8 —
22 BN	21 BS	20 G	19 —	18 —	17 SN	16 —

DD10 / 22-WAY / BLUE (ROW LHD)

7 UW	6 SU	5 SY	4 ON	3 OG	2 Y	1 NO
15 OW	14 GW	13 —	12 —	11 —	10 BG	9 U	8 BK
22 OK	21 OU	20 WU	19 BR	18 BO	17 B	16 S

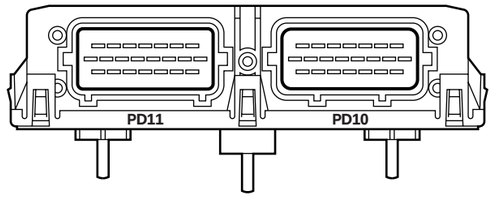
DD11 / 22-WAY / BLACK (ROW RHD)

7 BG	6 BN	5 OU	4 OU	3 OR	2* UG	1 BK
15 BS	14 —	13 OB	12 OY	11 —	10 YN	9 YR	8 —
22 BY	21 BW	20 G	19 —	18 —	17 SN	16 —

DD10 / 22-WAY / BLUE (ROW RHD)

7 UW	6 SU	5 SY	4 ON	3 OG	2 Y	1 NO
15 OW	14 GW	13 —	12 —	11 —	10 BP	9 U	8 BK
22 OK	21 OU	20 WU	19 BO	18 BR	17 B	16 S

PASSENGER DOOR CONTROL MODULE



PD11 / 22-WAY / BLACK (NAS)

7 —	6 BO	5 —	4 —	3 —	2 —	1 —
15 —	14 —	13 —	12 —	11 —	10 —	9 —	8 —
22 —	21 BG	20 G	19 —	18 —	17 —	16 —

PD10 / 22-WAY / BLUE (NAS)

7 UW	6 —	5 SY	4 —	3 —	2 —	1 NO
15 OW	14 GW	13 —	12 —	11 —	10 —	9 U	8 BK
22 —	21 —	20 —	19 —	18 —	17 B	16 S

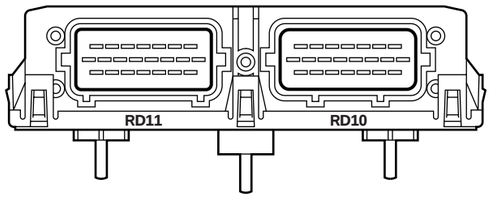
PD11 / 22-WAY / BLACK (ROW)

7 —	6 BO	5 —	4 —	3 —	2 —	1 —
15 —	14 —	13 —	12 —	11 —	10 —	9 —	8 —
22 —	21 BG	20 G	19 —	18 —	17 —	16 —

PD10 / 22-WAY / BLUE (ROW)

7 UW	6 SU	5 SY	4 —	3 —	2 —	1 NO
15 OW	14 GW	13 —	12 —	11 —	10 —	9 U	8 BK
22 —	21 —	20 —	19 —	18 —	17 B	16 S

DRIVER REAR DOOR CONTROL MODULE



RD11 / 22-WAY / BLACK (NAS)

7 BK	6 BO	5 UP	4 —	3 —	2 —	1 —
15 US	14 —	13 KS	12 —	11 —	10 —	9 —	8 —
22 UN	21 BG	20 G	19 —	18 —	17 —	16 —

RD10 / 22-WAY / BLUE (NAS)

7 UW	6 —	5 —	4 PN	3 PG	2 Y	1 NO
15 OW	14 GW	13 —	12 —	11 —	10 —	9 U	8 BK
22 YK	21 PU	20 WU	19 BK	18 —	17 B	16 S

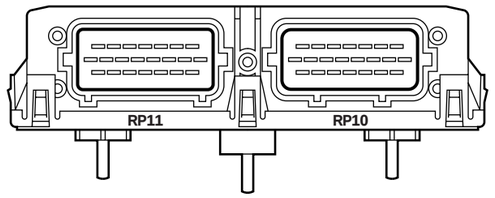
RD11 / 22-WAY / BLACK (ROW)

7 BK	6 BO	5 UP	4 —	3 —	2 —	1 —
15 US	14 —	13 KS	12 —	11 —	10 —	9 —	8 —
22 UN	21 BG	20 G	19 —	18 —	17 —	16 —

RD10 / 22-WAY / BLUE (ROW)

7 UW	6 —	5 —	4 PN	3 PG	2 Y	1 NO
15 OW	14 GW	13 —	12 —	11 —	10 —	9 U	8 BK
22 YK	21 PU	20 WU	19 BK	18 —	17 B	16 S

PASSENGER REAR DOOR CONTROL MODULE



RP11 / 22-WAY / BLACK (NAS)

7 —	6 BO	5 —	4 —	3 —	2 —	1 —
15 U	14 —	13 —	12 —	11 —	10 —	9 —	8 U
22 —	21 BG	20 G	19 —	18 —	17 —	16 —

RP10 / 22-WAY / BLUE (NAS)

7 UW	6 —	5 —	4 —	3 —	2 —	1 NO
15 OW	14 GW	13 —	12 —	11 —	10 —	9 U	8 BK
22 —	21 —	20 —	19 —	18 —	17 B	16 S

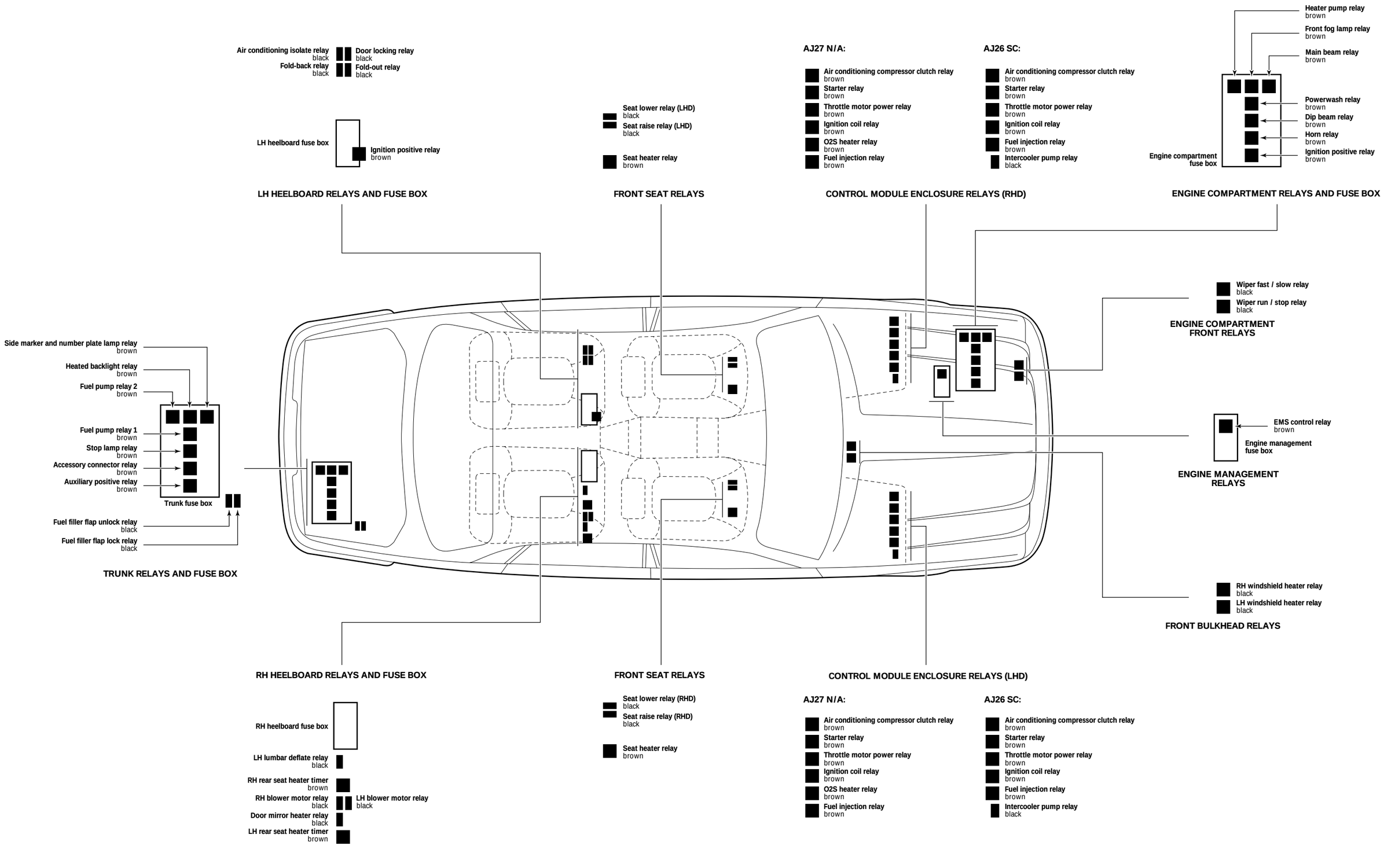
RP11 / 22-WAY / BLACK (ROW)

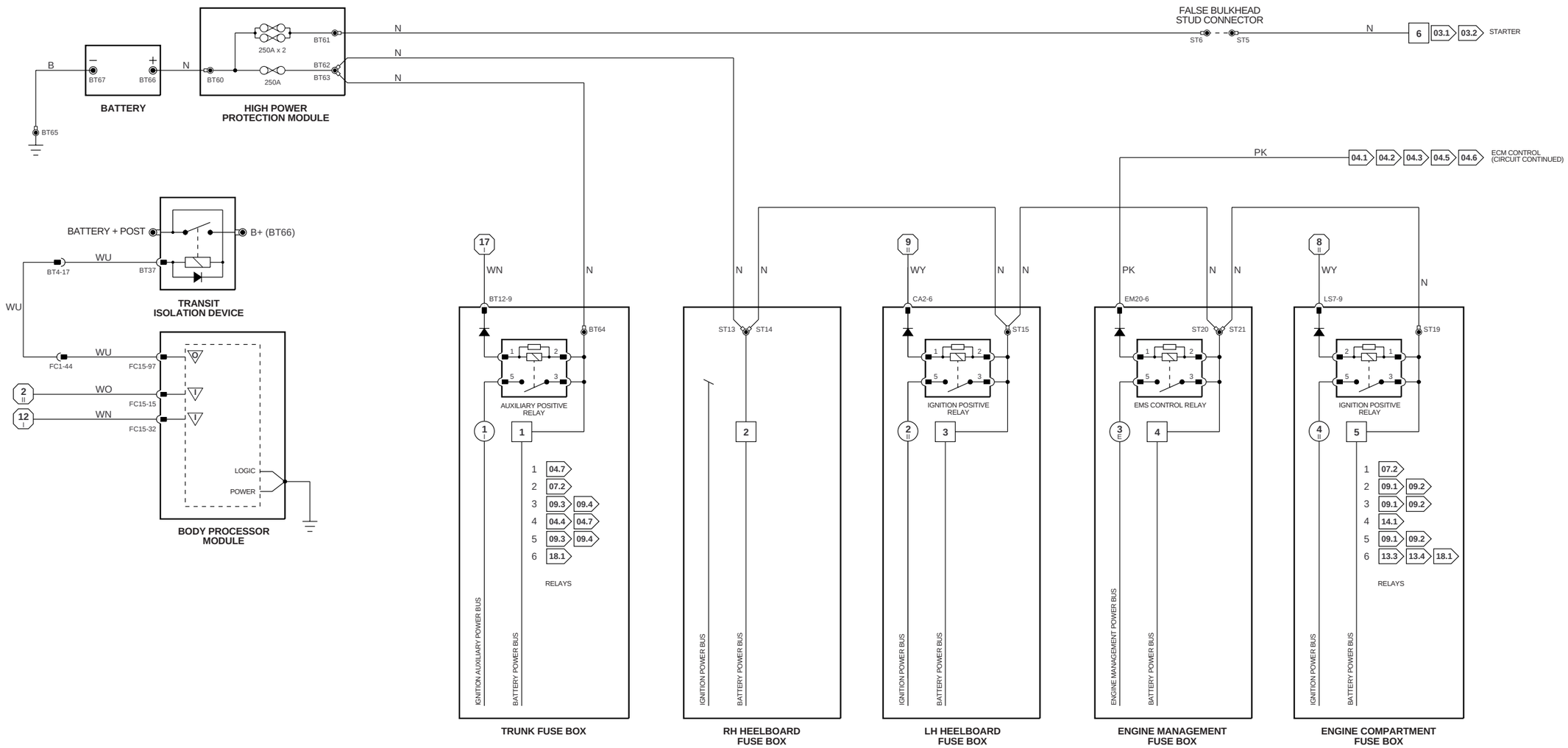
7 —	6 BO	5 —	4 —	3 —	2 —	1 —
15 U	14 —	13 —	12 —	11 —	10 —	9 —	8 U
22 —	21 BG	20 G	19 —	18 —	17 —	16 —

RP10 / 22-WAY / BLUE (ROW)

7 UW	6 —	5 —	4 —	3 —	2 —	1 NO
15 OW	14 GW	13 —	12 —	11 —	10 —	9 U	8 BK
22 —	21 —	20 —	19 —	18 —	17 B	16 S

Relay and Fuse Box Identification and Location

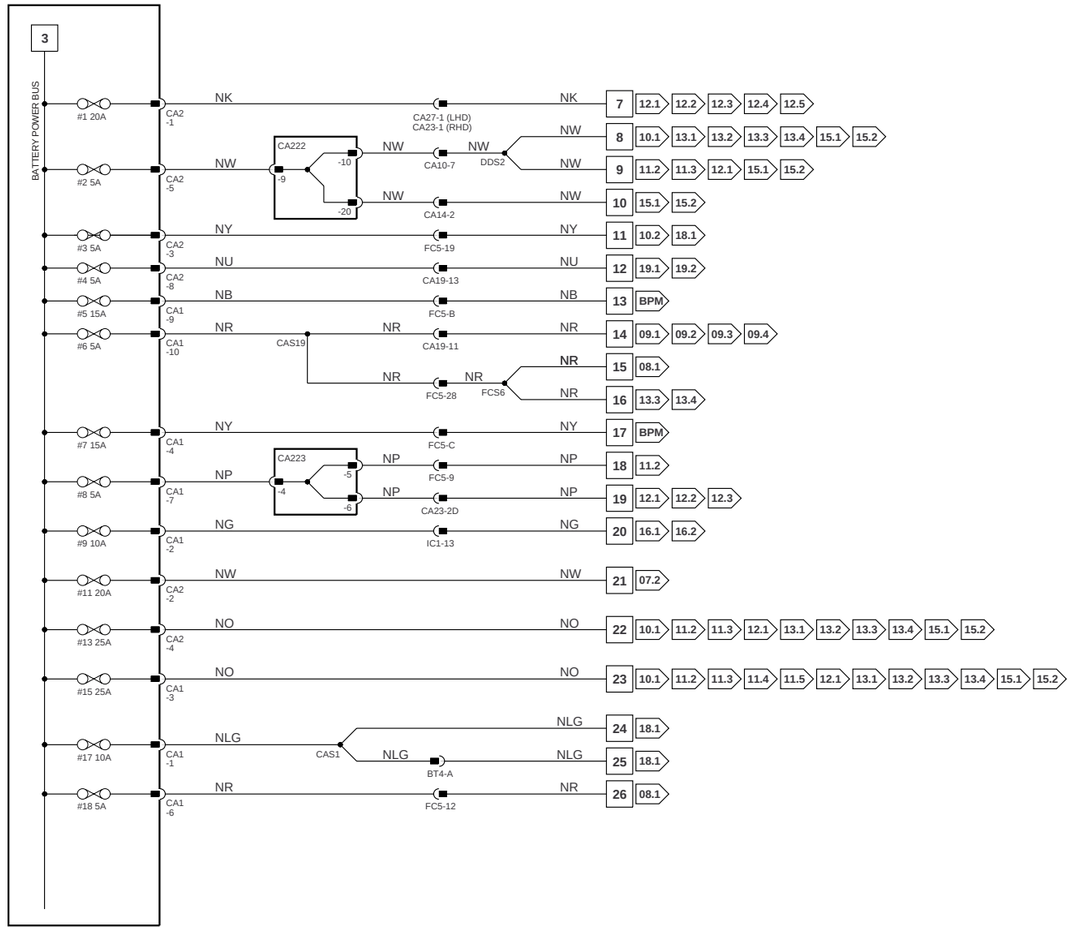




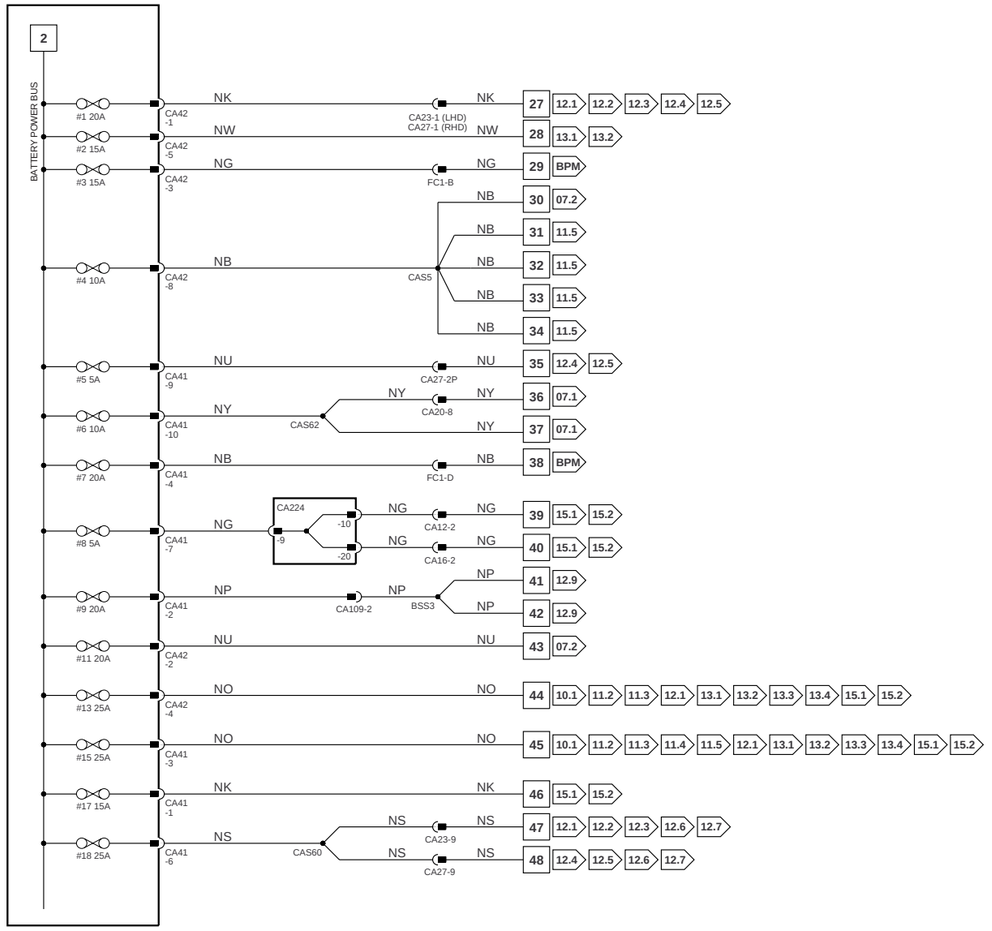
1 – 6, 1 II – 4 II	Fig. 01.1	7 – 48, 49 – 83	Fig. 01.2	5 II – 42 II, 43 E – 60 E	Fig. 01.4	1 – 19 I	Fig. 02.1

Input	Output	Serial and Encoded Communications
Signal Ground (SG)	CAN (Network)	SCP Network

VARIANT: All Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998



LH HEELBOARD FUSE BOX



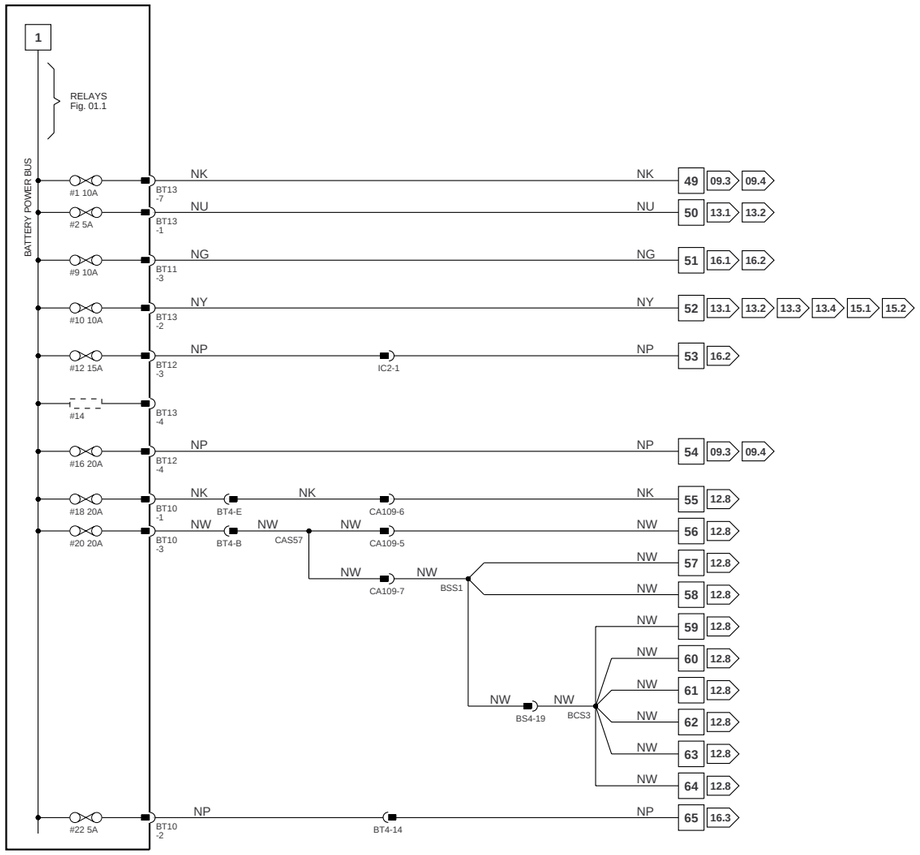
RH HEELBOARD FUSE BOX

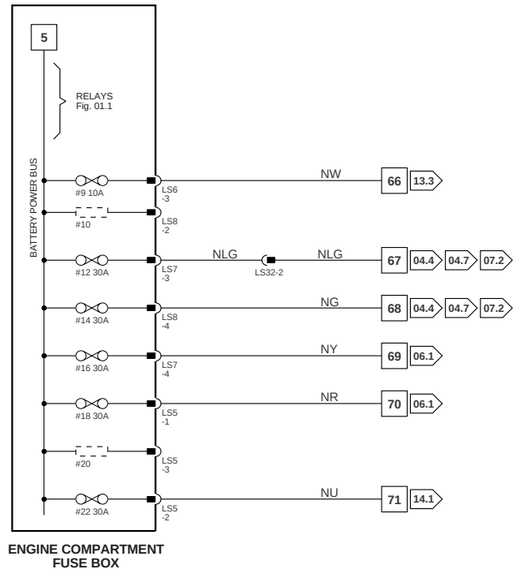
BPM **NOTE:** Body Processor Module appears in numerous figures.

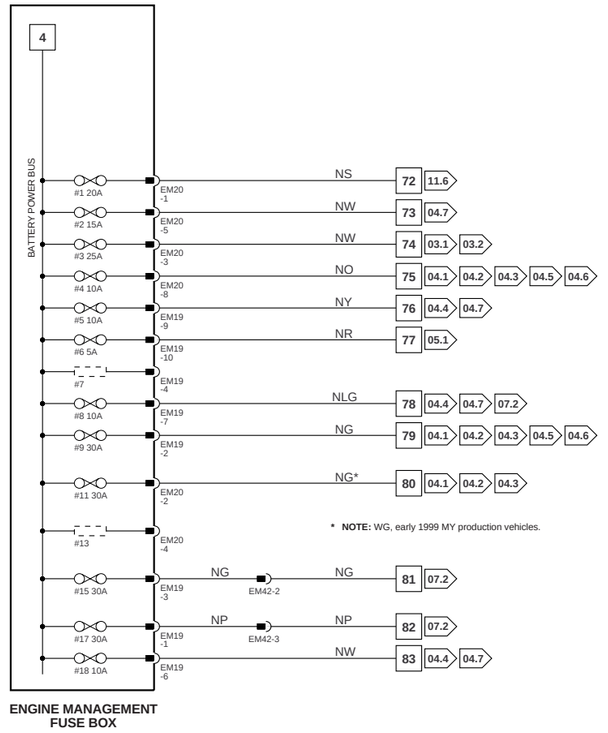
1 – 6 / 1 II – 4 II Fig. 01.1
7 – 48 Fig. 01.2
49 – 83 Fig. 01.3
5 II – 42 II / 43 E – 60 E Fig. 01.4
1 – 19 I Fig. 02.1

I Input
O Output
D Serial and Encoded Communications
Signal Ground (SG)
C CAN (Network)
S SCP Network

VARIANT: All Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998







1 – 6 / 1 II – 4 II Fig. 01.1

7 – 48 Fig. 01.2

49 – 83 Fig. 01.3

5 II – 42 II / 43 E – 60 E Fig. 01.4

1 – 19 I Fig. 02.1

I Input

O Output

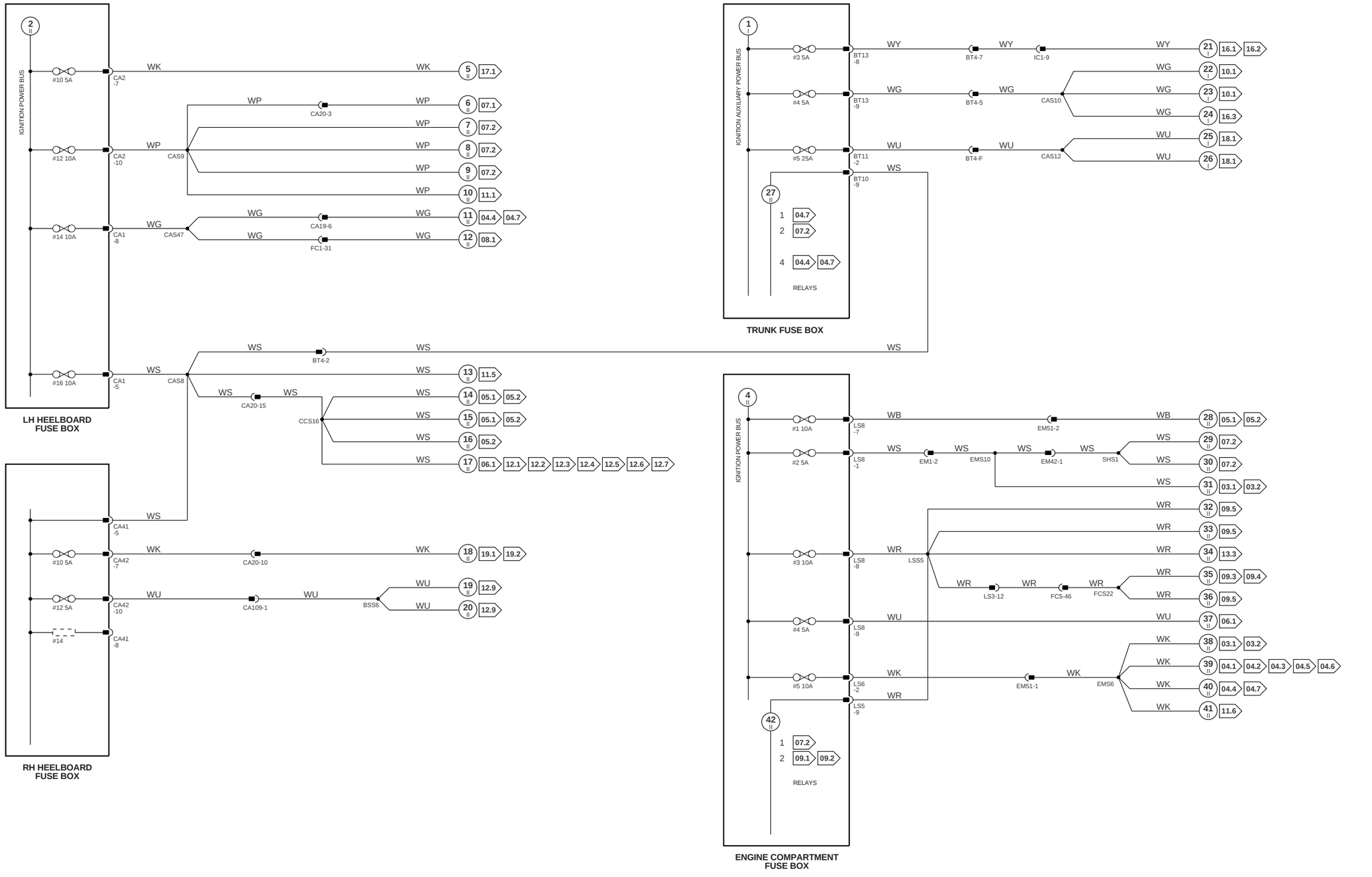
D Serial and Encoded Communications

Signal Ground (SG)

C CAN (Network)

S SCP Network

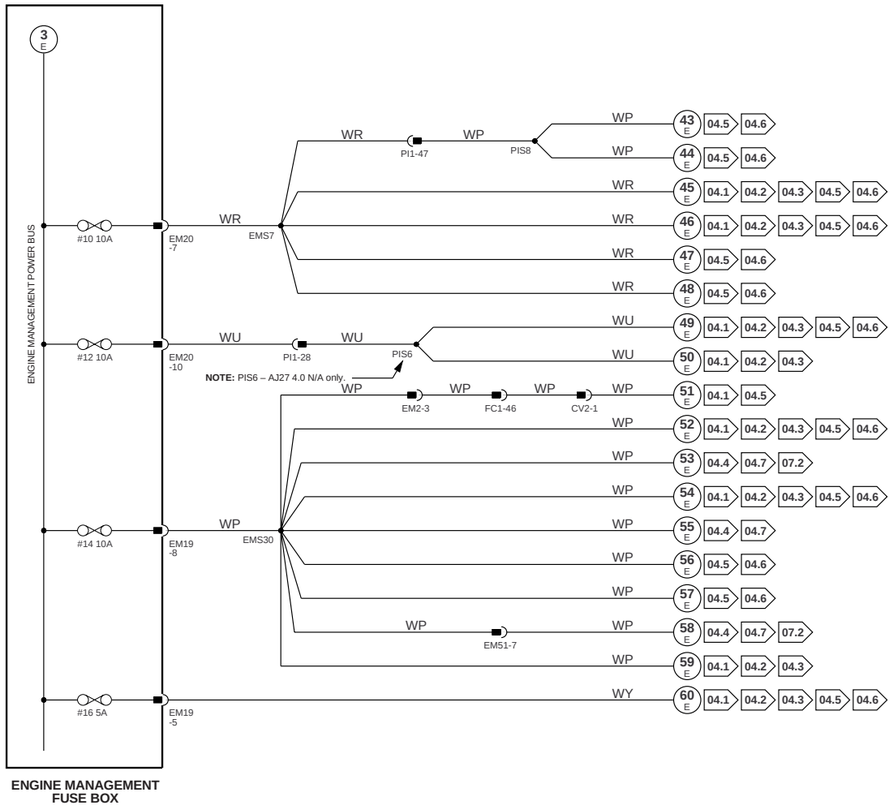
VARIANT: All Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998



1 – 6, 1 – 4 Fig. 01.1
7 – 48 Fig. 01.2
49 – 83 Fig. 01.3
5 – 42, 43 – 60 Fig. 01.4
1 – 19 Fig. 02.1

Input
Output
Serial and Encoded Communications
Signal Ground (SG)
CAN (Network)
SCP Network

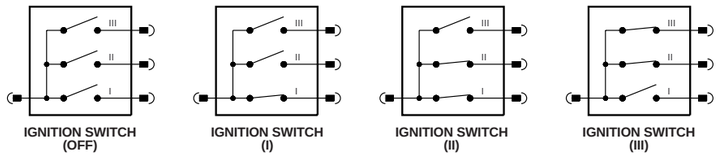
VARIANT: All Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998

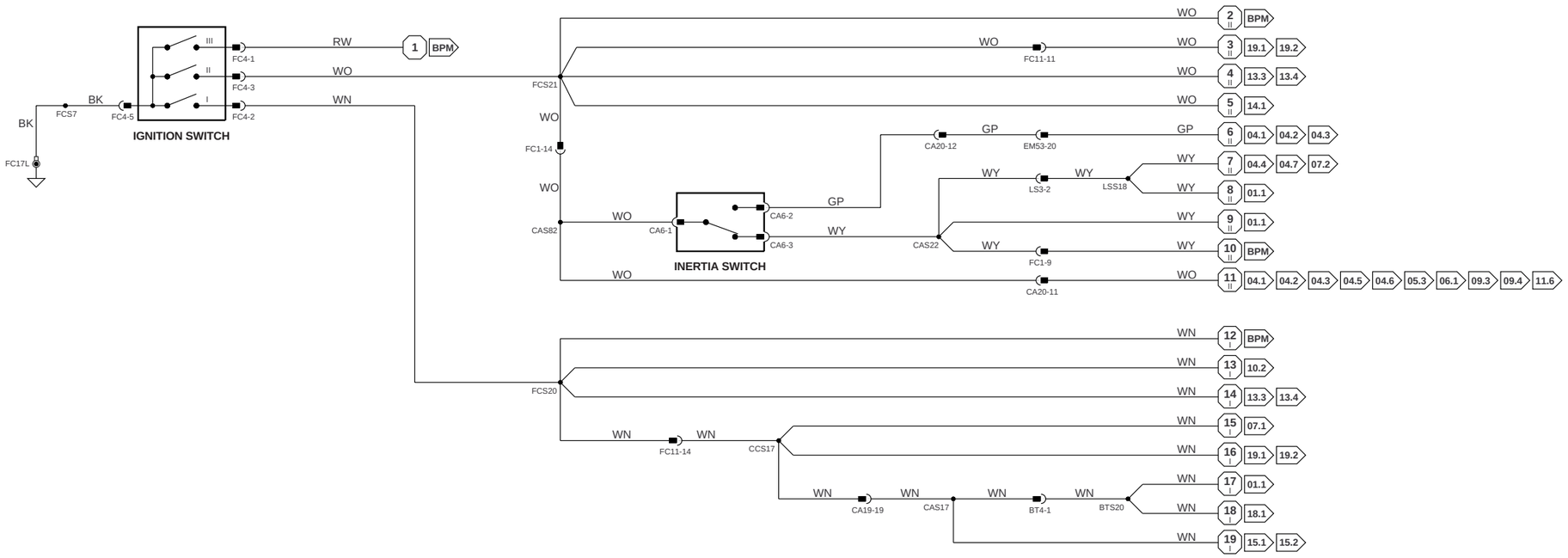


1 – 6 / 1 II – 4 II Fig. 01.1	7 – 48 Fig. 01.2	5 II – 42 II Fig. 01.4	1 – 19 I Fig. 02.1	Input	Output
	49 – 83 Fig. 01.3	43 E – 60 E Fig. 01.5		Signal Ground (SG)	CAN (Network)

Serial and Encoded Communications
SCP Network

VARIANT: All Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998

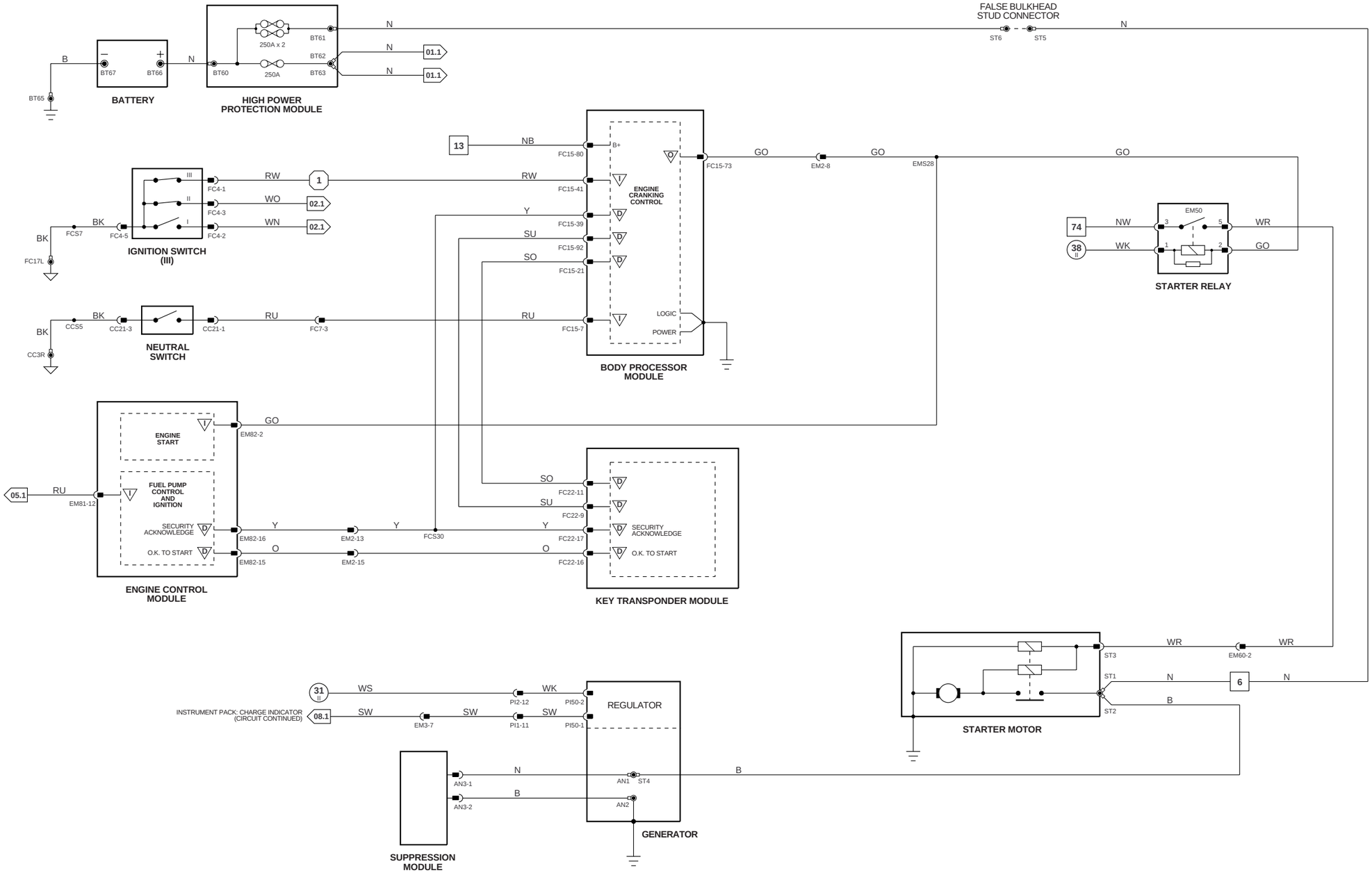




BPM **NOTE:** Body Processor Module appears in numerous figures.

1 – 6 1 II – 4 II Fig. 01.1	7 – 48 Fig. 01.2 49 – 83 Fig. 01.3	5 II – 42 II Fig. 01.4 43 E – 60 E Fig. 01.5	1 – 19 I Fig. 02.1	Input Signal Ground (SG)	Output CAN (Network)	Serial and Encoded Communications SCP Network

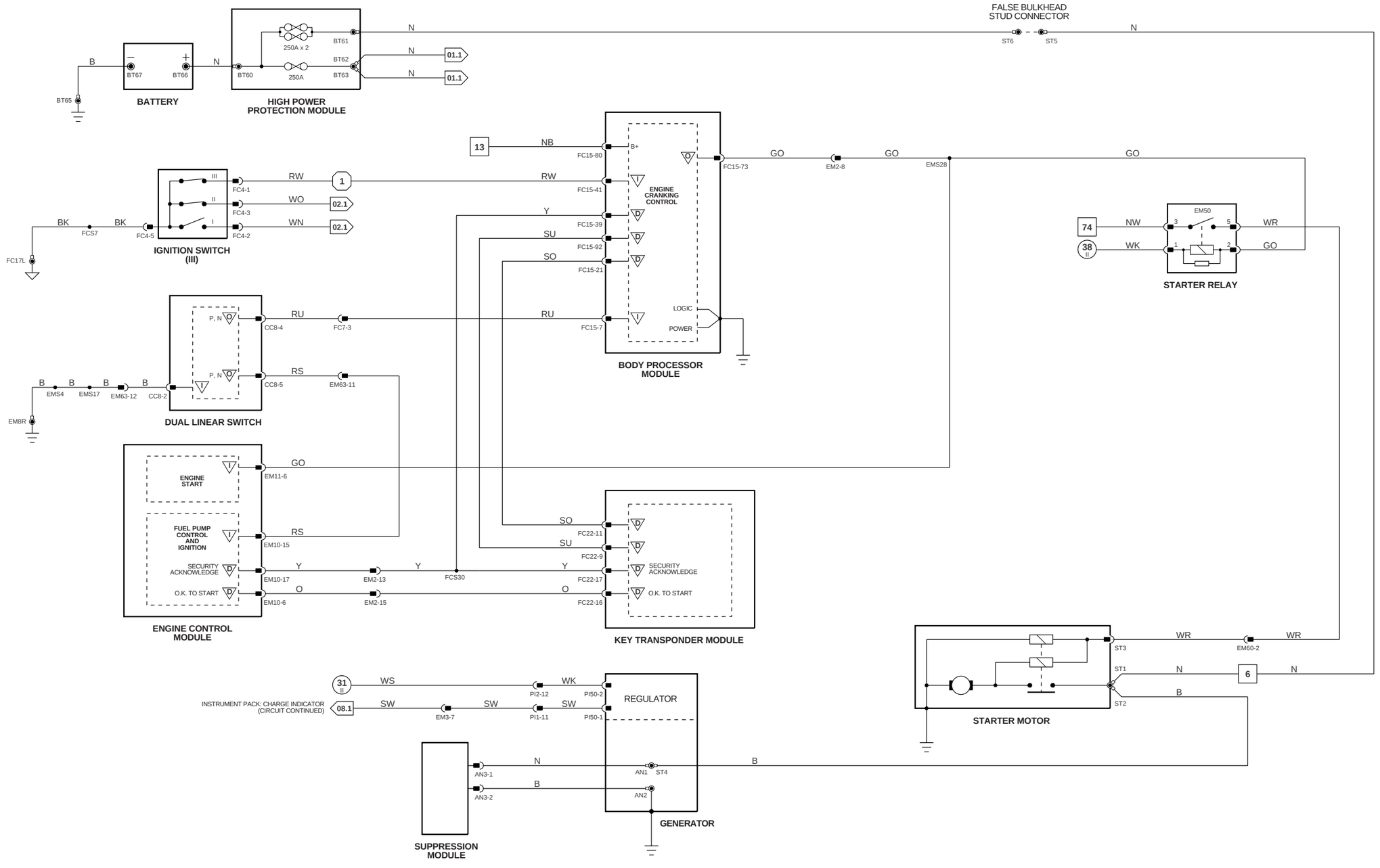
VARIANT: All Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998



1 – 6 1 II – 4 II	Fig. 01.1	7 – 48 49 – 83	Fig. 01.2 Fig. 01.3	5 II – 42 II 43 E – 60 E	Fig. 01.4 Fig. 01.5	1 – 19 I	Fig. 02.1

Input	Output	Serial and Encoded Communications	
Signal Ground (SG)	CAN (Network)	SCP Network	

VARIANT: AJ27s N/A Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998



1 – 6; 1 II – 4 II Fig. 01.1	7 – 48 Fig. 01.2	5 II – 42 II Fig. 01.4	1 – 19 I Fig. 02.1	Input	Output	Serial and Encoded Communications
	49 – 83 Fig. 01.3	43 E – 60 E Fig. 01.5		Signal Ground (SG)	CAN (Network)	SCP Network

VARIANT: AJ26 SC Vehicles
VIN RANGE: 853936 →
DATE OF ISSUE: SEPTEMBER 1998

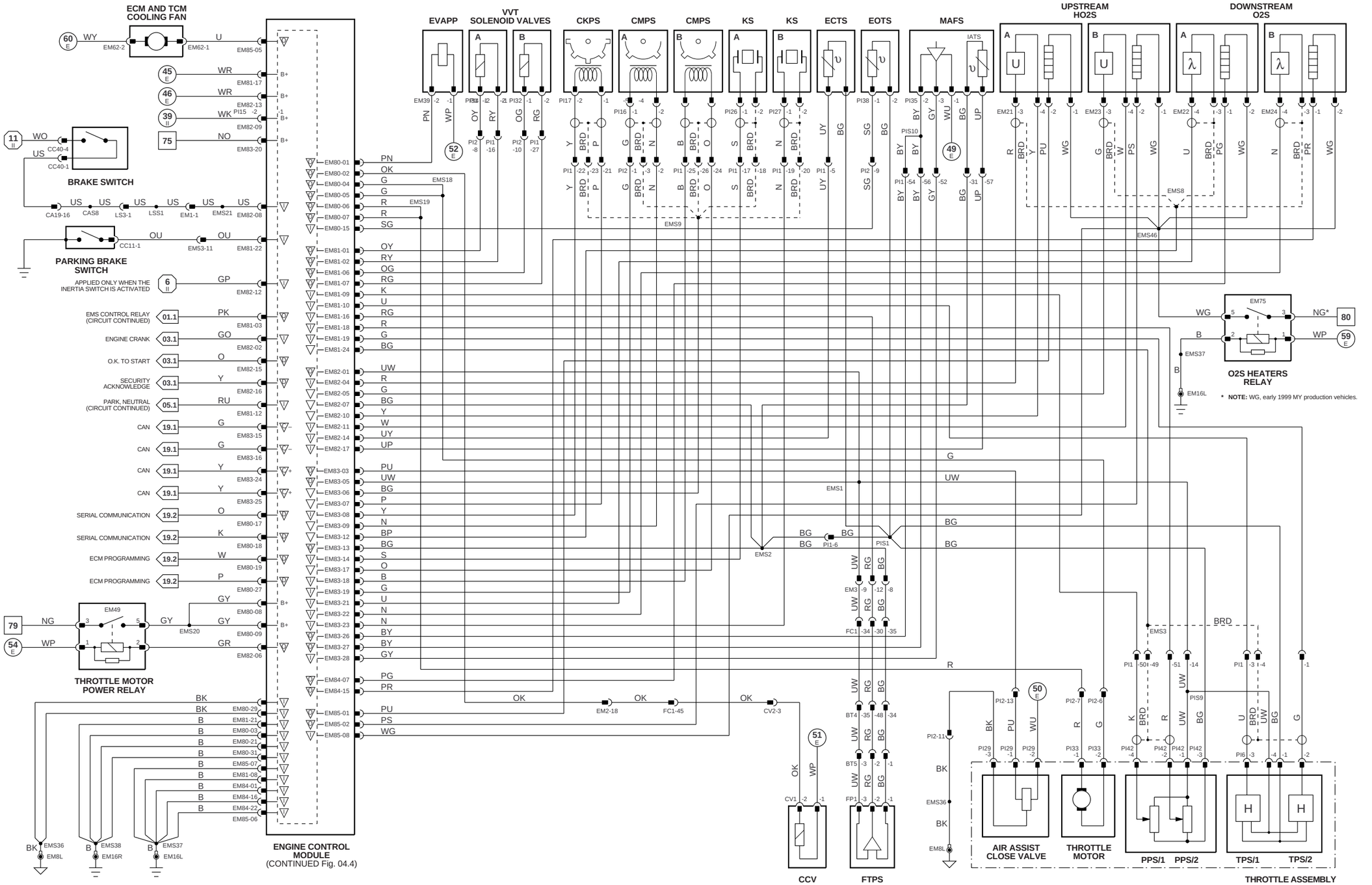


Fig. 01.1 — 1 – 6; 1 (II) – 4 (II)

Fig. 01.2 — 7 – 48

Fig. 01.3 — 49 – 83

Fig. 01.4 — 5 (II) – 42 (II)

Fig. 01.5 — 43 (E) – 60 (E)

Fig. 02.1 — 1 – 19 (I)

Input

Output

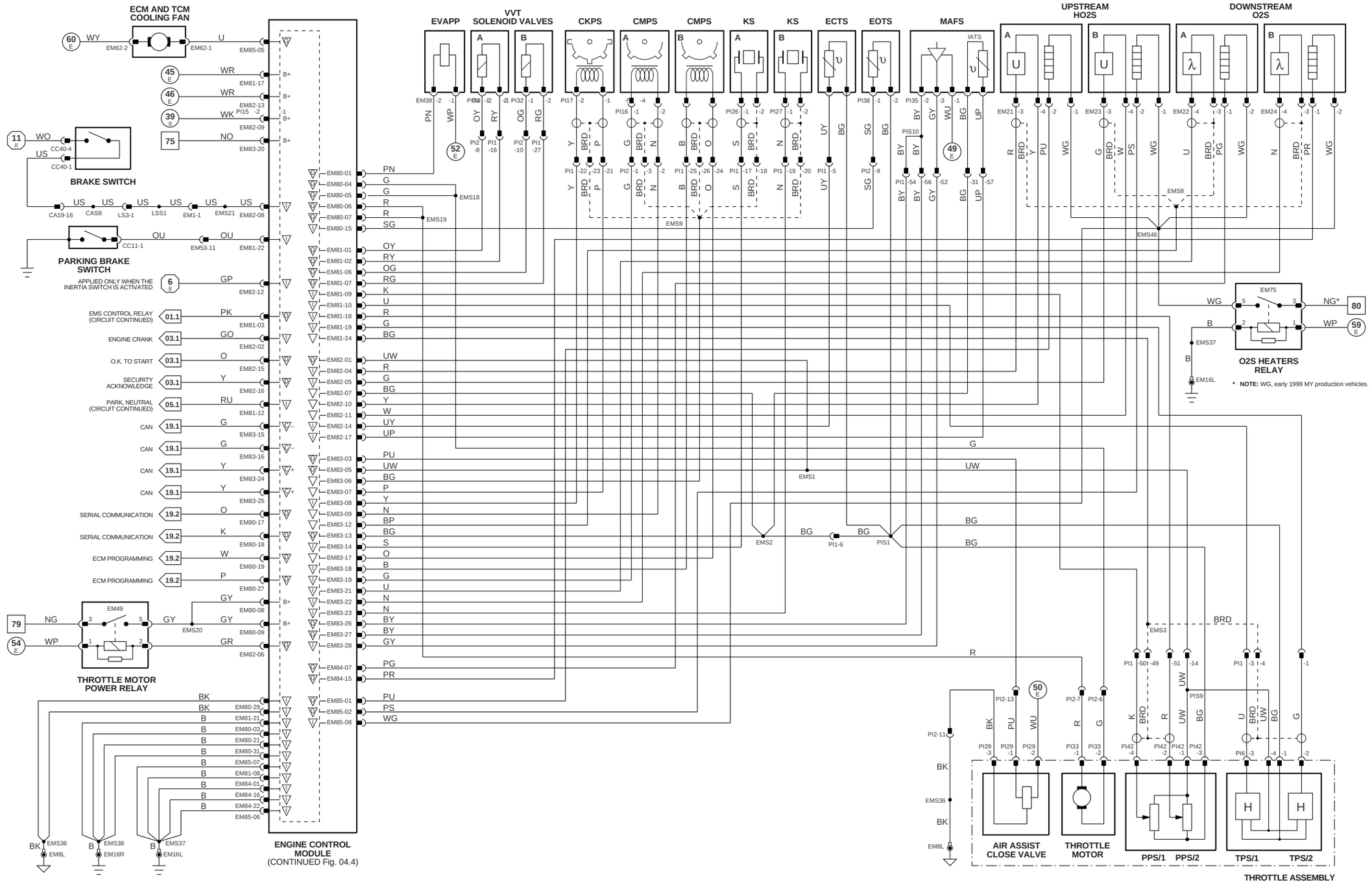
Serial and Encoded Communications

Signal Ground (SG)

CAN (Network)

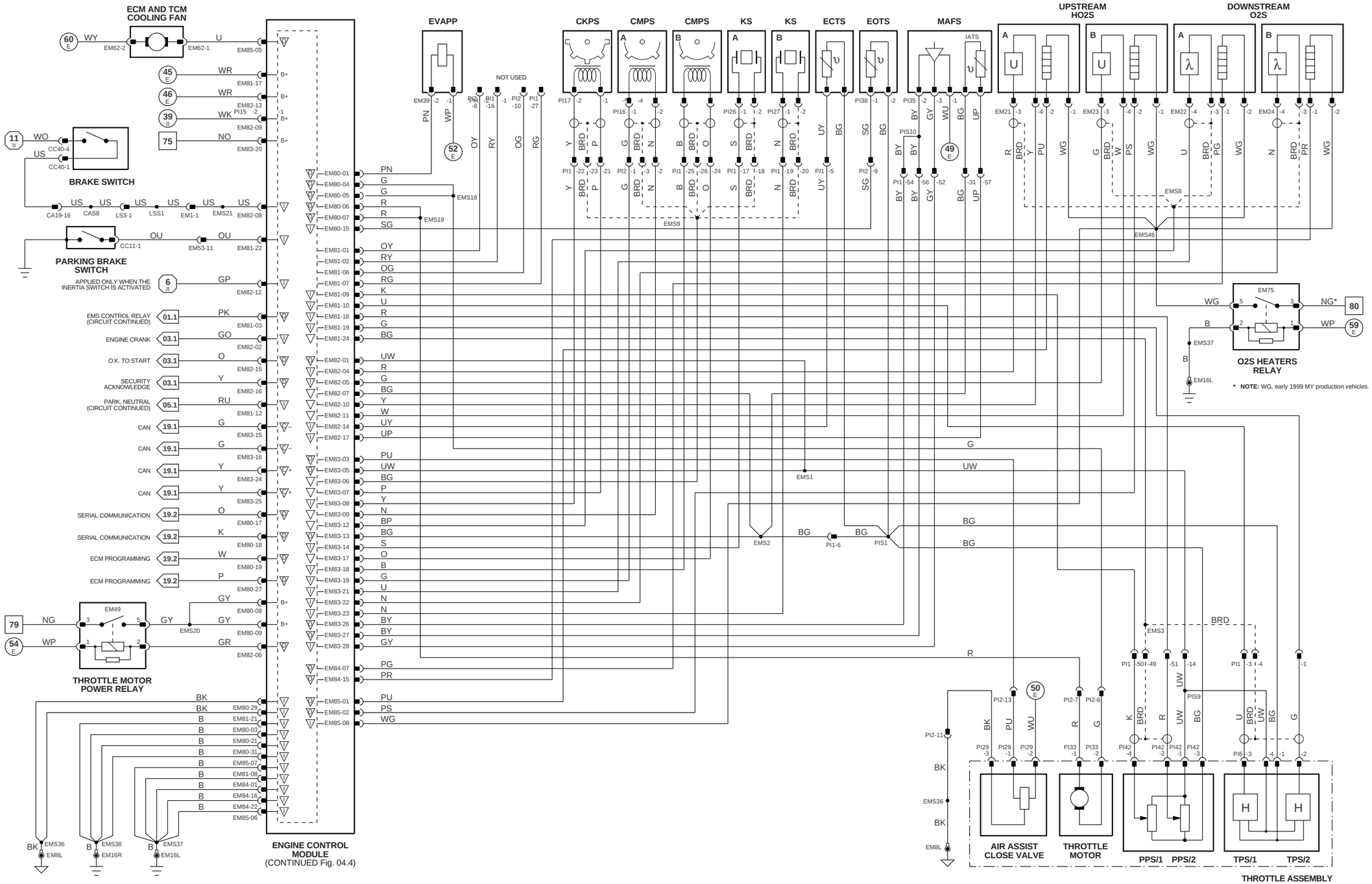
SCP Network

VARIANT: AJ27 4.0 N/A NAS Vehicles
VIN RANGE: 853936 →
DATE OF ISSUE: SEPTEMBER 1998



1 – 6 1 II – 4 II	Fig. 01.1	7 – 48 49 – 83	Fig. 01.2 Fig. 01.3	5 II – 42 II 43 E – 60 E	Fig. 01.4 Fig. 01.5	1 – 19 I	Fig. 02.1	Input Signal Ground (SG)	Output CAN (Network)	Serial and Encoded Communications SCP Network

VARIANT: AJ27 4.0 N/A ROW Vehicles
VIN RANGE: 853936 →
DATE OF ISSUE: SEPTEMBER 1998



1 – 6 / 1 II – 4 II Fig. 01.1

7 – 48 Fig. 01.2

49 – 83 Fig. 01.3

5 II – 42 II Fig. 01.4

43 E – 60 E Fig. 01.5

1 – 19 I Fig. 02.1

Input

Output

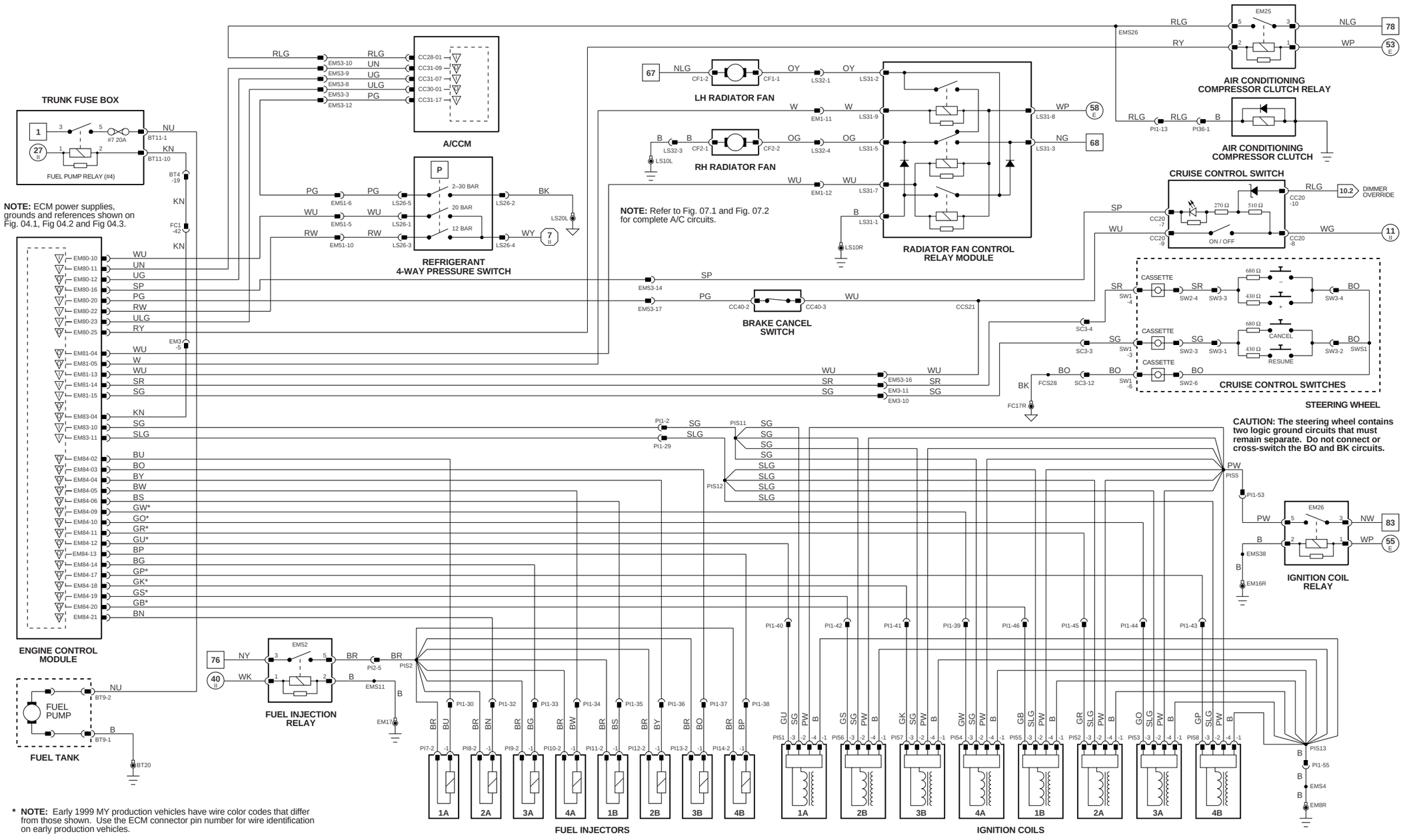
Serial and Encoded Communications

Signal Ground (SG)

CAN (Network)

SCP Network

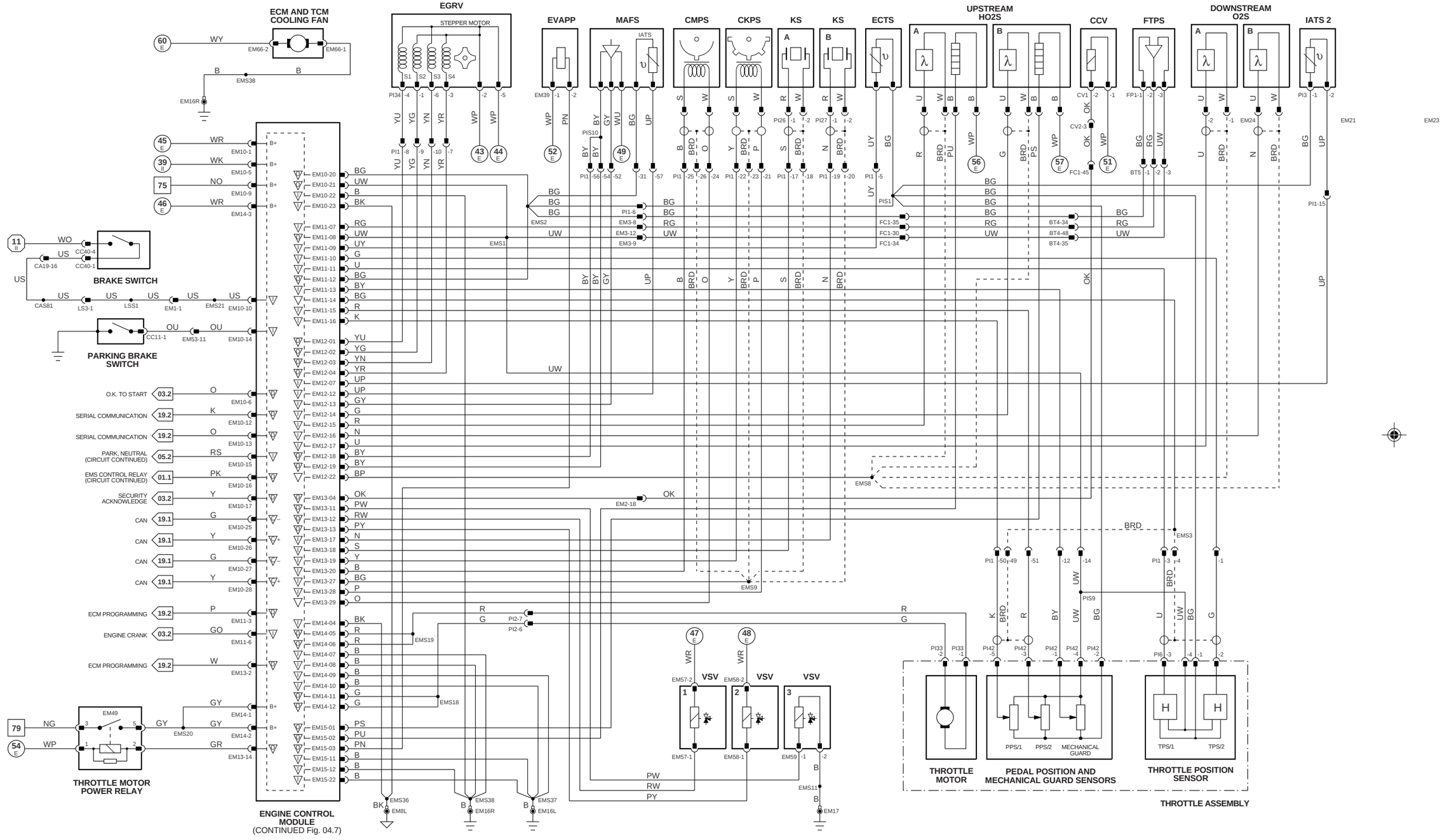
VARIANT: AJ27 3.2 Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998



* **NOTE:** Early 1999 MY production vehicles have wire color codes that differ from those shown. Use the ECM connector pin number for wire identification on early production vehicles.

1 – 6; 1 II – 4 II Fig. 01.1	7 – 48 Fig. 01.2	49 – 83 Fig. 01.3	5 II – 42 II Fig. 01.4	43 E – 60 E Fig. 01.5	1 – 19 I Fig. 02.1	Input	Output	Serial and Encoded Communications
						Signal Ground (SG)	CAN (Network)	SCP Network

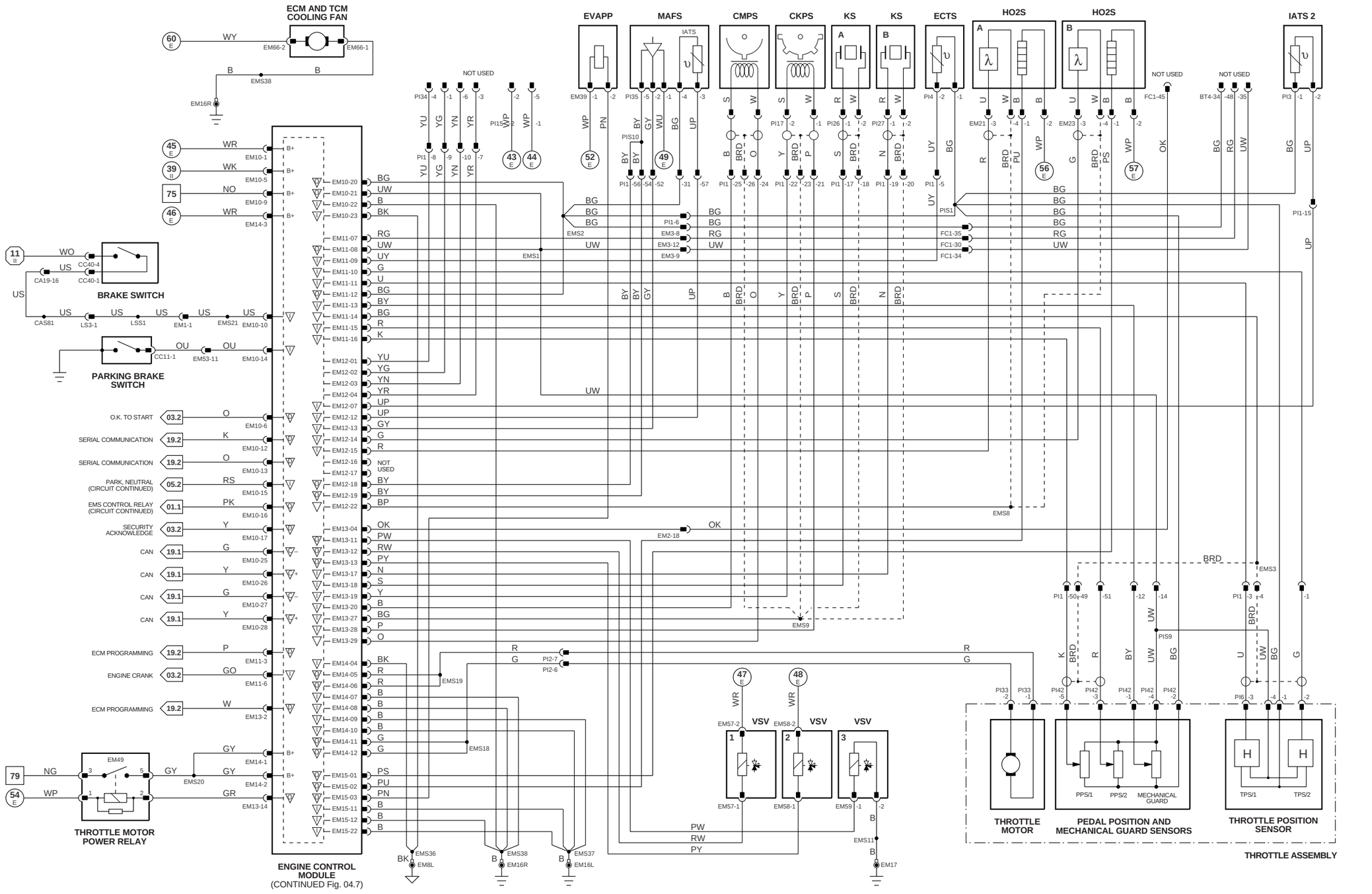
VARIANT: AJ27 4.0 and 3.2 N/A Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998



1 – 6 1 II – 4 II	Fig. 01.1	7 – 48	Fig. 01.2	5 II – 42 II	Fig. 01.4	1 – 19 I	Fig. 02.1
49 – 83	Fig. 01.3	43 E – 60 E	Fig. 01.5				

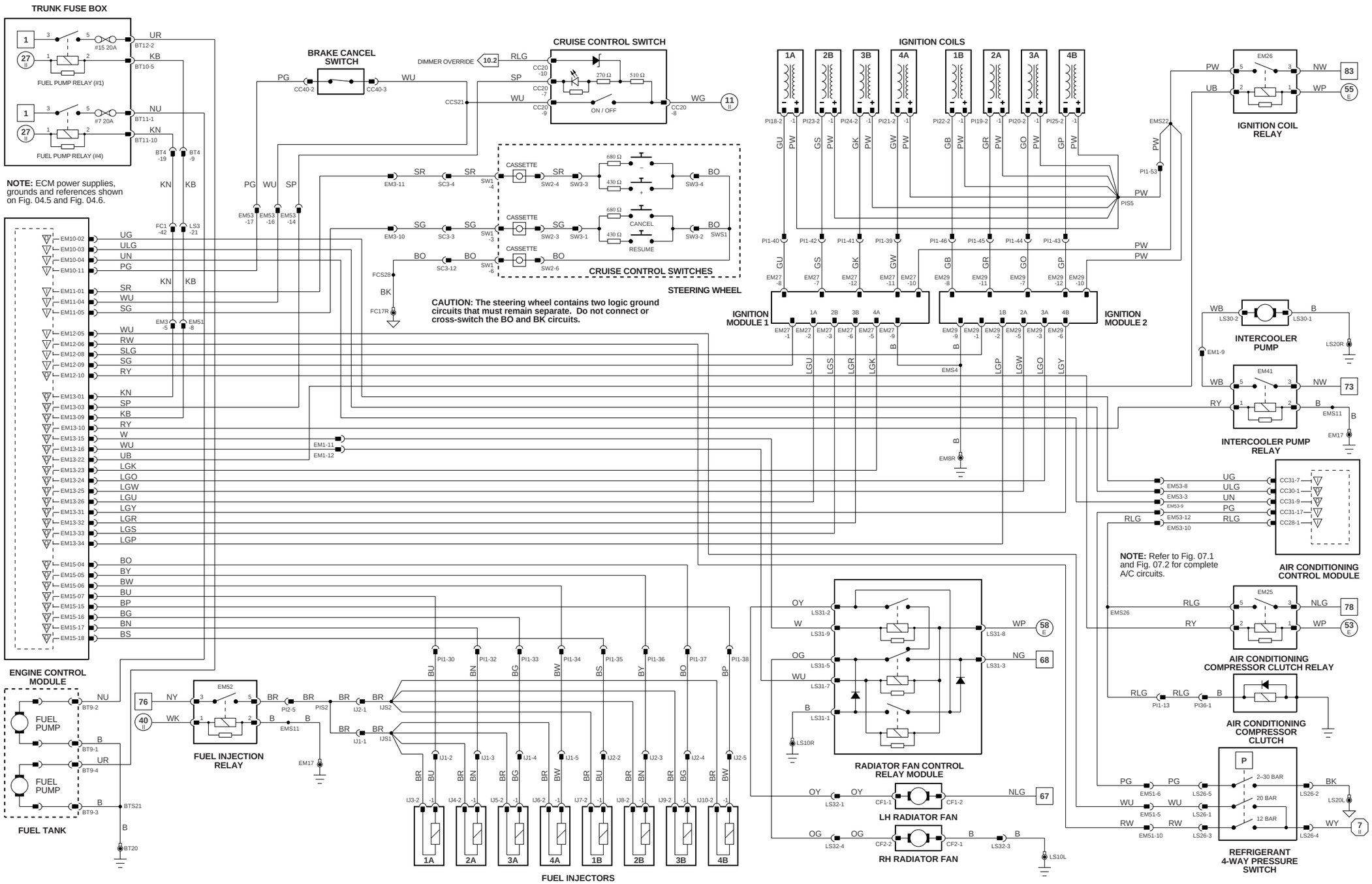
I Input	O Output	D Serial and Encoded Communications	
Signal Ground (SG)	C CAN (Network)	S SCP Network	

VARIANT: AJ26 4.0 SC NAS Vehicles
VIN RANGE: 853936 →
DATE OF ISSUE: SEPTEMBER 1998



1 – 6, 1 II – 4 II Fig. 01.1	7 – 48 Fig. 01.2	49 – 83 Fig. 01.3	5 II – 42 II Fig. 01.4	43 E – 60 E Fig. 01.5	1 – 19 I Fig. 02.1	Input / Signal Ground (SG)	Output / CAN (Network)	Serial and Encoded Communications / SCP Network

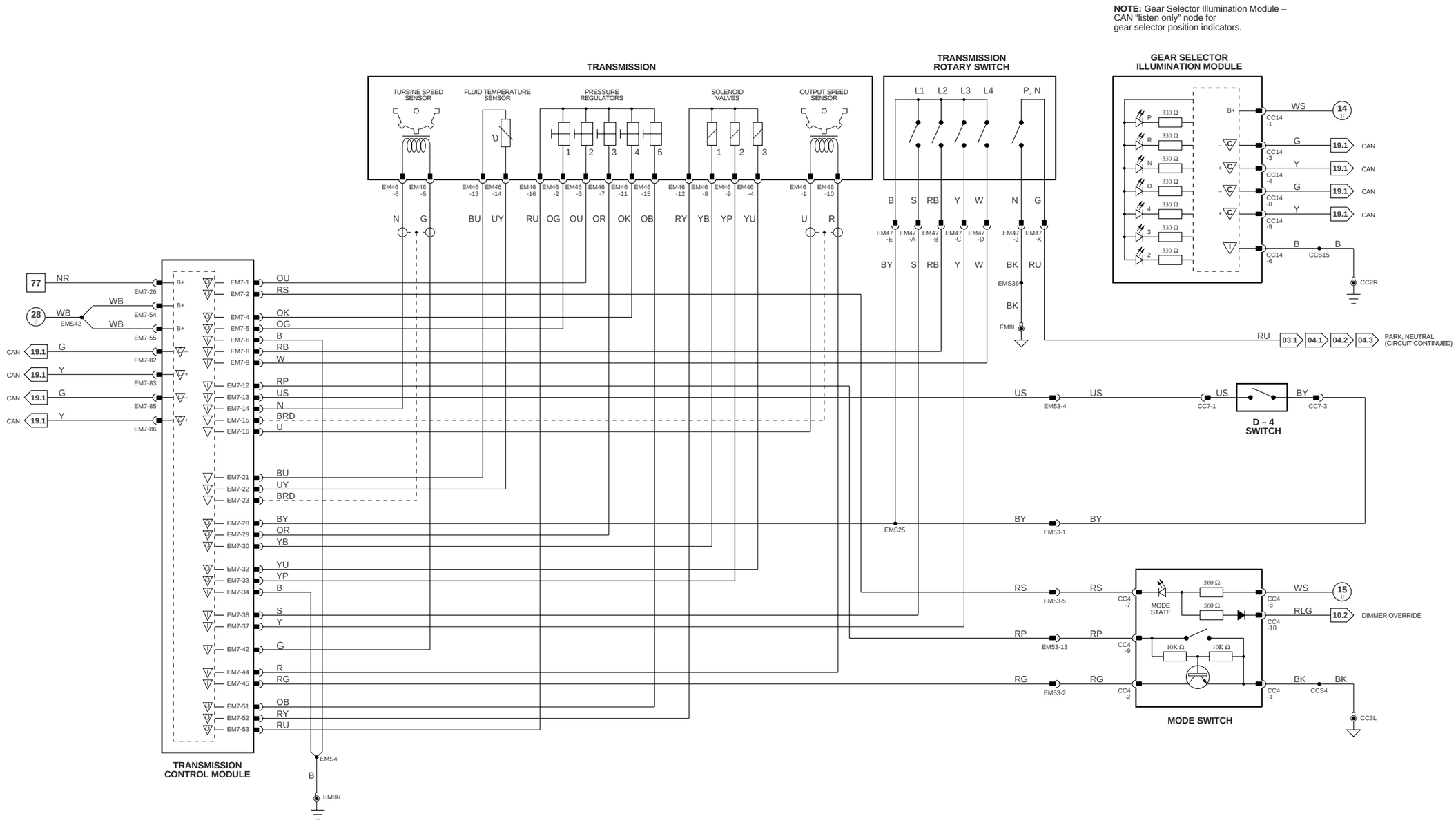
VARIANT: AJ26 4.0 SC ROW Vehicles
VIN RANGE: 853936 →
DATE OF ISSUE: SEPTEMBER 1998



1 – 6, 1 II – 4 II	Fig. 01.1	7 – 48, 49 – 83	Fig. 01.2, Fig. 01.3	5 II – 42 II, 43 E – 60 E	Fig. 01.4, Fig. 01.5	1 – 19 I	Fig. 02.1

Input	Output	Serial and Encoded Communications	
Signal Ground (SG)	CAN (Network)	SCP Network	

VARIANT: AJ26 4.0 SC Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998

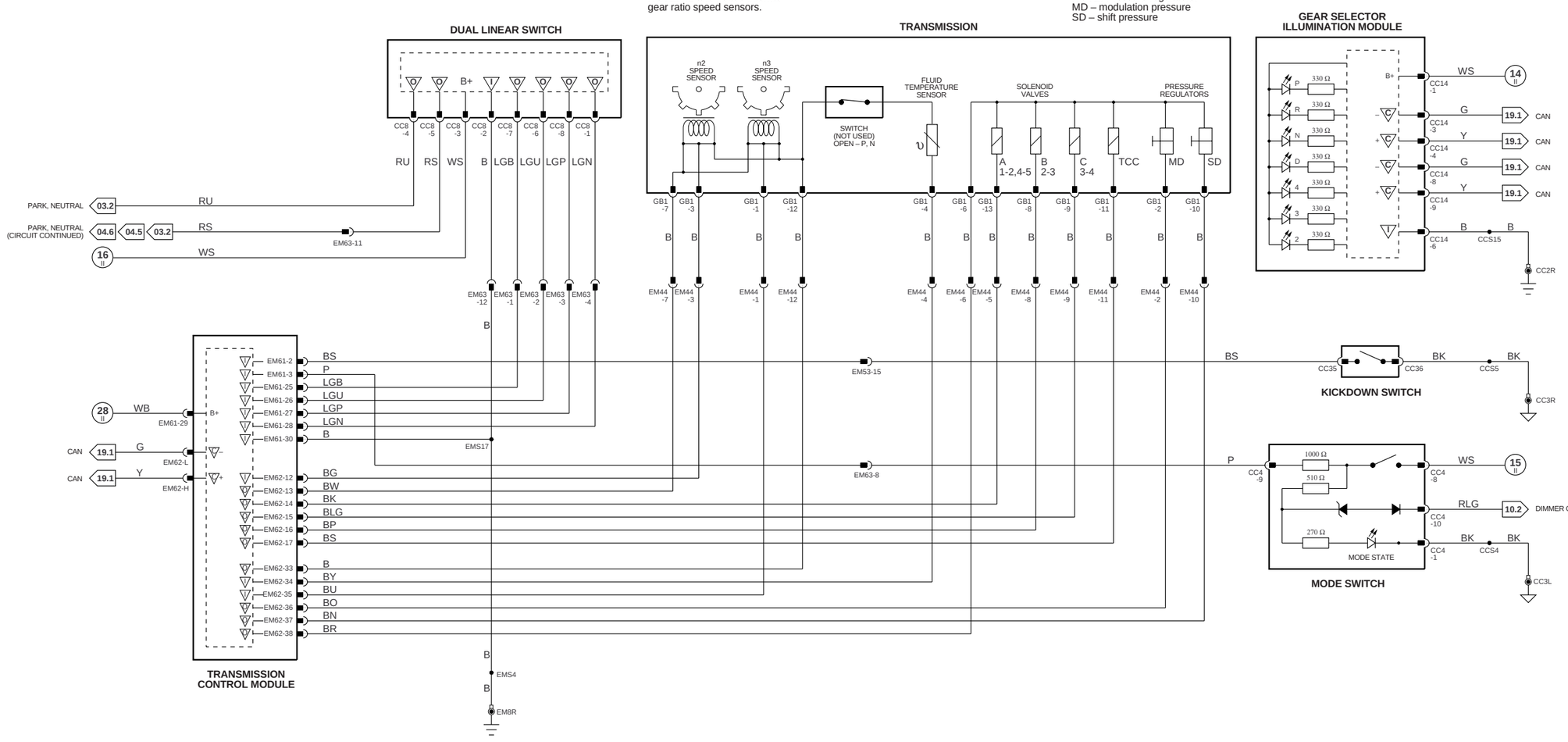


1 – 6 1 – 4 Fig. 01.1	7 – 48 Fig. 01.2 49 – 83 Fig. 01.3	5 – 42 Fig. 01.4 43 – 60 Fig. 01.5	1 – 19 Fig. 02.1	Input Signal Ground (SG)	Output CAN (Network)	Serial and Encoded Communications SCP Network	**VARIANT:** AJ27s N/A Vehicles **VIN RANGE:** 853936 → **DATE OF ISSUE:** SEPTEMBER 1998		

NOTE: Gear Selector Illumination Module – CAN "listen only" node for gear selector position indicators.

NOTE: n2 and n3 are internal gear ratio speed sensors.

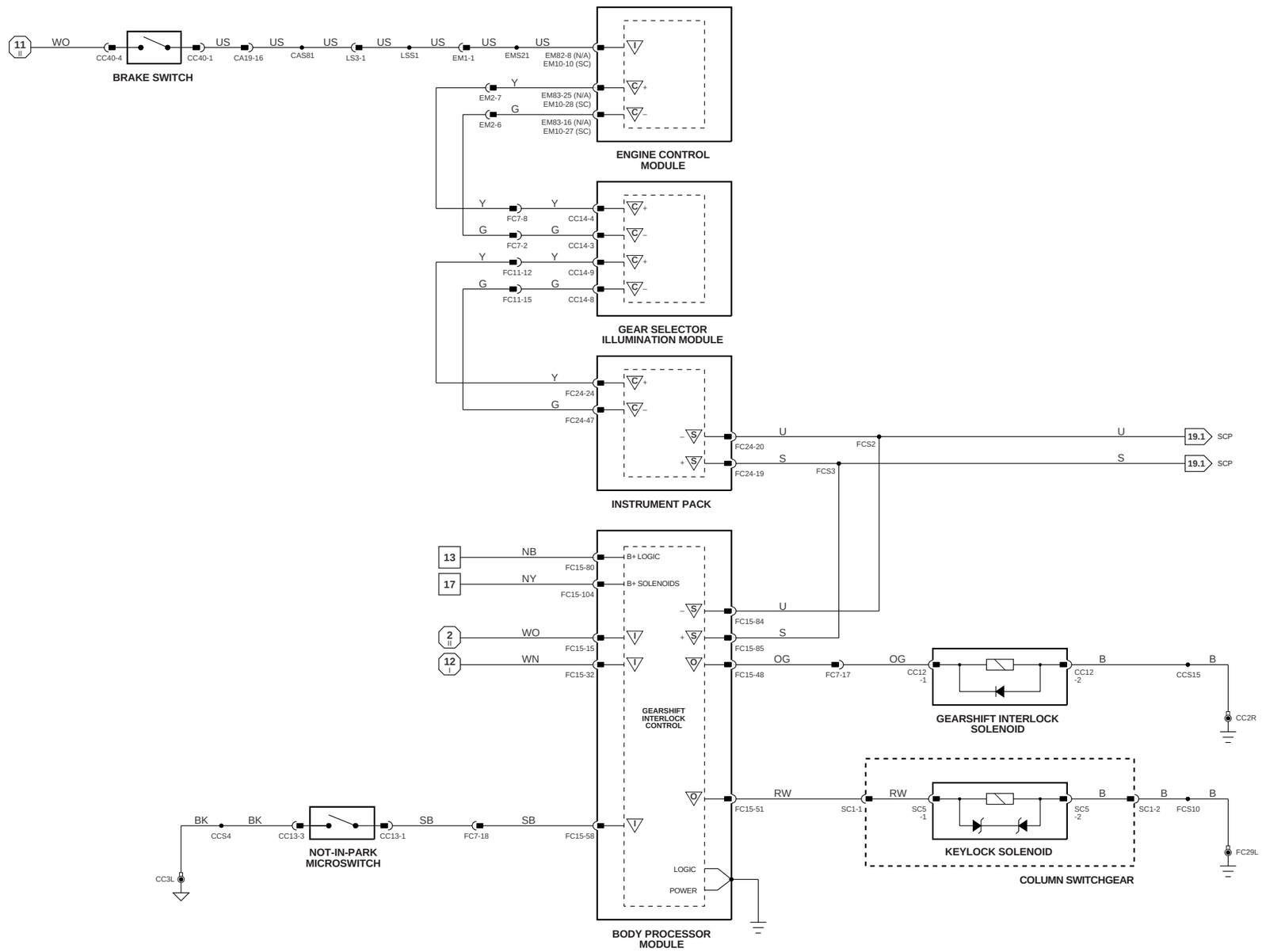
NOTE: Pressure regulators: MD – modulation pressure SD – shift pressure



1 – 6 1 II – 4 II	Fig. 01.1	7 – 48 49 – 83	Fig. 01.2 Fig. 01.3	5 II – 42 II 43 E – 60 E	Fig. 01.4 Fig. 01.5	1 – 19 I	Fig. 02.1

Input	Output	Serial and Encoded Communications	
Signal Ground (SG)	CAN (Network)	SCP Network	

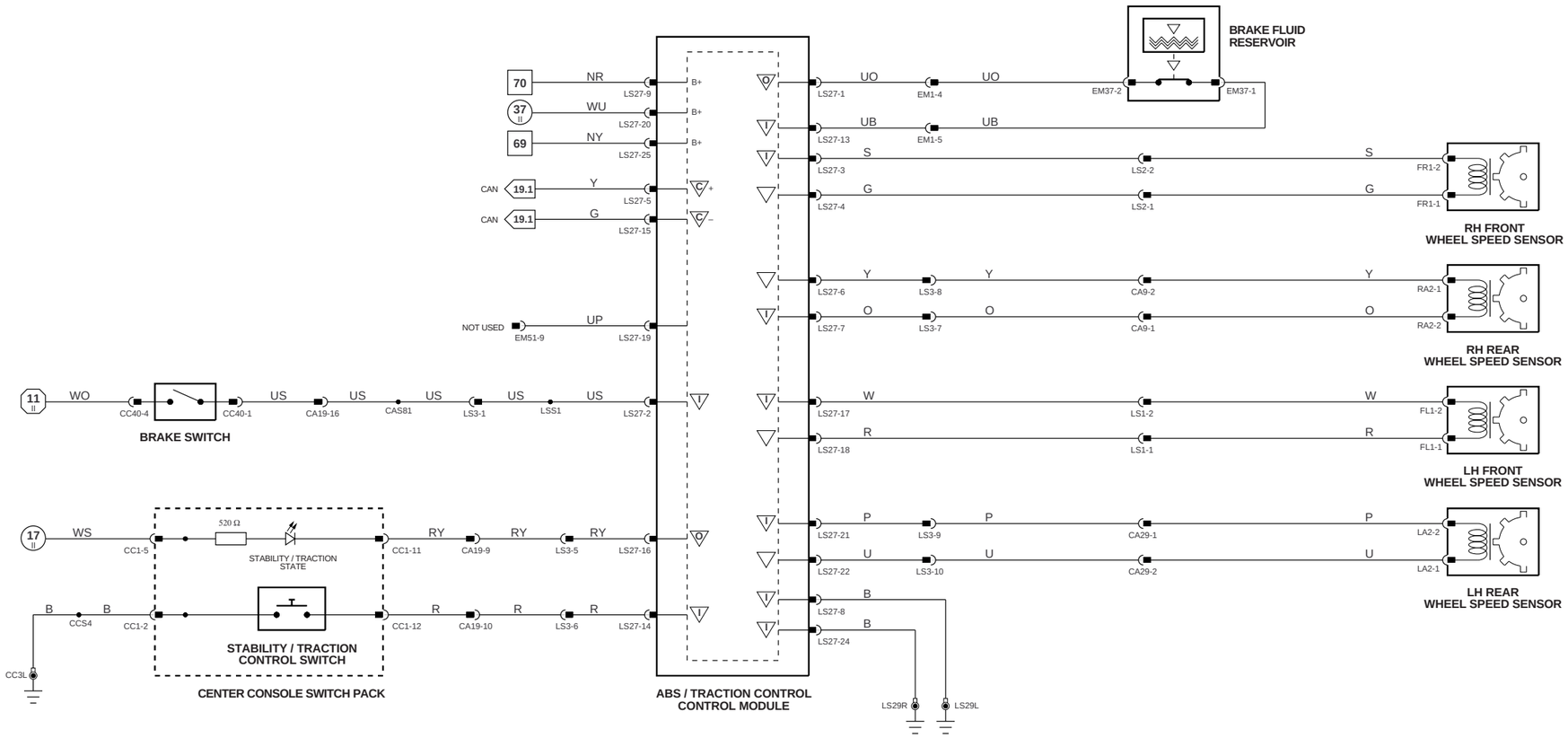
VARIANT: AJ26 SC Vehicles
VIN RANGE: 853936 →
DATE OF ISSUE: SEPTEMBER 1998



1 – 6, 1 II – 4 II Fig. 01.1 | 7 – 48, 49 – 83 Fig. 01.2 Fig. 01.3 | 5 II – 42 II, 43 E – 60 E Fig. 01.4 Fig. 01.5 | 1 – 19 I Fig. 02.1

Input | Signal Ground (SG) | Output | CAN (Network) | Serial and Encoded Communications | SCP Network

VARIANT: All Vehicles
VIN RANGE: 853936 →
DATE OF ISSUE: SEPTEMBER 1998

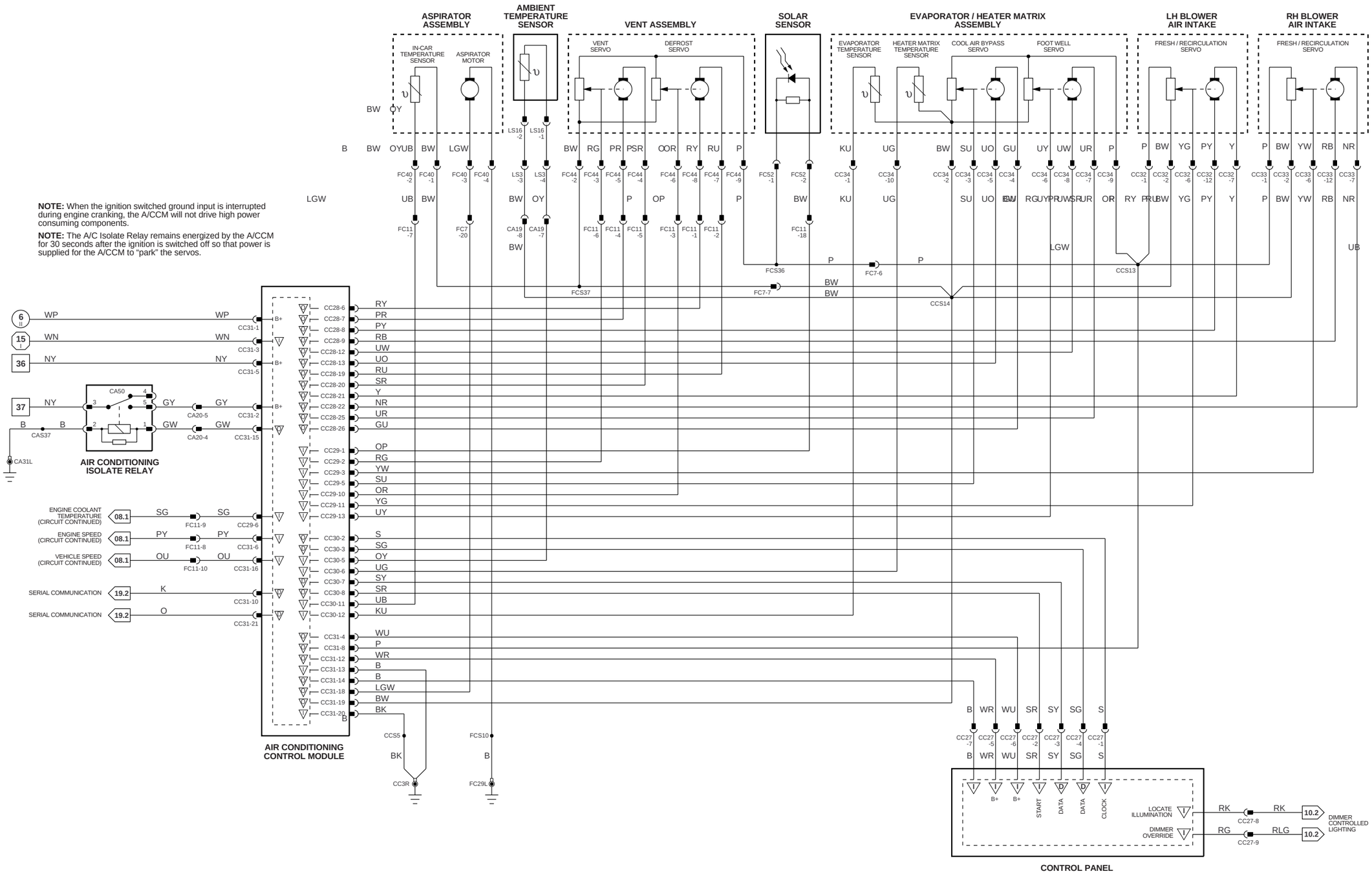


1 – 6 1 II – 4 II Fig. 01.1	7 – 48 Fig. 01.2 49 – 83 Fig. 01.3	5 II – 42 II Fig. 01.4 43 E – 60 E Fig. 01.5	1 – 19 I Fig. 02.1	Input Signal Ground (SG)	Output CAN (Network)	Serial and Encoded Communications SCP Network

VARIANT: All Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998

NOTE: When the ignition switched ground input is interrupted during engine cranking, the A/CCM will not drive high power consuming components.

NOTE: The A/C Isolate Relay remains energized by the A/CCM for 30 seconds after the ignition is switched off so that power is supplied for the A/CCM to "park" the servos.



1 – 6 / 1 – 4 Fig. 01.1	7 – 48 / 49 – 83 Fig. 01.2 Fig. 01.3	5 – 42 / 43 – 60 Fig. 01.4 Fig. 01.5	1 – 19 Fig. 02.1	Input / Signal Ground (SG)	Output / CAN (Network)	Serial and Encoded Communications / SCP Network

VARIANT: All Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998

NOTE: Radiator cooling and air conditioning compressor circuits are duplicated here for clarity. Refer to Fig. 04.4 and Fig. 04.7.

67 NLG CF1-2 CF1-1 OY LS32-1 — LH RADIATOR FAN

B LS32-3 B CF2-1 CF2-2 OG LS32-4 — RH RADIATOR FAN

LS10L

OY LS31-2; W EM1-11 W LS31-9; OG LS31-5; WU EM1-12 WU LS31-7; B LS31-1; LS10R

WP LS31-8 58 E; NG LS31-3 68

RADIATOR FAN CONTROL RELAY MODULE

EM80-10 (N/A) EM12-05 (SC) WU
EM80-11 (N/A) EM10-04 (SC) UN
EM80-12 (N/A) EM10-02 (SC) UG
EM80-22 (N/A) EM12-06 (SC) RW
EM80-23 (N/A) EM10-03 (SC) ULG
EM80-25 (N/A) EM12-10 (SC) RY
EM81-04 (N/A) EM13-16 (SC) WU
EM81-05 (N/A) EM13-15 (SC) W

ENGINE CONTROL MODULE

CC28-1 RLG
CC28-2 U
CC28-3 UY
CC28-4 PS
CC28-5 KW
CC28-16 LGN
CC28-17 RW
CC28-18 LGP
CC29-7 US
CC29-8 GO
CC29-15 UK
CC29-16 GP
CC30-1 ULG
CC31-7 UG
CC31-9 UN
CC31-17 PG

EM53-3 EM53-8 EM53-9 EM53-6

AIR CONDITIONING CONTROL MODULE

RLG EM53-10 RLG EM51-6 PG EM53-12 PG LS26-5 P 2–30 BAR BK LS26-2
WU EM51-5 LS26-1 20 BAR
RW EM51-10 LS26-3 12 BAR WY LS26-4 7 II LS20L

REFRIGERANT 4-WAY PRESSURE SWITCH

RLG EMS26 RLG PI1-13 B PI36-1

AIR CONDITIONING COMPRESSOR CLUTCH

RLG EM25 NLG 78
RY 5 3 2 1 WP 53 E

AIR CONDITIONING COMPRESSOR CLUTCH RELAY

CA19-15 RW LS3-32 YW EM1-8 YW EM36-1 YW EM36-2 B EMS4 B EM40-1 B U EM40-2 U

HEATER VALVE

B EM8R

HEATER PUMP

LS7-2 #15 10A 5 3 5 2 1 42 II LS5-5

HEATER PUMP RELAY (#1)S

ENGINE COMPARTMENT FUSE BOX

82 NP SH3 3 5 2 1 GK WS 29 II — RH WINDSHIELD HEATER RELAY

SH4-1 SH4-2 B EM18R — RH WINDSHIELD HEATER

81 NG SH2 3 5 2 1 GS WS 30 II — LH WINDSHIELD HEATER RELAY

SHS2 PS

SH5-1 SH5-2 B EM18L — LH WINDSHIELD HEATER

DRIVER MIRROR

EM42-4 PS

30 NB CA18 3 5 2 1 NR WP 7 II — DOOR MIRROR HEATER RELAY

CA19-14 KW

CAS34 NR CA10-4 NR DD8-9 DD8-11 B DDS1 B CA10-3 B CAS40 (RHD) B CA30R (CA33R)

PASSENGER MIRROR

EM53-7 PS

NR CA12-4 NR PD8-9 PD8-11 B PDS1 B CA12-3 B CAS40 (LHD) B CA33R (CA30R)

1 3 5 #17 25A BT13-10 UY BT13-3 LGP BT10-8
27 II 1 2 HEATED BACKLIGHT RELAY(#2)

TRUNK FUSE BOX

UY BT4-D UY CA21 IC18 B — HEATED BACKLIGHT

IC6

LGP CA20-1 LGP BT4-31

43 NU CA58 3 5 2 1 UW WP 9 II
CA20-6 UY

RH BLOWER MOTOR RELAY

CA20-2 UW UW CC33-5 UW

US CC33-13 U
B CC33-8 B
GO CC33-10 G

RH BLOWER MOTOR

21 NW CA58 8 10 7 6 UR WP 8 II
CA20-7 LGN

LH BLOWER MOTOR RELAY

CA19-12 UR UR CC32-5 UW

UK CC32-13 U
B CC32-8 B
GP CC32-10 G

CC2L

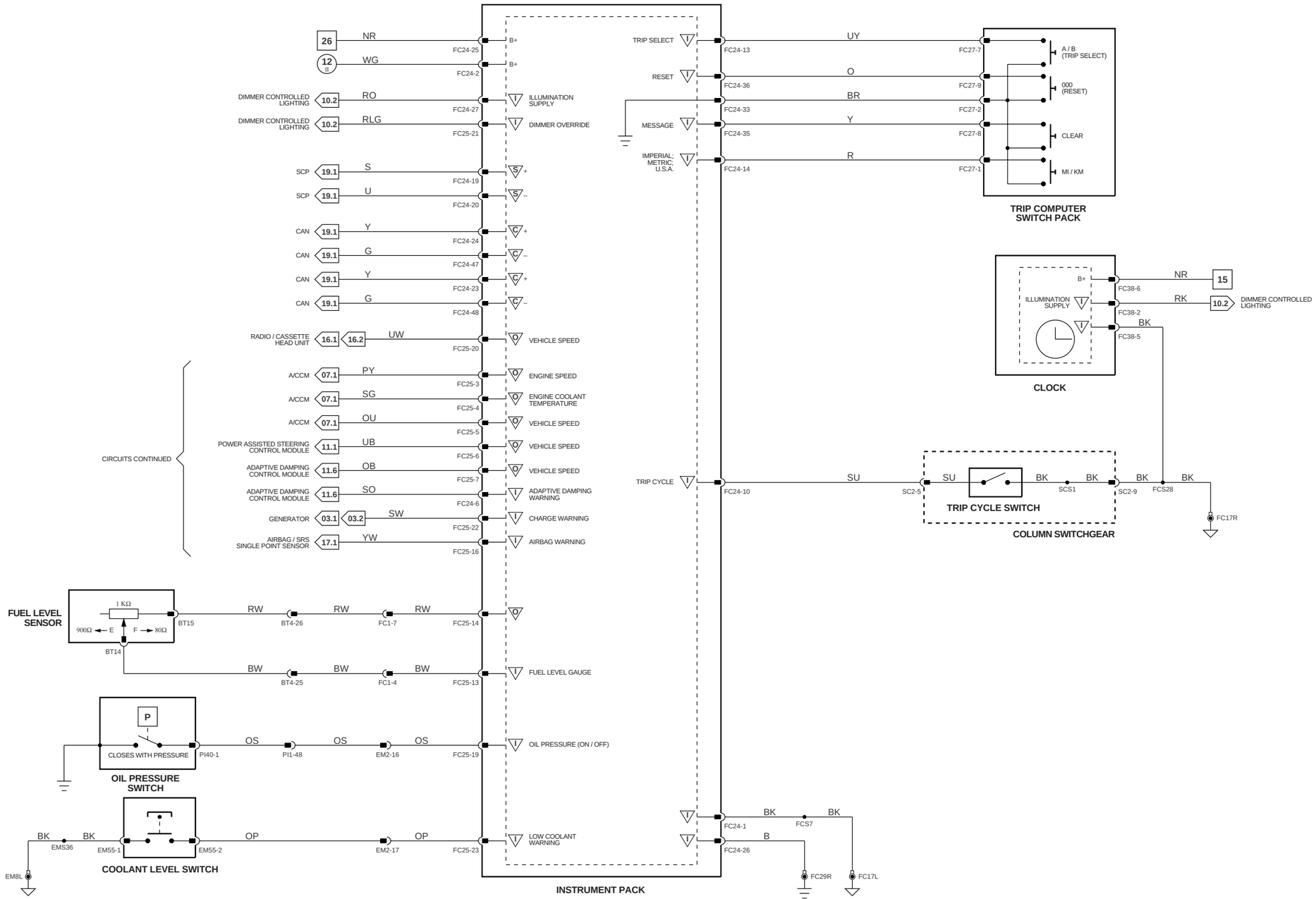
LH BLOWER MOTOR

NOTE: A/CCM power supplies and grounds are shown on Fig. 07.1; ECM power supplies and grounds are shown on Fig. 04.1 – Fig. 04.6.

1 – 6 / 1 II – 4 II Fig. 01.1
7 – 48 Fig. 01.2
49 – 83 Fig. 01.3
5 II – 42 II Fig. 01.4
43 E – 60 E Fig. 01.5
1 – 19 I Fig. 02.1

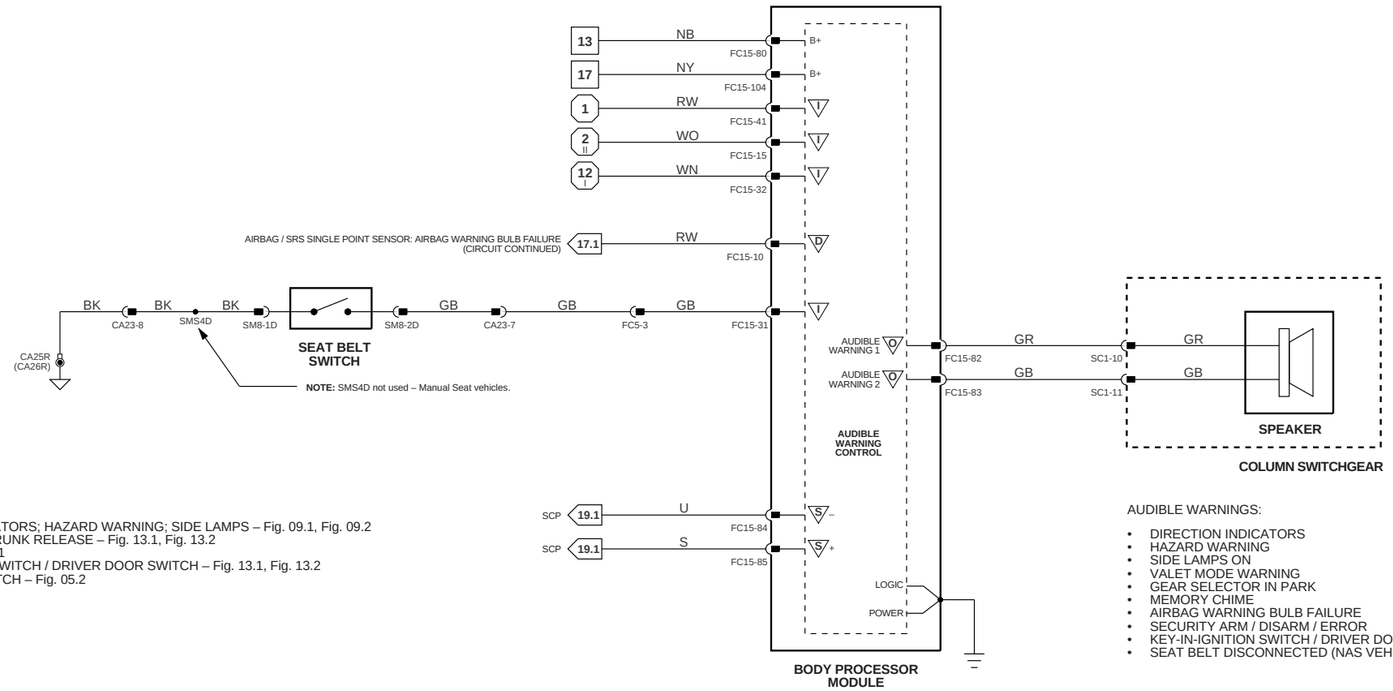
Input
Signal Ground (SG)
Output
CAN (Network)
Serial and Encoded Communications
SCP Network

VARIANT: All Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998



1 – 6; 1 II – 4 II Fig. 01.1	7 – 48 Fig. 01.2	49 – 83 Fig. 01.3	5 II – 42 II Fig. 01.4	43 E – 60 E Fig. 01.5	1 – 19 I Fig. 02.1	Input; Signal Ground (SG); Output; CAN (Network); Serial and Encoded Communications; SCP Network

VARIANT: All Vehicles
VIN RANGE: 853936 →
DATE OF ISSUE: SEPTEMBER 1998



SCP SOURCES:

- DIRECTION INDICATORS; HAZARD WARNING; SIDE LAMPS – Fig. 09.1, Fig. 09.2
- VALET SWITCH; TRUNK RELEASE – Fig. 13.1, Fig. 13.2
- MEMORY – Fig. 12.1
- KEY-IN IGNITION SWITCH / DRIVER DOOR SWITCH – Fig. 13.1, Fig. 13.2
- NOT-IN-PARK SWITCH – Fig. 05.2

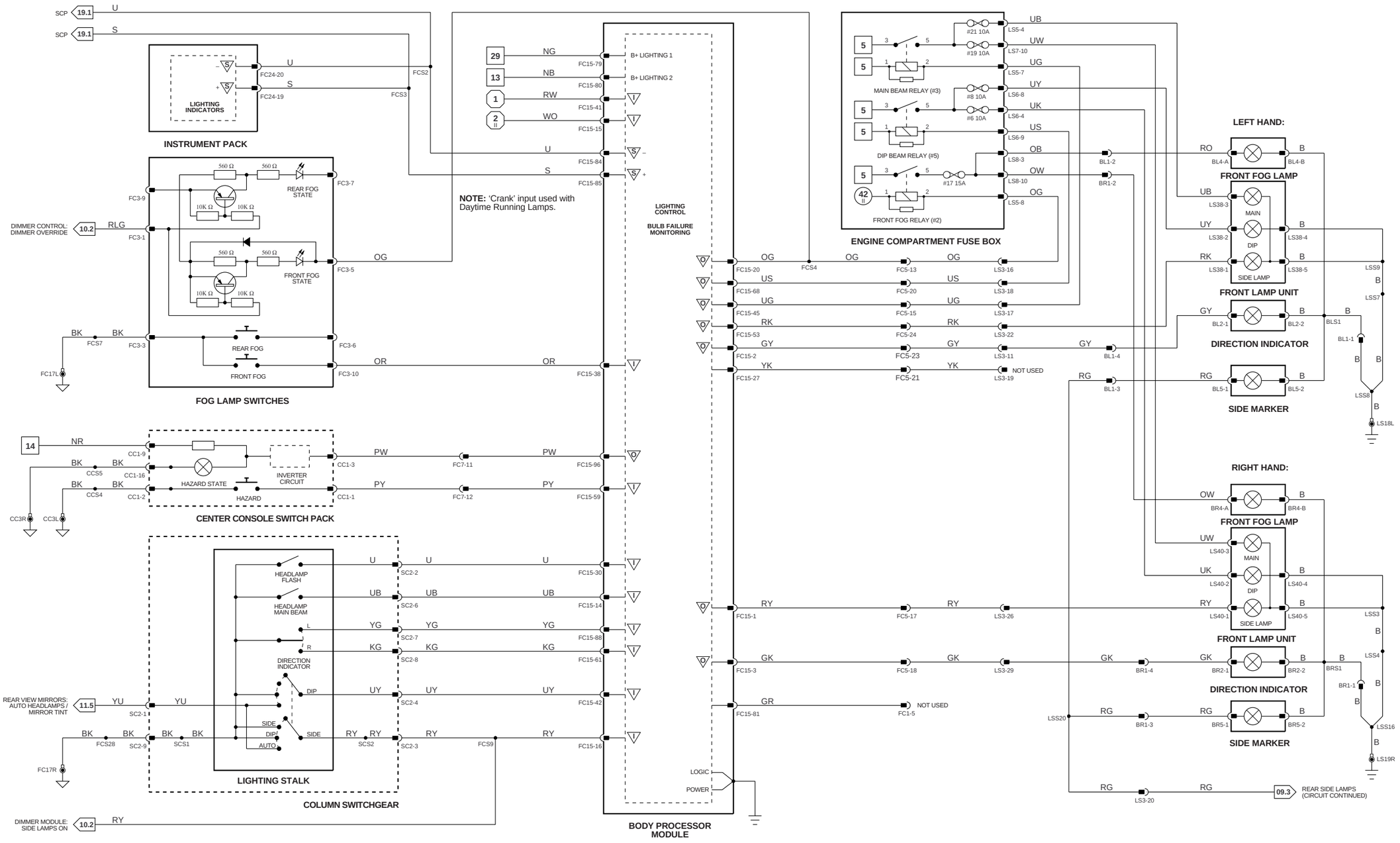
AUDIBLE WARNINGS:

- DIRECTION INDICATORS
- HAZARD WARNING
- SIDE LAMPS ON
- VALET MODE WARNING
- GEAR SELECTOR IN PARK
- MEMORY CHIME
- AIRBAG WARNING BULB FAILURE
- SECURITY ARM / DISARM / ERROR
- KEY-IN-IGNITION SWITCH / DRIVER DOOR AJAR (NAS VEHICLES ONLY)
- SEAT BELT DISCONNECTED (NAS VEHICLES ONLY)

1 – 6, 1 II – 4 II Fig. 01.1
7 – 48 Fig. 01.2
49 – 83 Fig. 01.3
5 II – 42 II Fig. 01.4
43 E – 60 E Fig. 01.5
1 – 19 I Fig. 02.1

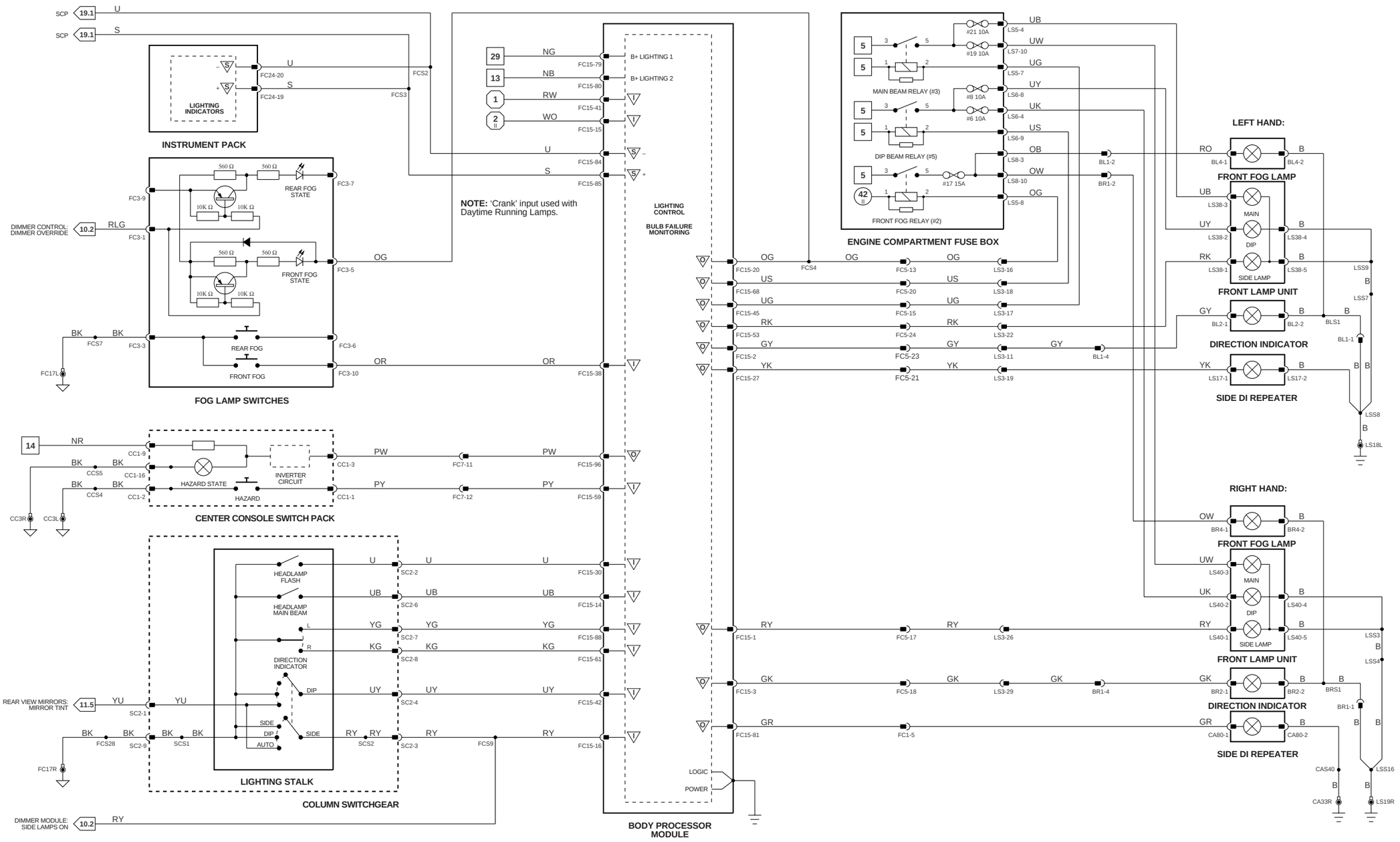
Input
Output
Serial and Encoded Communications
Signal Ground (SG)
CAN (Network)
SCP Network

VARIANT: All Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998



NOTES:
DI bulb failure – BPM internal function.
Daytime running lamps – BPM programmed function.

1 – 6; 1 (II) – 4 (II) Fig. 01.1	7 – 48 Fig. 01.2; 49 – 83 Fig. 01.3	5 (II) – 42 (II) Fig. 01.4; 43 (E) – 60 (E) Fig. 01.5	1 – 19 (I) Fig. 02.1	Input; Signal Ground (SG)	Output; CAN (Network)	Serial and Encoded Communications; SCP Network	**VARIANT:** NAS Vehicles **VIN RANGE:** 853936 ⟶ **DATE OF ISSUE:** SEPTEMBER 1998

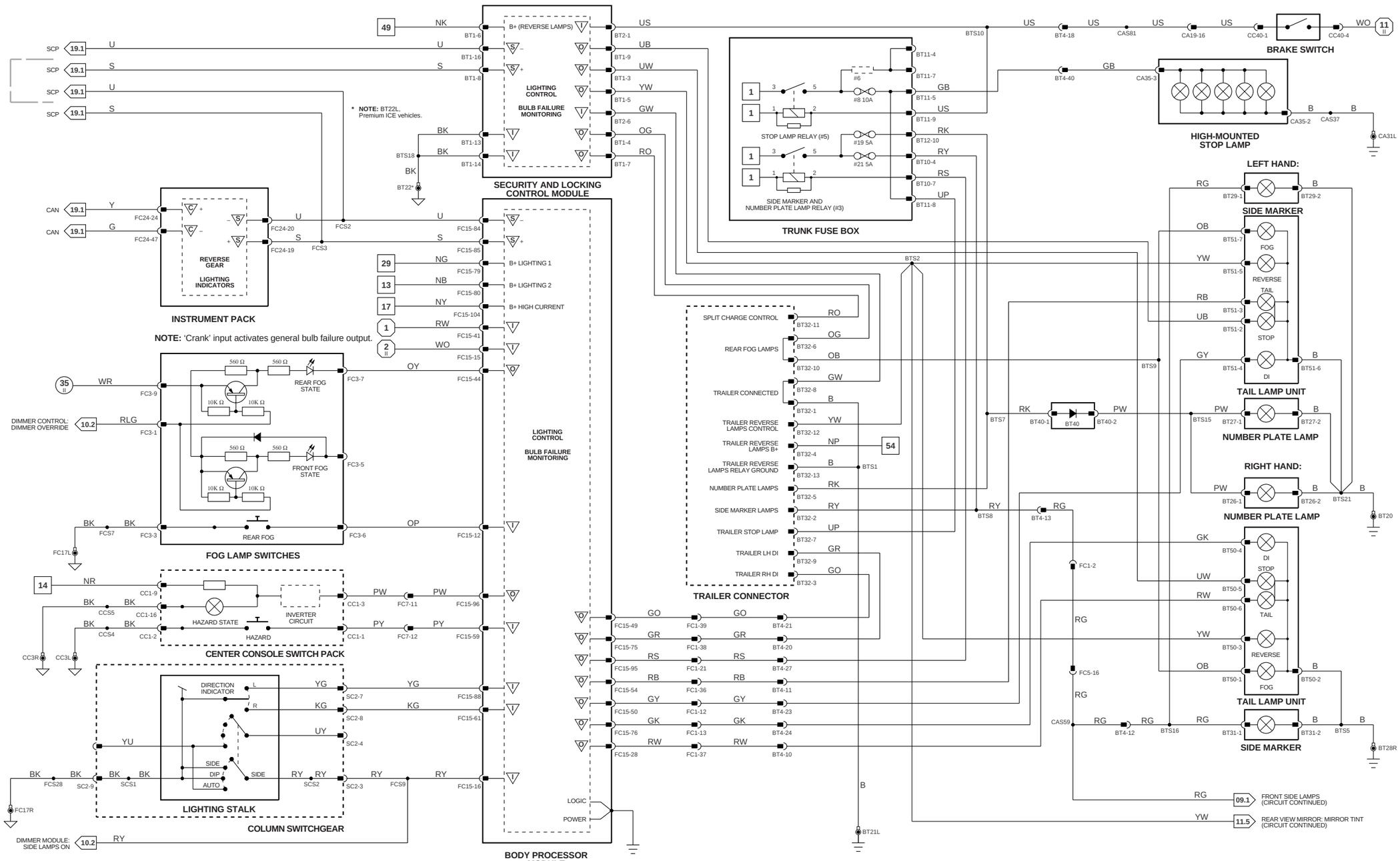


NOTES:
DI bulb failure – BPM internal function.
Daytime running lamps – BPM programmed function.

1 – 6 / 1 II – 4 II Fig. 01.1
7 – 48 / 49 – 83 Fig. 01.2
5 II – 42 II / 43 E – 60 E Fig. 01.4
1 – 19 I Fig. 02.1
Fig. 01.3
Fig. 01.5

Input
Output
Serial and Encoded Communications
Signal Ground (SG)
CAN (Network)
SCP Network

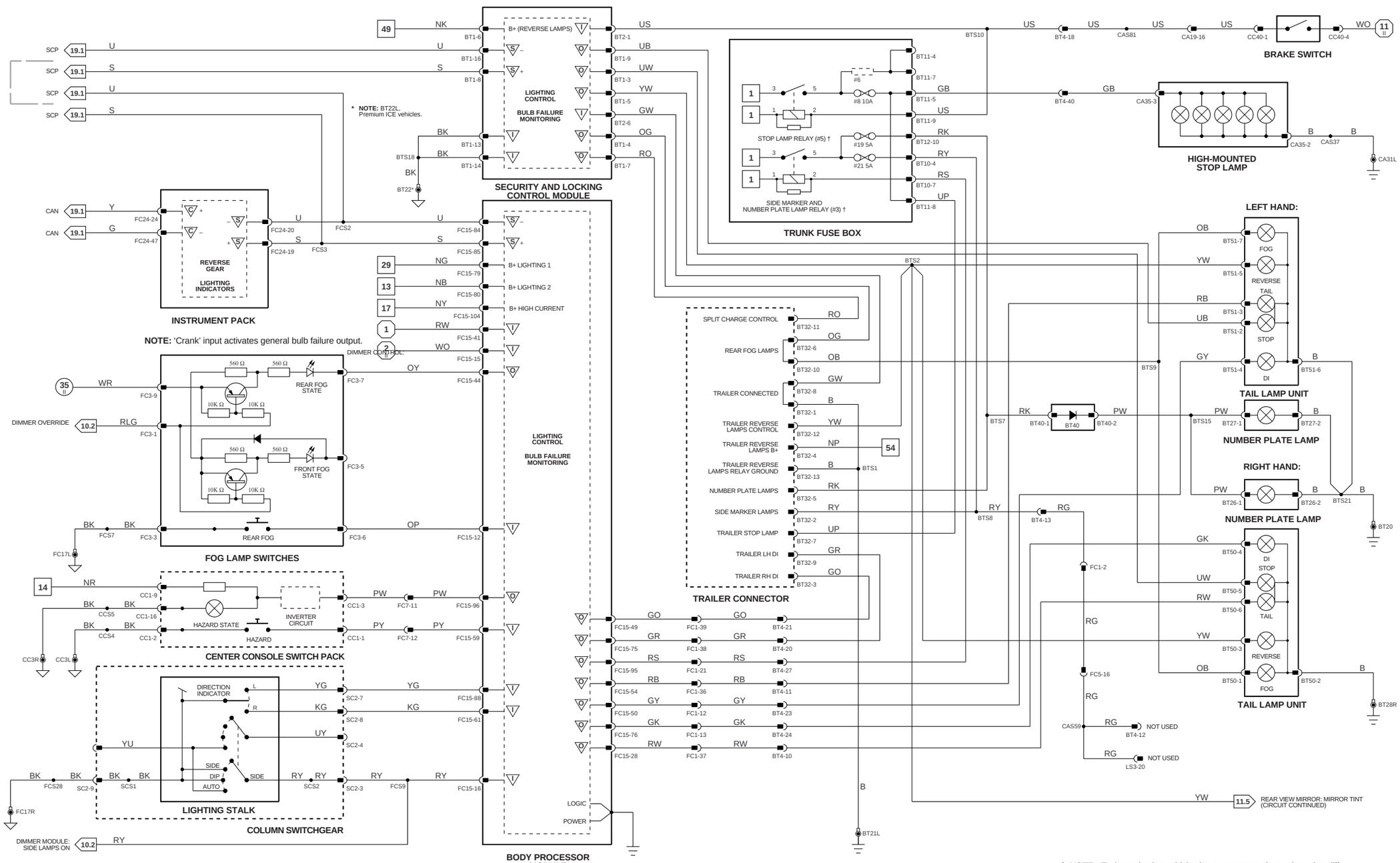
VARIANT: ROW Vehicles
VIN RANGE: 853936 →
DATE OF ISSUE: SEPTEMBER 1998



1 – 6 / 1 II – 4 II Fig. 01.1
7 – 48 Fig. 01.2
49 – 83 Fig. 01.3
5 II – 42 II Fig. 01.4
43 E – 60 E Fig. 01.5
1 – 19 I Fig. 02.1

Input
Output
Serial and Encoded Communications
Signal Ground (SG)
CAN (Network)
SCP Network

VARIANT: NAS Vehicles
VIN RANGE: 853936 →
DATE OF ISSUE: SEPTEMBER 1998



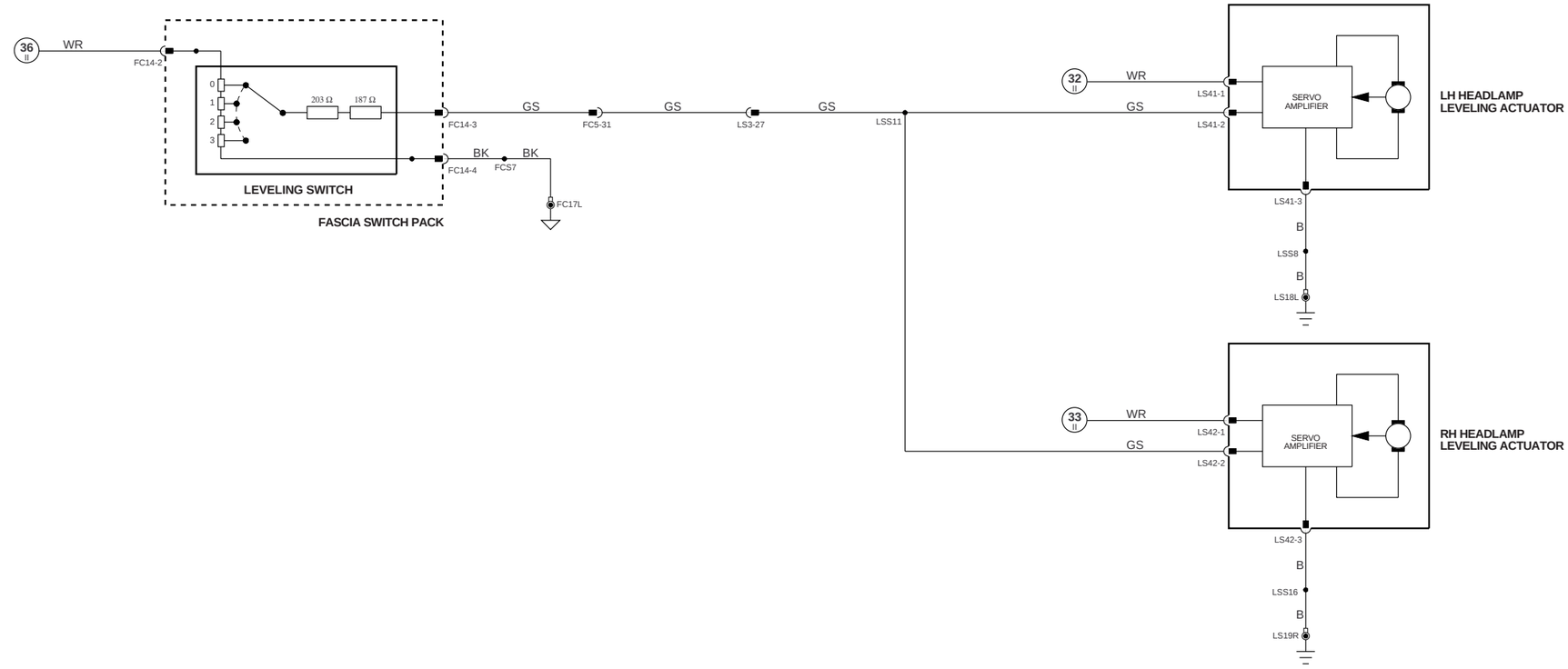
† **NOTE:** Early production vehicles have connector pin numbers that differ from the volume production pin numbers shown. Use the wire color code for pin identification on early production vehicles.

1 – 6, 1 II – 4 II Fig. 01.1	7 – 48 Fig. 01.2	5 II – 42 II Fig. 01.4	1 – 19 I Fig. 02.1	Input	Output
	49 – 83 Fig. 01.3	43 E – 60 E Fig. 01.5		Signal Ground (SG)	CAN (Network)

Serial and Encoded Communications

SCP Network

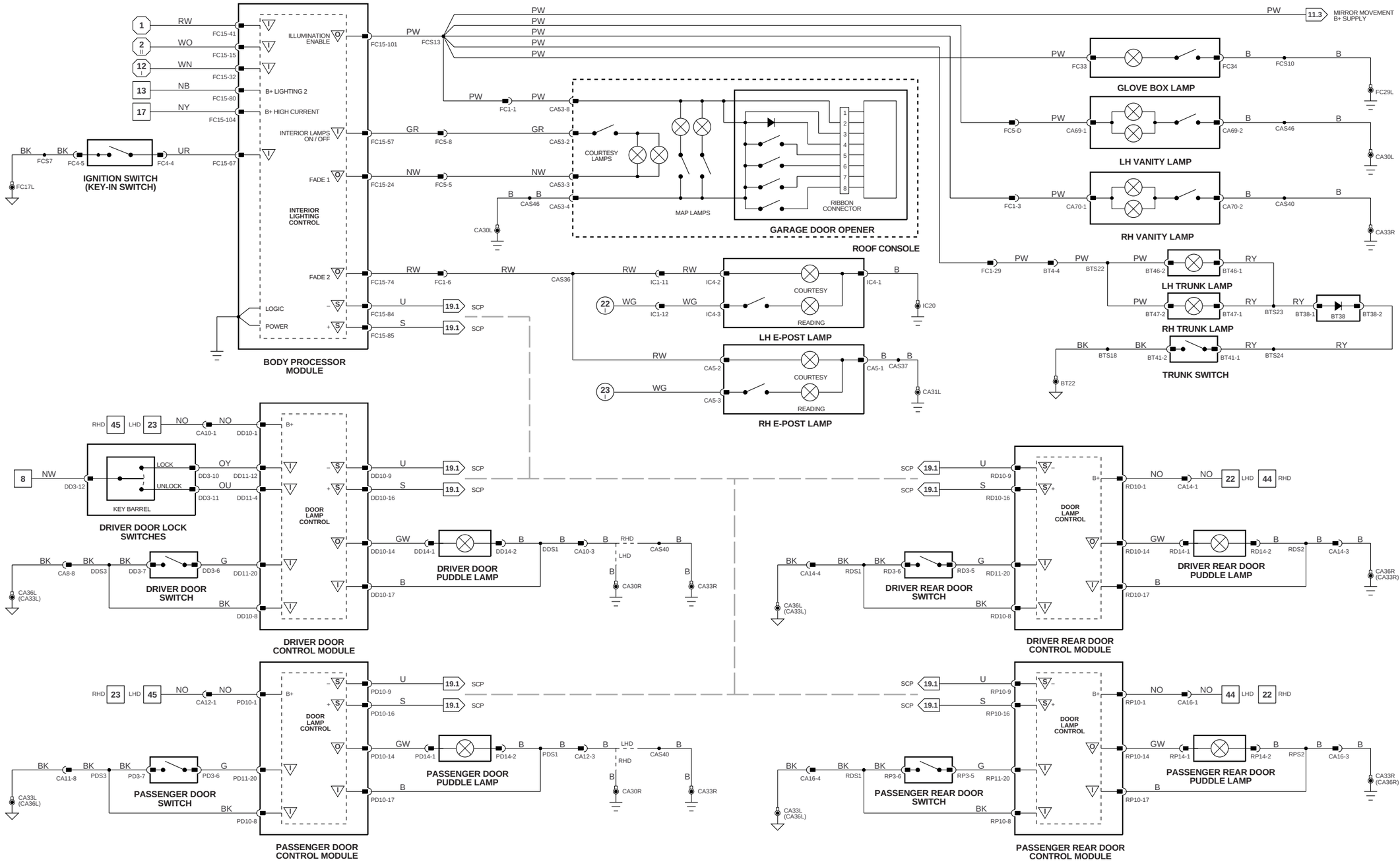
VARIANT: ROW Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998



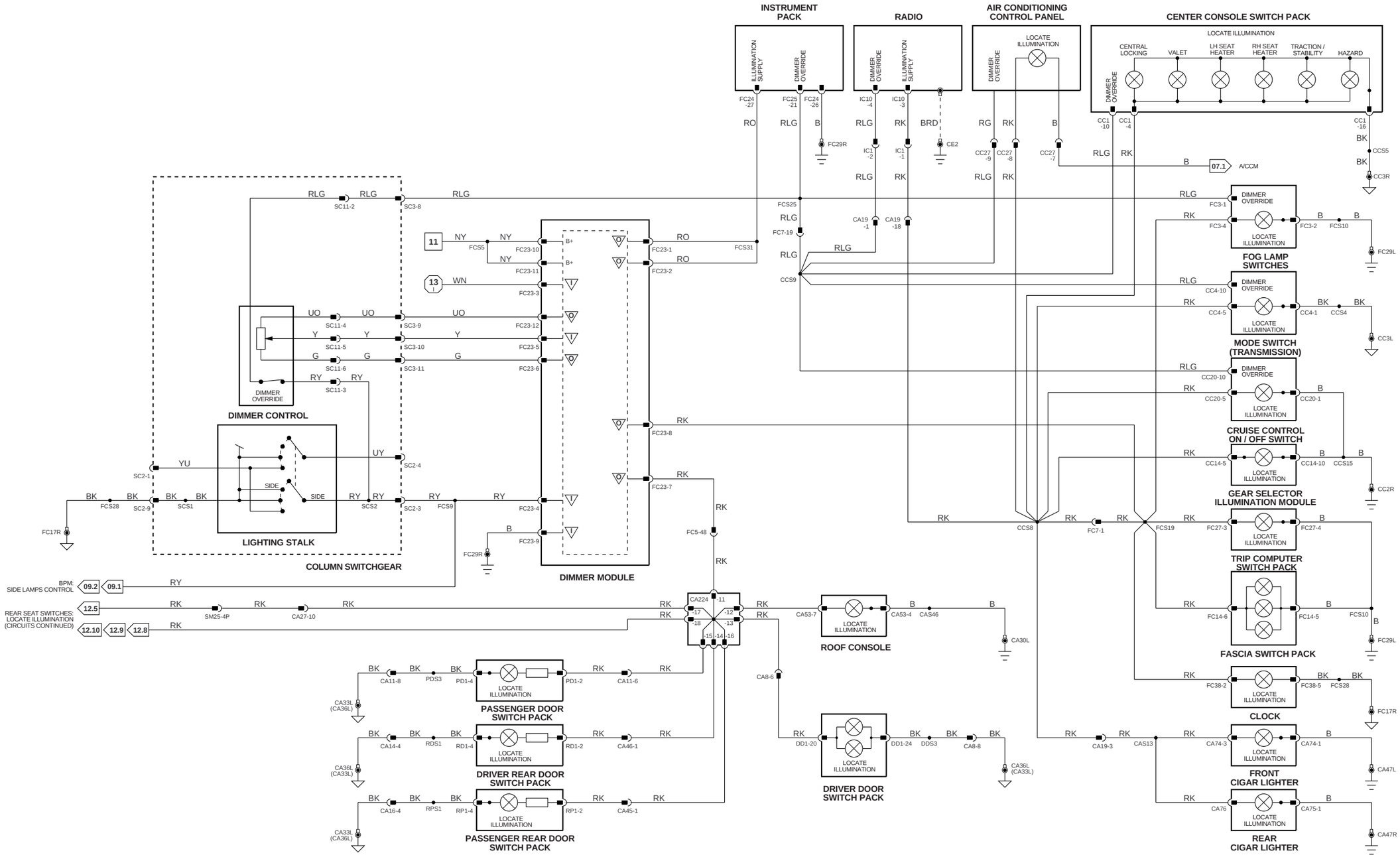
1 – 6 / 1 II – 4 II Fig. 01.1	7 – 48 Fig. 01.2 / 49 – 83 Fig. 01.3	5 II – 42 II Fig. 01.4 / 43 E – 60 E Fig. 01.5	1 – 19 I Fig. 02.1	I Input / Signal Ground (SG)	O Output / C CAN (Network)	D Serial and Encoded Communications / S SCP Network

VARIANT: Headlamp Leveling Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998

NOTE: 'Crank' input is used to switch off interior lamps during engine cranking.



1 – 6, 1 – 4 Fig. 01.1	7 – 48, 49 – 83 Fig. 01.2 / Fig. 01.3	5 – 42, 43 – 60 Fig. 01.4 / Fig. 01.5	1 – 19 Fig. 02.1	Input, Signal Ground (SG)	Output, CAN (Network)	Serial and Encoded Communications, SCP Network	**VARIANT:** All Vehicles **VIN RANGE:** 853936 ⟶ **DATE OF ISSUE:** SEPTEMBER 1998

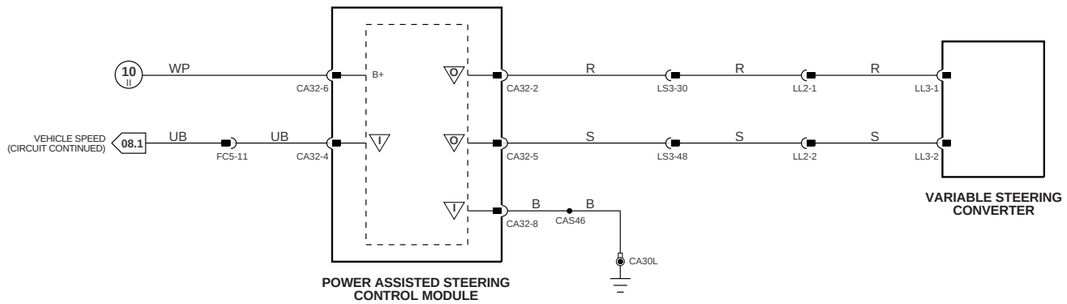


1 – 6, 1 II – 4 II Fig. 01.1 | 7 – 48, 49 – 83 Fig. 01.2 | 5 II – 42 II, 43 E – 60 E Fig. 01.4 | 1 – 19 I Fig. 02.1 | Fig. 01.3 | Fig. 01.5

Input | Output | Serial and Encoded Communications

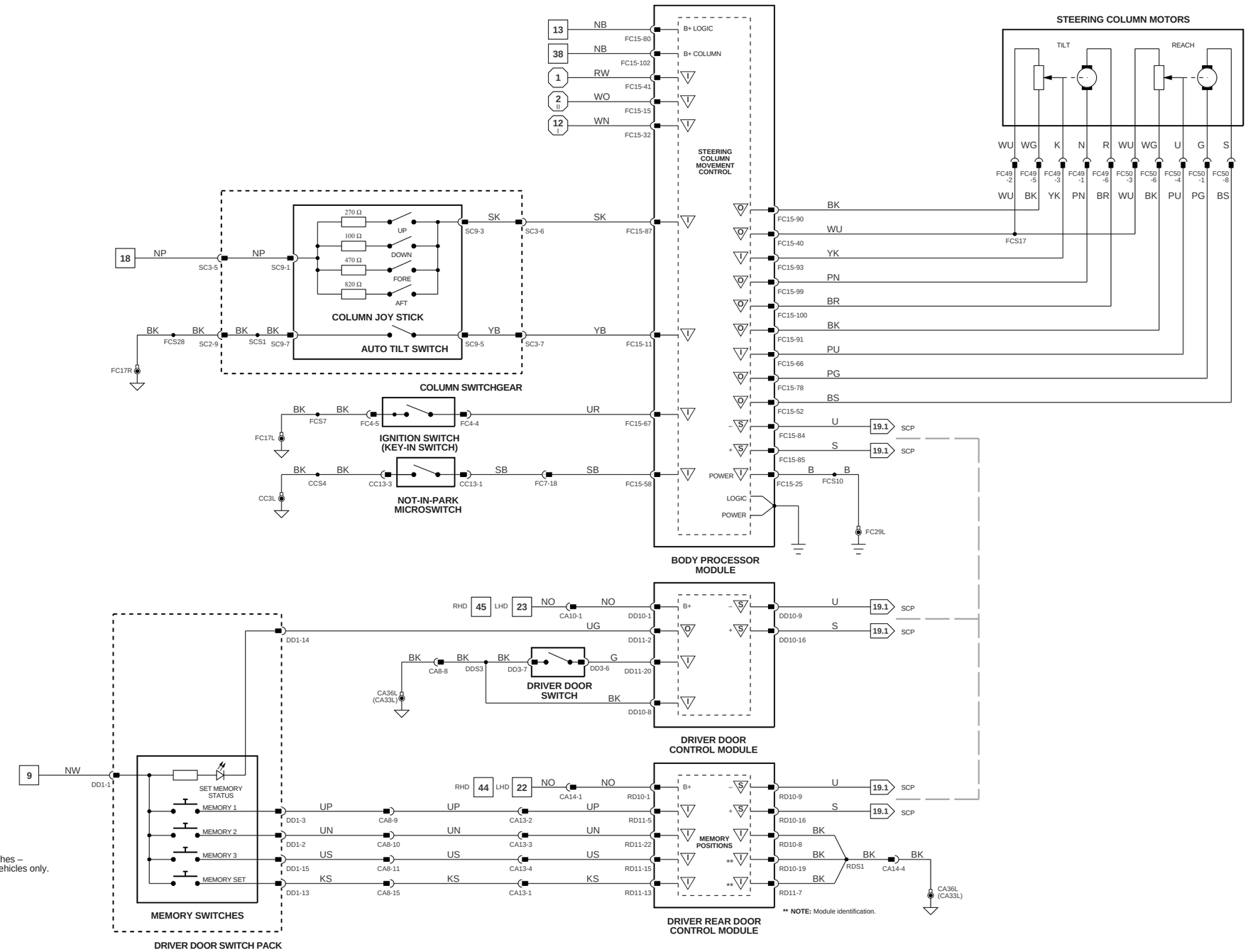
Signal Ground (SG) | CAN (Network) | SCP Network

VARIANT: All Vehicles
VIN RANGE: 853936 →
DATE OF ISSUE: SEPTEMBER 1998



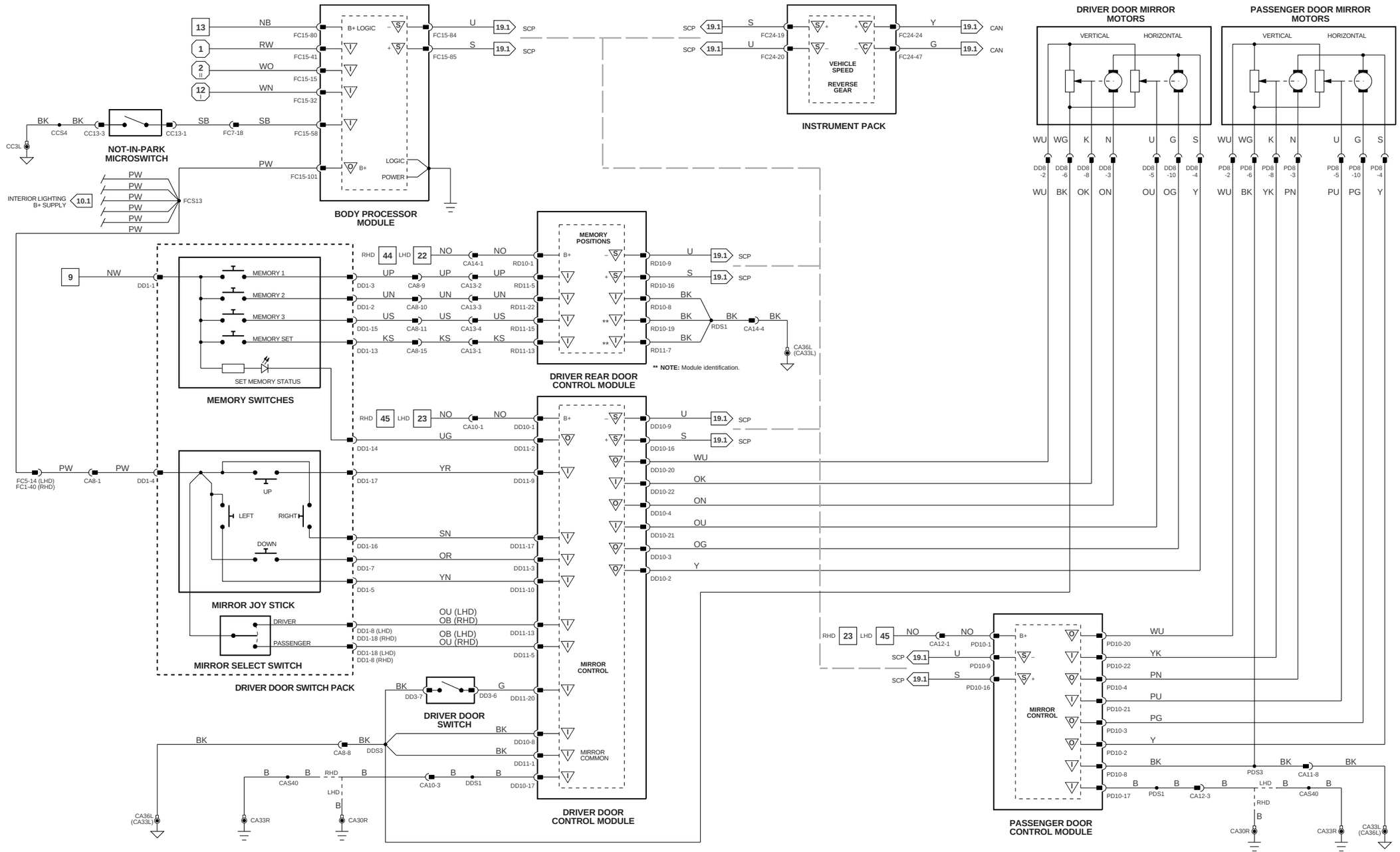
1 – 6 1 II – 4 II Fig. 01.1	7 – 48 Fig. 01.2 49 – 83 Fig. 01.3	5 II – 42 II Fig. 01.4 43 E – 60 E Fig. 01.5	1 – 19 I Fig. 02.1	Input Signal Ground (SG)	Output CAN (Network)	Serial and Encoded Communications SCP Network

VARIANT: All Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998



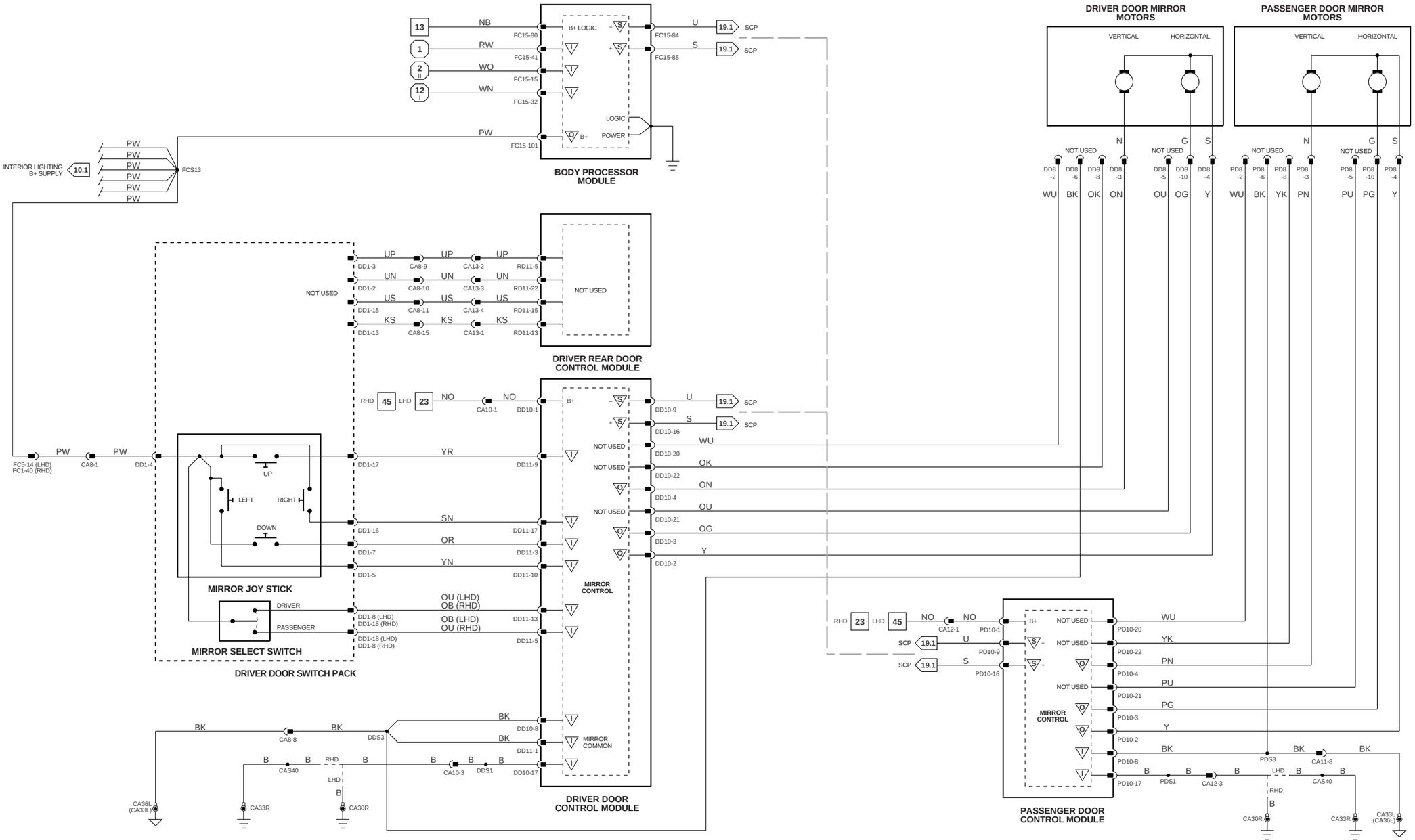
1 – 6; 1 II – 4 II Fig. 01.1	7 – 48 Fig. 01.2	49 – 83 Fig. 01.3	5 II – 42 II Fig. 01.4	43 E – 60 E Fig. 01.5	1 – 19 I Fig. 02.1	I Input	O Output	D Serial and Encoded Communications
						Signal Ground (SG)	C CAN (Network)	S SCP Network

VARIANT: Powered Column Vehicles
VIN RANGE: 853936 →
DATE OF ISSUE: SEPTEMBER 1998



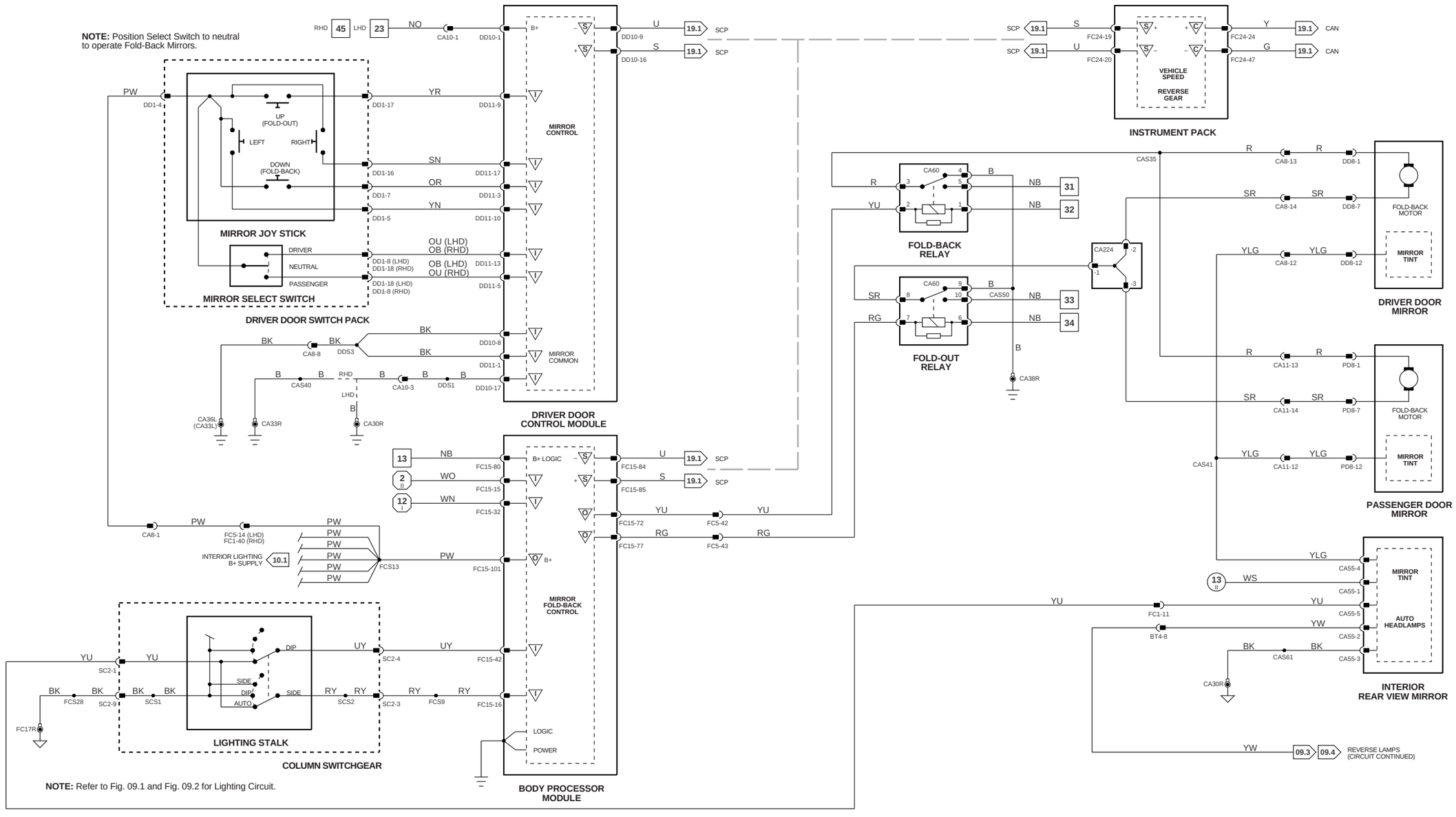
1 – 6; 1 II – 4 II Fig. 01.1	7 – 48 Fig. 01.2	5 II – 42 II Fig. 01.4	1 – 19 I Fig. 02.1	Input	Output	Serial and Encoded Communications
	49 – 83 Fig. 01.3	43 E – 60 E Fig. 01.5		Signal Ground (SG)	CAN (Network)	SCP Network

VARIANT: Memory Vehicles
VIN RANGE: 853936 →
DATE OF ISSUE: SEPTEMBER 1998



1 – 6 / 1 II – 4 II Fig. 01.1	7 – 48 Fig. 01.2	49 – 83 Fig. 01.3	5 II – 42 II Fig. 01.4	43 E – 60 E Fig. 01.5	1 – 19 I Fig. 02.1	Input / Signal Ground (SG)	Output / CAN (Network)	Serial and Encoded Communications / SCP Network

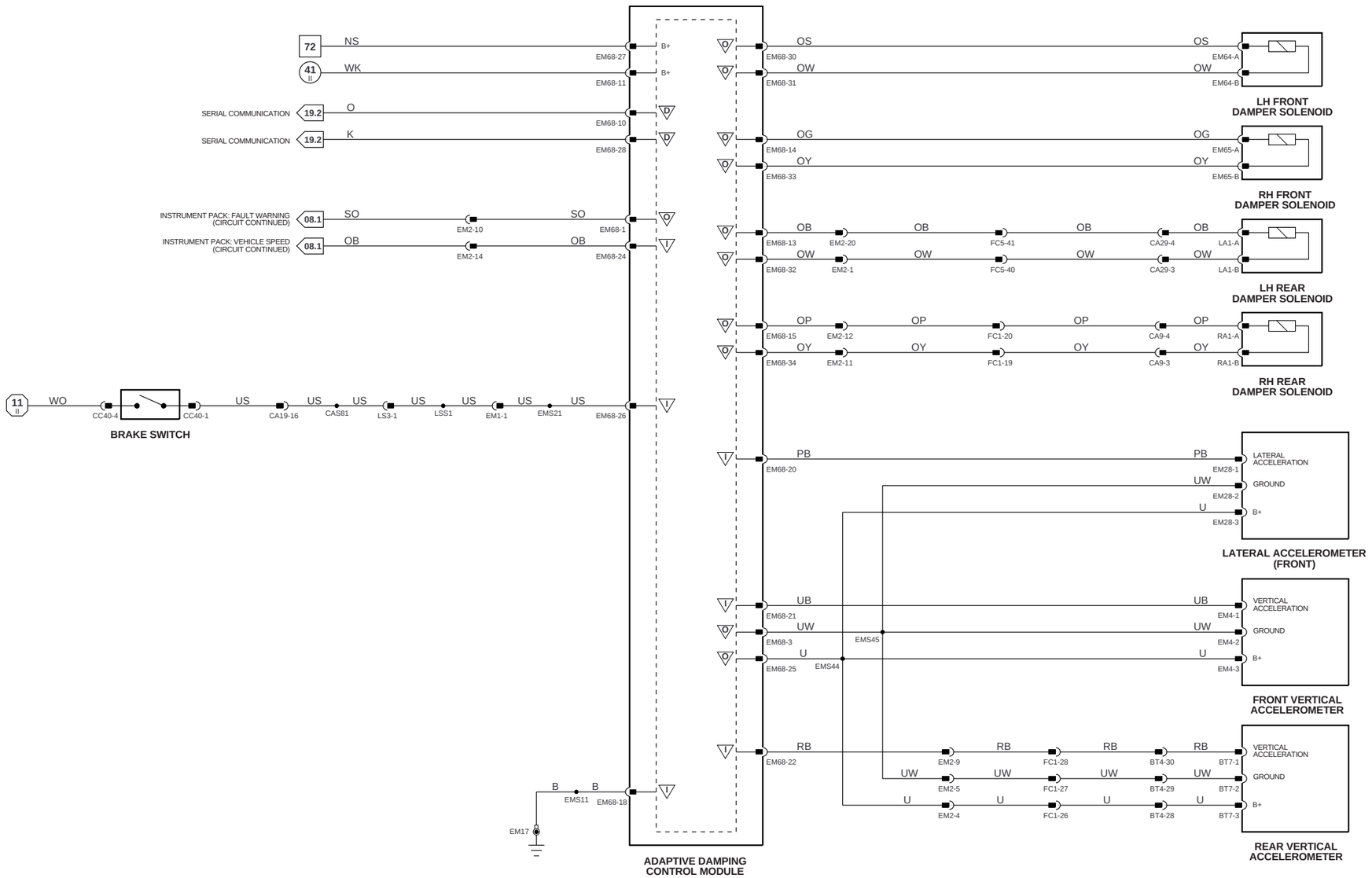
VARIANT: Non-Memory Vehicles
VIN RANGE: 853936 →
DATE OF ISSUE: SEPTEMBER 1998



1 – 6, 1 – 4 Fig. 01.1
7 – 48, 49 – 83 Fig. 01.2
5 – 42 Fig. 01.4
43 – 60 Fig. 01.5
1 – 19 Fig. 02.1

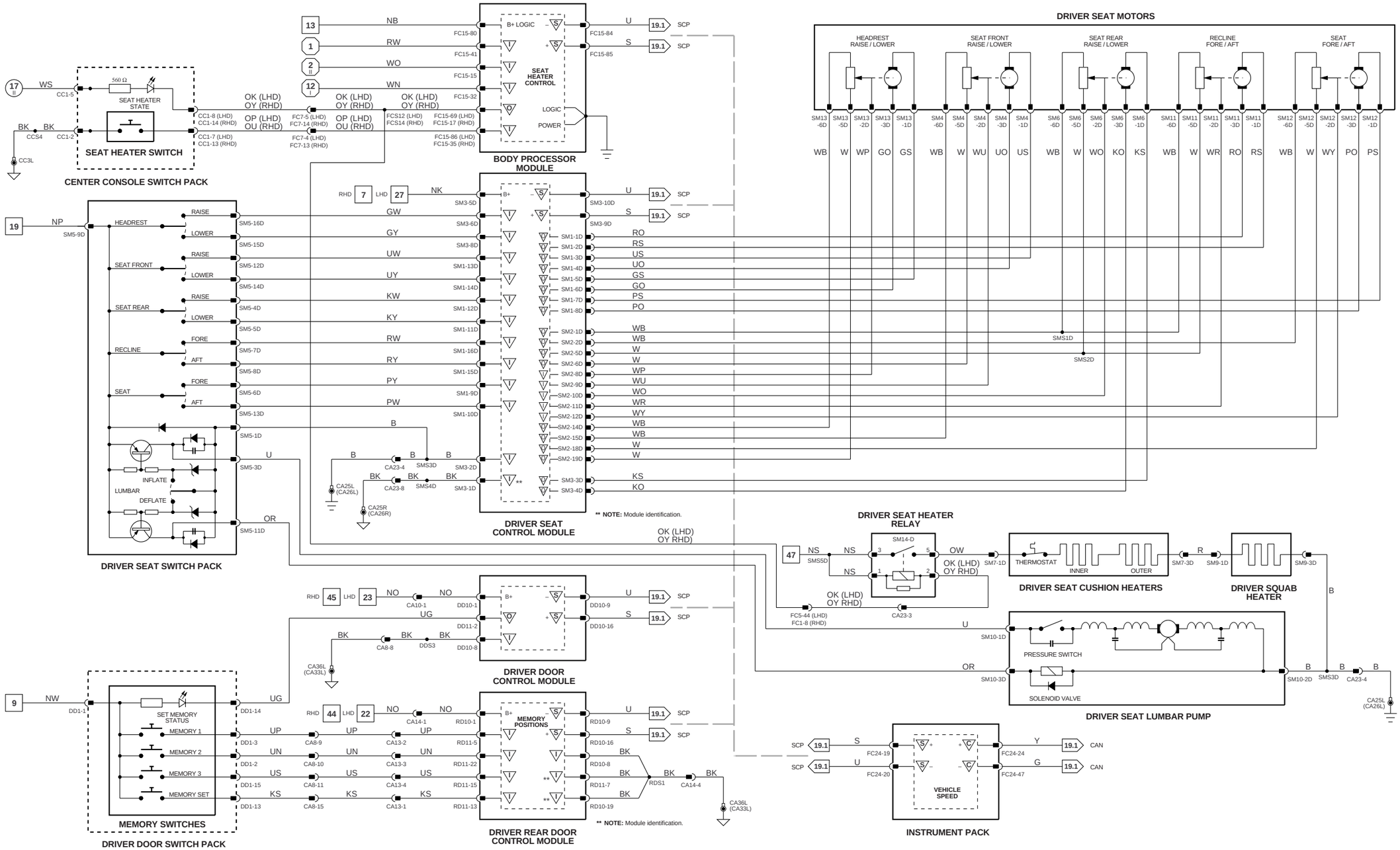
Input
Output
Serial and Encoded Communications
Signal Ground (SG)
CAN (Network)
SCP Network

VARIANT: All Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998



1 – 6 1 II – 4 II Fig. 01.1	7 – 48 Fig. 01.2 49 – 83 Fig. 01.3	5 II – 42 II Fig. 01.4 43 E – 60 E Fig. 01.5	1 – 19 I Fig. 02.1	Input Signal Ground (SG)	Output CAN (Network)	Serial and Encoded Communications SCP Network

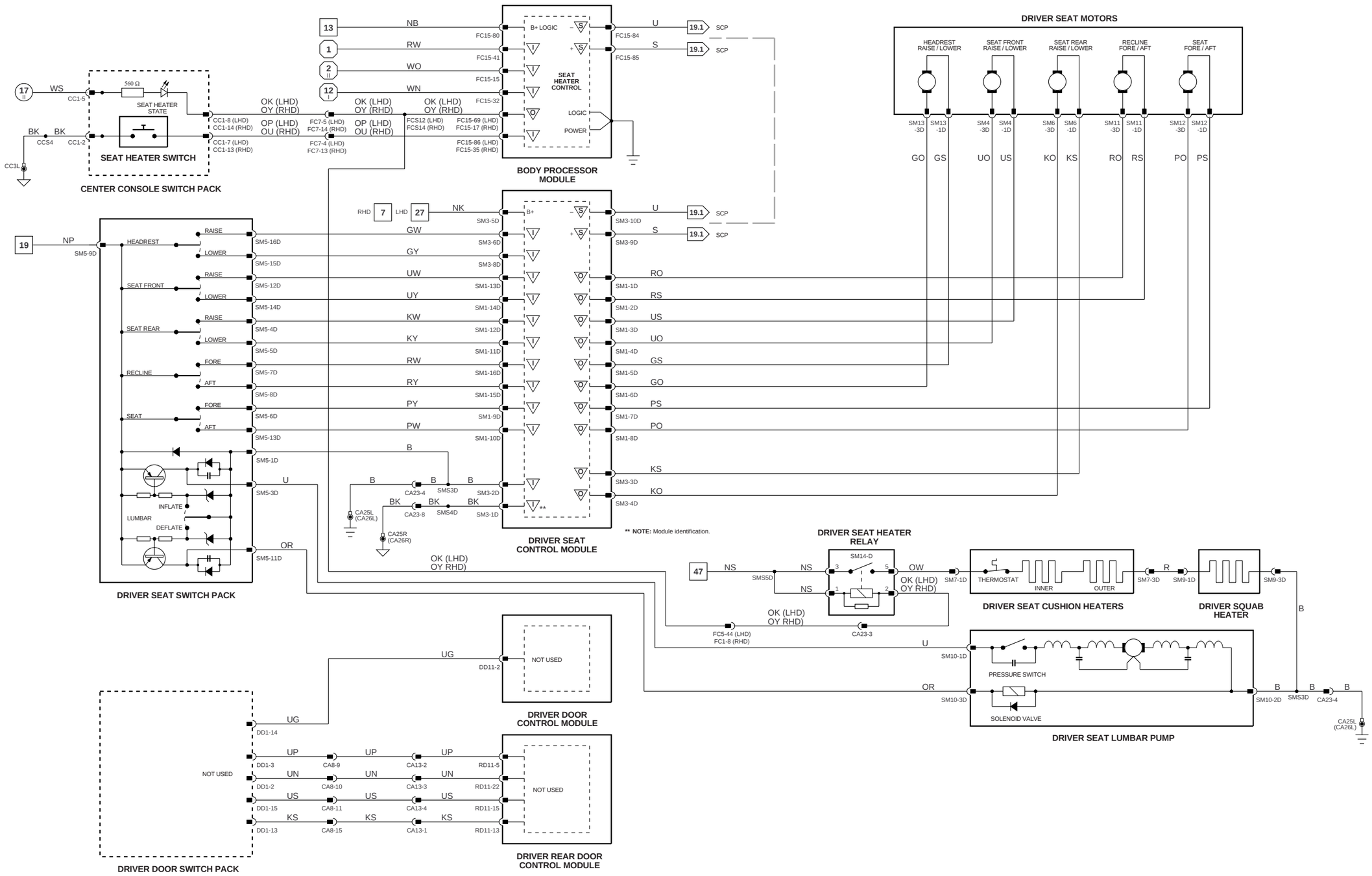
VARIANT: Adaptive Damping Vehicles
VIN RANGE: 853936 →
DATE OF ISSUE: SEPTEMBER 1998



1 – 6 / 1 II – 4 II Fig. 01.1
7 – 48 Fig. 01.2
49 – 83 Fig. 01.3
5 II – 42 II Fig. 01.4
43 E – 60 E Fig. 01.5
1 – 19 I Fig. 02.1

Input
Signal Ground (SG)
Output
CAN (Network)
Serial and Encoded Communications
SCP Network

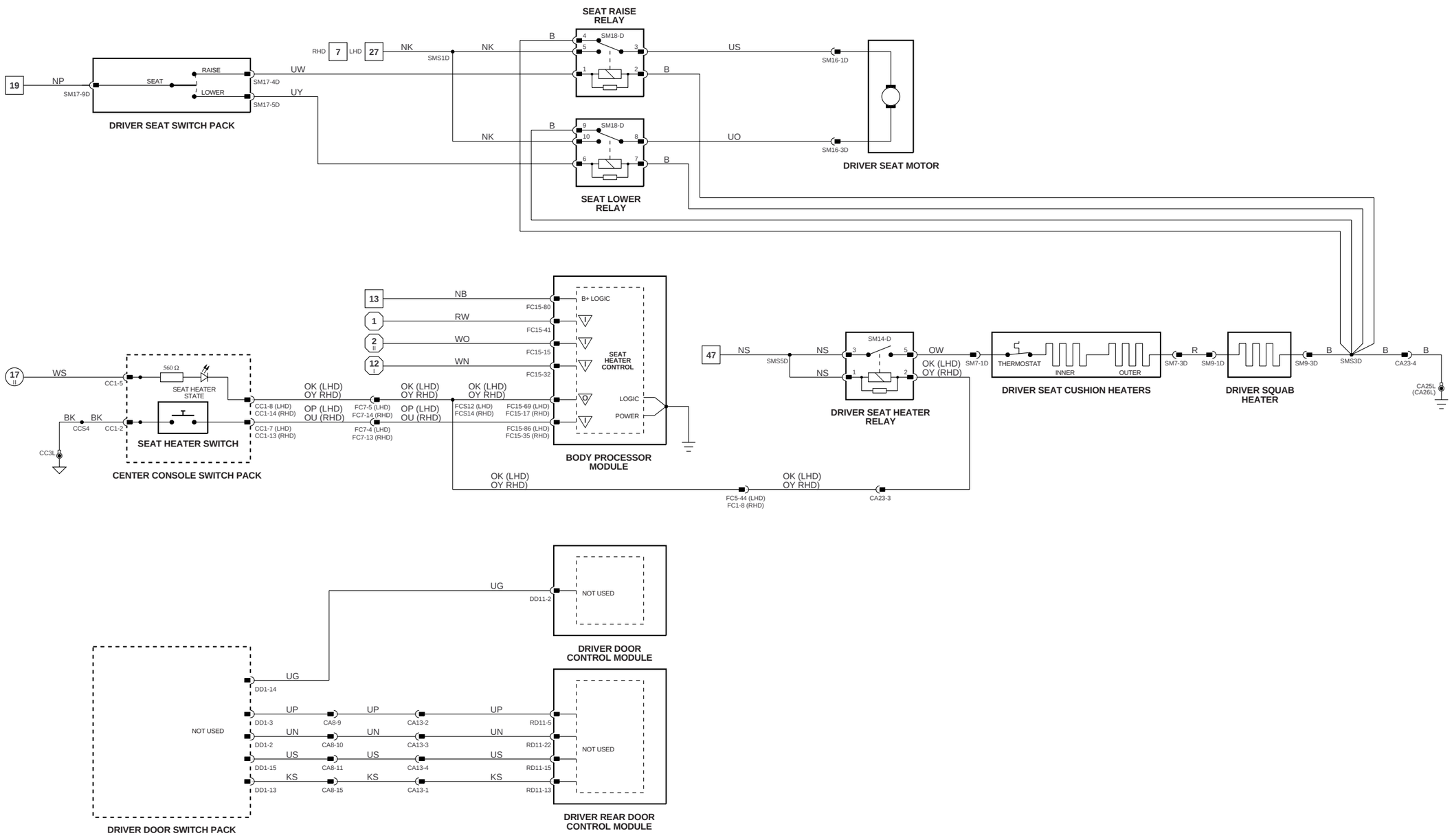
VARIANT: Driver Memory Seat Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998



1 – 6, 1 II – 4 II Fig. 01.1
7 – 48 Fig. 01.2
49 – 83 Fig. 01.3
5 II – 42 II Fig. 01.4
43 E – 60 E Fig. 01.5
1 – 19 Fig. 02.1

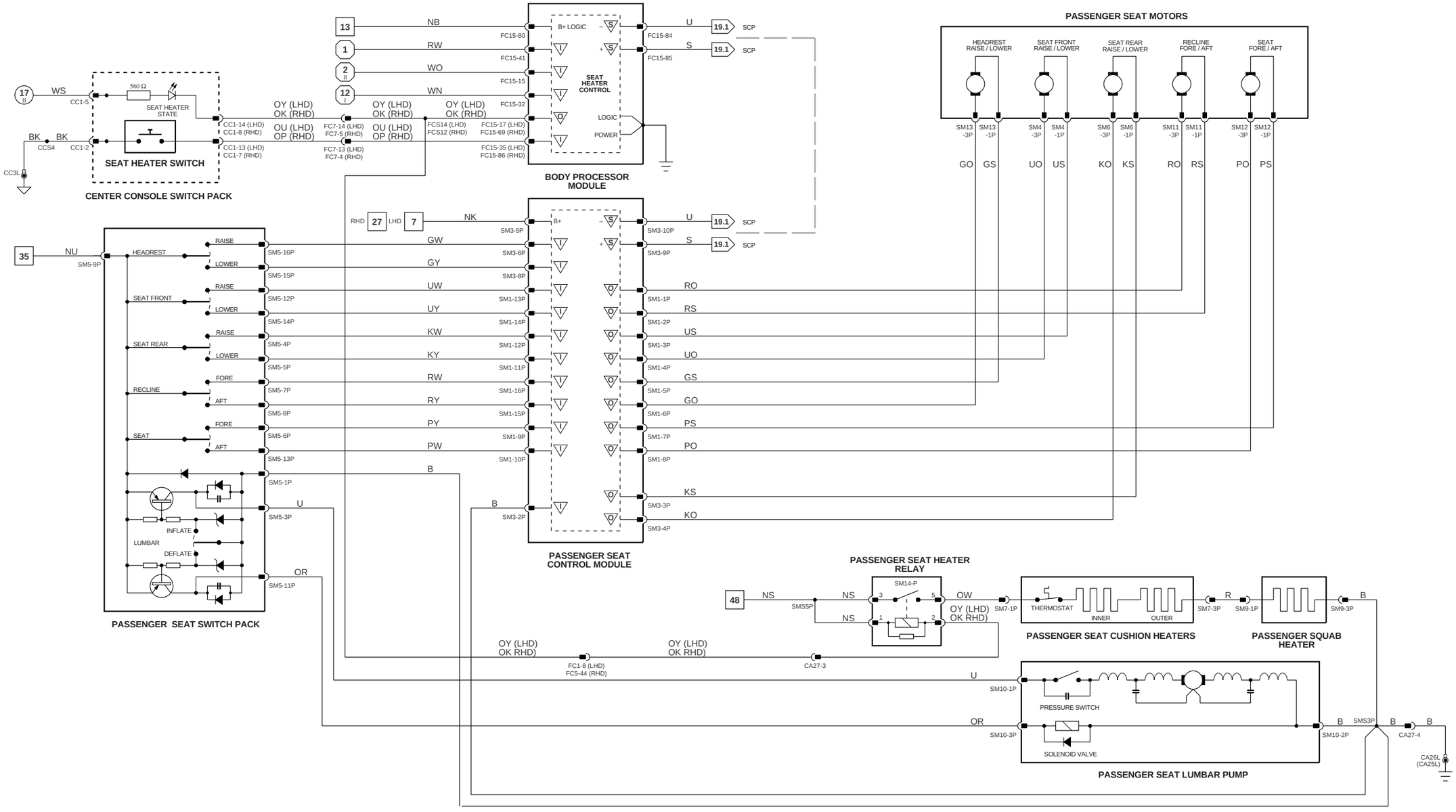
Input
Output
Serial and Encoded Communications
Signal Ground (SG)
CAN (Network)
SCP Network

VARIANT: Driver 5-Way Powered Seat Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998

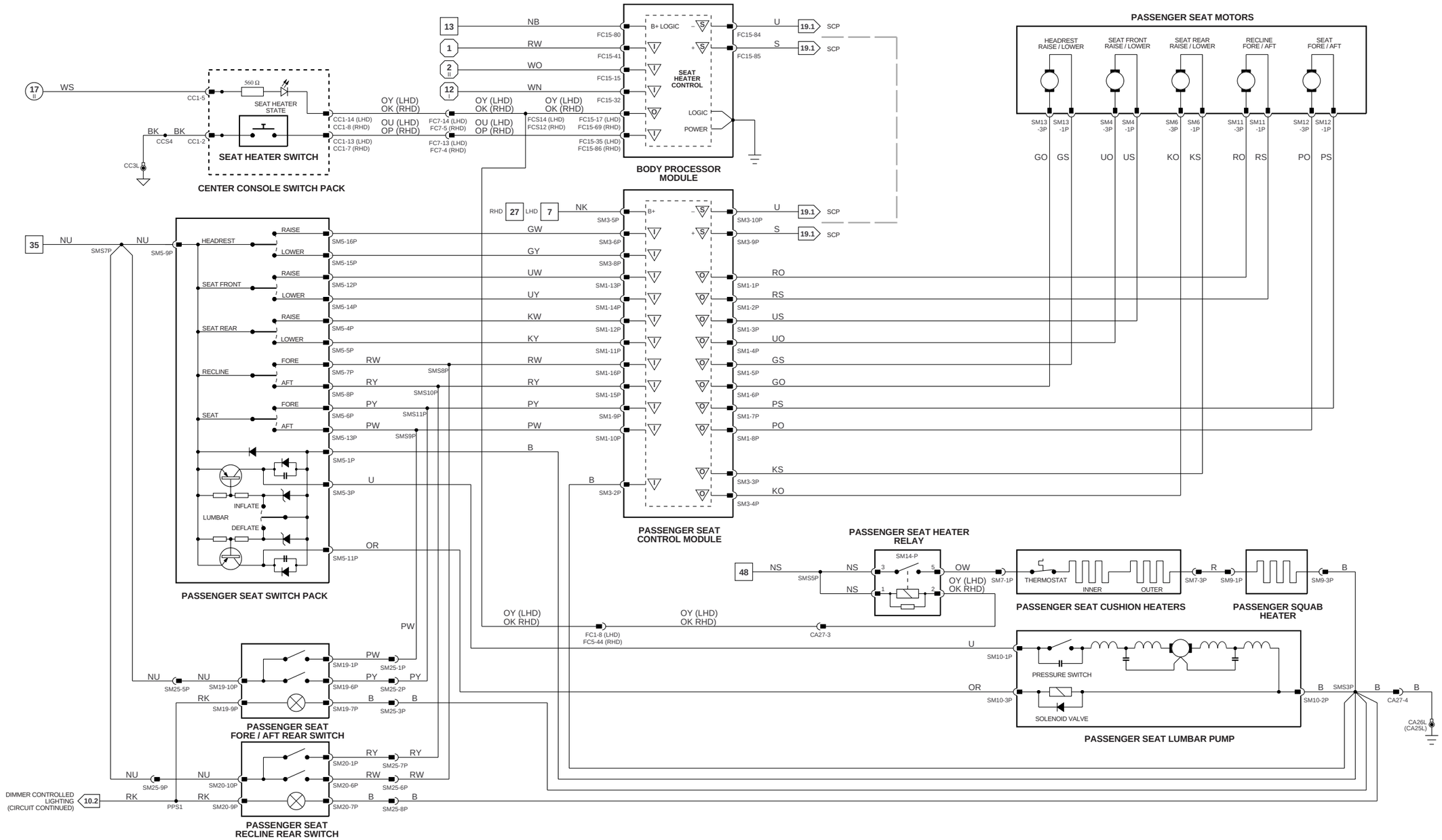


1 – 6; 1 II – 4 II — Fig. 01.1	7 – 48 Fig. 01.2; 49 – 83 Fig. 01.3	5 II – 42 II Fig. 01.4; 43 E – 60 E Fig. 01.5	1 – 19 I Fig. 02.1	Input; Signal Ground (SG)	Output; CAN (Network)	Serial and Encoded Communications; SCP Network

VARIANT: Driver Raise / Lower Seat Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998

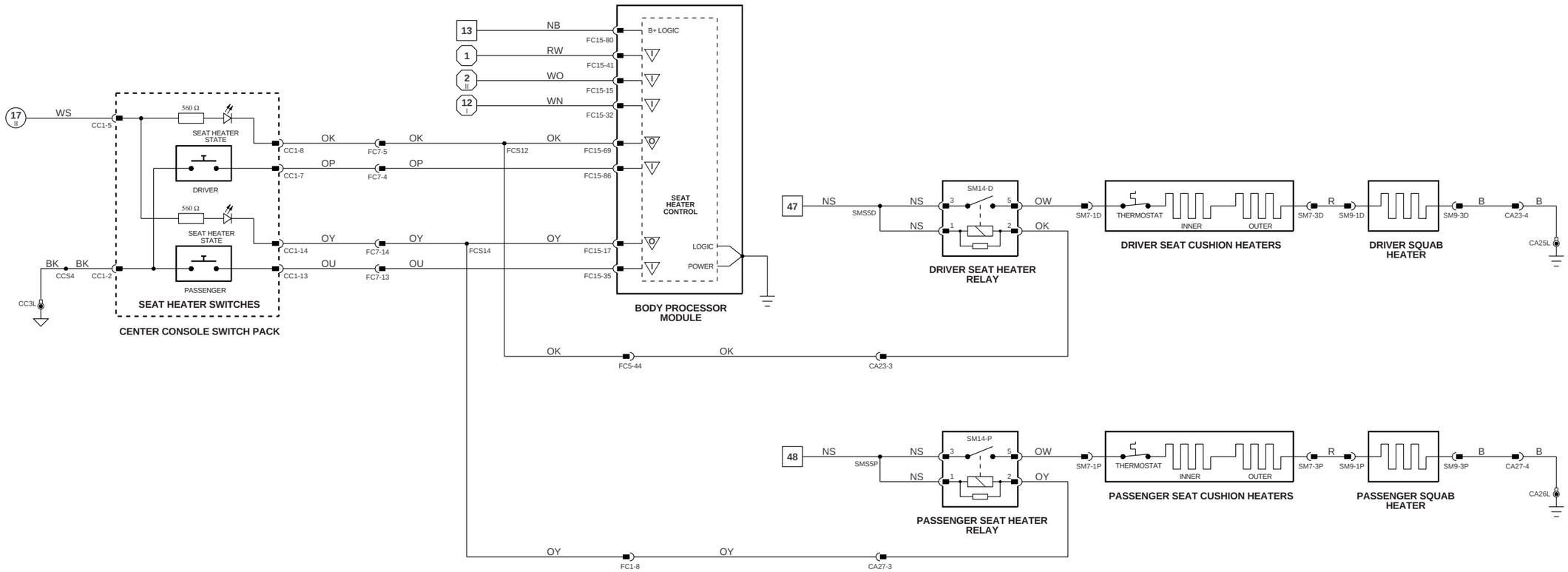


1 – 6 1 II – 4 II Fig. 01.1	7 – 48 Fig. 01.2 49 – 83 Fig. 01.3	5 II – 42 II Fig. 01.4 43 E – 60 E Fig. 01.5	1 – 19 I Fig. 02.1	Input Signal Ground (SG)	Output CAN (Network)	Serial and Encoded Communications SCP Network	**VARIANT:** Passenger 5-Way Powered Seat Vehicles **VIN RANGE:** 853936 ⟶ **DATE OF ISSUE:** SEPTEMBER 1998		



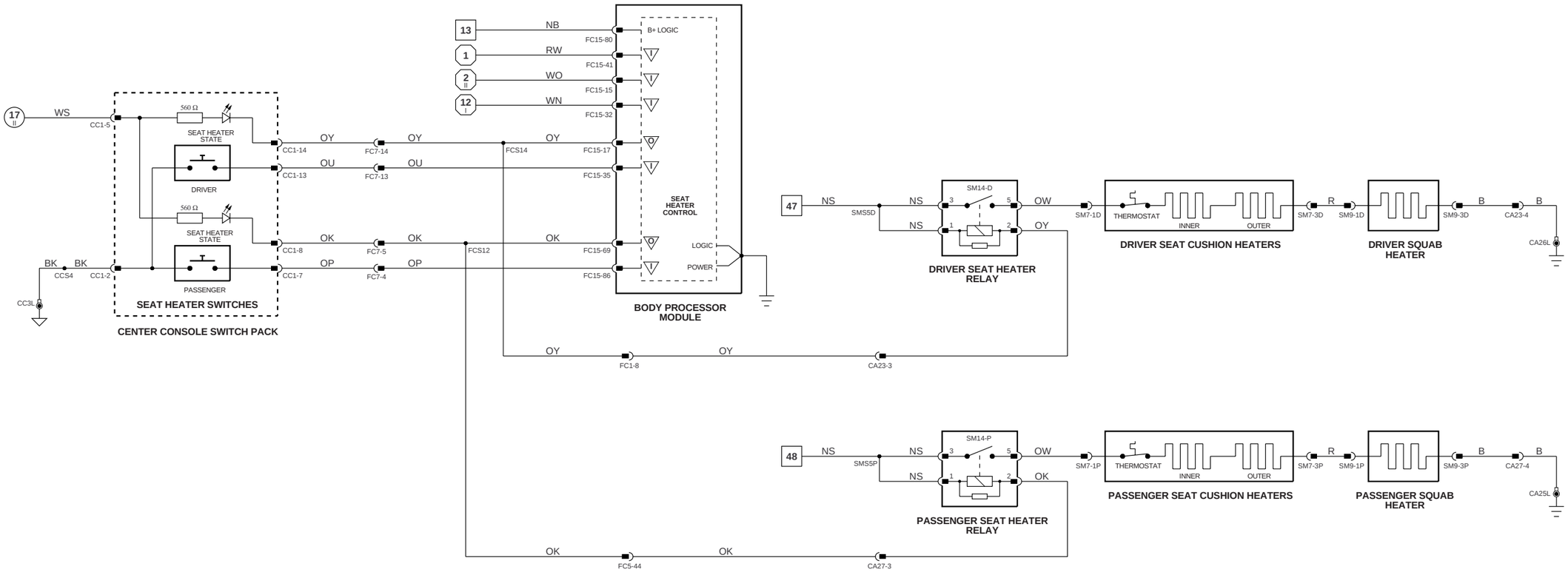
1 – 6; 1 II – 4 II Fig. 01.1	7 – 48 Fig. 01.2; 49 – 83 Fig. 01.3	5 II – 42 II Fig. 01.4; 43 E – 60 E Fig. 01.5	1 – 19 I Fig. 02.1	Input; Signal Ground (SG)	Output; CAN (Network)	Serial and Encoded Communications; SCP Network

VARIANT: LWB Powered Rear Seat Vehicles
VIN RANGE: 853936 →
DATE OF ISSUE: SEPTEMBER 1998



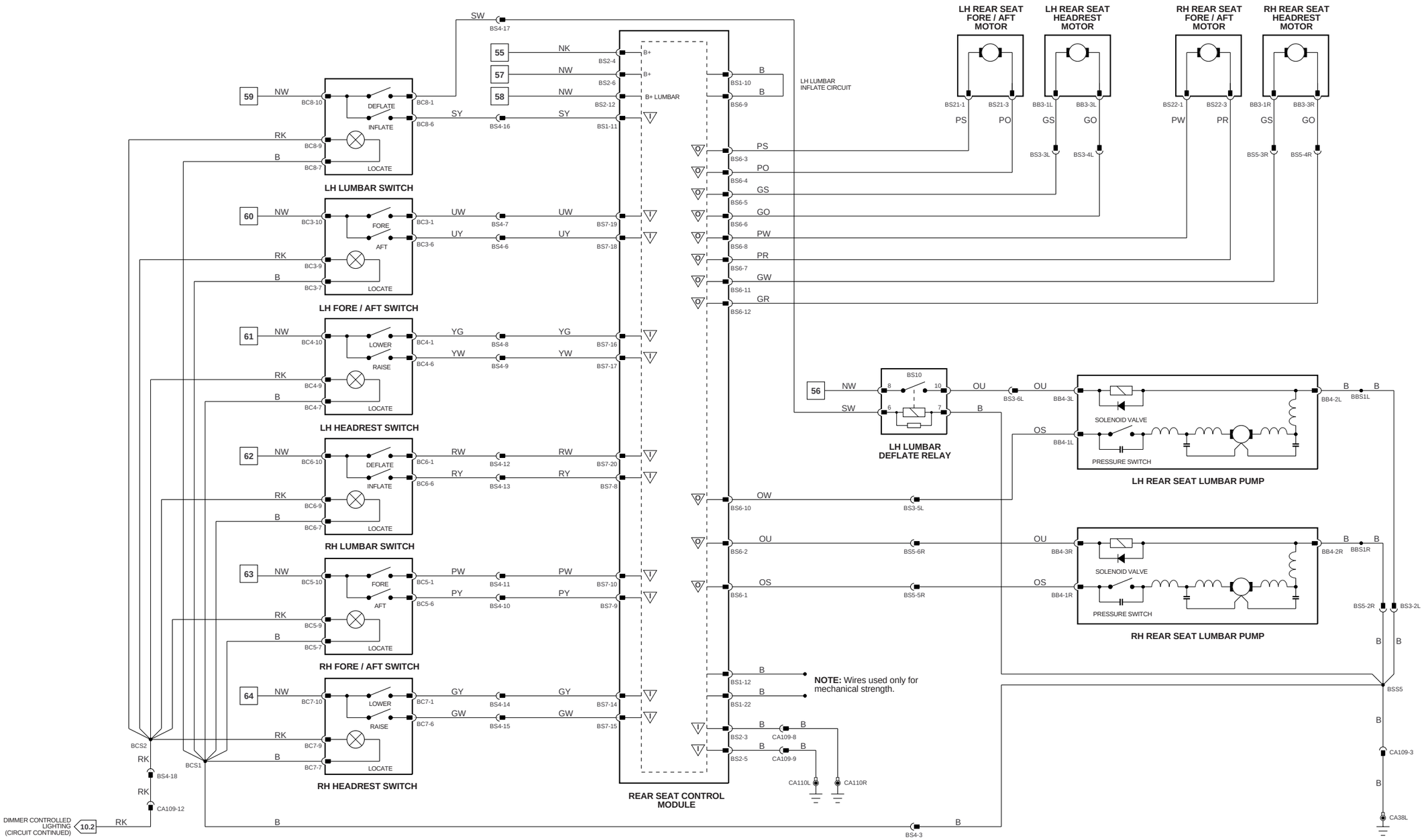
1 – 6 1 II – 4 II Fig. 01.1	7 – 48 Fig. 01.2 49 – 83 Fig. 01.3	5 II – 42 II Fig. 01.4 43 E – 60 E Fig. 01.5	1 – 19 I Fig. 02.1	Input Signal Ground (SG)	Output CAN (Network)	Serial and Encoded Communications SCP Network

VARIANT: Heaters Only Front Seats LHD Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998



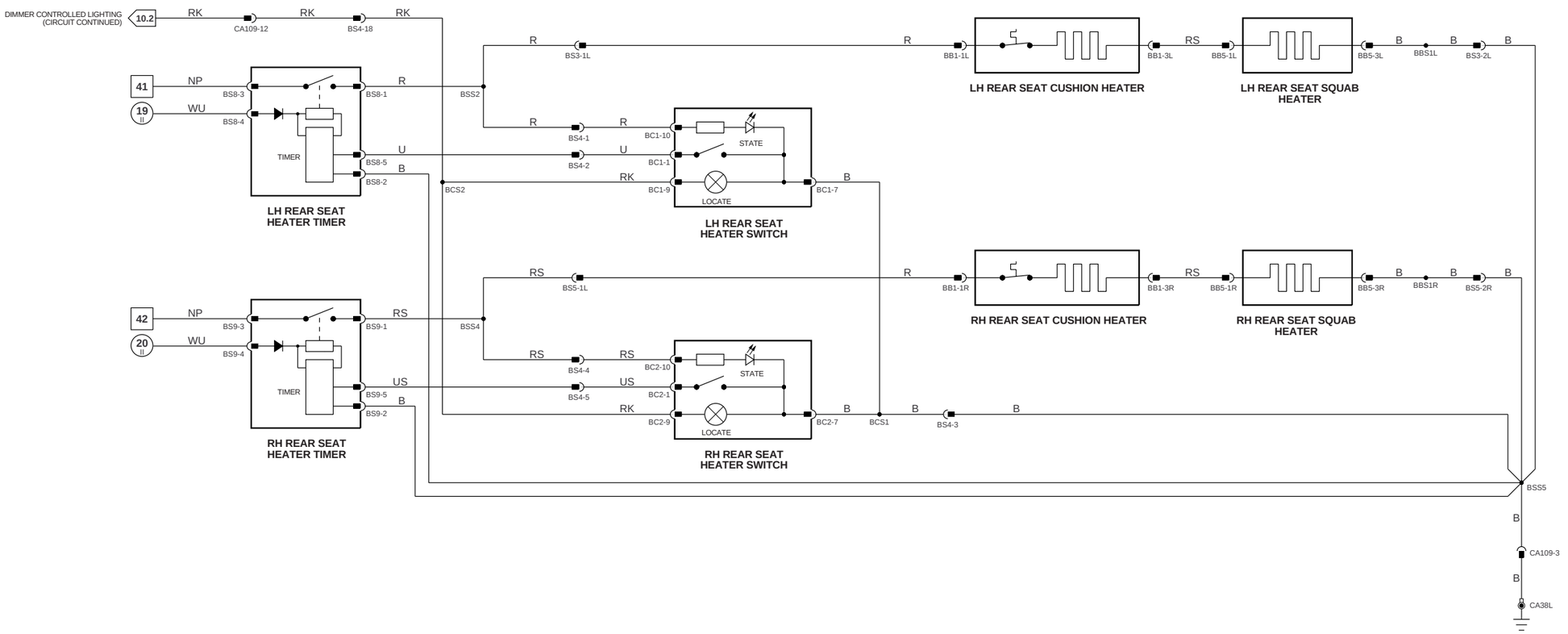
1 – 6; 1 II – 4 II Fig. 01.1	7 – 48 Fig. 01.2	5 II – 42 II Fig. 01.4	1 – 19 I Fig. 02.1	Input	Output	Serial and Encoded Communications
	49 – 83 Fig. 01.3	43 E – 60 E Fig. 01.5		Signal Ground (SG)	CAN (Network)	SCP Network

VARIANT: Heaters Only Front Seats RHD Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998



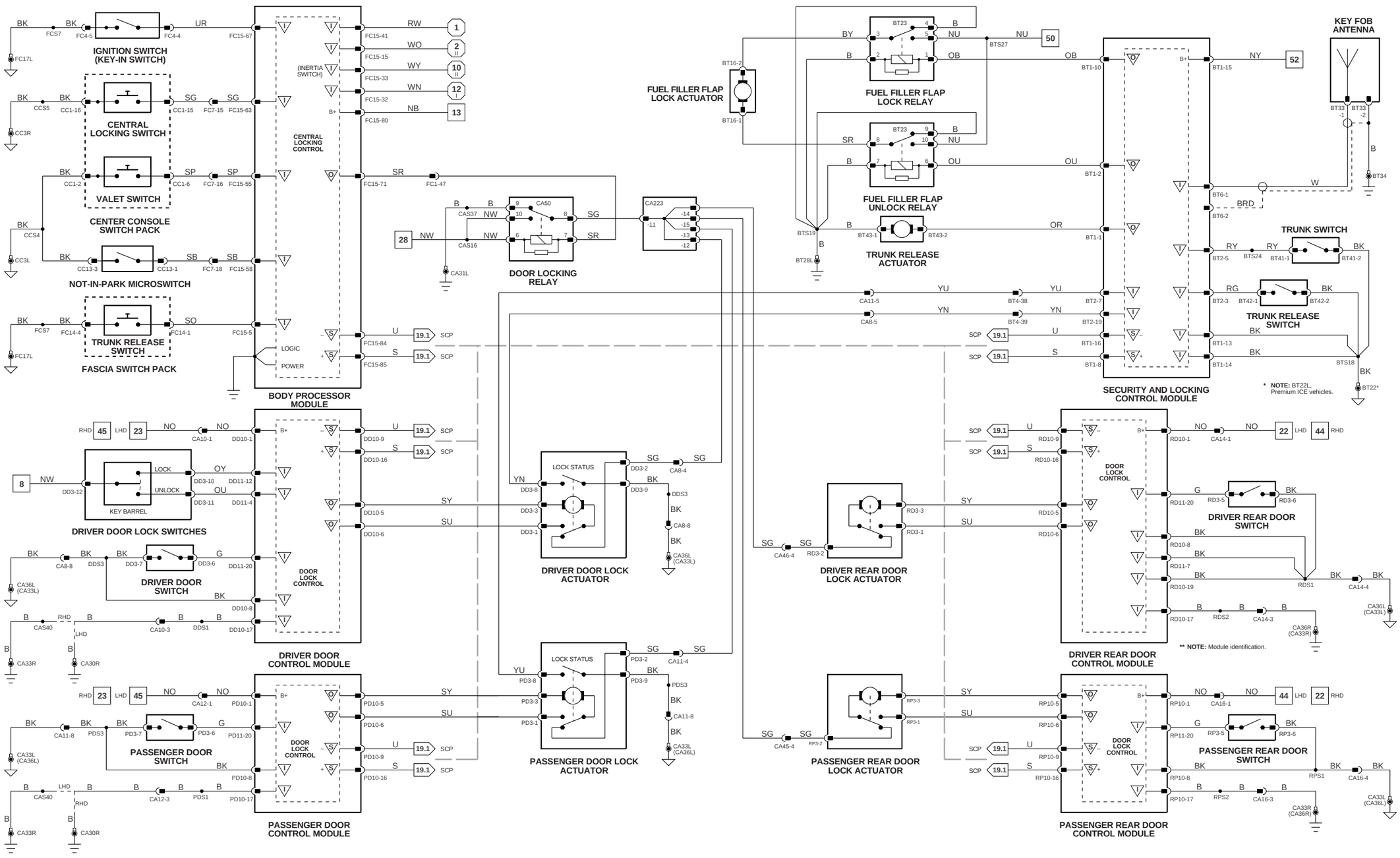
1 – 6, 1 (II) – 4 (II) Fig. 01.1	7 – 48 Fig. 01.2	49 – 83 Fig. 01.3	5 (II) – 42 (II) Fig. 01.4	43 (E) – 60 (E) Fig. 01.5	1 – 19 (I) Fig. 02.1	Input / Signal Ground (SG) / Output / CAN (Network) / Serial and Encoded Communications / SCP Network

VARIANT: LWB / Powered Rear Seat Vehicles
VIN RANGE: 853936 →
DATE OF ISSUE: SEPTEMBER 1998



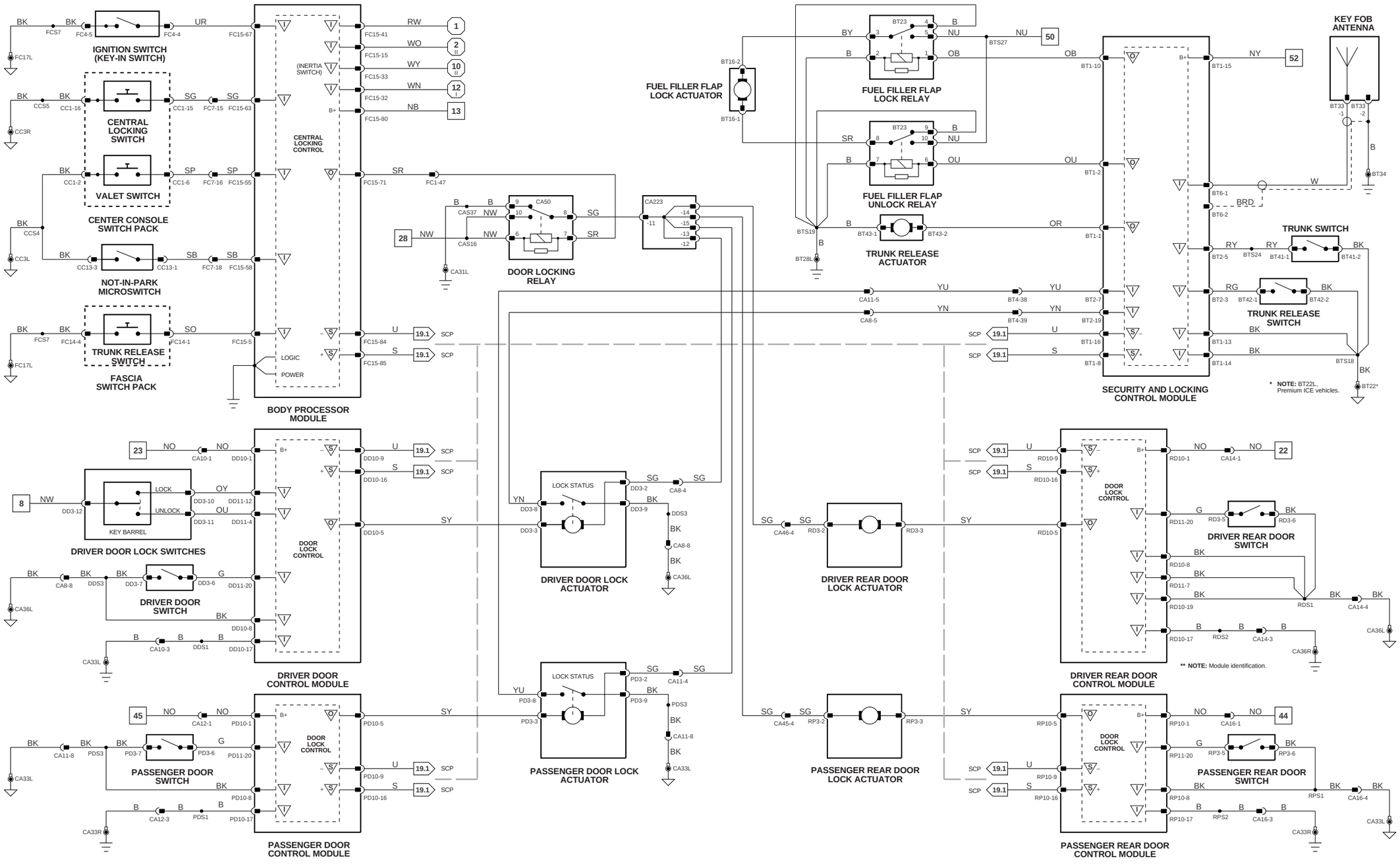
1 – 6 / 1 II – 4 II Fig. 01.1	7 – 48 Fig. 01.2	5 II – 42 II Fig. 01.4	1 – 19 I Fig. 02.1	I Input	O Output	D Serial and Encoded Communications
	49 – 83 Fig. 01.3	43 E – 60 E Fig. 01.5		Signal Ground (SG)	C CAN (Network)	S SCP Network

VARIANT: LWB / Heated Rear Seat Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998

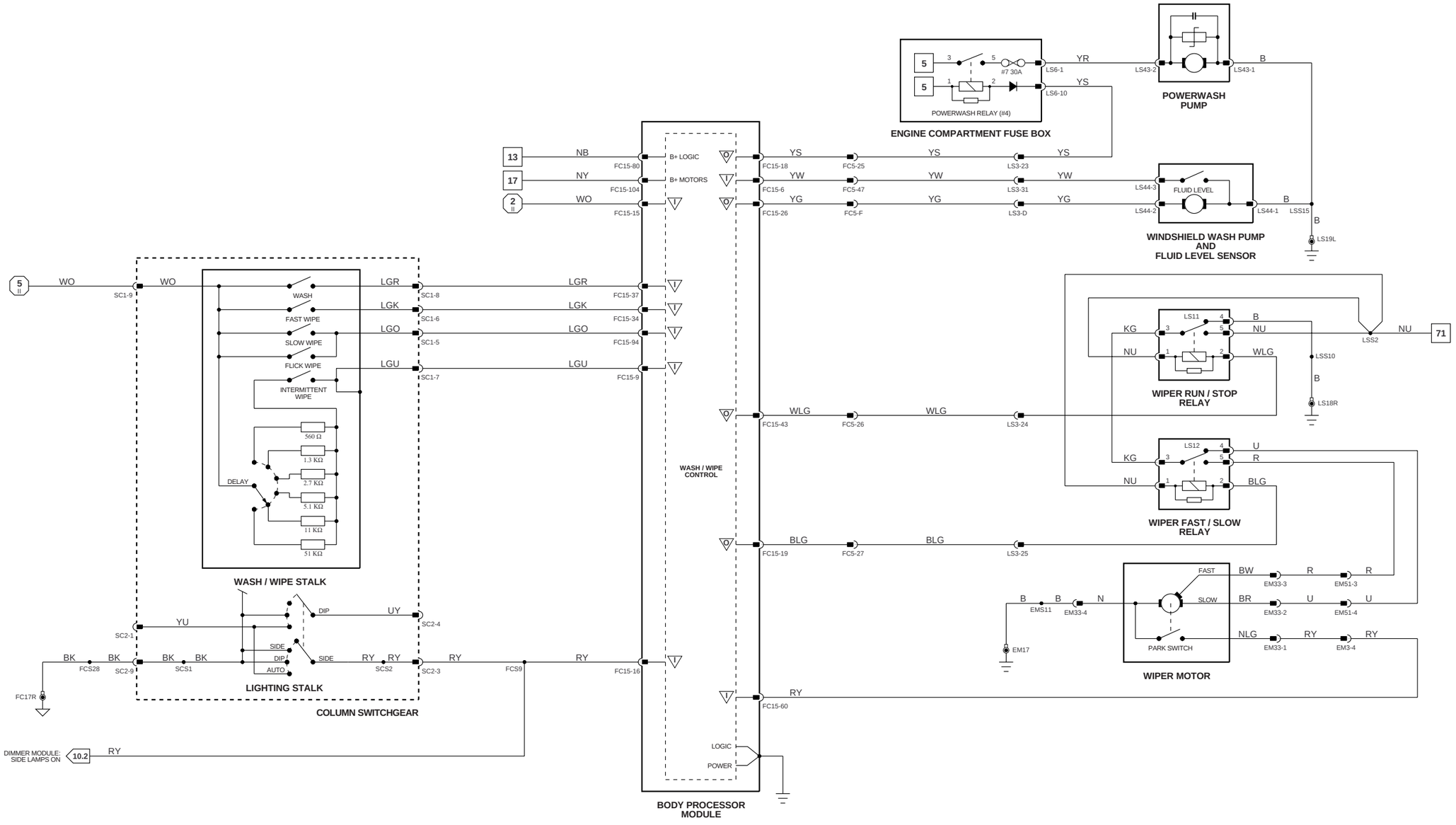


1 – 6 / I 1 – II 4 Fig. 01.1	7 – 48 Fig. 01.2	49 – 83 Fig. 01.3	II 5 – II 42 Fig. 01.4	II 43 – E 60 Fig. 01.5	1 – I 19 Fig. 02.1	Input / Signal Ground (SG) / Output / CAN (Network) / Serial and Encoded Communications / SCP Network

VARIANT: ROW Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998

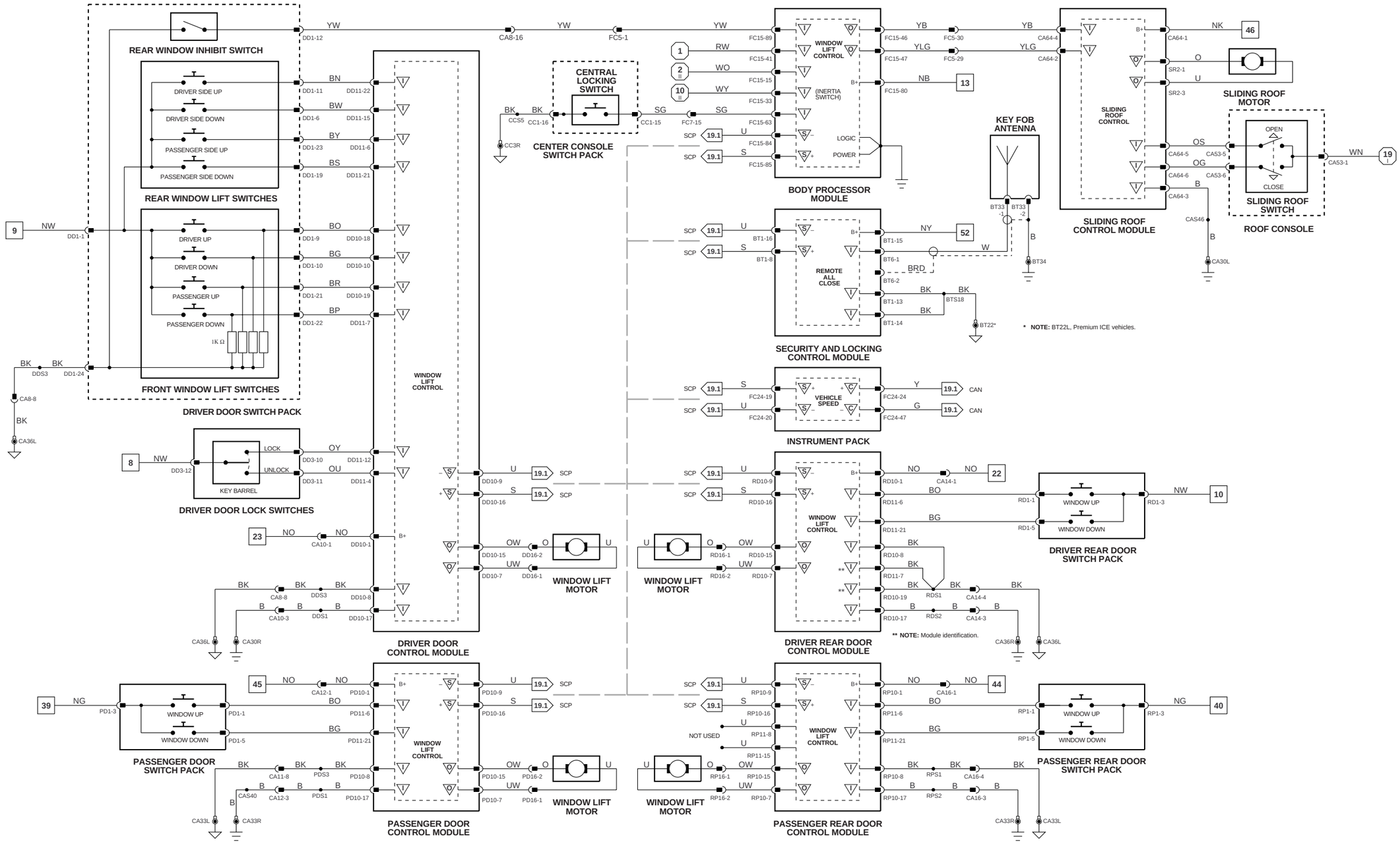


1 – 6 / 1 – 4 Fig. 01.1	7 – 48 / 49 – 83 Fig. 01.2 / Fig. 01.3	5 – 42 / 43 – 60 Fig. 01.4 / Fig. 01.5	1 – 19 Fig. 02.1	Input	Output	Serial and Encoded Communications	VARIANT: NAS Vehicles
				Signal Ground (SG)	CAN (Network)	SCP Network	VIN RANGE: 853936 ⟶
							DATE OF ISSUE: SEPTEMBER 1998



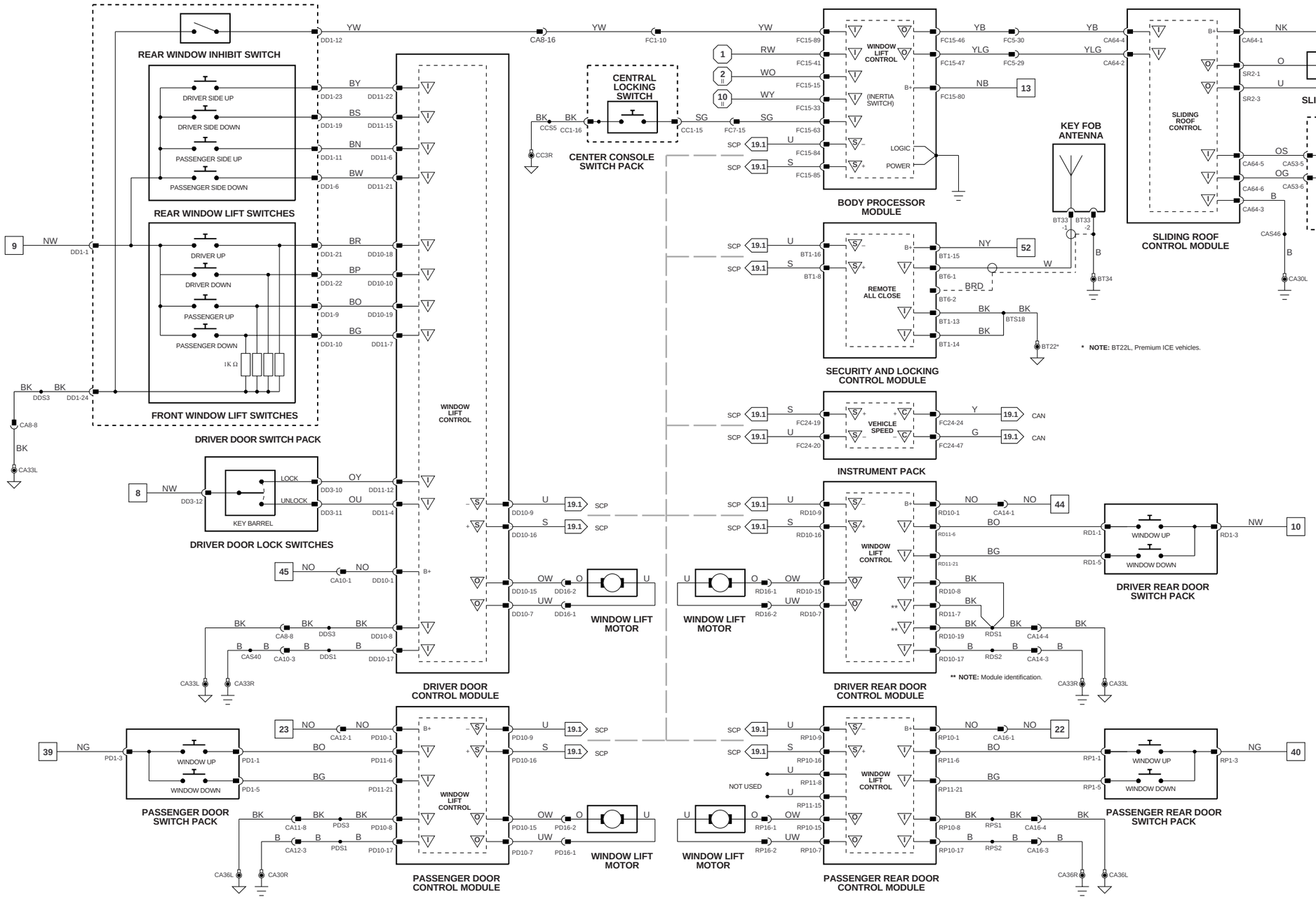
1 – 6 1 – 4 Fig. 01.1	7 – 48 Fig. 01.2 49 – 83 Fig. 01.3	5 – 42 Fig. 01.4 43 – 60 Fig. 01.5	1 – 19 Fig. 02.1	Input Signal Ground (SG)	Output CAN (Network)	Serial and Encoded Communications SCP Network

VARIANT: All Vehicles
VIN RANGE: 853936 →
DATE OF ISSUE: SEPTEMBER 1998



1 – 6 / 1 II – 4 II Fig. 01.1	7 – 48 Fig. 01.2	49 – 83 Fig. 01.3	5 II – 42 II Fig. 01.4	43 E – 60 E Fig. 01.5	1 – 19 I Fig. 02.1	Input / Signal Ground (SG) / Output / CAN (Network) / Serial and Encoded Communications / SCP Network

VARIANT: LHD Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998

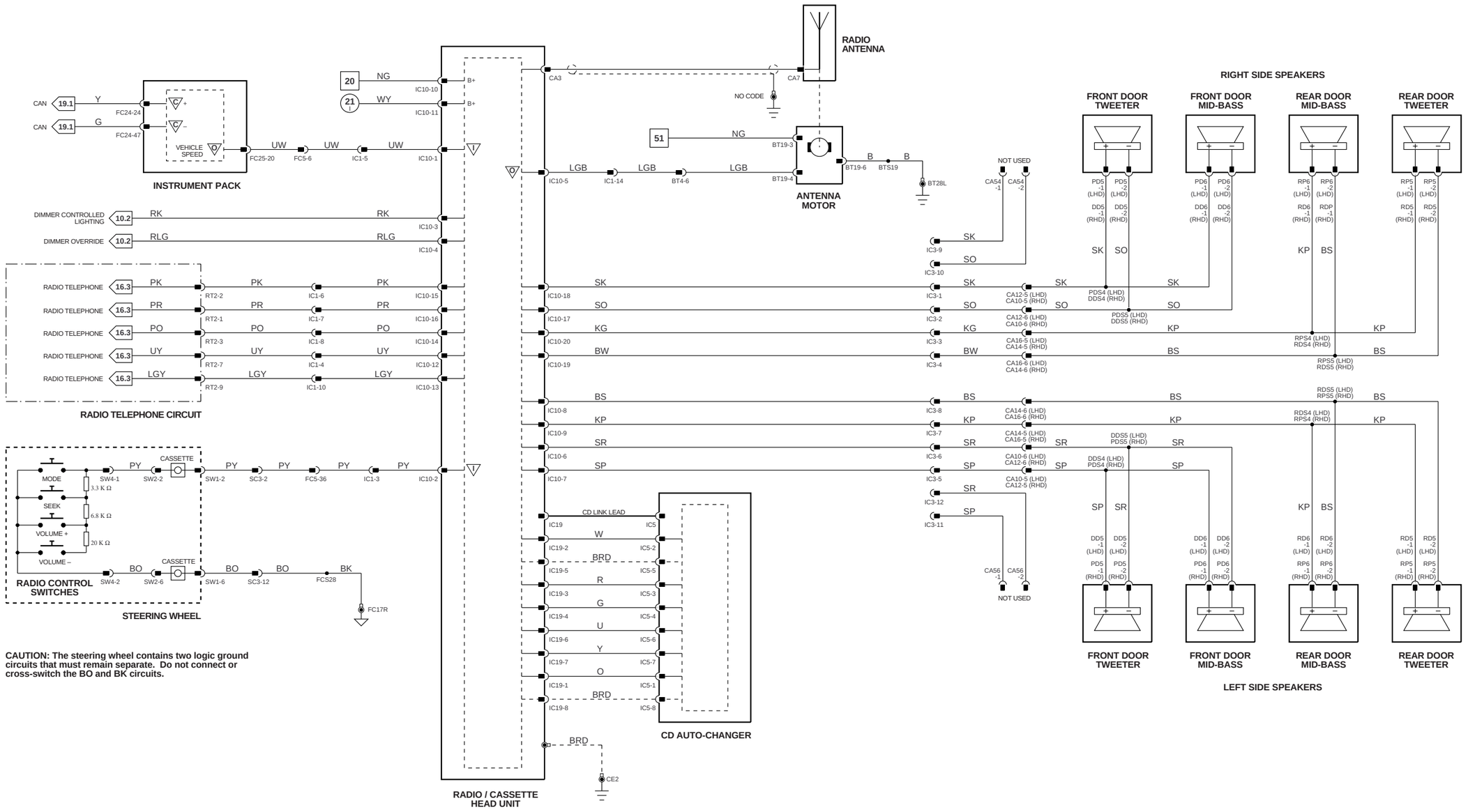


1 – 6 / 1 II – 4 II	Fig. 01.1	7 – 48	Fig. 01.2	5 II – 42 II	Fig. 01.4	1 – 19 I	Fig. 02.1
		49 – 83	Fig. 01.3	43 E – 60 E	Fig. 01.5		

Input — Output — Serial and Encoded Communications

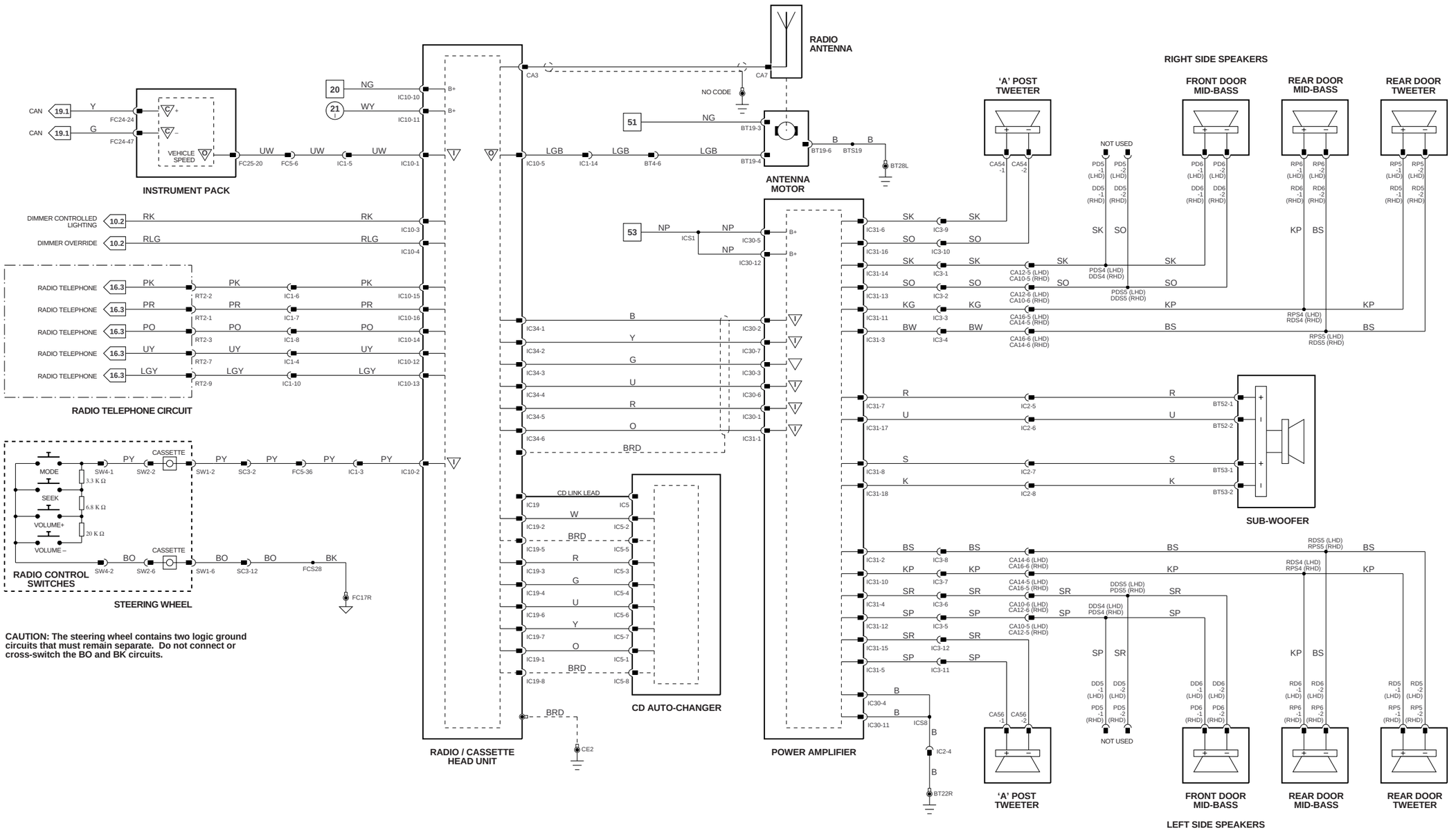
Signal Ground (SG) — CAN (Network) — SCP Network

VARIANT: RHD Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998



1 – 6; 1 II – 4 II Fig. 01.1	7 – 48; 49 – 83 Fig. 01.2 / Fig. 01.3	5 II – 42 II; 43 E – 60 E Fig. 01.4 / Fig. 01.5	1 – 19 I Fig. 02.1	Input; Signal Ground (SG)	Output; CAN (Network)	Serial and Encoded Communications; SCP Network

VARIANT: Standard ICE Vehicles
VIN RANGE: 853936 →
DATE OF ISSUE: SEPTEMBER 1998

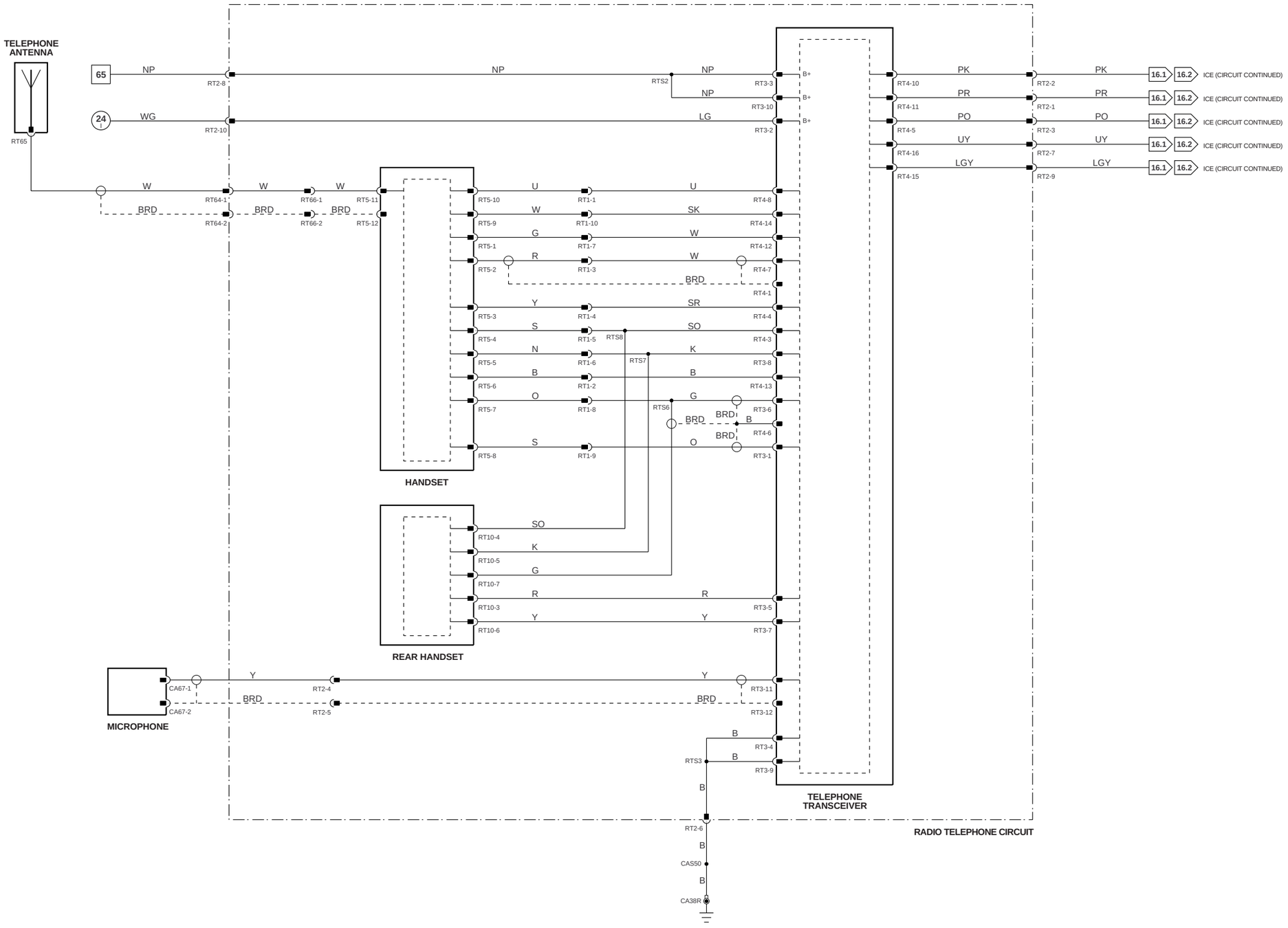


CAUTION: The steering wheel contains two logic ground circuits that must remain separate. Do not connect or cross-switch the BO and BK circuits.

1 – 6, 1 II – 4 II Fig. 01.1
7 – 48, 49 – 83 Fig. 01.2
5 II – 42 II, 43 E – 60 E Fig. 01.4
1 – 19 I Fig. 02.1
Fig. 01.3
Fig. 01.5

Input
Signal Ground (SG)
Output
CAN (Network)
Serial and Encoded Communications
SCP Network

VARIANT: Premium ICE Vehicles
VIN RANGE: 853936 →
DATE OF ISSUE: SEPTEMBER 1998

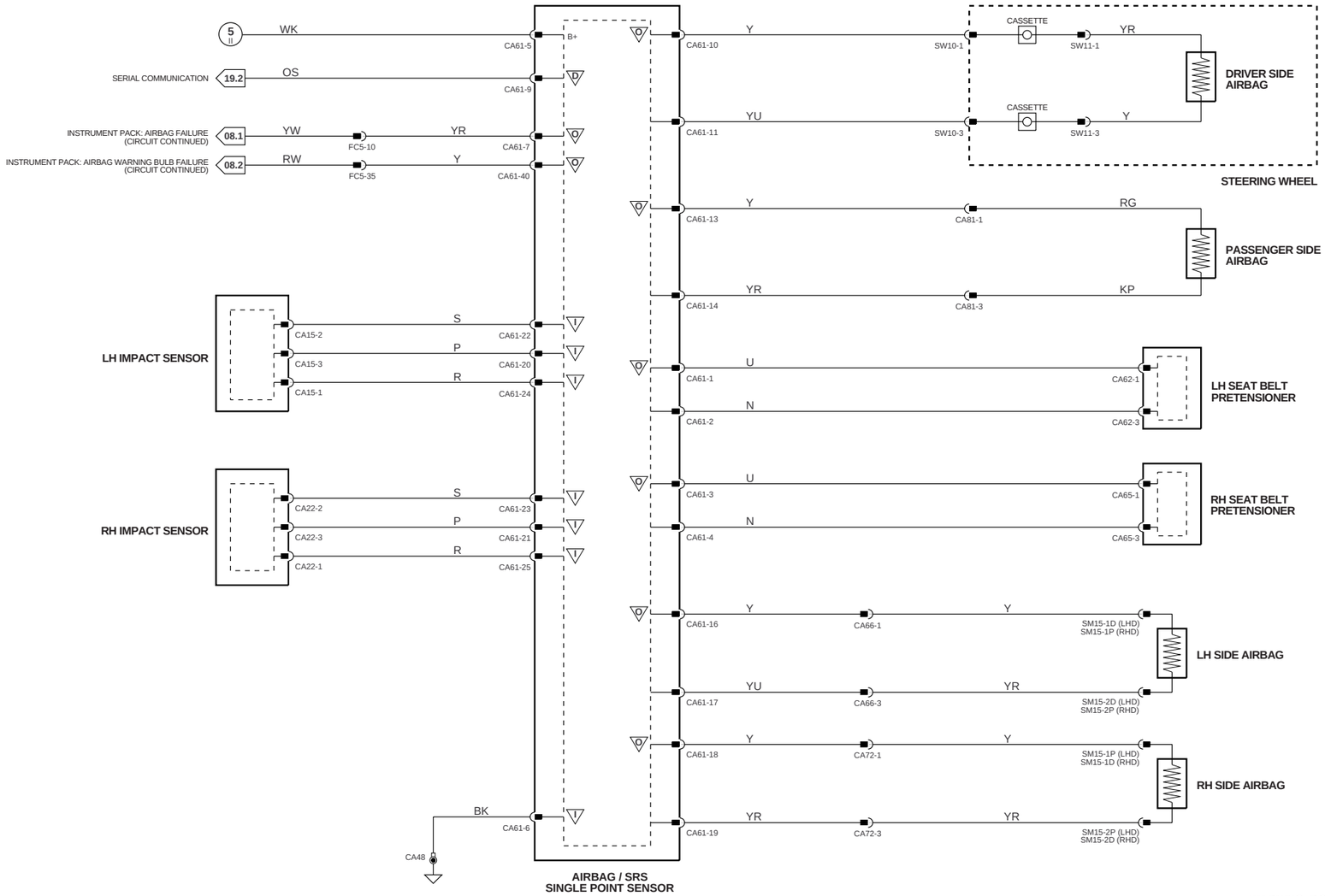


1 – 6, 1 II – 4 II Fig. 01.1 | 7 – 48 Fig. 01.2 | 49 – 83 Fig. 01.3 | 5 II – 42 II Fig. 01.4 | 43 E – 60 E Fig. 01.5 | 1 – 19 I Fig. 02.1

I Input | O Output | D Serial and Encoded Communications

Signal Ground (SG) | C CAN (Network) | S SCP Network

VARIANT: All Vehicles
VIN RANGE: 853936 →
DATE OF ISSUE: SEPTEMBER 1998

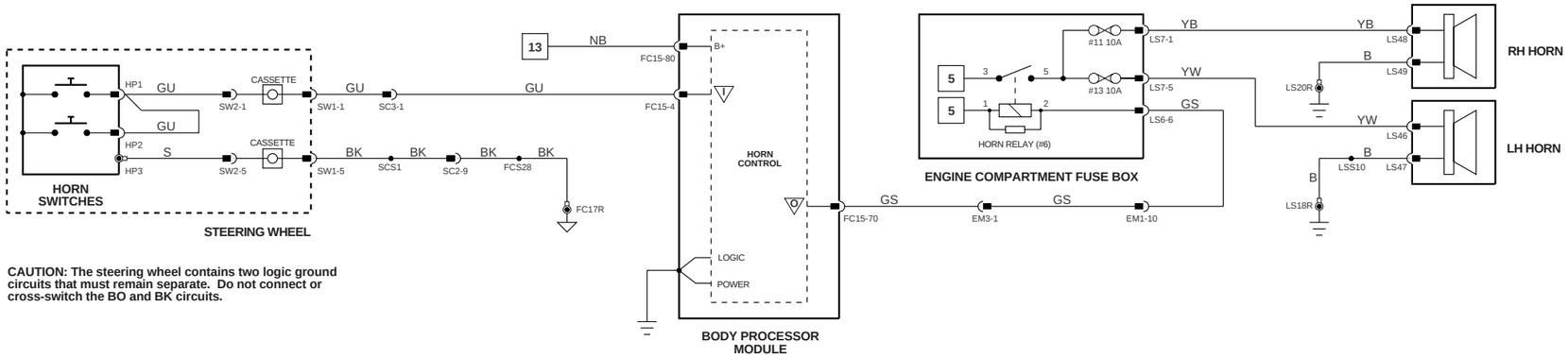


WARNING: DO NOT ATTEMPT TO MEASURE THE RESISTANCE THROUGH THE AIRBAG ASSEMBLY. DOING SO MAY TRIGGER AIRBAG DEPLOYMENT AND POSSIBLY RESULT IN PERSONAL INJURY.

1 – 6, 1 II – 4 II Fig. 01.1
7 – 48, 49 – 83 Fig. 01.2
5 II – 42 II, 43 E – 60 E Fig. 01.4
1 – 19 I Fig. 02.1

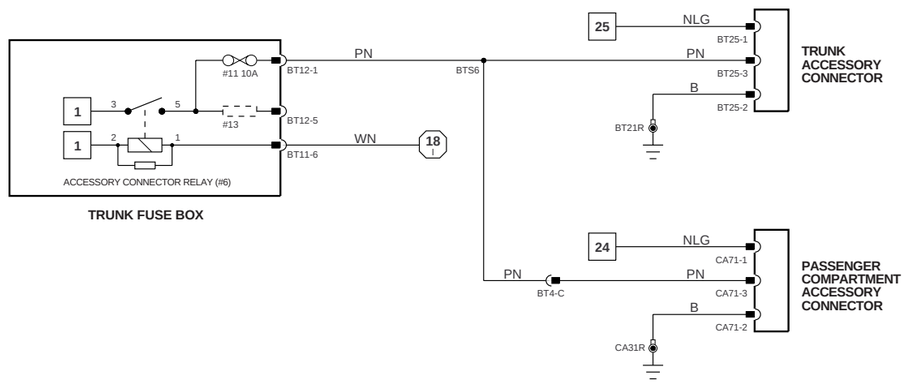
Input
Output
Serial and Encoded Communications
Signal Ground (SG)
CAN (Network)
SCP Network

VARIANT: All Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998

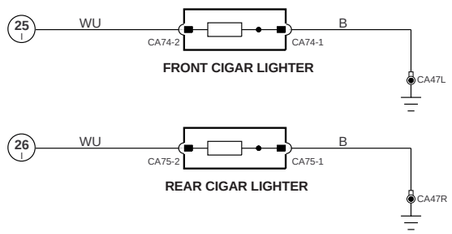


CAUTION: The steering wheel contains two logic ground circuits that must remain separate. Do not connect or cross-switch the BO and BK circuits.

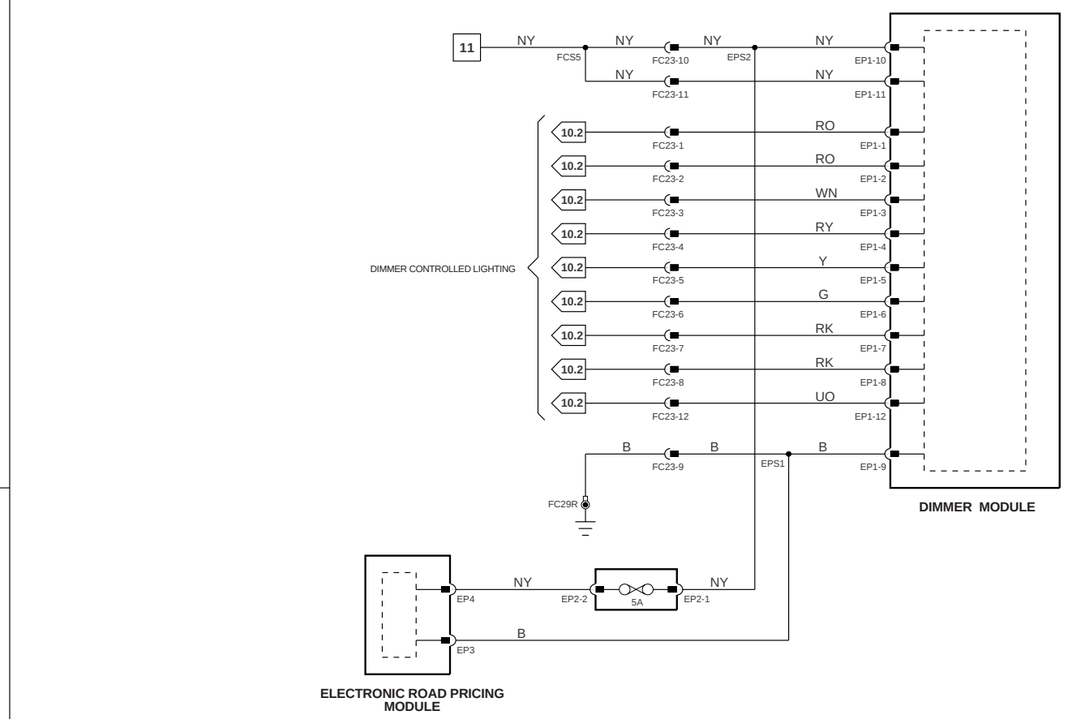
HORNS



ACCESSORY CONNECTORS



CIGAR LIGHTERS

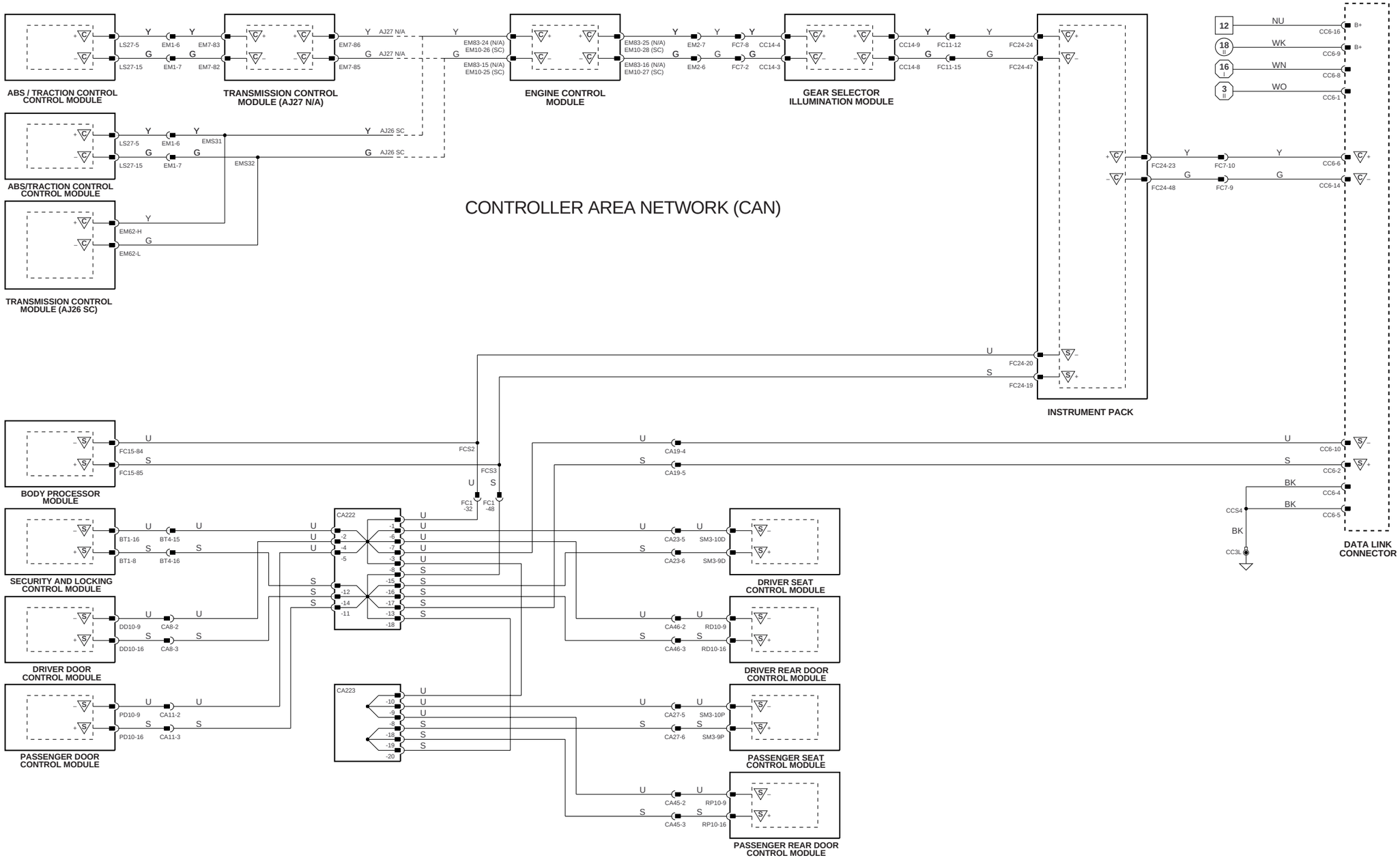


ELECTRONIC ROAD PRICING

1 – 6 / 1 – 4 Fig. 01.1 | 7 – 48 Fig. 01.2 | 49 – 83 Fig. 01.3 | 5 – 42 Fig. 01.4 | 43 – 60 Fig. 01.5 | 1 – 19 Fig. 02.1

Input | Output | Serial and Encoded Communications
Signal Ground (SG) | CAN (Network) | SCP Network

VARIANT: All Vehicles
VIN RANGE: 853936 ⟶
DATE OF ISSUE: SEPTEMBER 1998

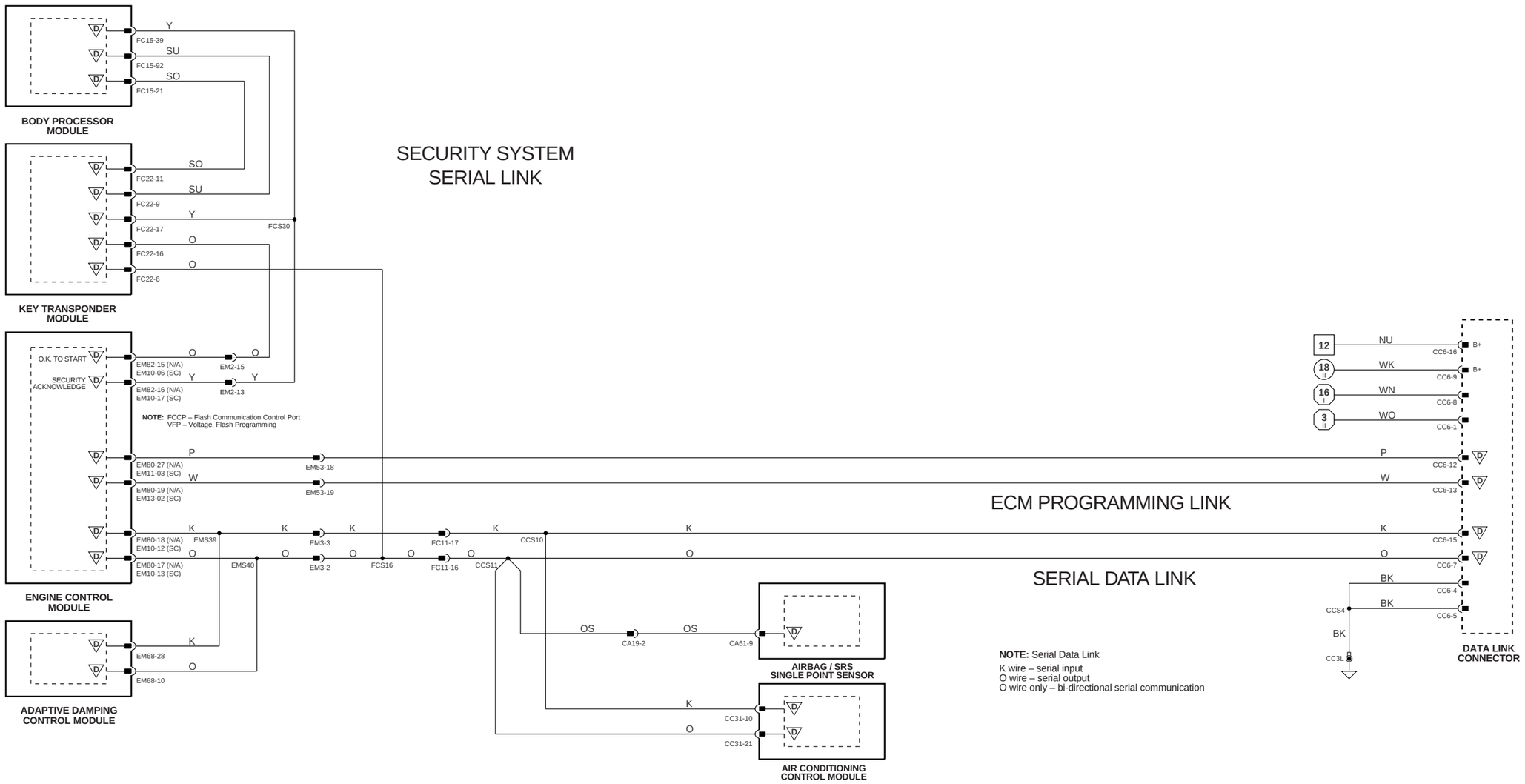


1 – 6, 1 II – 4 II Fig. 01.1 | 7 – 48, 49 – 83 Fig. 01.2 | 5 II – 42 II, 43 E – 60 E Fig. 01.4 | 1 – 19 I Fig. 02.1

Input | Output | Serial and Encoded Communications

Signal Ground (SG) | CAN (Network) | SCP Network

VARIANT: All Vehicles
VIN RANGE: 853936 →
DATE OF ISSUE: SEPTEMBER 1998



1 – 6 / 1 II – 4 II Fig. 01.1	7 – 48 Fig. 01.2	5 II – 42 II Fig. 01.4	1 – 19 I Fig. 02.1	Input	Output	Serial and Encoded Communications
	49 – 83 Fig. 01.3	43 E – 60 E Fig. 01.5		Signal Ground (SG)	CAN (Network)	SCP Network

VARIANT: All Vehicles
VIN RANGE: 853936 →
DATE OF ISSUE: SEPTEMBER 1998

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC15-15	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-32	IGNITION SWITCHED GROUND	GROUND	B+
O	FC15-97	RELAY COIL DRIVE		

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 01.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
BATTERY	BT66 / BATTERY CABLE CLAMP BT67 / BATTERY CABLE CLAMP	TRUNK / BATTERY COVER
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
FUSE BOX – ENGINE COMPARTMENT	LS5 / 10-WAY U.T.A. FUSE BOX / NATURAL LS6 / 10-WAY U.T.A. FUSE BOX / BLACK LS7 / 10-WAY U.T.A. FUSE BOX / GREEN LS8 / 10-WAY U.T.A. FUSE BOX / BLUE ST19 / EYELET	ENGINE COMPARTMENT / LH FRONT
FUSE BOX – ENGINE MANAGEMENT	EM19 / 10-WAY U.T.A. FUSE BOX / NATURAL EM20 / 10-WAY U.T.A. FUSE BOX / BLACK ST20 / EYELET ST21 / EYELET	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
FUSE BOX – LH HEELBOARD	CA1 / 10-WAY U.T.A. FUSE BOX / NATURAL CA2 / 10-WAY U.T.A. FUSE BOX / BLACK ST15 / EYELET	LH HEELBOARD / HEELBOARD COVER
FUSE BOX – RH HEELBOARD	CA41 / 10-WAY U.T.A. FUSE BOX / NATURAL CA42 / 10-WAY U.T.A. FUSE BOX / BLACK ST13 / EYELET ST14 / EYELET	RH HEELBOARD / HEELBOARD COVER
FUSE BOX – TRUNK	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	TRUNK ELECTRICAL CARRIER
HIGH POWER PROTECTION MODULE	BT60 / EYELET BT61 / EYELET BT62 / EYELET BT63 / EYELET	TRUNK / ADJACENT TO BATTERY
TRANSIT ISOLATION DEVICE	BT37 / LUCAR – STRAIGHT BT66 / BATTERY CABLE CLAMP	ADJACENT TO BATTERY / BATTERY COVER

RELAYS

Relay	Case Color	Connector / Color	Location / Access
AUXILIARY POSITIVE RELAY (RH HEELBOARD FUSE BOX)	BROWN	BUS	TRUNKS FUSE BOX / HEELBOARD COVER
EMS CONTROL RELAY (ENGINE MANAGEMENT FUSE BOX)	BROWN	BUS	ENGINE MANAGEMENT FUSE BOX / ENGINE COMPARTMENT
IGNITION POSITIVE RELAY (ENGINE COMPARTMENT FUSE BOX)	BROWN	BUS	ENGINE COMPARTMENT FUSE BOX / ENGINE COMPARTMENT
IGNITION POSITIVE RELAY (LH HEELBOARD FUSE BOX)	BROWN	BUS	LH HEELBOARD FUSE BOX / HEELBOARD COVER

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT4	54-WAY THROUGH PANEL / GREY	BELOW PARCEL SHELF / TRUNK / REAR BULKHEAD / RH SIDE
FC1	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW PASSENGER SIDE AIR VENT / GLOVE BOX ASSEMBLY
ST5	EYELET	ENGINE COMPARTMENT / RH FALSE BULKHEAD
ST6	EYELET	ENGINE COMPARTMENT / RH FALSE BULKHEAD

GROUNDS

Ground	Location / Type
BT65	EYELET (SINGLE) – BATTERY GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

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REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

DATE OF ISSUE: SEPTEMBER 1998

Fig. 01.2

COMPONENTS

Component	Connector / Type / Color	Location / Access
FUSE BOX – LH HEELBOARD	CA1 / 10-WAY U.T.A. FUSE BOX / NATURAL CA2 / 10-WAY U.T.A. FUSE BOX / BLACK ST15 / EYELET	LH HEELBOARD / HEELBOARD COVER
FUSE BOX – RH HEELBOARD	CA41 / 10-WAY U.T.A. FUSE BOX / NATURAL CA42 / 10-WAY U.T.A. FUSE BOX / BLACK ST13 / EYELET ST14 / EYELET	RH HEELBOARD / HEELBOARD COVER
SPLICE HEADER – CA222	CA222 / 20-WAY SUMITOMO SPLICE HEADER / GREY	RH HEELBOARD / HEELBOARD COVER
SPLICE HEADER – CA223	CA223 / 20-WAY SUMITOMO SPLICE HEADER / BLACK	RH HEELBOARD / HEELBOARD COVER
SPLICE HEADER – CA224	CA224 / 20-WAY SUMITOMO SPLICE HEADER / GREEN	LH HEELBOARD / HEELBOARD COVER

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT4	54-WAY THROUGH PANEL / GREY	BELOW PARCEL SHELF / TRUNK / REAR BULKHEAD / RH SIDE
CA10	8-WAY MULTILOCK 070 / YELLOW	DRIVER 'A' POST / DOOR HARNESS GAITER
CA12	8-WAY MULTILOCK 070 / YELLOW	PASSENGER 'A' POST / DOOR HARNESS GAITER
CA14	6-WAY MULTILOCK 070 / WHITE	DRIVER 'B/C' POST / DOOR HARNESS GAITER
CA16	6-WAY MULTILOCK 070 / WHITE	PASSENGER 'B/C' POST / DOOR HARNESS GAITER
CA19	20-WAY MULTILOCK 070 / YELLOW	LH 'A' POST CONNECTOR MOUNTING BRACKET / LOWER 'A' POST FINISHER
CA20	20-WAY MULTILOCK 070 / YELLOW	RH 'A' POST CONNECTOR MOUNTING BRACKET / LOWER 'A' POST FINISHER
CA23	10-WAY MULTILOCK 070 / WHITE	BELOW DRIVER SEAT
CA27	10-WAY MULTILOCK 070 / WHITE	BELOW PASSENGER SEAT
FC1	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW PASSENGER SIDE AIR VENT / GLOVE BOX ASSEMBLY
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY
IC1	14-WAY MULTILOCK 070 / WHITE	LH HEELBOARD

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

Fig. 01.3

COMPONENTS

Component	Connector / Type / Color	Location / Access
FUSE BOX – ENGINE COMPARTMENT	LS5 / 10-WAY U.T.A. FUSE BOX / NATURAL LS6 / 10-WAY U.T.A. FUSE BOX / BLACK LS7 / 10-WAY U.T.A. FUSE BOX / GREEN LS8 / 10-WAY U.T.A. FUSE BOX / BLUE ST19 / EYELET	ENGINE COMPARTMENT / LH FRONT
FUSE BOX – ENGINE MANAGEMENT	EM19 / 10-WAY U.T.A. FUSE BOX / NATURAL EM20 / 10-WAY U.T.A. FUSE BOX / BLACK ST20 / EYELET ST21 / EYELET	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
FUSE BOX – TRUNK	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	TRUNK ELECTRICAL CARRIER

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BS4	20-WAY MULTILOCK 070 / WHITE	BELOW REAR CENTER CONSOLE SEAT SWITCHES
BT4	54-WAY THROUGH PANEL / GREY	BELOW PARCEL SHELF / TRUNK / REAR BULKHEAD / RH SIDE
CA109	12-WAY MULTILOCK 070 / WHITE	BELOW REAR SEAT CUSHION
EM42	4-WAY YAZAKI / GREY	BULKHEAD / REAR OF ENGINE
IC2	8-WAY MULTILOCK 070 / WHITE	REARWARD OF FUEL TANK / BATTERY COVER
LS32	4-WAY YAZAKI / GREY	FORWARD OF LH FRONT SUSPENSION ARM

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

Fig. 01.4

COMPONENTS

Component	Connector / Type / Color	Location / Access
FUSE BOX – ENGINE COMPARTMENT	LS5 / 10-WAY U.T.A. FUSE BOX / NATURAL LS6 / 10-WAY U.T.A. FUSE BOX / BLACK LS7 / 10-WAY U.T.A. FUSE BOX / GREEN LS8 / 10-WAY U.T.A. FUSE BOX / BLUE ST19 / EYELET	ENGINE COMPARTMENT / LH FRONT
FUSE BOX – LH HEELBOARD	CA1 / 10-WAY U.T.A. FUSE BOX / NATURAL CA2 / 10-WAY U.T.A. FUSE BOX / BLACK ST15 / EYELET	LH HEELBOARD / HEELBOARD COVER
FUSE BOX – RH HEELBOARD	CA41 / 10-WAY U.T.A. FUSE BOX / NATURAL CA42 / 10-WAY U.T.A. FUSE BOX / BLACK ST13 / EYELET ST14 / EYELET	RH HEELBOARD / HEELBOARD COVER
FUSE BOX – TRUNK	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	TRUNK ELECTRICAL CARRIER
SPLICE HEADER – CA225	CA225 / 20-WAY SUMITOMO SPLICE HEADER / NATURAL	LH HEELBOARD / HEELBOARD COVER

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT4	54-WAY THROUGH PANEL / GREY	BELOW PARCEL SHELF / TRUNK / REAR BULKHEAD / RH SIDE
CA19	20-WAY MULTILOCK 070 / YELLOW	LH 'A' POST CONNECTOR MOUNTING BRACKET / LOWER 'A' POST FINISHER
CA20	20-WAY MULTILOCK 070 / YELLOW	RH 'A' POST CONNECTOR MOUNTING BRACKET / LOWER 'A' POST FINISHER
CA109	12-WAY MULTILOCK 070 / WHITE	BELOW REAR SEAT CUSHION
EM1	12-WAY AUGAT 1.6 / BLACK	ENGINE COMPARTMENT / ADJACENT TO ABS PUMP
EM42	4-WAY YAZAKI / GREY	BULKHEAD / REAR OF ENGINE
EM51	12-WAY AUGAT 1.6 / GREY	ENGINE COMPARTMENT / ADJACENT TO ABS PUMP
FC1	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW PASSENGER SIDE AIR VENT / GLOVE BOX ASSEMBLY
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY
IC1	14-WAY MULTILOCK 070 / WHITE	LH HEELBOARD
LS3	54-WAY THROUGH PANEL CONNECTOR / BLACK	LH 'A' POST / LOWER 'A' POST FINISHER

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

Fig. 01.5

COMPONENTS

Component	Connector / Type / Color	Location / Access
FUSE BOX – ENGINE MANAGEMENT	EM19 / 10-WAY U.T.A. FUSE BOX / NATURAL EM20 / 10-WAY U.T.A. FUSE BOX / BLACK ST20 / EYELET ST21 / EYELET	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
CV2	3-WAY MULTILOCK 070 / WHITE	UNDER REAR SEAT
EM2	20-WAY MULTILOCK 070 / GREY	PASSENGER 'A' POST / LOWER 'A' POST FINISHER
EM51	12-WAY AUGAT 1.6 / GREY	ENGINE COMPARTMENT / ADJACENT TO ABS PUMP
FC1	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW PASSENGER SIDE AIR VENT / GLOVE BOX ASSEMBLY
PI1	57-WAY SUMITOMO TS090 / BLACK	ENGINE COMPARTMENT / BULKHEAD / REAR OF ENGINE

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

Fig. 02.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
IGNITION SWITCH	FC4 / 8-WAY MULTILOCK 070 / WHITE	STEERING COLUMN
INERTIA SWITCH	CA6 / 3-WAY ECONOSEAL III LC / BLACK	RH 'A' POST / LOWER 'A' POST FINISHER

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT4	54-WAY THROUGH PANEL / GREY	BELOW PARCEL SHELF / TRUNK / REAR BULKHEAD / RH SIDE
CA19	20-WAY MULTILOCK 070 / YELLOW	LH 'A' POST CONNECTOR MOUNTING BRACKET / LOWER 'A' POST FINISHER
CA20	20-WAY MULTILOCK 070 / YELLOW	RH 'A' POST CONNECTOR MOUNTING BRACKET / LOWER 'A' POST FINISHER
EM53	20-WAY MULTILOCK 070 / WHITE	RH 'A' POST / LOWER 'A' POST FINISHER
FC1	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW PASSENGER SIDE AIR VENT / GLOVE BOX ASSEMBLY
FC11	18-WAY MULTILOCK 070 / WHITE	ABOVE DIMMER MODULE / COIN TRAY
LS3	54-WAY THROUGH PANEL CONNECTOR / BLACK	LH 'A' POST / LOWER 'A' POST FINISHER

GROUNDS

Ground	Location / Type
FC17L	EYELET (PAIR) – EMS BULKHEAD GROUND STUD

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC15-7	NEUTRAL SWITCH STATUS	GROUND (N)	B+ (P, R, D, 4, 3, 2)
D	FC15-21	SERIAL COMMUNICATION – KEY TRANSPONDER	ENCODED COMMUNICATIONS	
D	FC15-39	SECURITY ACKNOWLEDGE	ENCODED COMMUNICATIONS	
I	FC15-41	STARTER ENGAGE REQUEST	GROUND (CRANKING)	B+
O	FC15-73	STARTER RELAY ACTIVATE	GROUND (CRANKING)	B+
I	FC15-80	BATTERY SUPPLY VOLTAGE	B+	B+
D	FC15-92	ENCODED COMMUNICATIONS		

ENGINE CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	EM81-12	PARK / NEUTRAL CONFIRMATION	B+ (P, N)	GROUND (R,D,4,3,2)
I	EM82-2	ENGINE CRANK	GROUND (CRANKING)	
D	EM82-15	OK TO START	ENCODED COMMUNICATIONS	
D	EM82-16	SECURITY ACKNOWLEDGE	ENCODED COMMUNICATIONS	

KEY TRANSPONDER MODULE

▽	Pin	Description	Active	Inactive
D	FC22-9	SERIAL COMMUNICATION	ENCODED COMMUNICATIONS	
D	FC22-11	SERIAL COMMUNICATION – BPM	ENCODED COMMUNICATIONS	
D	FC22-16	OK TO START	ENCODED COMMUNICATIONS	
D	FC22-17	SECURITY ACKNOWLEDGE	ENCODED COMMUNICATIONS	

The following symbols are used to represent values for Control Module Pin Out data:

I	Input	D	Serial and encoded communications	B+	Battery voltage	KHz	Frequency x 1000
O	Output	C	CAN (Network)	V	Voltage (DC)	MS	Milliseconds
SG	Signal Ground	S	SCP Network	Hz	Frequency	MV	Millivolts

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.

Fig. 03.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
BATTERY	BT66 / BATTERY CABLE CLAMP BT67 / BATTERY CABLE CLAMP	TRUNK / BATTERY COVER
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
ENGINE CONTROL MODULE: AJ27 N/A	EM80 / 31-WAY AMP 403 / NATURAL EM81 / 24-WAY AMP 403 / NATURAL EM82 / 17-WAY AMP 403 / NATURAL EM83 / 28-WAY AMP 403 / NATURAL EM84 / 22-WAY AMP 403 / NATURAL EM85 / 12-WAY MULITLOCK 070 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
GENERATOR	AN1 / EYELET AN2 / EYELET ST4 / EYELET	ENGINE COMPARTMENT / RH FRONT
HIGH POWER PROTECTION MODULE	BT60 / EYELET BT61 / EYELET BT62 / EYELET BT63 / EYELET	TRUNK / ADJACENT TO BATTERY
IGNITION SWITCH	FC4 / 8-WAY MULTILOCK 070 / WHITE	STEERING COLUMN
KEY TRANSPONDER MODULE	FC22 / 20-WAY MULTILOCK 040 / GREEN	BELOW INSTRUMENT PACK
NEUTRAL SWITCH	CC21 / 3-WAY MULTILOCK 070 / GREY	GEAR SELECTOR ASSEMBLY / CENTER CONSOLE
REGULATOR (GENERATOR)	PI50 / 3-WAY SUMITOMO 92 / BLACK	ENGINE COMPARTMENT / RH FRONT
STARTER MOTOR	ST1 / EYELET ST2 / EYELET ST3 / EYELET	ENGINE COMPARTMENT / ENGINE BLOCK / RH SIDE
SUPPRESSION MODULE	AN3 / 3-WAY ECONOSEAL III LC / RED	ENGINE COMPARTMENT / RIGHT FRONT

RELAYS

Relay	Case Color	Connector / Color	Location / Access
STARTER RELAY	BROWN	EM50 / BROWN	CONTROL MODULE ENCLOSURE RELAYS / ENGINE COMPARTMENT

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
EM2	20-WAY MULTILOCK 070 / GREY	PASSENGER 'A' POST / LOWER 'A' POST FINISHER
EM3	14-WAY MULTILOCK 070 / WHITE	PASSENGER 'A' POST / LOWER 'A' POST FINISHER
EM60	2-WAY ECONOSEAL III HC / GREY	ENGINE COMPARTMENT / ADJACENT RH TO FALSE BULKHEAD
FC7	20-WAY MULTILOCK 070 / YELLOW	ABOVE DIMMER MODULE / COIN TRAY
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
ST5	EYELET	ENGINE COMPARTMENT / RH FALSE BULKHEAD
ST6	EYELET	ENGINE COMPARTMENT / RH FALSE BULKHEAD

GROUNDS

Ground	Location / Type
BT65	EYELET (SINGLE) – BATTERY GROUND STUD
CC3R	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE
FC17L	EYELET (PAIR) – EMS BULKHEAD GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

DATE OF ISSUE: SEPTEMBER 1998

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC15-7	NEUTRAL SWITCH STATUS	GROUND (N)	B+ (P, R, D, 4, 3, 2)
D	FC15-21	SERIAL COMMUNICATION – KEY TRANSPONDER	ENCODED COMMUNICATIONS	
D	FC15-39	SECURITY ACKNOWLEDGE	ENCODED COMMUNICATIONS	
I	FC15-41	STARTER ENGAGE REQUEST	GROUND (CRANKING)	B+
O	FC15-73	STARTER RELAY ACTIVATE	GROUND (CRANKING)	B+
I	FC15-80	BATTERY SUPPLY VOLTAGE	B+	B+
D	FC15-92	ENCODED COMMUNICATIONS		

ENGINE CONTROL MODULE

▽	Pin	Description	Active	Inactive
D	EM10-6	OK TO START	ENCODED COMMUNICATIONS	
I	EM10-15	PARK / NEUTRAL CONFIRMATION	B+ (P, N)	GROUND (R,D,4,3,2)
D	EM10-17	SECURITY ACKNOWLEDGE	ENCODED COMMUNICATIONS	
I	EM11-6	ENGINE CRANK	GROUND (CRANKING)	B+

KEY TRANSPONDER MODULE

▽	Pin	Description	Active	Inactive
D	FC22-9	SERIAL COMMUNICATION	ENCODED COMMUNICATIONS	
D	FC22-11	SERIAL COMMUNICATION – BPM	ENCODED COMMUNICATIONS	
D	FC22-16	OK TO START	ENCODED COMMUNICATIONS	
D	FC22-17	SECURITY ACKNOWLEDGE	ENCODED COMMUNICATIONS	

DUAL LINEAR SWITCH

▽	Pin	Description	Active	Inactive
I	CC8-2	TCM / DUAL LINEAR SWITCH COMMON GROUND SUPPLY	GROUND	GROUND
O	CC8-4	NEUTRAL SWITCH STATUS	GROUND (N)	B+ (P, R, D, 4, 3, 2)
O	CC8-5	PARK / NEUTRAL CONFIRMATION	B+ (P, N)	GROUND (R, D, 4, 3, 2)

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 03.2

COMPONENTS

Component	Connector / Type / Color	Location / Access
BATTERY	BT66 / BATTERY CABLE CLAMP BT67 / BATTERY CABLE CLAMP	TRUNK / BATTERY COVER
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
DUAL LINEAR SWITCH	CC8 / 12-WAY MULTILOCK 070 / WHITE	RIGHT HAND SIDE OF GEAR SELECTOR / CENTER CONSOLE
ENGINE CONTROL MODULE	EM10 / 28-WAY MULTILOCK 040 / GREY EM11 / 16-WAY MULTILOCK 040 / GREY EM12 / 22-WAY MULTILOCK 040 / GREY EM13 / 34-WAY MULTILOCK 040 / GREY EM14 / 12-WAY MULTILOCK 47 / WHITE EM15 / 22-WAY MULTILOCK 47 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
GENERATOR	AN1 / EYELET AN2 / EYELET ST4 / EYELET	ENGINE COMPARTMENT / RH FRONT
HIGH POWER PROTECTION MODULE	BT60 / EYELET BT61 / EYELET BT62 / EYELET BT63 / EYELET	TRUNK / ADJACENT TO BATTERY
IGNITION SWITCH	FC4 / 8-WAY MULTILOCK 070 / WHITE	STEERING COLUMN
KEY TRANSPONDER MODULE	FC22 / 20-WAY MULTILOCK 040 / GREEN	BELOW INSTRUMENT PACK
REGULATOR (GENERATOR)	PI50 / 3-WAY SUMITOMO 92 / BLACK	ENGINE COMPARTMENT / RH FRONT
STARTER MOTOR	ST1 / EYELET ST2 / EYELET ST3 / EYELET	ENGINE COMPARTMENT / ENGINE BLOCK / RH SIDE
SUPPRESSION MODULE	AN3 / 3-WAY ECONOSEAL III LC / RED	ENGINE COMPARTMENT / RIGHT FRONT

RELAYS

Relay	Case Color	Connector / Color	Location / Access
STARTER RELAY	BROWN	EM50 / BROWN	CONTROL MODULE ENCLOSURE RELAYS / ENGINE COMPARTMENT

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
EM2	20-WAY MULTILOCK 070 / GREY	PASSENGER 'A' POST / LOWER 'A' POST FINISHER
EM3	14-WAY MULTILOCK 070 / WHITE	PASSENGER 'A' POST / LOWER 'A' POST FINISHER
EM60	2-WAY ECONOSEAL III HC / GREY	ENGINE COMPARTMENT / ADJACENT RH TO FALSE BULKHEAD
EM63	14-WAY MULTILOCK 070 / YELLOW	PASSENGER 'A' POST / LOWER 'A' POST FINISHER
FC7	20-WAY MULTILOCK 070 / YELLOW	ABOVE DIMMER MODULE / COIN TRAY
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
ST5	EYELET	ENGINE COMPARTMENT / RH FALSE BULKHEAD
ST6	EYELET	ENGINE COMPARTMENT / RH FALSE BULKHEAD

GROUNDS

Ground	Location / Type
BT65	EYELET (SINGLE) – BATTERY GROUND STUD
FC17L	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
EM8R	EYELET (PAIR) – EMS LH GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

DATE OF ISSUE: SEPTEMBER 1998

CONTROL MODULE PIN OUT INFORMATION

ENGINE CONTROL MODULE: AJ27 N/A

▽	Pin	Description	Active	Inactive
O	EM80-1	EVAP VALVE ACTIVATE	GROUND (VALVE OPEN)	B+
O	EM80-2	CANISTER CLOSE VALVE ACTIVATE	GROUND	B+
I	EM80-3	GROUND (POWER)	GROUND	GROUND
O	EM80-4	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
O	EM80-5	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
O	EM80-6	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
O	EM80-7	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
I	EM80-8	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
I	EM80-9	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
I	EM80-15	EOT FEEDBACK	2.5V @ 34˚ C (93˚ F) ; .5V @ 90ºC (194º F); VOLTAGE INCREASING WITH TEMPERATURE INCREASE	
D	EM80-17	SERIAL COMMUNICATIONS		
D	EM80-18	SERIAL COMMUNICATIONS		
D	EM80-19	ECM PROGRAMMING		
I	EM80-21	GROUND (THROTTLE MOTOR 1)	GROUND	GROUND
D	EM80-27	ECM PROGRAMMING		
I	EM80-29	GROUND (LOGIC 2)	GROUND	GROUND
I	EM80-31	GROUND (THROTTLE MOTOR 2)	GROUND	GROUND
O	EM81-1	VARIABLE VALVE TIMING SOLENOID + 'A' BANK	B+ (12% DUTY CYCLE @ IDLE) (INCREASING WITH ADVANCE)	GROUND
O	EM81-2	VARIABLE VALVE TIMING SOLENOID – 'A' BANK	GROUND	GROUND
O	EM81-3	EMS CONTROLLED RELAY ACTIVATE	GROUND	B+
O	EM81-6	VARIABLE VALVE TIMING SOLENOID + 'B' BANK	B+ (12% DUTY CYCLE @ IDLE) (INCREASING WITH ADVANCE)	GROUND
O	EM81-7	VARIABLE VALVE TIMING SOLENOID – 'B' BANK	GROUND	GROUND
I	EM81-8	GROUND (POWER)	GROUND	GROUND
I	EM81-9	PEDAL POSITION FEEDBACK (PPS/1)	0.5 V = IDLE; 4.75 V = WOT	
I	EM81-10	TPS FEEDBACK (TPS/1)	0.5 V = IDLE; 4.75 V = WOT	
I	EM81-12	PARK / NEUTRAL CONFIRMATION	B+ (P, N)	GROUND (R,D,4,3,2)
I	EM81-16	FUEL TANK PRESSURE SENSOR FEEDBACK	4.9V = LOW PRESSURE, 0.2 V = HIGH PRESSURE	
I	EM81-17	EMS SWITCHED POWER SUPPLY 1	B+	0 V
I	EM81-18	PEDAL POSITION FEEDBACK (PPS/2)	0.5 V = IDLE; 4.75 V = WOT	
I	EM81-19	TPS FEEDBACK (TPS/2)	0.5 V = IDLE; 4.75 V = WOT	
I	EM81-21	GROUND (LOGIC 1)	GROUND	GROUND
I	EM81-22	PARKING BRAKE SWITCH	GROUND (APPLIED)	B+
SG	EM81-24	PEDAL POSITION / THROTTLE POSITION SENSORS SHIELD	GROUND	GROUND
O	EM82-1	SENSOR SUPPLY VOLTAGE 1	5 V	5 V
I	EM82-2	ENGINE CRANK	GROUND (CRANKING)	
I	EM82-4	HO2S, UPSTREAM 'A' BANK – VARIABLE CURRENT (µA)	3.5 V	
I	EM82-5	HO2S, UPSTREAM 'B' BANK – VARIABLE CURRENT (µA)	3.5 V	
O	EM82-6	THROTTLE MOTOR POWER RELAY ACTIVATE	GROUND	B+
SG	EM82-7	SENSORS SIGNAL GROUND 1	GROUND	GROUND
I	EM82-8	BRAKE SWITCH	GROUND	B+
I	EM82-9	IGNITION SWITCHED POWER SUPPLY	B+	B+
SG	EM82-10	HO2S, UPSTREAM 'A' BANK – CONSTANT	3.8 V	
SG	EM82-11	HO2S, UPSTREAM 'B' BANK – CONSTANT	3.8 V	
I	EM82-12	INERTIA SWITCH ACTIVATED	GROUND	B+
I	EM82-13	EMS SWITCHED POWER SUPPLY 2	B+	0 V
I	EM82-14	ECT FEEDBACK	0.41 V @ 90 °C (DECREASING VOLTAGE WITH TEMPERATURE INCREASE)	
D	EM82-15	OK TO START	ENCODED COMMUNICATIONS	
D	EM82-16	SECURITY ACKNOWLEDGE	ENCODED COMMUNICATIONS	
I	EM82-17	IATS FEEDBACK	0.98 V @ 10 °C (DECREASING VOLTAGE WITH TEMPERATURE INCREASE)	
O	EM83-3	AIR ASSIST CLOSE VALVE ACTIVATE	8 V @ IDLE (78% DUTY CYCLE)	
O	EM83-5	SENSOR SUPPLY VOLTAGE 2	5 V	5 V
SG	EM83-6	SENSOR SHIELD	GROUND	GROUND
SG	EM83-7	CKPS SIGNAL GROUND	GROUND	GROUND
I	EM83-8	CKPS SIGNAL	5 V @ 1000 RPM = 45 Hz; 2000 RPM = 90 Hz	
SG	EM83-9	CMPS, 'A' BANK SIGNAL GROUND	GROUND	GROUND
SG	EM83-12	HO2S SHIELD	GROUND	GROUND
SG	EM83-13	SENSORS SIGNAL GROUND 2	GROUND	GROUND
I	EM83-14	KNOCK SENSOR, 'A' BANK FEEDBACK	0 KHz = NO KNOCK, 2 – 20 KHz = KNOCK	
C	EM83-15	CAN NETWORK	15 – 1500 Hz	
C	EM83-16	CAN NETWORK	15 – 1500 Hz	
SG	EM83-17	CMPS, 'B' BANK SIGNAL GROUND	GROUND	GROUND
I	EM83-18	CMPS, 'B' BANK SIGNAL	0.7 – 1 VAC @ 1000 RPM = 43 Hz; 2000 RPM = 72 Hz	
I	EM83-19	CMPS, 'A' BANK SIGNAL	0.7 – 1 VAC @ 1000 RPM = 43 Hz; 2000 RPM = 72 Hz	
I	EM83-20	BATTERY POWER SUPPLY	B+	B+
I	EM83-21	HO2S, 'A' BANK DOWNSTREAM	0.1 – 0.9 V @ IDLE (SWING)	
I	EM83-22	HO2S, 'B' BANK DOWNSTREAM	0.1 – 0.9 V @ IDLE (SWING)	
I	EM83-23	KNOCK SENSOR, 'B' BANK FEEDBACK	0 KHz = NO KNOCK, 2 – 20 KHz = KNOCK	
C	EM83-24	CAN NETWORK	15 – 1500 Hz	
C	EM83-25	CAN NETWORK	15 – 1500 Hz	
O	EM83-26	MAFS REFERENCE GROUND	GROUND	GROUND
O	EM83-27	MAFS REFERENCE GROUND	GROUND	GROUND
I	EM83-28	MAFS FEEDBACK	1.2 V @ IDLE, INCREASING WITH RPM INCREASE	
I	EM84-1	GROUND (DOWNSTREAM HO2S HEATERS)	GROUND	GROUND
O	EM84-7	HO2S HEATER, 'A' BANK DOWNSTREAM CONTROL	GROUND (20 – 60% DUTY CYCLE)	B+
O	EM84-15	HO2S HEATER, 'B' BANK DOWNSTREAM CONTROL	GROUND (20 – 60% DUTY CYCLE)	B+
I	EM84-16	GROUND (INJECTORS 1A, 2B, 3B, 4A)	GROUND	GROUND
I	EM84-22	GROUND (INJECTORS 1B, 2A, 3A, 4B)	GROUND	GROUND
O	EM85-1	HO2S HEATER, 'A' BANK UPSTREAM CONTROL	GROUND (85 – 90% DUTY CYCLE AT IDLE)	B+
O	EM85-2	HO2S HEATER, 'B' BANK UPSTREAM CONTROL	GROUND (85 – 90% DUTY CYCLE AT IDLE)	B+
O	EM85-5	"COOL BOX" COOLING FAN ACTIVATE	GROUND	B+
I	EM85-6	GROUND (HO2S A UPSTREAM HEATER)	GROUND	GROUND
I	EM85-7	GROUND (HO2S B UPSTREAM HEATER)	GROUND	GROUND
I	EM85-8	HO2S HEATERS OBD MONITOR	HEATERS ACTIVE = B+ V	

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 04.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
AIR ASSIST CLOSE VALVE	PI29 / 3-WAY SUMITOMO SS / GREY	THROTTLE ASSEMBLY
BRAKE SWITCH	CC40 / 4-WAY MULTILOCK 070 / WHITE	ADJACENT TO THE BRAKE PEDAL MOUNTING ASSEMBLY
CCV: CANISTER CLOSE VALVE	CV1 / 2-WAY YAZAKI 90 / BLACK	UNDER VEHICLE / RH REAR
CKPS: CRANKSHAFT POSITION SENSOR	PI17 / 2-WAY ECONOSEAL III HC / BLACK	ENGINE / REAR OF BED PLATE
CMPS: CAMSHAFT POSITION SENSOR – 'A' BANK	PI16 / 2-WAY ECONOSEAL III HC / BLACK	ENGINE COMPARTMENT / 'A' BANK CYLINDER HEAD, REAR
CMPS: CAMSHAFT POSITION SENSOR – 'B' BANK	PI15 / 2-WAY ECONOSEAL III HC / BLACK	ENGINE COMPARTMENT / 'B' BANK CYLINDER HEAD, REAR
ECM AND TCM COOLING FAN	EM66 / 2-WAY MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
ENGINE CONTROL MODULE: AJ27 N/A	EM80 / 31-WAY AMP 403 / NATURAL EM81 / 24-WAY AMP 403 / NATURAL EM82 / 17-WAY AMP 403 / NATURAL EM83 / 28-WAY AMP 403 / NATURAL EM84 / 22-WAY AMP 403 / NATURAL EM85 / 12-WAY MULITLOCK 070 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
ECTS: ENGINE COOLANT TEMPERATURE SENSOR	PI4 / 2-WAY ECONOSEAL E J2 / GREY	ENGINE COMPARTMENT / REAR OF ENGINE TOP HOSE
EOTS: ENGINE OIL TEMPERATURE SENSOR	PI38 / 2-WAY ECONOSEAL EC J2 / GREY	ENGINE BLOCK / BELOW GENERATOR
EVAPP: EVAP CANISTER PURGE VALVE	EM39 / 2-WAY ECONOSEAL J2+ / BLACK	ENGINE COMPARTMENT / BULKHEAD
FTPS: FUEL TANK PRESSURE SENSOR	FP1 / 3-WAY ECONOSEAL III LC / BLACK	TOP OF FUEL TANK / TRUNK CARPET
HO2S: HEATED OXYGEN SENSOR (UPSTREAM) – 'A' BANK	EM21 / 4-WAY SUMITOMO 90 II / GREY	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
HO2S: HEATED OXYGEN SENSOR (UPSTREAM) – 'B' BANK	EM23 / 4-WAY SUMITOMO 90 II / GREY	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
IATS: INTAKE AIR TEMPERATURE SENSOR	PI35 / 5-WAY YAZAKI 92 / BLACK	ENGINE COMPARTMENT / REARWARD OF AIR CLEANER
KS: KNOCK SENSOR – 'A' BANK	PI26 / 2-WAY ECONOSEAL III LC / BLACK	ENGINE VEE / UNDER INTAKE MANIFOLD
KS: KNOCK SENSOR – 'B' BANK	PI27 / 2-WAY ECONOSEAL III LC / BLACK	ENGINE VEE / UNDER INTAKE MANIFOLD
MAFS: MASS AIR FLOW SENSOR	PI35 / 5-WAY YAZAKI 92 / BLACK	ENGINE COMPARTMENT / REARWARD OF AIR CLEANER
O2S: OXYGEN SENSOR (DOWNSTREAM) – 'A' BANK	EM22 / 2-WAY SUMITOMO 90 II / GREY	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
O2S: OXYGEN SENSOR (DOWNSTREAM) – 'B' BANK	EM24 / 2-WAY SUMITOMO 90 II / GREY	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
PARKING BRAKE SWITCH	CC11 / 2-WAY MULTILOCK 040 / BLACK	CENTER CONSOLE ASSEMBLY
PPS: PEDAL POSITION SENSORS	PI42 / 5-WAY YAZAKI 92 / BLACK	ENGINE COMPARTMENT / ON THROTTLE ASSEMBLY
THROTTLE MOTOR	PI33 / 2-WAY SUMITOMO SS / BLACK	ENGINE COMPARTMENT / THROTTLE ASSEMBLY
TPS: THROTTLE POSITION SENSORS	PI6 / 4-WAY SUMITOMO TS90 / BLACK	ENGINE COMPARTMENT / ON THROTTLE ASSEMBLY
VVT SOLENOID VALVE – 'A' BANK	PI31 / 2-WAY YAZAKI 0902 / BLACK	ENGINE COMPARTMENT / 'A' BANK CYLINDER HEAD / FRONT
VVT SOLENOID VALVE – 'B' BANK	PI32 / 2-WAY YAZAKI 0902 / BLACK	ENGINE COMPARTMENT / 'B' BANK CYLINDER HEAD / FRONT

RELAYS

Relay	Case Color	Connector / Color	Location / Access
THROTTLE MOTOR POWER RELAY	BROWN	EM49 / BROWN	CONTROL MODULE ENCLOSURE RELAYS / ENGINE COMPARTMENT
O2S HEATERS RELAY	BROWN	EM75 / BROWN	CONTROL MODULE ENCLOSURE RELAYS / ENGINE COMPARTMENT

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT4	54-WAY THROUGH PANEL / GREY	BELOW PARCEL SHELF / TRUNK / REAR BULKHEAD / RH SIDE
BT5	3-WAY MULTILOCK 070 / WHITE	TOP OF FUEL TANK / TRUNK CARPET
CA19	20-WAY MULTILOCK 070 / YELLOW	LH 'A' POST CONNECTOR MOUNTING BRACKET / LOWER 'A' POST FINISHER
CV2	3-WAY MULTILOCK 070 / WHITE	UNDER REAR SEAT
EM1	12-WAY AUGAT 1.6 / BLACK	ENGINE COMPARTMENT / ADJACENT TO ABS PUMP
EM2	20-WAY MULTILOCK 070 / GREY	PASSENGER 'A' POST / LOWER 'A' POST FINISHER
EM3	14-WAY MULTILOCK 070 / WHITE	PASSENGER 'A' POST / LOWER 'A' POST FINISHER
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
LS3	54-WAY THROUGH PANEL CONNECTOR / BLACK	LH 'A' POST / LOWER 'A' POST FINISHER
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

GROUNDS

Ground	Location / Type
EM8L	EYELET (PAIR) – EMS LH GROUND STUD
EM16L	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
EM16R	EYELET (PAIR) – EMS BULKHEAD GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

←

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

DATE OF ISSUE: SEPTEMBER 1998

CONTROL MODULE PIN OUT INFORMATION

ENGINE CONTROL MODULE: AJ27 N/A

▽	Pin	Description	Active	Inactive
O	EM80-1	EVAP VALVE ACTIVATE	GROUND (VALVE OPEN)	B+
I	EM80-3	GROUND (POWER)	GROUND	GROUND
O	EM80-4	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
O	EM80-5	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
O	EM80-6	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
O	EM80-7	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
I	EM80-8	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
I	EM80-9	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
I	EM80-15	EOT FEEDBACK	2.5V @ 34˚ C (93˚ F) ; .5V @ 90ºC (194º F); VOLTAGE INCREASING WITH TEMPERATURE INCREASE	
D	EM80-17	SERIAL COMMUNICATIONS		
D	EM80-18	SERIAL COMMUNICATIONS		
D	EM80-19	ECM PROGRAMMING		
I	EM80-21	GROUND (THROTTLE MOTOR 1)	GROUND	GROUND
D	EM80-27	ECM PROGRAMMING		
I	EM80-29	GROUND (LOGIC 2)	GROUND	GROUND
I	EM80-31	GROUND (THROTTLE MOTOR 2)	GROUND	GROUND
O	EM81-1	VARIABLE VALVE TIMING SOLENOID + 'A' BANK	B+ (12% DUTY CYCLE @ IDLE) (INCREASING WITH ADVANCE)	GROUND
O	EM81-2	VARIABLE VALVE TIMING SOLENOID – 'A' BANK	GROUND	GROUND
O	EM81-3	EMS CONTROLLED RELAY ACTIVATE	GROUND	B+
O	EM81-6	VARIABLE VALVE TIMING SOLENOID + 'B' BANK	B+ (12% DUTY CYCLE @ IDLE) (INCREASING WITH ADVANCE)	GROUND
O	EM81-7	VARIABLE VALVE TIMING SOLENOID – 'B' BANK	GROUND	GROUND
I	EM81-8	GROUND (POWER)	GROUND	GROUND
I	EM81-9	PEDAL POSITION FEEDBACK (PPS/1)	0.5 V = IDLE; 4.75 V = WOT	
I	EM81-10	TPS FEEDBACK (TPS/1)	0.5 V = IDLE; 4.75 V = WOT	
I	EM81-12	PARK / NEUTRAL CONFIRMATION	B+ (P, N)	GROUND (R,D,4,3,2)
I	EM81-17	EMS SWITCHED POWER SUPPLY 1	B+	0 V
I	EM81-18	PEDAL POSITION FEEDBACK (PPS/2)	0.5 V = IDLE; 4.75 V = WOT	
I	EM81-19	TPS FEEDBACK (TPS/2)	0.5 V = IDLE; 4.75 V = WOT	
I	EM81-21	GROUND (LOGIC 1)	GROUND	GROUND
I	EM81-22	PARKING BRAKE SWITCH	GROUND (APPLIED)	B+
SG	EM81-24	PEDAL POSITION / THROTTLE POSITION SENSORS SHIELD	GROUND	GROUND
O	EM82-1	SENSOR SUPPLY VOLTAGE 1	5 V	5 V
I	EM82-2	ENGINE CRANK	GROUND (CRANKING)	
I	EM82-4	HO2S, UPSTREAM 'A' BANK – VARIABLE CURRENT (µA)	3.5 V	
I	EM82-5	HO2S, UPSTREAM 'B' BANK – VARIABLE CURRENT (µA)	3.5 V	
O	EM82-6	THROTTLE MOTOR POWER RELAY ACTIVATE	GROUND	B+
SG	EM82-7	SENSORS SIGNAL GROUND 1	GROUND	GROUND
I	EM82-8	BRAKE SWITCH	GROUND	B+
I	EM82-9	IGNITION SWITCHED POWER SUPPLY	B+	B+
SG	EM82-10	HO2S, UPSTREAM 'A' BANK – CONSTANT	3.8 V	
SG	EM82-11	HO2S, UPSTREAM 'B' BANK – CONSTANT	3.8 V	
I	EM82-12	INERTIA SWITCH ACTIVATED	GROUND	B+
I	EM82-13	EMS SWITCHED POWER SUPPLY 2	B+	0 V
I	EM82-14	ECT FEEDBACK	0.41 V @ 90 °C (DECREASING VOLTAGE WITH TEMPERATURE INCREASE)	
D	EM82-15	OK TO START	ENCODED COMMUNICATIONS	
D	EM82-16	SECURITY ACKNOWLEDGE	ENCODED COMMUNICATIONS	
I	EM82-17	IATS FEEDBACK	0.98 V @ 10 °C (DECREASING VOLTAGE WITH TEMPERATURE INCREASE)	
O	EM83-3	AIR ASSIST CLOSE VALVE ACTIVATE	8 V @ IDLE (78% DUTY CYCLE)	
O	EM83-5	SENSOR SUPPLY VOLTAGE 2	5 V	5 V
SG	EM83-6	SENSOR SHIELD	GROUND	GROUND
SG	EM83-7	CKPS SIGNAL GROUND	GROUND	GROUND
I	EM83-8	CKPS SIGNAL	5 V @ 1000 RPM = 45 Hz; 2000 RPM = 90 Hz	
SG	EM83-9	CMPS, 'A' BANK SIGNAL GROUND	GROUND	GROUND
SG	EM83-12	HO2S SHIELD	GROUND	GROUND
SG	EM83-13	SENSORS SIGNAL GROUND 2	GROUND	GROUND
I	EM83-14	KNOCK SENSOR, 'A' BANK FEEDBACK	0 KHz = NO KNOCK, 2 – 20 KHz = KNOCK	
C	EM83-15	CAN NETWORK	15 – 1500 Hz	
C	EM83-16	CAN NETWORK	15 – 1500 Hz	
SG	EM83-17	CMPS, 'B' BANK SIGNAL GROUND	GROUND	GROUND
I	EM83-18	CMPS, 'B' BANK SIGNAL	0.7 – 1 VAC @ 1000 RPM = 43 Hz; 2000 RPM = 72 Hz	
I	EM83-19	CMPS, 'A' BANK SIGNAL	0.7 – 1 VAC @ 1000 RPM = 43 Hz; 2000 RPM = 72 Hz	
I	EM83-20	BATTERY POWER SUPPLY	B+	B+
I	EM83-21	HO2S, 'A' BANK DOWNSTREAM	0.1 – 0.9 V @ IDLE (SWING)	
I	EM83-22	HO2S, 'B' BANK DOWNSTREAM	0.1 – 0.9 V @ IDLE (SWING)	
I	EM83-23	KNOCK SENSOR, 'B' BANK FEEDBACK	0 KHz = NO KNOCK, 2 – 20 KHz = KNOCK	
C	EM83-24	CAN NETWORK	15 – 1500 Hz	
C	EM83-25	CAN NETWORK	15 – 1500 Hz	
O	EM83-26	MAFS REFERENCE GROUND	GROUND	GROUND
O	EM83-27	MAFS REFERENCE GROUND	GROUND	GROUND
I	EM83-28	MAFS FEEDBACK	1.2 V @ IDLE, INCREASING WITH RPM INCREASE	
I	EM84-1	GROUND (DOWNSTREAM HO2S HEATERS)	GROUND	GROUND
O	EM84-7	HO2S HEATER, 'A' BANK DOWNSTREAM CONTROL	GROUND (20 – 60% DUTY CYCLE)	B+
O	EM84-15	HO2S HEATER, 'B' BANK DOWNSTREAM CONTROL	GROUND (20 – 60% DUTY CYCLE)	B+
I	EM84-16	GROUND (INJECTORS 1A, 2B, 3B, 4A)	GROUND	GROUND
I	EM84-22	GROUND (INJECTORS 1B, 2A, 3A, 4B)	GROUND	GROUND
O	EM85-1	HO2S HEATER, 'A' BANK UPSTREAM CONTROL	GROUND (85 – 90% DUTY CYCLE AT IDLE)	B+
O	EM85-2	HO2S HEATER, 'B' BANK UPSTREAM CONTROL	GROUND (85 – 90% DUTY CYCLE AT IDLE)	B+
O	EM85-5	"COOL BOX" COOLING FAN ACTIVATE	GROUND	B+
I	EM85-6	GROUND (HO2S A UPSTREAM HEATER)	GROUND	GROUND
I	EM85-7	GROUND (HO2S B UPSTREAM HEATER)	GROUND	GROUND
I	EM85-8	HO2S HEATERS OBD MONITOR	HEATERS ACTIVE = B+ V	

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 04.2

COMPONENTS

Component	Connector / Type / Color	Location / Access
AIR ASSIST CLOSE VALVE	PI29 / 3-WAY SUMITOMO SS / GREY	THROTTLE ASSEMBLY
BRAKE SWITCH	CC40 / 4-WAY MULTILOCK 070 / WHITE	ADJACENT TO THE BRAKE PEDAL MOUNTING ASSEMBLY
CKPS: CRANKSHAFT POSITION SENSOR	PI17 / 2-WAY ECONOSEAL III HC / BLACK	ENGINE / REAR OF BED PLATE
CMPS: CAMSHAFT POSITION SENSOR – 'A' BANK	PI16 / 2-WAY ECONOSEAL III HC / BLACK	ENGINE COMPARTMENT / 'A' BANK CYLINDER HEAD, REAR
CMPS: CAMSHAFT POSITION SENSOR – 'B' BANK	PI15 / 2-WAY ECONOSEAL III HC / BLACK	ENGINE COMPARTMENT / 'B' BANK CYLINDER HEAD, REAR
ECM AND TCM COOLING FAN	EM66 / 2-WAY MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
ENGINE CONTROL MODULE: AJ27 N/A	EM80 / 31-WAY AMP 403 / NATURAL EM81 / 24-WAY AMP 403 / NATURAL EM82 / 17-WAY AMP 403 / NATURAL EM83 / 28-WAY AMP 403 / NATURAL EM84 / 22-WAY AMP 403 / NATURAL EM85 / 12-WAY MULITLOCK 070 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
ECTS: ENGINE COOLANT TEMPERATURE SENSOR	PI4 / 2-WAY ECONOSEAL E J2 / GREY	ENGINE COMPARTMENT / REAR OF ENGINE TOP HOSE
EOTS: ENGINE OIL TEMPERATURE SENSOR	PI38 / 2-WAY ECONOSEAL EC J2 / GREY	ENGINE BLOCK / BELOW GENERATOR
EVAPP: EVAP CANISTER PURGE VALVE	EM39 / 2-WAY ECONOSEAL J2+ / BLACK	ENGINE COMPARTMENT / BULKHEAD
HO2S: HEATED OXYGEN SENSOR (UPSTREAM) – 'A' BANK	EM21 / 4-WAY SUMITOMO 90 II / GREY	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
HO2S: HEATED OXYGEN SENSOR (UPSTREAM) – 'B' BANK	EM23 / 4-WAY SUMITOMO 90 II / GREY	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
IATS: INTAKE AIR TEMPERATURE SENSOR	PI35 / 5-WAY YAZAKI 92 / BLACK	ENGINE COMPARTMENT / REARWARD OF AIR CLEANER
KS: KNOCK SENSOR – 'A' BANK	PI26 / 2-WAY ECONOSEAL III LC / BLACK	ENGINE VEE / UNDER INTAKE MANIFOLD
KS: KNOCK SENSOR – 'B' BANK	PI27 / 2-WAY ECONOSEAL III LC / BLACK	ENGINE VEE / UNDER INTAKE MANIFOLD
MAFS: MASS AIR FLOW SENSOR	PI35 / 5-WAY YAZAKI 92 / BLACK	ENGINE COMPARTMENT / REARWARD OF AIR CLEANER
O2S: OXYGEN SENSOR (DOWNSTREAM) – 'A' BANK	EM22 / 2-WAY SUMITOMO 90 II / GREY	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
O2S: OXYGEN SENSOR (DOWNSTREAM) – 'B' BANK	EM24 / 2-WAY SUMITOMO 90 II / GREY	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
PARKING BRAKE SWITCH	CC11 / 2-WAY MULTILOCK 040 / BLACK	CENTER CONSOLE ASSEMBLY
PPS: PEDAL POSITION SENSORS	PI42 / 5-WAY YAZAKI 92 / BLACK	ENGINE COMPARTMENT / ON THROTTLE ASSEMBLY
THROTTLE MOTOR	PI33 / 2-WAY SUMITOMO SS / BLACK	ENGINE COMPARTMENT / THROTTLE ASSEMBLY
TPS: THROTTLE POSITION SENSORS	PI6 / 4-WAY SUMITOMO TS90 / BLACK	ENGINE COMPARTMENT / ON THROTTLE ASSEMBLY
VVT SOLENOID VALVE – 'A' BANK	PI31 / 2-WAY YAZAKI 0902 / BLACK	ENGINE COMPARTMENT / 'A' BANK CYLINDER HEAD / FRONT
VVT SOLENOID VALVE – 'B' BANK	PI32 / 2-WAY YAZAKI 0902 / BLACK	ENGINE COMPARTMENT / 'B' BANK CYLINDER HEAD / FRONT

RELAYS

Relay	Case Color	Connector / Color	Location / Access
THROTTLE MOTOR POWER RELAY	BROWN	EM49 / BROWN	CONTROL MODULE ENCLOSURE RELAYS / ENGINE COMPARTMENT
O2S HEATERS RELAY	BROWN	EM75 / BROWN	CONTROL MODULE ENCLOSURE RELAYS / ENGINE COMPARTMENT

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
CA19	20-WAY MULTILOCK 070 / YELLOW	LH 'A' POST CONNECTOR MOUNTING BRACKET / LOWER 'A' POST FINISHER
EM1	12-WAY AUGAT 1.6 / BLACK	ENGINE COMPARTMENT / ADJACENT TO ABS PUMP
EM53	20-WAY MULTILOCK 070 / WHITE	PASSENGER 'A' POST / LOWER 'A' POST FINISHER
LS3	54-WAY THROUGH PANEL CONNECTOR / BLACK	LH 'A' POST / LOWER 'A' POST FINISHER
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

GROUNDS

Ground	Location / Type
EM8L	EYELET (PAIR) – EMS LH GROUND STUD
EM16L	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
EM16R	EYELET (PAIR) – EMS BULKHEAD GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

←

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

CONTROL MODULE PIN OUT INFORMATION

ENGINE CONTROL MODULE: AJ27 N/A

▽	Pin	Description	Active	Inactive
O	EM80-1	EVAP VALVE ACTIVATE	GROUND (VALVE OPEN)	B+
I	EM80-3	GROUND (POWER)	GROUND	GROUND
O	EM80-4	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
O	EM80-5	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
O	EM80-6	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
O	EM80-7	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
I	EM80-8	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
I	EM80-9	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
I	EM80-15	EOT FEEDBACK	2.5V @ 34˚ C (93˚ F) ; .5V @ 90ºC (194º F); VOLTAGE INCREASING WITH TEMPERATURE INCREASE	
D	EM80-17	SERIAL COMMUNICATIONS		
D	EM80-18	SERIAL COMMUNICATIONS		
D	EM80-19	ECM PROGRAMMING		
I	EM80-21	GROUND (THROTTLE MOTOR 1)	GROUND	GROUND
D	EM80-27	ECM PROGRAMMING		
I	EM80-29	GROUND (LOGIC 2)	GROUND	GROUND
I	EM80-31	GROUND (THROTTLE MOTOR 2)	GROUND	GROUND
	EM81-1	NOT USED		
	EM81-2	NOT USED		
O	EM81-3	EMS CONTROLLED RELAY ACTIVATE	GROUND	B+
	EM81-6	NOT USED		
	EM81-7	NOT USED		
I	EM81-8	GROUND (POWER)	GROUND	GROUND
I	EM81-9	PEDAL POSITION FEEDBACK (PPS/1)	0.5 V = IDLE; 4.75 V = WOT	
I	EM81-10	TPS FEEDBACK (TPS/1)	0.5 V = IDLE; 4.75 V = WOT	
	EM81-11	NOT USED		
I	EM81-12	PARK / NEUTRAL CONFIRMATION	B+ (P, N)	GROUND (R,D,4,3,2)
I	EM81-17	EMS SWITCHED POWER SUPPLY 1	B+	0 V
I	EM81-18	PEDAL POSITION FEEDBACK (PPS/2)	0.5 V = IDLE; 4.75 V = WOT	
I	EM81-19	TPS FEEDBACK (TPS/2)	0.5 V = IDLE; 4.75 V = WOT	
I	EM81-21	GROUND (LOGIC 1)	GROUND	GROUND
I	EM81-22	PARKING BRAKE SWITCH	GROUND (APPLIED)	B+
	EM81-23	NOT USED		
SG	EM81-24	PEDAL POSITION / THROTTLE POSITION SENSORS SHIELD	GROUND	GROUND
O	EM82-1	SENSOR SUPPLY VOLTAGE 1	5 V	5 V
I	EM82-2	ENGINE CRANK	GROUND (CRANKING)	
I	EM82-4	HO2S, UPSTREAM 'A' BANK – VARIABLE CURRENT (µA)	3.5 V	
I	EM82-5	HO2S, UPSTREAM 'B' BANK – VARIABLE CURRENT (µA)	3.5 V	
O	EM82-6	THROTTLE MOTOR POWER RELAY ACTIVATE	GROUND	B+
SG	EM82-7	SENSORS SIGNAL GROUND 1	GROUND	GROUND
I	EM82-8	BRAKE SWITCH	GROUND	B+
I	EM82-9	IGNITION SWITCHED POWER SUPPLY	B+	B+
SG	EM82-10	HO2S, UPSTREAM 'A' BANK – CONSTANT	3.8 V	
SG	EM82-11	HO2S, UPSTREAM 'B' BANK – CONSTANT	3.8 V	
I	EM82-12	INERTIA SWITCH ACTIVATED	GROUND	B+
I	EM82-13	EMS SWITCHED POWER SUPPLY 2	B+	0 V
I	EM82-14	ECT FEEDBACK	0.41 V @ 90 °C (DECREASING VOLTAGE WITH TEMPERATURE INCREASE)	
D	EM82-15	OK TO START	ENCODED COMMUNICATIONS	
D	EM82-16	SECURITY ACKNOWLEDGE	ENCODED COMMUNICATIONS	
I	EM82-17	IATS FEEDBACK	0.98 V @ 10 °C (DECREASING VOLTAGE WITH TEMPERATURE INCREASE)	
O	EM83-3	AIR ASSIST CLOSE VALVE ACTIVATE	8 V @ IDLE (78% DUTY CYCLE)	
O	EM83-5	SENSOR SUPPLY VOLTAGE 2	5 V	5 V
SG	EM83-6	SENSOR SHIELD	GROUND	GROUND
SG	EM83-7	CKPS SIGNAL GROUND	GROUND	GROUND
I	EM83-8	CKPS SIGNAL	5 V @ 1000 RPM = 45 Hz; 2000 RPM = 90 Hz	
SG	EM83-9	CMPS, 'A' BANK SIGNAL GROUND	GROUND	GROUND
SG	EM83-12	HO2S SHIELD	GROUND	GROUND
SG	EM83-13	SENSORS SIGNAL GROUND 2	GROUND	GROUND
I	EM83-14	KNOCK SENSOR, 'A' BANK FEEDBACK	0 KHz = NO KNOCK, 2 – 20 KHz = KNOCK	
C	EM83-15	CAN NETWORK	15 – 1500 Hz	
C	EM83-16	CAN NETWORK	15 – 1500 Hz	
SG	EM83-17	CMPS, 'B' BANK SIGNAL GROUND	GROUND	GROUND
I	EM83-18	CMPS, 'B' BANK SIGNAL	0.7 – 1 VAC @ 1000 RPM = 43 Hz; 2000 RPM = 72 Hz	
I	EM83-19	CMPS, 'A' BANK SIGNAL	0.7 – 1 VAC @ 1000 RPM = 43 Hz; 2000 RPM = 72 Hz	
I	EM83-20	BATTERY POWER SUPPLY	B+	B+
I	EM83-21	HO2S, 'A' BANK DOWNSTREAM	0.1 – 0.9 V @ IDLE (SWING)	
I	EM83-22	HO2S, 'B' BANK DOWNSTREAM	0.1 – 0.9 V @ IDLE (SWING)	
I	EM83-23	KNOCK SENSOR, 'B' BANK FEEDBACK	0 KHz = NO KNOCK, 2 – 20 KHz = KNOCK	
C	EM83-24	CAN NETWORK	15 – 1500 Hz	
C	EM83-25	CAN NETWORK	15 – 1500 Hz	
O	EM83-26	MAFS REFERENCE GROUND	GROUND	GROUND
O	EM83-27	MAFS REFERENCE GROUND	GROUND	GROUND
I	EM83-28	MAFS FEEDBACK	1.2 V @ IDLE, INCREASING WITH RPM INCREASE	
I	EM84-1	GROUND (DOWNSTREAM HO2S HEATERS)	GROUND	GROUND
O	EM84-7	HO2S HEATER, 'A' BANK DOWNSTREAM CONTROL	GROUND (20 – 60% DUTY CYCLE)	B+
O	EM84-15	HO2S HEATER, 'B' BANK DOWNSTREAM CONTROL	GROUND (20 – 60% DUTY CYCLE)	B+
I	EM84-16	GROUND (INJECTORS 1A, 2B, 3B, 4A)	GROUND	GROUND
I	EM84-22	GROUND (INJECTORS 1B, 2A, 3A, 4B)	GROUND	GROUND
O	EM85-1	HO2S HEATER, 'A' BANK UPSTREAM CONTROL	GROUND (85 – 90% DUTY CYCLE AT IDLE)	B+
O	EM85-2	HO2S HEATER, 'B' BANK UPSTREAM CONTROL	GROUND (85 – 90% DUTY CYCLE AT IDLE)	B+
O	EM85-5	"COOL BOX" COOLING FAN ACTIVATE	GROUND	B+
I	EM85-6	GROUND (HO2S A UPSTREAM HEATER)	GROUND	GROUND
I	EM85-7	GROUND (HO2S B UPSTREAM HEATER)	GROUND	GROUND
I	EM85-8	HO2S HEATERS OBD MONITOR	HEATERS ACTIVE = B+ V	

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 04.3

COMPONENTS

Component	Connector / Type / Color	Location / Access
AIR ASSIST CLOSE VALVE	PI29 / 3-WAY SUMITOMO SS / GREY	THROTTLE ASSEMBLY
BRAKE SWITCH	CC40 / 4-WAY MULTILOCK 070 / WHITE	ADJACENT TO THE BRAKE PEDAL MOUNTING ASSEMBLY
CKPS: CRANKSHAFT POSITION SENSOR	PI17 / 2-WAY ECONOSEAL III HC / BLACK	ENGINE / REAR OF BED PLATE
CMPS: CAMSHAFT POSITION SENSOR – 'A' BANK	PI16 / 2-WAY ECONOSEAL III HC / BLACK	ENGINE COMPARTMENT / 'A' BANK CYLINDER HEAD, REAR
CMPS: CAMSHAFT POSITION SENSOR – 'B' BANK	PI15 / 2-WAY ECONOSEAL III HC / BLACK	ENGINE COMPARTMENT / 'B' BANK CYLINDER HEAD, REAR
ECM AND TCM COOLING FAN	EM66 / 2-WAY MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
ENGINE CONTROL MODULE: AJ27 N/A	EM80 / 31-WAY AMP 403 / NATURAL EM81 / 24-WAY AMP 403 / NATURAL EM82 / 17-WAY AMP 403 / NATURAL EM83 / 28-WAY AMP 403 / NATURAL EM84 / 22-WAY AMP 403 / NATURAL EM85 / 12-WAY MULITLOCK 070 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
ECTS: ENGINE COOLANT TEMPERATURE SENSOR	PI4 / 2-WAY ECONOSEAL E J2 / GREY	ENGINE COMPARTMENT / REAR OF ENGINE TOP HOSE
EOTS: ENGINE OIL TEMPERATURE SENSOR	PI38 / 2-WAY ECONOSEAL EC J2 / GREY	ENGINE BLOCK / BELOW GENERATOR
EVAPP: EVAP CANISTER PURGE VALVE	EM39 / 2-WAY ECONOSEAL J2+ / BLACK	ENGINE COMPARTMENT / BULKHEAD
HO2S: HEATED OXYGEN SENSOR (UPSTREAM) – 'A' BANK	EM21 / 4-WAY SUMITOMO 90 II / GREY	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
HO2S: HEATED OXYGEN SENSOR (UPSTREAM) – 'B' BANK	EM23 / 4-WAY SUMITOMO 90 II / GREY	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
IATS: INTAKE AIR TEMPERATURE SENSOR	PI35 / 5-WAY YAZAKI 92 / BLACK	ENGINE COMPARTMENT / REARWARD OF AIR CLEANER
KS: KNOCK SENSOR – 'A' BANK	PI26 / 2-WAY ECONOSEAL III LC / BLACK	ENGINE VEE / UNDER INTAKE MANIFOLD
KS: KNOCK SENSOR – 'B' BANK	PI27 / 2-WAY ECONOSEAL III LC / BLACK	ENGINE VEE / UNDER INTAKE MANIFOLD
MAFS: MASS AIR FLOW SENSOR	PI35 / 5-WAY YAZAKI 92 / BLACK	ENGINE COMPARTMENT / REARWARD OF AIR CLEANER
O2S: OXYGEN SENSOR (DOWNSTREAM) – 'A' BANK	EM22 / 2-WAY SUMITOMO 90 II / GREY	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
O2S: OXYGEN SENSOR (DOWNSTREAM) – 'B' BANK	EM24 / 2-WAY SUMITOMO 90 II / GREY	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
PARKING BRAKE SWITCH	CC11 / 2-WAY MULTILOCK 040 / BLACK	CENTER CONSOLE ASSEMBLY
PPS: PEDAL POSITION SENSORS	PI42 / 5-WAY YAZAKI 92 / BLACK	ENGINE COMPARTMENT / ON THROTTLE ASSEMBLY
THROTTLE MOTOR	PI33 / 2-WAY SUMITOMO SS / BLACK	ENGINE COMPARTMENT / THROTTLE ASSEMBLY
TPS: THROTTLE POSITION SENSORS	PI6 / 4-WAY SUMITOMO TS90 / BLACK	ENGINE COMPARTMENT / ON THROTTLE ASSEMBLY

RELAYS

Relay	Case Color	Connector / Color	Location / Access
THROTTLE MOTOR POWER RELAY	BROWN	EM49 / BROWN	CONTROL MODULE ENCLOSURE RELAYS / ENGINE COMPARTMENT
O2S HEATERS RELAY	BROWN	EM75 / BROWN	CONTROL MODULE ENCLOSURE RELAYS / ENGINE COMPARTMENT

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
CA19	20-WAY MULTILOCK 070 / YELLOW	LH 'A' POST CONNECTOR MOUNTING BRACKET / LOWER 'A' POST FINISHER
EM1	12-WAY AUGAT 1.6 / BLACK	ENGINE COMPARTMENT / ADJACENT TO ABS PUMP
EM53	20-WAY MULTILOCK 070 / WHITE	PASSENGER 'A' POST / LOWER 'A' POST FINISHER
LS3	54-WAY THROUGH PANEL CONNECTOR / BLACK	LH 'A' POST / LOWER 'A' POST FINISHER
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

GROUNDS

Ground	Location / Type
EM8L	EYELET (PAIR) – EMS LH GROUND STUD
EM16L	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
EM16R	EYELET (PAIR) – EMS BULKHEAD GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

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: AJ27 N/A

▽	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+
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	EM81-4	PARALLEL (HIGH) SPEED FAN ACTIVATE	GROUND	B+
O	EM81-5	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	EM83-4	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	EM84-2	INJECTOR 1A ACTIVATE	GROUND	B+
O	EM84-3	INJECTOR 3B ACTIVATE	GROUND	B+
O	EM84-4	INJECTOR 2B ACTIVATE	GROUND	B+
O	EM84-5	INJECTOR 4A ACTIVATE	GROUND	B+
O	EM84-6	INJECTOR 1B ACTIVATE	GROUND	B+
O	EM84-9	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+

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 04.4

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	RH SIDE OF TRANSMISSION TUNNEL / GLOVE BOX ASSEMBLY
BRAKE CANCEL SWITCH	CC40 / 4-WAY MULTILOCK 070 / WHITE	ADJACENT TO THE BRAKE PEDAL MOUNTING ASSEMBLY
CRUISE CONTROL ON / OFF SWITCH	CC20 / 10-WAY AMP MICRO QUAD LOCK / NATURAL	CENTER CONSOLE ASSEMBLY
CRUISE CONTROL SWITCHES (STEERING WHEEL)	SW3 / 3-WAY EPC / BLACK / WHITE	CENTER OF STEERING WHEEL
ENGINE CONTROL MODULE: AJ27 N/A	EM80 / 31-WAY AMP 403 / NATURAL EM81 / 24-WAY AMP 403 / NATURAL EM82 / 17-WAY AMP 403 / NATURAL EM83 / 28-WAY AMP 403 / NATURAL EM84 / 22-WAY AMP 403 / NATURAL EM85 / 12-WAY MULITLOCK 070 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
FUEL INJECTOR – 1A	PI7 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	ENGINE COMPARTMENT / INTAKE MANIFOLD / FUEL RAIL
FUEL INJECTOR – 1B	PI11 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	ENGINE COMPARTMENT / INTAKE MANIFOLD / FUEL RAIL
FUEL INJECTOR – 2A	PI8 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	ENGINE COMPARTMENT / INTAKE MANIFOLD / FUEL RAIL
FUEL INJECTOR – 2B	PI12 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	ENGINE COMPARTMENT / INTAKE MANIFOLD / FUEL RAIL
FUEL INJECTOR – 3A	PI9 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	ENGINE COMPARTMENT / INTAKE MANIFOLD / FUEL RAIL
FUEL INJECTOR – 3B	PI13 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	ENGINE COMPARTMENT / INTAKE MANIFOLD / FUEL RAIL
FUEL INJECTOR – 4A	PI10 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	ENGINE COMPARTMENT / INTAKE MANIFOLD / FUEL RAIL
FUEL INJECTOR – 4B	PI14 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	ENGINE COMPARTMENT / INTAKE MANIFOLD / FUEL RAIL
FUEL PUMP	BT9 / 4-WAY SUMITOMO DL90 / NATURAL	TOP OF FUEL TANK / TRUNK CARPET
FUSE BOX – TRUNK	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	TRUNK ELECTRICAL CARRIER
IGNITION COIL – 1A	PI51 / 4-WAY YAZAKI / BLACK	ENGINE COMPARTMENT / CAMSHAFT COVER
IGNITION COIL – 1B	PI55 / 4-WAY YAZAKI / BLACK	ENGINE COMPARTMENT / CAMSHAFT COVER
IGNITION COIL – 2A	PI52 / 4-WAY YAZAKI / BLACK	ENGINE COMPARTMENT / CAMSHAFT COVER
IGNITION COIL – 2B	PI56 / 4-WAY YAZAKI / BLACK	ENGINE COMPARTMENT / CAMSHAFT COVER
IGNITION COIL – 3A	PI53 / 4-WAY YAZAKI / BLACK	ENGINE COMPARTMENT / CAMSHAFT COVER
IGNITION COIL – 3B	PI57 / 4-WAY YAZAKI / BLACK	ENGINE COMPARTMENT / CAMSHAFT COVER
IGNITION COIL – 4A	PI54 / 4-WAY YAZAKI / BLACK	ENGINE COMPARTMENT / CAMSHAFT COVER
IGNITION COIL – 4B	PI58 / 4-WAY YAZAKI / BLACK	ENGINE COMPARTMENT / CAMSHAFT COVER
RADIATOR FAN CONTROL RELAY MODULE	LS31 / 8-WAY TRW / BLACK	ENGINE COMPARTMENT / ADJACENT TO LH CRUSH TUBE
RADIATOR FAN – LH	CF1 / 2-WAY REINSHAGEN / BLACK	ENGINE COMPARTMENT / BELOW LH FAN
RADIATOR FAN – RH	CF2 / 2-WAY REINSHAGEN / BLACK	ENGINE COMPARTMENT / BELOW RH FAN
REFRIGERANT 4-WAY PRESSURE SWITCH	LS26 / 6-WAY ECONOSEAL III LC / BLACK	ENGINE COMPARTMENT / ADJACENT TO LH SIDE OF RADIATOR

RELAYS

Relay	Case Color	Connector / Color	Location / Access
AIR CONDITIONING COMPRESSOR CLUTCH RELAY	BROWN	EM25 / BROWN	CONTROL MODULE ENCLOSURE RELAYS / ENGINE COMPARTMENT
FUEL INJECTION RELAY	BROWN	EM52 / BROWN	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

HARNESS-TO-HARNESS 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	14-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
LS32	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 MULTILOCK 040 / BLACK	CENTER OF STEERING WHEEL

GROUNDS

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
LS10L	EYELET (PAIR) – LH FORWARD GROUND STUD
LS10R	EYELET (PAIR) – LH FORWARD GROUND STUD
LS20L	EYELET (PAIR) – RH FORWARD GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

CONTROL MODULE PIN OUT INFORMATION

ENGINE CONTROL MODULE: AJ26 SC

▽	Pin	Description	Active	Inactive
I	EM10-1	IGNITION SWITCHED POWER SUPPLY	B+	0 V
I	EM10-5	IGNITION SWITCHED POWER SUPPLY	B+	B+
D	EM10-6	OK TO START	ENCODED COMMUNICATIONS	
I	EM10-9	BATTERY POWER SUPPLY	B+	B+
I	EM10-10	BRAKE SWITCH	GROUND	B+
D	EM10-12	SERIAL COMMUNICATIONS		
D	EM10-13	SERIAL COMMUNICATIONS		
I	EM10-14	PARKING BRAKE SWITCH	GROUND (APPLIED)	B+
I	EM10-15	PARK / NEUTRAL CONFIRMATION	B+ (P, N)	GROUND (R,D,4,3,2)
O	EM10-16	EMS CONTROLLED RELAY ACTIVATE	GROUND	B+
D	EM10-17	SECURITY ACKNOWLEDGE	ENCODED COMMUNICATIONS	
O	EM10-20	IATS / ECTS / TPS / MECHANICAL GUARD POSITION / PEDAL POSITION COMMON REFERENCE GROUND	GROUND	GROUND
O	EM10-21	MECHANICAL GUARD POSITION / PEDAL POSITION / TPS COMMON REFERENCE VOLTAGE	5 V	5 V
I	EM10-22	GROUND	GROUND	GROUND
I	EM10-23	GROUND	GROUND	GROUND
C	EM10-25	CAN NETWORK	15 – 1500 Hz	
C	EM10-26	CAN NETWORK	15 – 1500 Hz	
C	EM10-27	CAN NETWORK	15 – 1500 Hz	
C	EM10-28	CAN NETWORK	15 – 1500 Hz	
D	EM11-3	ECM PROGRAMMING	B+	B+
I	EM11-6	ENGINE CRANK	GROUND (CRANKING)	B+
I	EM11-7	FUEL TANK PRESSURE SENSOR FEEDBACK	4.9 V = LOW PRESSURE, 0.2 V = HIGH PRESSURE	
O	EM11-8	MECHANICAL GUARD POSITION / PEDAL POSITION / TPS / FUEL TANK PRESSURE SENSOR COMMON REFERENCE VOLTAGE	5 V	5 V
I	EM11-9	ECT FEEDBACK	0.41 V @ 90°C, VOLTAGE DECREASING WITH TEMPERATURE INCREASE	
I	EM11-10	TPS FEEDBACK	0.5 V = IDLE; 4.75 V = WOT	
I	EM11-11	TPS FEEDBACK	0.5 V = IDLE; 4.75 V = WOT	
O	EM11-12	IATS / ECTS / TPS / MECHANICAL GUARD POSITION / PEDAL POSITION FUEL TANK PRESSURE SENSOR COMMON REFERENCE GROUND	GROUND	GROUND
I	EM11-13	MECHANICAL GUARD POSITION FEEDBACK	0.5 V = IDLE; 4.75 V = WOT	
SG	EM11-14	MECHANICAL GUARD POSITION / PEDAL POSITION / TPS SHIELD	GROUND	GROUND
I	EM11-15	PEDAL POSITION FEEDBACK	0.5 V = IDLE; 4.75 V = WOT	
I	EM11-16	PEDAL POSITION FEEDBACK	0.5 V = IDLE; 4.75 V = WOT	
O	EM12-1	EGR STEPPER MOTOR 'S1' WINDING SUPPLY	GROUND	B+
O	EM12-2	EGR STEPPER MOTOR 'S2' WINDING SUPPLY	GROUND	B+
O	EM12-3	EGR STEPPER MOTOR 'S3' WINDING SUPPLY	GROUND	B+
O	EM12-4	EGR STEPPER MOTOR 'S4' WINDING SUPPLY	GROUND	B+
I	EM12-7	IATS 2 FEEDBACK	2.38 V @ 20°C, VOLTAGE DECREASING WITH TEMPERATURE INCREASE	
I	EM12-12	IATS FEEDBACK	0.98 V @ 10°C, VOLTAGE DECREASING WITH TEMPERATURE INCREASE	
I	EM12-13	MAFS FEEDBACK	1.2 V @ IDLE, INCREASING WITH RPM INCREASE	
I	EM12-14	UPSTREAM 'B' BANK HO2S	0.1 – 0.9 V @ IDLE (SWING)	
I	EM12-15	UPSTREAM 'A' BANK HO2S	0.1 – 0.9 V @ IDLE (SWING)	
I	EM12-16	DOWNSTREAM 'B' BANK O2S	0.1 – 0.9 V @ IDLE (SWING)	
I	EM12-17	DOWNSTREAM 'A' BANK O2S	0.1 – 0.9 V @ IDLE (SWING)	
O	EM12-18	MAFS REFERENCE GROUND	GROUND	GROUND
O	EM12-19	MAFS REFERENCE GROUND	GROUND	GROUND
SG	EM12-22	02S / HO2S COMMON SHIELD	GROUND	GROUND
D	EM13-2	ECM PROGRAMMING		
O	EM13-4	CANISTER CLOSE VALVE ACTIVATE	GROUND	B+
O	EM13-11	VACUUM SWITCHING VALVE #3 ACTIVATE	GROUND	B+
O	EM13-12	VACUUM SWITCHING VALVE #1 ACTIVATE	GROUND	B+
O	EM13-13	VACUUM SWITCHING VALVE #2 ACTIVATE	GROUND	B+
O	EM13-14	THROTTLE MOTOR POWER RELAY ACTIVATE	GROUND	B+
I	EM13-17	'B' BANK KNOCK SENSOR FEEDBACK	0 KHz = NO KNOCK, 2 – 20 KHz = KNOCK	
I	EM13-18	'A' BANK KNOCK SENSOR FEEDBACK	0 KHz = NO KNOCK, 2 – 20 KHz = KNOCK	
I	EM13-19	CKPS SIGNAL	5 V @ 1000 RPM = 45 Hz; 2000 RPM = 90 Hz	
I	EM13-20	CMPS SIGNAL	5 Hz @ IDLE	
I	EM13-27	CMPS / CKPS / KNOCK SENSORS COMMON SHIELD	GROUND	GROUND
I	EM13-28	CKPS SIGNAL	5 V @ 1000 RPM = 45 Hz; 2000 RPM = 90 Hz	
SG	EM13-29	CMPS SIGNAL GROUND	GROUND	GROUND
I	EM14-1	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
I	EM14-2	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
I	EM14-3	IGNITION SWITCHED POWER SUPPLY	B+	GROUND
I	EM14-4	GROUND	GROUND	GROUND
O	EM14-5	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
O	EM14-6	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
I	EM14-7	GROUND	GROUND	GROUND
I	EM14-8	GROUND	GROUND	GROUND
I	EM14-9	GROUND	GROUND	GROUND
I	EM14-10	GROUND	GROUND	GROUND
O	EM14-11	THROTTLE MOTOR POWER SUPPLY	GROUND	GROUND
O	EM14-12	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
O	EM15-1	UPSTREAM 'B' BANK HO2S HEATER GROUND	GROUND	GROUND
O	EM15-2	UPSTREAM 'A' BANK HO2S HEATER GROUND	GROUND	GROUND
O	EM15-3	EVAP VALVE ACTIVATE	GROUND (VALVE OPEN)	B+
I	EM15-11	GROUND	GROUND	GROUND
I	EM15-12	GROUND	GROUND	GROUND
I	EM15-22	GROUND	GROUND	GROUND

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 04.5

COMPONENTS

Component	Connector / Type / Color	Location / Access
BRAKE SWITCH	CC40 / 4-WAY MULTILOCK 070 / WHITE	ADJACENT TO THE BRAKE PEDAL MOUNTING ASSEMBLY
CCV: CANISTER CLOSE VALVE	CV1 / 2-WAY YAZAKI 90 / BLACK	UNDER VEHICLE / RH REAR
CKPS: CRANKSHAFT POSITION SENSOR	PI17 / 2-WAY ECONOSEAL III HC / BLACK	ENGINE / REAR OF BED PLATE
CMPS: CAMSHAFT POSITION SENSOR	PI15 / 2-WAY ECONOSEAL III HC / BLACK	ENGINE COMPARTMENT / 'B' BANK CYLINDER HEAD, REAR
ECM AND TCM COOLING FAN	EM66 / 2-WAY MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
EGRV: EGR VALVE	PI34 / 6-WAY SUMITOMO 92 / GREY	ENGINE COMPARTMENT / REAR OF THROTTLE ASSEMBLY
ENGINE CONTROL MODULE: AJ26 SC	EM10 / 28-WAY MULTILOCK 040 / GREY EM11 / 16-WAY MULTILOCK 040 / GREY EM12 / 22-WAY MULTILOCK 040 / GREY EM13 / 34-WAY MULTILOCK 040 / GREY EM14 / 12-WAY MULTILOCK 47 / WHITE EM15 / 22-WAY MULTILOCK 47 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
ECTS: ENGINE COOLANT TEMPERATURE SENSOR	PI4 / 2-WAY ECONOSEAL E J2 / GREY	ENGINE COMPARTMENT / REAR OF ENGINE TOP HOSE
EVAPP: EVAP CANISTER PURGE VALVE	EM39 / 2-WAY ECONOSEAL J2+ / BLACK	ENGINE COMPARTMENT / BULKHEAD
FTPS: FUEL TANK PRESSURE SENSOR	BT5 / 3-WAY MULTILOCK 070 / WHITE FP1 / 3-WAY ECONOSEAL III LC / BLACK	TOP OF FUEL TANK / TRUNK CARPET
HO2S: HEATED OXYGEN SENSOR (UPSTREAM) – A	EM21 / 4-WAY SUMITOMO 90 II / GREY	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
HO2S: HEATED OXYGEN SENSOR (UPSTREAM) – B	EM23 / 4-WAY SUMITOMO 90 II / GREY	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
IATS: INTAKE AIR TEMPERATURE SENSOR 1	PI35 / 5-WAY YAZAKI 92 / BLACK	ENGINE COMPARTMENT / REARWARD OF AIR CLEANER
IATS 2: INTAKE AIR TEMPERATURE SENSOR 2	PI3 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	ENGINE COMPARTMENT / 'A' BANK INTERCOOLER / REAR
KS: KNOCK SENSOR – 'A' BANK	PI26 / 2-WAY ECONOSEAL III LC / BLACK	ENGINE VEE / UNDER INTAKE MANIFOLD
KS: KNOCK SENSOR – 'B' BANK	PI27 / 2-WAY ECONOSEAL III LC / BLACK	ENGINE VEE / UNDER INTAKE MANIFOLD
MAFS: MASS AIR FLOW SENSOR	PI35 / 5-WAY YAZAKI 92 / BLACK	ENGINE COMPARTMENT / REARWARD OF AIR CLEANER
O2S: OXYGEN SENSOR (DOWNSTREAM) – A	EM22 / 2-WAY SUMITOMO 90 II / GREY	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
O2S: OXYGEN SENSOR (DOWNSTREAM) – B	EM24 / 2-WAY SUMITOMO 90 II / GREY	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
PARKING BRAKE SWITCH	CC11 / 2-WAY MULTILOCK 040 / BLACK	CENTER CONSOLE ASSEMBLY
PEDAL POSITION AND MECHANICAL GUARD SENSORS	PI42 / 5-WAY YAZAKI 92 / BLACK	ENGINE COMPARTMENT / ON THROTTLE ASSEMBLY
THROTTLE MOTOR	PI33 / 2-WAY SUMITOMO SS / BLACK	ENGINE COMPARTMENT / THROTTLE ASSEMBLY
THROTTLE POSITION SENSOR	PI6 / 4-WAY SUMITOMO TS90 / BLACK	ENGINE COMPARTMENT / ON THROTTLE ASSEMBLY
VSV: VACUUM SWITCHING VALVE – 1	EM57 / 2-WAY SUMITOMO 90 DC / BLUE	ENGINE COMPARTMENT / BULKHEAD
VSV: VACUUM SWITCHING VALVE – 2	EM58 / 2-WAY SUMITOMO 90 DC / BROWN	ENGINE COMPARTMENT / BULKHEAD
VSV: VACUUM SWITCHING VALVE – 3	EM59 / 2-WAY YAZAKI 90 / GREY	ENGINE COMPARTMENT / BULKHEAD

RELAYS

Relay	Case Color	Connector / Color	Location / Access
THROTTLE MOTOR POWER RELAY	BROWN	EM49 / BROWN	CONTROL MODULE ENCLOSURE RELAYS / ENGINE COMPARTMENT

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT4	54-WAY THROUGH PANEL / GREY	BELOW PARCEL SHELF / TRUNK / REAR BULKHEAD / RH SIDE
CA19	20-WAY MULTILOCK 070 / YELLOW	LH 'A' POST CONNECTOR MOUNTING BRACKET / LOWER 'A' POST FINISHER
CV2	3-WAY MULTILOCK 070 / WHITE	UNDER REAR SEAT
EM1	12-WAY AUGAT 1.6 / BLACK	ENGINE COMPARTMENT / ADJACENT TO ABS PUMP
EM2	20-WAY MULTILOCK 070 / GREY	PASSENGER 'A' POST / LOWER 'A' POST FINISHER
EM3	14-WAY MULTILOCK 070 / WHITE	PASSENGER 'A' POST / LOWER 'A' POST FINISHER
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
LS3	54-WAY THROUGH PANEL CONNECTOR / BLACK	LH 'A' POST / LOWER 'A' POST FINISHER
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

GROUNDS

Ground	Location / Type
EM8L	EYELET (PAIR) – EMS LH GROUND STUD
EM16L	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
EM16R	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
EM17	EYELET (SINGLE) – EMS BULKHEAD GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

←

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

DATE OF ISSUE: SEPTEMBER 1998

CONTROL MODULE PIN OUT INFORMATION

ENGINE CONTROL MODULE: AJ26 SC

▽	Pin	Description	Active	Inactive
I	EM10-1	IGNITION SWITCHED POWER SUPPLY	B+	0 V
I	EM10-5	IGNITION SWITCHED POWER SUPPLY	B+	B+
D	EM10-6	OK TO START	ENCODED COMMUNICATIONS	
I	EM10-9	BATTERY POWER SUPPLY	B+	B+
I	EM10-10	BRAKE SWITCH	GROUND	B+
D	EM10-12	SERIAL COMMUNICATIONS		
D	EM10-13	SERIAL COMMUNICATIONS		
I	EM10-14	PARKING BRAKE SWITCH	GROUND (APPLIED)	B+
I	EM10-15	PARK / NEUTRAL CONFIRMATION	B+ (P, N)	GROUND (R,D,4,3,2)
O	EM10-16	EMS CONTROLLED RELAY ACTIVATE	GROUND	B+
D	EM10-17	SECURITY ACKNOWLEDGE	ENCODED COMMUNICATIONS	
O	EM10-20	IATS / ECTS / TPS / MECHANICAL GUARD POSITION / PEDAL POSITION COMMON REFERENCE GROUND	GROUND	GROUND
O	EM10-21	MECHANICAL GUARD POSITION / PEDAL POSITION / TPS COMMON REFERENCE VOLTAGE	5 V	5 V
I	EM10-22	GROUND	GROUND	GROUND
I	EM10-23	GROUND	GROUND	GROUND
C	EM10-25	CAN NETWORK	15 – 1500 Hz	
C	EM10-26	CAN NETWORK	15 – 1500 Hz	
C	EM10-27	CAN NETWORK	15 – 1500 Hz	
C	EM10-28	CAN NETWORK	15 – 1500 Hz	
D	EM11-3	ECM PROGRAMMING	B+	B+
I	EM11-6	ENGINE CRANK	GROUND (CRANKING)	B+
O	EM11-8	MECHANICAL GUARD POSITION / PEDAL POSITION / TPS / FUEL TANK PRESSURE SENSOR COMMON REFERENCE VOLTAGE	5 V	5 V
I	EM11-9	ECT FEEDBACK	0.41 V @ 90°C, VOLTAGE DECREASING WITH TEMPERATURE INCREASE	
I	EM11-10	TPS FEEDBACK	0.5 V = IDLE; 4.75 V = WOT	
I	EM11-11	TPS FEEDBACK	0.5 V = IDLE; 4.75 V = WOT	
O	EM11-12	IATS / ECTS / TPS / MECHANICAL GUARD POSITION / PEDAL POSITION FUEL TANK PRESSURE SENSOR COMMON REFERENCE GROUND	GROUND	GROUND
I	EM11-13	MECHANICAL GUARD POSITION FEEDBACK	0.5 V = IDLE; 4.75 V = WOT	
SG	EM11-14	MECHANICAL GUARD POSITION / PEDAL POSITION / TPS SHIELD	GROUND	GROUND
I	EM11-15	PEDAL POSITION FEEDBACK	0.5 V = IDLE; 4.75 V = WOT	
I	EM11-16	PEDAL POSITION FEEDBACK	0.5 V = IDLE; 4.75 V = WOT	
O	EM12-1	EGR STEPPER MOTOR 'S1' WINDING SUPPLY	GROUND	B+
O	EM12-2	EGR STEPPER MOTOR 'S2' WINDING SUPPLY	GROUND	B+
O	EM12-3	EGR STEPPER MOTOR 'S3' WINDING SUPPLY	GROUND	B+
O	EM12-4	EGR STEPPER MOTOR 'S4' WINDING SUPPLY	GROUND	B+
I	EM12-7	IATS 2 FEEDBACK	2.38 V @ 20°C, VOLTAGE DECREASING WITH TEMPERATURE INCREASE	
I	EM12-12	IATS FEEDBACK	0.98 V @ 10°C, VOLTAGE DECREASING WITH TEMPERATURE INCREASE	
I	EM12-13	MAFS FEEDBACK	1.2 V @ IDLE, INCREASING WITH RPM INCREASE	
I	EM12-14	UPSTREAM 'B' BANK HO2S	0.1 – 0.9 V @ IDLE (SWING)	
I	EM12-15	UPSTREAM 'A' BANK HO2S	0.1 – 0.9 V @ IDLE (SWING)	
O	EM12-18	MAFS REFERENCE GROUND	GROUND	GROUND
O	EM12-19	MAFS REFERENCE GROUND	GROUND	GROUND
SG	EM12-22	02S / HO2S COMMON SHIELD	GROUND	GROUND
D	EM13-2	ECM PROGRAMMING		
O	EM13-11	VACUUM SWITCHING VALVE #3 ACTIVATE	GROUND	B+
O	EM13-12	VACUUM SWITCHING VALVE #1 ACTIVATE	GROUND	B+
O	EM13-13	VACUUM SWITCHING VALVE #2 ACTIVATE	GROUND	B+
O	EM13-14	THROTTLE MOTOR POWER RELAY ACTIVATE	GROUND	B+
I	EM13-17	'B' BANK KNOCK SENSOR FEEDBACK	0 KHz = NO KNOCK, 2 – 20 KHz = KNOCK	
I	EM13-18	'A' BANK KNOCK SENSOR FEEDBACK	0 KHz = NO KNOCK, 2 – 20 KHz = KNOCK	
I	EM13-19	CKPS SIGNAL	5 V @ 1000 RPM = 45 Hz; 2000 RPM = 90 Hz	
I	EM13-20	CMPS SIGNAL	5 Hz @ IDLE	
I	EM13-27	CMPS / CKPS / KNOCK SENSORS COMMON SHIELD	GROUND	GROUND
I	EM13-28	CKPS SIGNAL	5 V @ 1000 RPM = 45 Hz; 2000 RPM = 90 Hz	
SG	EM13-29	CMPS SIGNAL GROUND	GROUND	GROUND
I	EM14-1	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
I	EM14-2	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
I	EM14-3	IGNITION SWITCHED POWER SUPPLY	B+	GROUND
I	EM14-4	GROUND	GROUND	GROUND
O	EM14-5	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
O	EM14-6	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
I	EM14-7	GROUND	GROUND	GROUND
I	EM14-8	GROUND	GROUND	GROUND
I	EM14-9	GROUND	GROUND	GROUND
I	EM14-10	GROUND	GROUND	GROUND
O	EM14-11	THROTTLE MOTOR POWER SUPPLY	GROUND	GROUND
O	EM14-12	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
O	EM15-1	UPSTREAM 'B' BANK HO2S HEATER GROUND	GROUND	GROUND
O	EM15-2	UPSTREAM 'A' BANK HO2S HEATER GROUND	GROUND	GROUND
O	EM15-3	EVAP VALVE ACTIVATE	GROUND (VALVE OPEN)	B+
I	EM15-11	GROUND	GROUND	GROUND
I	EM15-12	GROUND	GROUND	GROUND
I	EM15-22	GROUND	GROUND	GROUND

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 04.6

COMPONENTS

Component	Connector / Type / Color	Location / Access
BRAKE SWITCH	CC40 / 4-WAY MULTILOCK 070 / WHITE	ADJACENT TO THE BRAKE PEDAL MOUNTING ASSEMBLY
CKPS: CRANKSHAFT POSITION SENSOR	PI17 / 2-WAY ECONOSEAL III HC / BLACK	ENGINE / REAR OF BED PLATE
CMPS: CAMSHAFT POSITION SENSOR	PI15 / 2-WAY ECONOSEAL III HC / BLACK	ENGINE COMPARTMENT / 'B' BANK CYLINDER HEAD, REAR
ECM AND TCM COOLING FAN	EM66 / 2-WAY MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
ENGINE CONTROL MODULE: AJ26 SC	EM10 / 28-WAY MULTILOCK 040 / GREY EM11 / 16-WAY MULTILOCK 040 / GREY EM12 / 22-WAY MULTILOCK 040 / GREY EM13 / 34-WAY MULTILOCK 040 / GREY EM14 / 12-WAY MULTILOCK 47 / WHITE EM15 / 22-WAY MULTILOCK 47 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
ECTS: ENGINE COOLANT TEMPERATURE SENSOR	PI4 / 2-WAY ECONOSEAL E J2 / GREY	ENGINE COMPARTMENT / REAR OF ENGINE TOP HOSE
EVAPP: EVAP CANISTER PURGE VALVE	EM39 / 2-WAY ECONOSEAL J2+ / BLACK	ENGINE COMPARTMENT / BULKHEAD
HO2S: HEATED OXYGEN SENSOR – A	EM21 / 4-WAY SUMITOMO 90 II / GREY	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
HO2S: HEATED OXYGEN SENSOR – B	EM23 / 4-WAY SUMITOMO 90 II / GREY	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
IATS: INTAKE AIR TEMPERATURE SENSOR 1	PI35 / 5-WAY YAZAKI 92 / BLACK	ENGINE COMPARTMENT / REARWARD OF AIR CLEANER
IATS 2: INTAKE AIR TEMPERATURE SENSOR 2	PI3 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	ENGINE COMPARTMENT / 'A' BANK INTERCOOLER / REAR
KS: KNOCK SENSOR – 'A' BANK	PI26 / 2-WAY ECONOSEAL III LC / BLACK	ENGINE VEE / UNDER INTAKE MANIFOLD
KS: KNOCK SENSOR – 'B' BANK	PI27 / 2-WAY ECONOSEAL III LC / BLACK	ENGINE VEE / UNDER INTAKE MANIFOLD
MAFS: MASS AIR FLOW SENSOR	PI35 / 5-WAY YAZAKI 92 / BLACK	ENGINE COMPARTMENT / REARWARD OF AIR CLEANER
PARKING BRAKE SWITCH	CC11 / 2-WAY MULTILOCK 040 / BLACK	CENTER CONSOLE ASSEMBLY
PEDAL POSITION AND MECHANICAL GUARD SENSORS	PI42 / 5-WAY YAZAKI 92 / BLACK	ENGINE COMPARTMENT / ON THROTTLE ASSEMBLY
THROTTLE MOTOR	PI33 / 2-WAY SUMITOMO SS / BLACK	ENGINE COMPARTMENT / THROTTLE ASSEMBLY
THROTTLE POSITION SENSOR	PI6 / 4-WAY SUMITOMO TS90 / BLACK	ENGINE COMPARTMENT / ON THROTTLE ASSEMBLY
VACUUM SWITCHING VALVE – 1	EM57 / 2-WAY SUMITOMO 90 DC / BLUE	ENGINE COMPARTMENT / BULKHEAD
VACUUM SWITCHING VALVE – 2	EM58 / 2-WAY SUMITOMO 90 DC / BROWN	ENGINE COMPARTMENT / BULKHEAD
VACUUM SWITCHING VALVE – 3	EM59 / 2-WAY YAZAKI 90 / GREY	ENGINE COMPARTMENT / BULKHEAD

RELAYS

Relay	Case Color	Connector / Color	Location / Access
THROTTLE MOTOR POWER RELAY	BROWN	EM49 / BROWN	CONTROL MODULE ENCLOSURE RELAYS / ENGINE COMPARTMENT

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
CA19	20-WAY MULTILOCK 070 / YELLOW	LH 'A' POST CONNECTOR MOUNTING BRACKET / LOWER 'A' POST FINISHER
EM1	12-WAY AUGAT 1.6 / BLACK	ENGINE COMPARTMENT / ADJACENT TO ABS PUMP
EM2	20-WAY MULTILOCK 070 / GREY	PASSENGER 'A' POST / LOWER 'A' POST FINISHER
EM3	14-WAY MULTILOCK 070 / WHITE	PASSENGER 'A' POST / LOWER 'A' POST FINISHER
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
LS3	54-WAY THROUGH PANEL CONNECTOR / BLACK	LH 'A' POST / LOWER 'A' POST FINISHER
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

GROUNDS

Ground	Location / Type
EM8L	EYELET (PAIR) – EMS LH GROUND STUD
EM16L	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
EM16R	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
EM17	EYELET (SINGLE) – EMS BULKHEAD GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

←

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

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: AJ26 SC

▽	Pin	Description	Active	Inactive
O	EM10-2	A/CCM LOAD INHIBIT	GROUND	B+
I	EM10-3	A/CCM ELECTRICAL LOAD SIGNAL	B+	GROUND
I	EM10-4	A/CCM COMPRESSOR CLUTCH REQUEST	B+	GROUND
I	EM10-11	CRUISE CONTROL BRAKE CANCEL REQUEST	GROUND (APPLIED)	B+
I	EM11-1	CRUISE CONTROL SET +/-	7.3 V = (+), 8.8 V = (-)	B+
I	EM11-4	CRUISE CONTROL ON REQUEST	B+	GROUND
I	EM11-5	CRUISE CONTROL CANCEL / RESUME	7.3 V = RESUME, 8.8 V = CANCEL B+	
I	EM12-5	REFRIGERANT 4-WAY PRESSURE SWITCH – HIGH PRESSURE	GROUND @ 20 BAR (290 PSI)	
I	EM12-6	REFRIGERANT 4-WAY PRESSURE SWITCH – HIGH PRESSURE	GROUND @ 12 BAR (174 PSI)	
I	EM12-8	IGNITION MODULE 2 SWITCHING FEEDBACK	23 Hz @ IDLE (5 V)	
I	EM12-9	IGNITION MODULE 1 SWITCHING FEEDBACK	23 Hz @ IDLE (5 V)	
O	EM12-10	AIR CONDITIONING COMPRESSOR RELAY ACTIVATE	GROUND	B+
O	EM13-1	FUEL PUMP RELAY ACTIVATE	GROUND	B+
O	EM13-3	CRUISE CONTROL ON STATUS LED	GROUND	B+
O	EM13-9	FUEL PUMP RELAY ACTIVATE	GROUND	B+
O	EM13-10	INTERCOOLER PUMP RELAY ACTIVATE	GROUND	B+
O	EM13-15	SERIES (LOW) SPEED FAN ACTIVATE	GROUND	B+
O	EM13-16	PARALLEL (HIGH) SPEED FAN ACTIVATE	GROUND	B+
O	EM13-22	IGNITION COIL RELAY ACTIVATE	GROUND	B+
O	EM13-23	IGNITION MODULE 1 SWITCHING	5 Hz @ IDLE	
O	EM13-24	IGNITION MODULE 2 SWITCHING	5 Hz @ IDLE	
O	EM13-25	IGNITION MODULE 2 SWITCHING	5 Hz @ IDLE	
O	EM13-26	IGNITION MODULE 1 SWITCHING	5 Hz @ IDLE	
O	EM13-31	IGNITION MODULE 2 SWITCHING	5 Hz @ IDLE	
O	EM13-32	IGNITION MODULE 1 SWITCHING	5 Hz @ IDLE	
O	EM13-33	IGNITION MODULE 1 SWITCHING	5 Hz @ IDLE	
O	EM13-34	IGNITION MODULE 1 SWITCHING	5 Hz @ IDLE	
O	EM15-4	INJECTOR '3B' ACTIVATE	GROUND	B+
O	EM15-5	INJECTOR '2B' ACTIVATE	GROUND	B+
O	EM15-6	INJECTOR '4A' ACTIVATE	GROUND	B+
O	EM15-7	INJECTOR '1A' ACTIVATE	GROUND	B+
O	EM15-15	INJECTOR '4B' ACTIVATE	GROUND	B+
O	EM15-16	INJECTOR '3A' ACTIVATE	GROUND	B+
O	EM15-17	INJECTOR '2A' ACTIVATE	GROUND	B+
O	EM15-18	INJECTOR '1B' ACTIVATE	GROUND	B+

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 04.7

COMPONENTS

Component	Connector / Type / Color	Location / Access
AIR CONDITIONING COMPRESSOR CLUTCH	PI36 / 1-WAY SUMITOMO 90 A TYPE / BLACK	ENGINE COMPARTMENT / A/C COMPRESSOR
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	RH SIDE OF TRANSMISSION TUNNEL / GLOVE BOX ASSEMBLY
BRAKE CANCEL SWITCHES	CC40 / 4-WAY MULTILOCK 070 / WHITE	ADJACENT TO THE BRAKE PEDAL MOUNTING ASSEMBLY
CRUISE CONTROL ON / OFF SWITCH	CC20 / 10-WAY AMP MICRO QUAD LOCK / NATURAL	CENTER CONSOLE ASSEMBLY
CRUISE CONTROL SWITCHES (STEERING WHEEL)	SW3 / 3-WAY EPC / BLACK / WHITE	CENTER OF STEERING WHEEL
ENGINE CONTROL MODULE: AJ26 SC	EM10 / 28-WAY MULTILOCK 040 / GREY EM11 / 16-WAY MULTILOCK 040 / GREY EM12 / 22-WAY MULTILOCK 040 / GREY EM13 / 34-WAY MULTILOCK 040 / GREY EM14 / 12-WAY MULTILOCK 47 / WHITE EM15 / 22-WAY MULTILOCK 47 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
FUEL INJECTOR – 1A	IJ3 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	ENGINE COMPARTMENT / INTAKE MANIFOLD
FUEL INJECTOR – 1B	IJ7 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	ENGINE COMPARTMENT / INTAKE MANIFOLD
FUEL INJECTOR – 2A	IJ4 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	ENGINE COMPARTMENT / INTAKE MANIFOLD
FUEL INJECTOR – 2B	IJ8 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	ENGINE COMPARTMENT / INTAKE MANIFOLD
FUEL INJECTOR – 3A	IJ5 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	ENGINE COMPARTMENT / INTAKE MANIFOLD
FUEL INJECTOR – 3B	IJ9 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	ENGINE COMPARTMENT / INTAKE MANIFOLD
FUEL INJECTOR – 4A	IJ6 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	ENGINE COMPARTMENT / INTAKE MANIFOLD
FUEL INJECTOR – 4B	IJ10 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	ENGINE COMPARTMENT / INTAKE MANIFOLD
FUEL PUMPS	BT9 / 4-WAY SUMITOMO DL90 / NATURAL	TOP OF FUEL TANK / TRUNK CARPET
FUSE BOX – TRUNK	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	TRUNK ELECTRICAL CARRIER
IGNITION COIL – 1A	PI18 / 2-WAY YAZAKI 90 / BLACK	ENGINE COMPARTMENT / CAMSHAFT COVER
IGNITION COIL – 1B	PI22 / 2-WAY YAZAKI 90 / BLACK	ENGINE COMPARTMENT / CAMSHAFT COVER
IGNITION COIL – 2A	PI19 / 2-WAY YAZAKI 90 / BLACK	ENGINE COMPARTMENT / CAMSHAFT COVER
IGNITION COIL – 2B	PI23 / 2-WAY YAZAKI 90 / BLACK	ENGINE COMPARTMENT / CAMSHAFT COVER
IGNITION COIL – 3A	PI20 / 2-WAY YAZAKI 90 / BLACK	ENGINE COMPARTMENT / CAMSHAFT COVER
IGNITION COIL – 3B	PI24 / 2-WAY YAZAKI 90 / BLACK	ENGINE COMPARTMENT / CAMSHAFT COVER
IGNITION COIL – 4A	PI21 / 2-WAY YAZAKI 90 / BLACK	ENGINE COMPARTMENT / CAMSHAFT COVER
IGNITION COIL – 4B	PI25 / 2-WAY YAZAKI 90 / BLACK	ENGINE COMPARTMENT / CAMSHAFT COVER
IGNITION MODULE – 1	EM27 / 12-WAY SUMITOMO 0902 / BLACK	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
IGNITION MODULE – 2	EM29 / 12-WAY SUMITOMO 0902 / BLACK	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
INTERCOOLER PUMP	LS30 / 2-WAY AUGAT 1.6 / BLACK	ENGINE COMPARTMENT / ADJACENT TO RH CRUSH TUBE
RADIATOR FAN CONTROL RELAY MODULE	LS31 / 8-WAY TRW / BLACK	ENGINE COMPARTMENT / ADJACENT TO LH CRUSH TUBE
RADIATOR FAN – LH	CF1 / 2-WAY REINSHAGEN / BLACK	ENGINE COMPARTMENT / BELOW LH FAN
RADIATOR FAN – RH	CF2 / 2-WAY REINSHAGEN / BLACK	ENGINE COMPARTMENT / BELOW RH FAN
REFRIGERANT 4-WAY PRESSURE SWITCH	LS26 / 6-WAY ECONOSEAL III LC / BLACK	ENGINE COMPARTMENT / ADJACENT TO LH SIDE OF RADIATOR

RELAYS

Relay	Case Color	Connector / Color	Location / Access
AIR CONDITIONING COMPRESSOR CLUTCH RELAY	BROWN	EM25 / BROWN	CONTROL MODULE ENCLOSURE RELAYS / ENGINE COMPARTMENT
FUEL INJECTION RELAY	BROWN	EM52 / BROWN	CONTROL MODULE ENCLOSURE RELAYS / ENGINE COMPARTMENT
FUEL PUMP RELAY 2	BROWN	BUS	RELAY #1, TRUNK FUSE BOX / TRUNK
FUEL PUMP RELAY 1	BROWN	BUS	RELAY #4, TRUNK FUSE BOX / TRUNK
IGNITION COIL RELAY	BROWN	EM26 / BROWN	CONTROL MODULE ENCLOSURE RELAYS / ENGINE COMPARTMENT
INTERCOOLER PUMP RELAY	BLACK	EM41 / BLACK	CONTROL MODULE ENCLOSURE RELAYS / ENGINE COMPARTMENT

HARNESS-TO-HARNESS 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	14-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
IJ1	6-WAY AUGAT 1.6 / BLACK	ENGINE / FORWARD OF INTAKE MANIFOLD
IJ2	6-WAY AUGAT 1.6 / BLACK	ENGINE / FORWARD OF INTAKE MANIFOLD
LS32	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 MULTILOCK 040 / BLACK	CENTER OF STEERING WHEEL

GROUNDS

Ground	Location / Type
BT20	EYELET (SINGLE) – TRUNK / RH REAR GROUND STUD
EM17	EYELET (SINGLE) – EMS BULKHEAD GROUND STUD
EM17	EYELET (SINGLE) – EMS BULKHEAD GROUND STUD
EM8R	EYELET (PAIR) – EMS LH GROUND STUD
FC17R	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
LS10L	EYELET (PAIR) – LH FORWARD GROUND STUD
LS10R	EYELET (PAIR) – LH FORWARD GROUND STUD
LS20L	EYELET (PAIR) – RH FORWARD GROUND STUD
LS20R	EYELET (PAIR) – RH FORWARD GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

←

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

DATE OF ISSUE: SEPTEMBER 1998

CONTROL MODULE PIN OUT INFORMATION

GEAR SELECTOR ILLUMINATION MODULE

▽	Pin	Description	Active	Inactive
I	CC14-1	IGNITION SWITCHED POWER SUPPLY	B+	GROUND
C	CC14-3	CAN NETWORK	15 – 1500 Hz @ 2.5 V	
C	CC14-4	CAN NETWORK	15 – 1500 Hz @ 2.5 V	
I	CC14-6	GROUND	GROUND	GROUND
C	CC14-8	CAN NETWORK	15 – 1500 Hz @ 2.5 V	
C	CC14-9	CAN NETWORK	15 – 1500 Hz @ 2.5 V	

TRANSMISSION CONTROL MODULE: AJ27 N/A

▽	Pin	Description	Active	Inactive
O	EM7-1	PRESSURE REGULATOR #2	GROUND (MAXIMUM PRESSURE)	B+ (NO PRESSURE)
O	EM7-2	SPORT MODE SWITCH STATUS LED	GROUND = LED ON	B+
O	EM7-4	PRESSURE REGULATOR #4	GROUND (MAXIMUM PRESSURE)	B+ (NO PRESSURE)
O	EM7-5	PRESSURE REGULATOR #1	GROUND (MAXIMUM PRESSURE)	B+ (NO PRESSURE)
I	EM7-6	GROUND	GROUND	GROUND
I	EM7-8	ROTARY SWITCH 'L2' CONTACTS	B+	GROUND
I	EM7-9	ROTARY SWITCH 'L4' CONTACTS	B+	GROUND
I	EM7-12	SPORT MODE SWITCH STRATEGY SELECT	GROUND = SPORT	9 V = NORMAL
I	EM7-13	D – 4 SWITCH	GROUND	B+
I	EM7-14	TURBINE SPEED SENSOR	300 Hz @ IDLE (2.5 V)	
SG	EM7-15	OUTPUT SPEED SENSOR SHIELD	GROUND	GROUND
SG	EM7-16	OUTPUT SPEED SENSOR	GROUND	GROUND
SG	EM7-21	FLUID TEMPERATURE SENSOR	1.31 V	
I	EM7-22	FLUID TEMPERATURE SENSOR FEEDBACK	1.15 V @ 90°C	
I	EM7-23	TURBINE SPEED SENSOR SHIELD	GROUND	GROUND
I	EM7-26	BATTERY POWER SUPPLY	B+	B+
O	EM7-28	ROTARY / D – 4 / KICK DOWN SWITCHES COMMON GROUND	GROUND	GROUND
O	EM7-29	PRESSURE REGULATOR #3	GROUND (MAXIMUM PRESSURE)	B+ (NO PRESSURE)
O	EM7-30	SOLENOID VALVE #1	GROUND	B+
O	EM7-32	SOLENOID VALVE #3	GROUND	B+
O	EM7-33	SOLENOID VALVE #2	GROUND	B+
I	EM7-34	GROUND	GROUND	GROUND
I	EM7-36	ROTARY SWITCH 'L1' CONTACTS	B+	GROUND
I	EM7-37	ROTARY SWITCH 'L3' CONTACTS	B+	GROUND
I	EM7-42	TURBINE SPEED SENSOR	1.51 V @ 10 MPH (16 KM/H) = 250 Hz, 20 MPH (32 KM/H) = 500 Hz	
I	EM7-44	OUTPUT SPEED SENSOR	1.51 V @ 10 MPH (16 KM/H) = 223 Hz, 20 MPH (32 KM/H) = 446 Hz	
I	EM7-45	SPORT MODE SWITCH STRATEGY SELECT	10 v = SPORT	GROUND = NORMAL
O	EM7-51	PRESSURE REGULATOR #5	GROUND (MAXIMUM PRESSURE)	B+ (NO PRESSURE)
O	EM7-52	SOLENOID VALVES COMMON SUPPLY	B+	B+
O	EM7-53	PRESSURE REGULATORS COMMON SUPPLY	B+	B+
I	EM7-54	IGNITION SWITCHED POWER SUPPLY	B+	GROUND
I	EM7-55	IGNITION SWITCHED POWER SUPPLY	B+	GROUND
C	EM7-82	CAN NETWORK	15 – 1500 Hz	
C	EM7-83	CAN NETWORK	15 – 1500 Hz	
C	EM7-85	CAN NETWORK	15 – 1500 Hz	
C	EM7-86	CAN NETWORK	15 – 1500 Hz	

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 05.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
D – 4 SWITCH	CC7 / 3-WAY MULTILOCK 070 / YELLOW	CENTER CONSOLE ASSEMBLY
GEAR SELECTOR ILLUMINATION MODULE	CC14 / 10-WAY MULTILOCK 070 / WHITE	CENTER CONSOLE ASSEMBLY
MODE SWITCH (TRANSMISSION)	CC4 / 10-WAY AMP MICRO QUAD LOCK / BLACK	CENTER CONSOLE ASSEMBLY
TRANSMISSION CONTROL MODULE: AJ27 N/A	EM7 / 88-WAY BOSCH / BLACK	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
TRANSMISSION ELECTRICAL CONNECTOR: AJ27 N/A	EM46 / 16-WAY KOSTAL TRANSMISSION CONNECTOR / BLACK	LEFT HAND REAR OF TRANSMISSION
TRANSMISSION ROTARY SWITCH	EM47 / 10-WAY METRI-PACK 150 / BLACK	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
EM53	20-WAY MULTILOCK 070 / WHITE	PASSENGER 'A' POST / LOWER 'A' POST FINISHER

GROUNDS

Ground	Location / Type
CC2R	EYELET (PAIR) – DRIVE SHAFT TUNNEL GROUND STUD – LH SIDE
CC3L	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE
EM8R	EYELET (PAIR) – EMS LH GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

DATE OF ISSUE: SEPTEMBER 1998

CONTROL MODULE PIN OUT INFORMATION

GEAR SELECTOR ILLUMINATION MODULE

▽	Pin	Description	Active	Inactive
I	CC14-1	IGNITION SWITCHED POWER SUPPLY	B+	GROUND
C	CC14-3	CAN NETWORK	15 – 1500 Hz @ 2.5 V	
C	CC14-4	CAN NETWORK	15 – 1500 Hz @ 2.5 V	
I	CC14-6	GROUND	GROUND	GROUND
C	CC14-8	CAN NETWORK	15 – 1500 Hz @ 2.5 V	
C	CC14-9	CAN NETWORK	15 – 1500 Hz @ 2.5 V	

TRANSMISSION CONTROL MODULE: AJ26 SC

▽	Pin	Description	Active	Inactive
I	EM61-2	KICKDOWN SWITCH	GROUND (= WOT)	B+ (< WOT)
I	EM61-3	SPORT MODE SWITCH	0 V = SPORT; 0 V = NORMAL	
I	EM61-25	DUAL LINEAR SWITCH VOLTAGE ENCODED GEAR RECOGNITION	GROUND = R, D, 4, 3	B+ = P, N, 2
I	EM61-26	DUAL LINEAR SWITCH VOLTAGE ENCODED GEAR RECOGNITION	GROUND = N, D, 4, 2	B+ = P, R, 3
I	EM61-27	DUAL LINEAR SWITCH VOLTAGE ENCODED GEAR RECOGNITION	GROUND = N, 4, 3, 2 8 V = R, D	B+ = P
I	EM61-28	DUAL LINEAR SWITCH VOLTAGE ENCODED GEAR RECOGNITION	GROUND = P, D, 3, 2	B+ = R, N, 4
I	EM61-29	IGNITION SUPPLIED VOLTAGE	B+	GROUND
I	EM61-30	TCM / DUAL LINEAR SWITCH COMMON GROUND SUPPLY	GROUND	GROUND
C	EM62-L	CAN NETWORK	5 – 1500 Hz	
C	EM62-H	CAN NETWORK	5 – 1500 Hz	
I	EM62-12	n2 SPEED SENSOR FEEDBACK	6V = 900 Hz @ 10 MPH (16 KPH); 1800 HZ @ 20 MPH (32 KH) (‘2’ SELECTED – ‘1’ ENGAGED)	
O	EM62-13	SPEED SENSOR COMMON VOLTAGE SUPPLY	5V	
O	EM62-14	‘1-2 / 4-5’ SOLENOID ACTIVATE	GROUND	B+
O	EM62-15	‘3-4’ SOLENOID ACTIVATE	GROUND	B+
O	EM62-16	‘2-3’ SOLENOID ACTIVATE	GROUND	B+
O	EM62-17	TCC SOLENOID ACTIVATE	GROUND = LOCKED	B+ = UNLOCKED
O	EM62-33	SPEED SENSOR / FLUID TEMP. SENSOR COMMON GROUND	GROUND	GROUND
I	EM62-34	FLUID TEMP. SENSOR FEEDBACK	1.75 V @ 90° C = R, D, 4, 3, 2	5 V = P, N
I	EM62-35	n3 SPEED SENSOR FEEDBACK	6 V = 85 Hz @ 10 MPH (16 KPH); 170 Hz @ 20 MPH (32 KPH) (‘2’ SELECTED – ‘2’ ENGAGED)	
O	EM62-36	MODULATION PRESSURE REGULATOR ACTIVATE	GROUND (42% PWM @ IDLE)	B+
O	EM62-37	SHIFT PRESSURE REGULATOR ACTIVATE	GROUND (39% PWM @ IDLE)	B+
O	EM62-38	SOLENOID VALVE / PRESSURE REGULATOR COMMON VOLTAGE SUPPLY	B+	GROUND

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

The following symbols are used to represent values for Control Module Pin Out data:

I	Input	D	Serial and encoded communications	B+	Battery voltage	KHz	Frequency x 1000
O	Output	C	CAN (Network)	V	Voltage (DC)	MS	Milliseconds
SG	Signal Ground	S	SCP Network	Hz	Frequency	MV	Millivolts

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.

Fig. 05.2

COMPONENTS

Component	Connector / Type / Color	Location / Access
DUAL LINEAR SWITCH	CC8 / 12-WAY MULTILOCK 070 / WHITE	RIGHT HAND SIDE OF GEAR SELECTOR / CENTER CONSOLE
GEAR SELECTOR ILLUMINATION MODULE	CC14 / 10-WAY MULTILOCK 070 / WHITE	CENTER CONSOLE ASSEMBLY
KICKDOWN SWITCH	CC35 / 1-WAY LUCAR RIGHT ANGLE / CLEAR CC36 / 1-WAY LUCAR RIGHT ANGLE / CLEAR	BELOW ACCELERATOR PEDAL
MODE SWITCH (TRANSMISSION)	CC4 / 10-WAY AMP MICRO QUAD LOCK / BLACK	CENTER CONSOLE ASSEMBLY
TRANSMISSION CONTROL MODULE: AJ26 SC	EM61 / 18-WAY AMP JUNIOR POWER TIMER / BLACK EM62 / 14-WAY AMP JUNIOR POWER TIMER / BLACK	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
TRANSMISSION ELECTRICAL CONNECTOR: AJ26 SC	GB1 / 13-WAY KOSTAL 1.5 / BLACK	TRANSMISSION

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
EM44	12-WAY AUGAT 1.6 / BLACK	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
EM53	20-WAY MULTILOCK 070 / WHITE	PASSENGER ‘A’ POST / LOWER ‘A’ POST FINISHER
EM63	14-WAY MULTILOCK 070 / YELLOW	PASSENGER ‘A’ POST / LOWER ‘A’ POST FINISHER

GROUNDS

Ground	Location / Type
CC2R	EYELET (PAIR) – DRIVE SHAFT TUNNEL GROUND STUD – LH SIDE
CC3L	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE
CC3R	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE
EM8R	EYELET (PAIR) – EMS LH GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

DATE OF ISSUE: SEPTEMBER 1998

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC15-15	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-32	IGNITION SWITCHED GROUND	GROUND	B+
O	FC15-48	GEARSHIFT INTERLOCK SOLENOID ACTIVATE	B+ (UNLOCKED)	GROUND (LOCKED)
O	FC15-51	COLUMN SWITCHGEAR KEYLOCK SOLENOID ACTIVATE	B+ (LOCKED)	GROUND (UNLOCKED)
I	FC15-58	NOT IN PARK MICROSWITCH STATUS	GROUND (PARK)	B+ (NOT IN PARK)
I	FC15-80	BATTERY SUPPLY VOLTAGE	B+	B+
S	FC15-84	SCP NETWORK	2 – 1600 Hz	
S	FC15-85	SCP NETWORK	2 – 1600 Hz	
I	FC15-104	BATTERY SUPPLY VOLTAGE	B+	B+

ENGINE CONTROL MODULE: AJ26 SC

▽	Pin	Description	Active	Inactive
I	EM10-10	BRAKE SWITCH	GROUND	B+
C	EM10-27	CAN NETWORK	15 – 1500 Hz	
C	EM10-28	CAN NETWORK	15 – 1500 Hz	

ENGINE CONTROL MODULE: AJ27 N/A

▽	Pin	Description	Active	Inactive
I	EM82-08	BRAKE SWITCH	GROUND	B+
C	EM83-16	CAN NETWORK	15 – 1500 Hz	
C	EM83-25	CAN NETWORK	15 – 1500 Hz	

GEAR SELECTOR ILLUMINATION MODULE

▽	Pin	Description	Active	Inactive
C	CC14-3	CAN NETWORK	15 – 1500 Hz @ 2.5 V	
C	CC14-4	CAN NETWORK	15 – 1500 Hz @ 2.5 V	
C	CC14-8	CAN NETWORK	15 – 1500 Hz @ 2.5 V	
C	CC14-9	CAN NETWORK	15 – 1500 Hz @ 2.5 V	

INSTRUMENT PACK

▽	Pin	Description	Active	Inactive
S	FC24-19	SCP NETWORK	2 – 1600 Hz	
S	FC24-20	SCP NETWORK	2 – 1600 Hz	
C	FC24-24	CAN NETWORK	15 – 1500 Hz	
C	FC24-47	CAN NETWORK	15 – 1500 Hz	

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

The following symbols are used to represent values for Control Module Pin Out data:

I	Input	D	Serial and encoded communications	B+	Battery voltage	KHz	Frequency x 1000
O	Output	C	CAN (Network)	V	Voltage (DC)	MS	Milliseconds
SG	Signal Ground	S	SCP Network	Hz	Frequency	MV	Millivolts

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.

Fig. 05.3

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
BRAKE SWITCH	CC40 / 4-WAY MULTILOCK 070 / WHITE	ADJACENT TO THE BRAKE PEDAL MOUNTING ASSEMBLY
ENGINE CONTROL MODULE: AJ26 SC	EM10 / 28-WAY MULTILOCK 040 / GREY EM11 / 16-WAY MULTILOCK 040 / GREY EM12 / 22-WAY MULTILOCK 040 / GREY EM13 / 34-WAY MULTILOCK 040 / GREY EM14 / 12-WAY MULTILOCK 47 / WHITE EM15 / 22-WAY MULTILOCK 47 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
ENGINE CONTROL MODULE: AJ27 N/A	EM80 / 31-WAY AMP 403 / NATURAL EM81 / 24-WAY AMP 403 / NATURAL EM82 / 17-WAY AMP 403 / NATURAL EM83 / 28-WAY AMP 403 / NATURAL EM84 / 22-WAY AMP 403 / NATURAL EM85 / 12-WAY MULITLOCK 070 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
GEAR SELECTOR ILLUMINATION MODULE	CC14 / 10-WAY MULTILOCK 070 / WHITE	CENTER CONSOLE ASSEMBLY
GEARSHIFT INTERLOCK SOLENOID	CC12 / 2-WAY MULTILOCK 070 / WHITE	GEAR SELECTOR ASSEMBLY / CENTER CONSOLE
INSTRUMENT PACK	FC24 / 48-WAY AMP MODULE PCB SIGNAL / BLACK FC25 / 24-WAY AMP MODULE PCB SIGNAL / BLACK	FASCIA
KEYLOCK SOLENOID (COLUMN SWITCHGEAR)	SC5 / 2-WAY MULTILOCK 040 / BLUE	COLUMN SWITCHGEAR
NOT-IN-PARK MICROSWITCH	CC13 / 3-WAY MULTILOCK 070 / WHITE	CENTER CONSOLE ASSEMBLY

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
CA19	20-WAY MULTILOCK 070 / YELLOW	LH 'A' POST CONNECTOR MOUNTING BRACKET / LOWER 'A' POST FINISHER
EM1	12-WAY AUGAT 1.6 / BLACK	ENGINE COMPARTMENT / ADJACENT TO ABS PUMP
EM2	20-WAY MULTILOCK 070 / GREY	PASSENGER 'A' POST / LOWER 'A' POST FINISHER
FC7	20-WAY MULTILOCK 070 / YELLOW	ABOVE DIMMER MODULE / COIN TRAY
FC11	18-WAY MULTILOCK 070 / WHITE	ABOVE DIMMER MODULE / COIN TRAY
LS3	54-WAY THROUGH PANEL CONNECTOR / BLACK	LH 'A' POST / LOWER 'A' POST FINISHER
SC1	12-WAY MULTILOCK 070 / WHITE	COLUMN SWITCHGEAR

GROUNDS

Ground	Location / Type
CC2R	EYELET (PAIR) – DRIVE SHAFT TUNNEL GROUND STUD – LH SIDE
CC3L	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE
FC29L	EYELET (PAIR) – LH BULKHEAD GROUND STUD / CABIN SIDE

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

CONTROL MODULE PIN OUT INFORMATION

ABS / TRACTION CONTROL CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	LS27-1	BRAKE FLUID RESERVOIR LEVEL SWITCH REFERENCE	B+	B+
I	LS27-2	BRAKE SWITCH	GROUND	B+
I	LS27-3	RH FRONT WHEEL SPEED SENSOR	2.5 V @ 10 MPH (16 KM/H) = 100 Hz; 20 MPH (32 KM/H) = 200 Hz	
SG	LS27-4	RH FRONT WHEEL SPEED SENSOR	2.5 V @ REST	
C	LS27-5	CAN NETWORK	15 – 1500 Hz	
SG	LS27-6	RH REAR WHEEL SPEED SENSOR	2.5 V @ REST	
I	LS27-7	RH REAR WHEEL SPEED SENSOR	2.5 V @ 10 MPH (16 KM/H) = 100 Hz; 20 MPH (32 KM/H) = 200 Hz	
I	LS27-8	POWER GROUND	GROUND	GROUND
I	LS27-9	BATTERY POWER SUPPLY	B+	B+
I	LS27-13	BRAKE FLUID RESERVOIR LEVEL SWITCH	GROUND	B+
I	LS27-14	STABILITY / TRACTION CONTROL SWITCH	GROUND (MOMENTARY)	B+
C	LS27-15	CAN NETWORK	15 – 1500 Hz	
O	LS27-16	STABILITY / TRACTION CONTROL SWITCH STATE LED	GROUND	B+
I	LS27-17	LH FRONT WHEEL SPEED SENSOR	2.5 V @ 10 MPH (16 KM/H) = 100 Hz; 20 MPH (32 KM/H) = 200 Hz	
SG	LS27-18	LH FRONT WHEEL SPEED SENSOR	2.5 V @ REST	
	LS27-19	NOT USED		
I	LS27-20	IGNITION SWITCHED SUPPLY	B+	GROUND
I	LS27-21	LH REAR WHEEL SPEED SENSOR	2.5 V @ 10 MPH (16 KM/H) = 100 Hz; 20 MPH (32 KM/H) = 200 Hz	
SG	LS27-22	LH REAR WHEEL SPEED SENSOR	2.5 V @ REST	
I	LS27-24	POWER GROUND	GROUND	GROUND
I	LS27-25	BATTERY POWER SUPPLY	B+	B+

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

The following symbols are used to represent values for Control Module Pin Out data:

I	Input	D	Serial and encoded communications	B+	Battery voltage	KHz	Frequency x 1000
O	Output	C	CAN (Network)	V	Voltage (DC)	MS	Milliseconds
SG	Signal Ground	S	SCP Network	Hz	Frequency	MV	Millivolts

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.

Fig. 06.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
ABS / TRACTION CONTROL CONTROL MODULE	LS27 / 25-WAY AMP / FORD / BLACK	ENGINE COMPARTMENT / BEHIND LH HEADLAMP ASSEMBLY
BRAKE FLUID RESERVOIR	EM37 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	ENGINE COMPARTMENT / ON BRAKE FLUID RESERVOIR
BRAKE SWITCH	CC40 / 4-WAY MULTILOCK 070 / WHITE	ADJACENT TO THE BRAKE PEDAL MOUNTING ASSEMBLY
STABILITY / TRACTION CONTROL SWITCH (CENTER CONSOLE SWITCH PACK)	CC1 / 16-WAY FORD IDC S.U. / BLACK	CENTER CONSOLE SWITCH PACK
WHEEL SPEED SENSOR – LH FRONT	FL1 / 2-WAY REINSHAGEN METRI 630 / BLACK	LH FRONT HUB ASSEMBLY
WHEEL SPEED SENSOR – LH REAR	LA2 / 2-WAY REINSHAGEN METRI 630 / BLACK	REAR AXLE / LH WHEEL HUB
WHEEL SPEED SENSOR – RH FRONT	FR1 / 2-WAY REINSHAGEN METRI 630 / BLACK	RH FRONT HUB ASSEMBLY
WHEEL SPEED SENSOR – RH REAR	RA2 / 2-WAY REINSHAGEN METRI 630 / BLACK	REAR AXLE / RH WHEEL HUB

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
CA9	4-WAY MULTILOCK 070 / WHITE	BELOW REAR SEAT CUSHION
CA19	20-WAY MULTILOCK 070 / YELLOW	LH 'A' POST CONNECTOR MOUNTING BRACKET / LOWER 'A' POST FINISHER
CA29	4-WAY MULTILOCK 070 / WHITE	BELOW REAR SEAT CUSHION
EM1	12-WAY AUGAT 1.6 / BLACK	ENGINE COMPARTMENT / ADJACENT TO ABS PUMP
EM51	12-WAY AUGAT 1.6 / GREY	ENGINE COMPARTMENT / ADJACENT TO ABS PUMP
LS1	2-WAY AUGAT 1.6 / NATURAL	BELOW CHASSIS RAIL / LH SIDE
LS2	2-WAY AUGAT 1.6 / NATURAL	BELOW CHASSIS RAIL / RH SIDE
LS3	54-WAY THROUGH PANEL CONNECTOR / BLACK	LH 'A' POST / LOWER 'A' POST FINISHER

GROUNDS

Ground	Location / Type
CC3L	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE
LS29L	EYELET (PAIR) – ABS GROUND STUD
LS29R	EYELET (PAIR) – ABS GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

←

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

CONTROL MODULE PIN OUT INFORMATION

AIR CONDITIONING CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	CC28-6	DEFROST VENT SERVO MOTOR	B+	0 V
O	CC28-7	CENTER VENT SERVO MOTOR	B+	0 V
O	CC28-8	LH FRESH / RECIRCULATION VENT MOTOR	B+	0 V
O	CC28-9	RH FRESH / RECIRCULATION VENT MOTOR	B+	0 V
O	CC28-12	FOOTWELL VENT SERVO MOTOR	B+	0 V
O	CC28-13	COOL AIR BYPASS VENT SERVO MOTOR	B+	0 V
O	CC28-19	DEFROST VENT SERVO MOTOR	B+	0 V
O	CC28-20	CENTER VENT SERVO MOTOR	B+	0 V
O	CC28-21	LH FRESH / RECIRCULATION VENT SERVO MOTOR	B+	0 V
O	CC28-22	RH FRESH / RECIRCULATION VENT SERVO MOTOR	B+	0 V
O	CC28-25	FOOTWELL SERVO MOTOR	B+	0 V
O	CC28-26	COOL AIR BYPASS SERVO MOTOR	B+	0 V
I	CC29-1	SOLAR SENSOR FEEDBACK	0.75 V – 4.75 V; INCREASING WITH SOLAR LOAD	
I	CC29-2	CENTER VENT POTENTIOMETER FEEDBACK	> 3.5 V = OPEN	< 1 V = CLOSED
I	CC29-3	RH FRESH / RECIRCULATION VENT POTENTIOMETER FEEDBACK	> 3.5 V = OPEN	< 1 V = CLOSED
I	CC29-5	COOL AIR BYPASS VENT POTENTIOMETER FEEDBACK	> 3.5 V = OPEN	< 1 V = CLOSED
I	CC29-6	ENGINE COOLANT TEMPERATURE	2.5 V @ 90° C, VOLTAGE DECREASING WITH TEMPERATURE INCREASE	
I	CC29-10	DEFROST VENT POTENTIOMETER FEEDBACK	> 3.5 V = OPEN	< 1 V = CLOSED
I	CC29-11	LH FRESH / RECIRCULATION VENT POTENTIOMETER FEEDBACK	> 3.5 V = OPEN	< 1 V = CLOSED
I	CC29-13	FOOTWELL VENT POTENTIOMETER FEEDBACK	> 3.5 V = OPEN	< 1 V = CLOSED
O	CC30-2	CLOCK	B+ (1.45 Hz)	
D	CC30-3	SERIAL DATA OUTPUT TO CONTROL PANEL		
I	CC30-5	AMBIENT TEMPERATURE SENSOR FEEDBACK	2.18 V @ 25° C, VOLTAGE DECREASING WITH TEMPERATURE INCREASE	
I	CC30-6	HEATER MATRIX TEMPERATURE SENSOR FEEDBACK	2.25 V @ 20° C, VOLTAGE DECREASING WITH TEMPERATURE INCREASE	
D	CC30-7	SERIAL DATA INPUT FROM CONTROL PANEL		
O	CC30-8	START	B+ (MOMENTARY)	0 V
I	CC30-11	IN CAR TEMPERATURE SENSOR FEEDBACK	3.25 V @ 0° C, VOLTAGE DECREASING WITH TEMPERATURE INCREASE	
I	CC30-12	EVAPORATOR TEMPERATURE SENSOR FEEDBACK	3.25 V @ 0° C, VOLTAGE DECREASING WITH TEMPERATURE INCREASE	
I	CC31-1	IGNITION SWITCHED POWER SUPPLY	B+	0 V
I	CC31-2	ISOLATE RELAY CONTROLLED BATTERY POWER SUPPLY	B+	0 V
I	CC31-3	IGNITION SWITCHED GROUND	0 V	B+
O	CC31-4	CONTROL PANEL BATTERY POWER SUPPLY	B+	0 V
I	CC31-5	BATTERY POWER SUPPLY	B+	B+
I	CC31-6	ENGINE SPEED SIGNAL	5 V @ 1000 RPM = 45 Hz; 2000 RPM = 90 Hz	
O	CC31-8	POTENTIOMETER COMMON REFERENCE VOLTAGE	5 V	5 V
D	CC31-10	SERIAL COMMUNICATIONS INPUT		
O	CC31-12	CONTROL PANEL BATTERY POWER SUPPLY	B+	B+
I	CC31-13	GROUND	0 V	0 V
O	CC31-14	CONTROL PANEL GROUND SUPPLY	0 V	0 V
O	CC31-15	ISOLATE RELAY ACTIVE	B+	0 V
I	CC31-16	VEHICLE SPEED SIGNAL	22 Hz @ 10 MPH (16 KM/H); 44 Hz @ 20 MPH (32 KM/H) @ B+	
O	CC31-18	ASPIRATOR MOTOR POWER SUPPLY	B+	0 V
O	CC31-19	POTENTIOMETER COMMON REFERENCE GROUND	0 V	0 V
I	CC31-20	GROUND	0 V	0 V
D	CC31-21	SERIAL COMMUNICATIONS OUTPUT		

AIR CONDITIONING CONTROL PANEL

▽	Pin	Description	Active	Inactive
I	CC27-1	CLOCK	B+ (1.45 KHz)	B+
I	CC27-2	START	B+	GROUND
D	CC27-3	SERIAL DATA OUTPUT TO A/C CONTROL MODULE		
D	CC27-4	SERIAL DATA INPUT FROM A/C CONTROL MODULE		
I	CC27-5	IGNITION SWITCHED POWER SUPPLY	B+	GROUND
I	CC27-6	BATTERY POWER SUPPLY	B+	B+
I	CC27-7	CONTROL PANEL GROUND SUPPLY	GROUND	GROUND
I	CC27-8	LOCATE ILLUMINATION SUPPLY	B+	GROUND
I	CC27-9	DIMMER OVERRIDE REQUEST	GROUND	B+

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 07.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
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	RH SIDE OF TRANSMISSION TUNNEL / GLOVE BOX ASSEMBLY
AIR CONDITIONING CONTROL PANEL	CC27 / 12-WAY MULTILOCK 040 / BLUE	CENTER CONSOLE
AIR INTAKE – LH BLOWER	CC32 / 15-WAY SUMITOMO 90 HYBRID / GREEN	LH SIDE FASCIA GLOVE BOX
AIR INTAKE – RH BLOWER	CC33 / 15-WAY SUMITOMO 90 HYBRID / GREEN	RH SIDE FASCIA GLOVE BOX
AMBIENT TEMPERATURE SENSOR	LS16 / 2-WAY YAZAKI 92 / BLACK	ADJACENT TO RADIATOR / BUMPER UNDER TRAY
ASPIRATOR ASSEMBLY	FC40 / 4-WAY MULTILOCK 070 / WHITE	DRIVER SIDE KNEE BOLSTER
EVAPORATOR / HEATER MATRIX ASSEMBLY	CC34 / 12-WAY MULTILOCK 040 / BLACK	LH SIDE OF TRANSMISSION TUNNEL / LH DASH LINER
SOLAR SENSOR	FC52 / 2-WAY MULTILOCK 070 / GREY	WINDSHIELD CENTER VENT
VENT ASSEMBLY	FC44 / 12-WAY MULTILOCK 040 / BLACK	FASCIA – CENTER

RELAYS

Relay	Case Color	Connector / Color	Location / Access
AIR CONDITIONING ISOLATE RELAY	BLACK	CA50 / BLACK	LH HEELBOARD RELAYS / HEELBOARD COVER

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
CA19	20-WAY MULTILOCK 070 / YELLOW	LH 'A' POST CONNECTOR MOUNTING BRACKET / LOWER 'A' POST FINISHER
CA20	20-WAY MULTILOCK 070 / YELLOW	RH 'A' POST CONNECTOR MOUNTING BRACKET / LOWER 'A' POST FINISHER
FC7	20-WAY MULTILOCK 070 / YELLOW	ABOVE DIMMER MODULE / COIN TRAY
FC11	18-WAY MULTILOCK 070 / WHITE	ABOVE DIMMER MODULE / COIN TRAY

GROUNDS

Ground	Location / Type
CA31L	EYELET (PAIR) – RH DRIVE SHAFT TUNNEL GROUND STUD
CC3R	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE
FC29L	EYELET (PAIR) – LH BULKHEAD GROUND STUD / CABIN SIDE

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

CONTROL MODULE PIN OUT INFORMATION

AIR CONDITIONING CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	CC28-1	COMPRESSOR CLUTCH STATUS	B+ (ON)	0 V
O	CC28-2	HEATER VALVE ACTIVE	B+	0 V
O	CC28-3	RH BLOWER MOTOR RELAY ACTIVE	0 V	B+
O	CC28-4	LH / RH WINDSHIELD HEATER RELAYS ACTIVATE	0 V	B+
O	CC28-5	DOOR MIRROR HEATER RELAY ACTIVATE	0 V	B+
O	CC28-16	LH BLOWER MOTOR RELAY ACTIVATE	B+	0 V
O	CC28-17	HEATER PUMP RELAY ACTIVATE	0 V	B+
O	CC28-18	HEATED BACKLIGHT RELAY ACTIVATE	0 V	B+
I	CC29-7	RH BLOWER SPEED FEEDBACK	7.6 V = LOW SPEED	0.83 V = HIGH SPEED
O	CC29-8	RH BLOWER SPEED CONTROL DRIVE SIGNAL	1.3 V = LOW SPEED	0 V = HIGH SPEED
I	CC29-15	LH BLOWER SPEED FEEDBACK	7.6 V = LOW SPEED	0.83 V = HIGH SPEED
O	CC29-16	LH BLOWER SPEED CONTROL DRIVE SIGNAL	1.3 V = LOW SPEED	0 V = HIGH SPEED
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: AJ26 SC

▽	Pin	Description	Active	Inactive
O	EM10-2	A/CCM LOAD INHIBIT	GROUND	B+
I	EM10-3	A/CCM ELECTRICAL LOAD SIGNAL	B+	GROUND
I	EM10-4	A/CCM COMPRESSOR CLUTCH REQUEST	B+	GROUND
I	EM12-5	REFRIGERANT 4-WAY PRESSURE SWITCH – HIGH PRESSURE	GROUND @ 20 BAR (290 PSI)	
I	EM12-6	REFRIGERANT 4-WAY PRESSURE SWITCH – HIGH PRESSURE	GROUND @ 12 BAR (174 PSI)	
O	EM12-10	AIR CONDITIONING COMPRESSOR RELAY ACTIVATE	GROUND	B+
O	EM13-15	SERIES (LOW) SPEED FAN ACTIVATE	GROUND	B+
O	EM13-16	PARALLEL (HIGH) SPEED FAN ACTIVATE	GROUND	B+

ENGINE CONTROL MODULE: AJ27 N/A

▽	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+
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+

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 07.2

COMPONENTS

Component	Connector / Type / Color	Location / Access
AIR CONDITIONING COMPRESSOR CLUTCH	PI36 / 1-WAY SUMITOMO 90 A TYPE / BLACK	ENGINE COMPARTMENT / A/C COMPRESSOR
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	RH SIDE OF TRANSMISSION TUNNEL / GLOVE BOX ASSEMBLY
AIR CONDITIONING CONTROL PANEL	CC27 / 12-WAY MULTILOCK 040 / BLUE	CENTER CONSOLE
BLOWER MOTOR – LH	CC32 / 15-WAY SUMITOMO 90 HYBRID / GREEN	LH SIDE FASCIA GLOVE BOX
BLOWER MOTOR – RH	CC33 / 15-WAY SUMITOMO 90 HYBRID / GREEN	RH SIDE FASCIA GLOVE BOX
DOOR MIRROR – DRIVER	DD8 / 12-WAY MULTILOCK 040 / BLACK	DRIVER DOOR
DOOR MIRROR – PASSENGER	PD8 / 12-WAY MULTILOCK 040 / BLACK	PASSENGER DOOR
ENGINE CONTROL MODULE: AJ26 SC	EM10 / 28-WAY MULTILOCK 040 / GREY EM11 / 16-WAY MULTILOCK 040 / GREY EM12 / 22-WAY MULTILOCK 040 / GREY EM13 / 34-WAY MULTILOCK 040 / GREY EM14 / 12-WAY MULTILOCK 47 / WHITE EM15 / 22-WAY MULTILOCK 47 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
ENGINE CONTROL MODULE: AJ27 N/A	EM80 / 31-WAY AMP 403 / NATURAL EM81 / 24-WAY AMP 403 / NATURAL EM82 / 17-WAY AMP 403 / NATURAL EM83 / 28-WAY AMP 403 / NATURAL EM84 / 22-WAY AMP 403 / NATURAL EM85 / 12-WAY MULITLOCK 070 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
FUSE BOX – ENGINE COMPARTMENT	LS5 / 10-WAY U.T.A. FUSE BOX / NATURAL LS6 / 10-WAY U.T.A. FUSE BOX / BLACK LS7 / 10-WAY U.T.A. FUSE BOX / GREEN LS8 / 10-WAY U.T.A. FUSE BOX / BLUE ST19 / EYELET	ENGINE COMPARTMENT / LH FRONT
FUSE BOX – TRUNK	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	TRUNK ELECTRICAL CARRIER
HEATED BACKLIGHT	CA21 / LUCAR – LOCKING POSILOCK MKI IC18 / LUCAR	INSIDE 'E' POST / 'E' POST UPPER TRIM BEHIND LEFT HAND REAR QUARTER PANEL
HEATER PUMP	EM36 / 2-WAY ECONOSEAL III LC / BLACK	ENGINE COMPARTMENT / LEFT HAND REAR
HEATER VALVE	EM40 / 2-WAY ECONOSEAL III LC / WHITE	ENGINE COMPARTMENT / LEFT HAND REAR
RADIATOR FAN CONTROL RELAY MODULE	LS31 / 8-WAY TRW / BLACK	ENGINE COMPARTMENT / ADJACENT TO LH CRUSH TUBE
RADIATOR FAN – LH	CF1 / 2-WAY REINSHAGEN / BLACK	ENGINE COMPARTMENT / BELOW LH FAN
RADIATOR FAN – RH	CF2 / 2-WAY REINSHAGEN / BLACK	ENGINE COMPARTMENT / BELOW RH FAN
REFRIGERANT 4-WAY PRESSURE SWITCH	LS26 / 6-WAY ECONOSEAL III LC / BLACK	ENGINE COMPARTMENT / ADJACENT TO LH SIDE OF RADIATOR
WINDSHIELD HEATER – LH	SH4 / 2-WAY AMP SERIES 187C / GREY	CONNECTOR ADJACENT TO HOOD LATCH
WINDSHIELD HEATER – RH	SH5 / 2-WAY AMP SERIES 187C / GREY	CONNECTOR ADJACENT TO HOOD LATCH

RELAYS

Relay	Case Color	Connector / Color	Location / Access
AIR CONDITIONING COMPRESSOR CLUTCH RELAY	BROWN	EM25 / BROWN	CONTROL MODULE ENCLOSURE RELAYS / ENGINE COMPARTMENT
BLOWER MOTOR RELAY – LH	BLACK	CA58 / BLACK	RH HEELBOARD RELAYS / HEELBOARD COVER
BLOWER MOTOR RELAY – RH	BLACK	CA58 / BLACK	RH HEELBOARD RELAYS / HEELBOARD COVER
DOOR MIRROR HEATER RELAY	BLACK	CA18 / BLACK	RH HEELBOARD RELAYS / HEELBOARD COVER
HEATED BACKLIGHT RELAY (#2)	BROWN	BUS	RELAY #2, TRUNK FUSE BOX / TRUNK
HEATER PUMP RELAY (#1)	BROWN	BUS	RELAY #1, ENGINE COMPARTMENT FUSE BOX / ENGINE COMPARTMENT
WINDSHIELD HEATER RELAY – LH	BLACK	SH2 / BLACK	FRONT BULKHEAD RELAYS / ENGINE COMPARTMENT
WINDSHIELD HEATER RELAY – RH	BLACK	SH3 / BLACK	FRONT BULKHEAD RELAYS / ENGINE COMPARTMENT

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT4	54-WAY THROUGH PANEL / GREY	BELOW PARCEL SHELF / TRUNK / REAR BULKHEAD / RH SIDE
CA10	8-WAY MULTILOCK 070 / YELLOW	DRIVER 'A' POST / DOOR HARNESS GAITER
CA12	8-WAY MULTILOCK 070 / YELLOW	PASSENGER 'A' POST / DOOR HARNESS GAITER
CA19	20-WAY MULTILOCK 070 / YELLOW	LH 'A' POST CONNECTOR MOUNTING BRACKET / LOWER 'A' POST FINISHER
CA20	20-WAY MULTILOCK 070 / YELLOW	RH 'A' POST CONNECTOR MOUNTING BRACKET / LOWER 'A' POST FINISHER
EM1	12-WAY AUGAT 1.6 / BLACK	ENGINE COMPARTMENT / ADJACENT TO ABS PUMP
EM42	4-WAY YAZAKI / GREY	BULKHEAD / REAR OF ENGINE
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
LS3	54-WAY THROUGH PANEL CONNECTOR / BLACK	LH 'A' POST / LOWER 'A' POST FINISHER
LS32	4-WAY YAZAKI / GREY	FORWARD OF LH FRONT SUSPENSION ARM
PI1	57-WAY SUMITOMO TS090 / BLACK	ENGINE COMPARTMENT / BULKHEAD / REAR OF ENGINE

GROUNDS

Ground	Location / Type
CA30R	EYELET (PAIR) – LH 'A' POST GROUND SCREW
CA33R	EYELET (PAIR) – RH 'A' POST GROUND SCREW
CC2L	EYELET (PAIR) – DRIVE SHAFT TUNNEL GROUND STUD – LH SIDE
EM8R	EYELET (PAIR) – EMS LH GROUND STUD
EM18L	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
EM18R	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
IC6	EYELET (SINGLE) – TRUNK / LH FORWARD GROUND STUD
LS10L	EYELET (PAIR) – LH FORWARD GROUND STUD
LS10R	EYELET (PAIR) – LH FORWARD GROUND STUD
LS20L	EYELET (PAIR) – RH FORWARD GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

CONTROL MODULE PIN OUT INFORMATION

INSTRUMENT PACK

▽	Pin	Description	Active	Inactive
I	FC24-1	GROUND	GROUND	GROUND
I	FC24-2	IGNITION SWITCHED POWER SUPPLY	B+	GROUND
I	FC24-6	ADAPTIVE DAMPENING WARNING	GROUND	B+
I	FC24-10	TRIP CYCLE	GROUND (MOMENTARY)	
I	FC24-13	'A/B' TRIP SELECT	GROUND (MOMENTARY)	
I	FC24-14	'ML/KM' SELECT	GROUND (MOMENTARY)	
S	FC24-19	SCP NETWORK	2 – 1600 Hz	
S	FC24-20	SCP NETWORK	2 – 1600 Hz	
C	FC24-23	CAN NETWORK	15 – 1500 Hz	
C	FC24-24	CAN NETWORK	15 – 1500 Hz	
I	FC24-25	BATTERY POWER SUPPLY	B+	B+
I	FC24-26	GROUND	GROUND	GROUND
I	FC24-27	ILLUMINATION SUPPLY	B+	GROUND
O	FC24-33	GROUND REFERENCE	GROUND	GROUND
I	FC24-35	'CLEAR' SELECT	GROUND (MOMENTARY)	
I	FC24-36	'000' SELECT	GROUND (MOMENTARY)	
C	FC24-47	CAN NETWORK	15 – 1500 Hz	
C	FC24-48	CAN NETWORK	15 – 1500 Hz	
O	FC25-3	ENGINE SPEED	5 V @ 1000 RPM = 45 Hz; 2000 RPM = 90 Hz	
O	FC25-4	ENGINE COOLANT TEMPERATURE	6 V = 90° C	
O	FC25-5	VEHICLE SPEED – A/CCM	22 Hz @ 10 MPH (16 KM/H); 44 Hz @ 20 MPH (32 KM/H) @ B+	
O	FC25-6	VEHICLE SPEED – PAS	22 Hz @ 10 MPH (16 KM/H); 44 Hz @ 20 MPH (32 KM/H) @ B+	
O	FC25-7	VEHICLE SPEED – ADAPTIVE DAMPING CONTROL MODULE	22 Hz @ 10 MPH (16 KM/H); 44 Hz @ 20 MPH (32 KM/H) @ B+	
I	FC25-13	FUEL LEVEL GAUGE FEEDBACK	B+ = EMPTY	0 V = FULL
O	FC25-14	FUEL LEVEL GAUGE REFERENCE GROUND	GROUND	GROUND
I	FC25-16	AIRBAG MIL	GROUND (ON)	B+
I	FC25-19	LOW OIL PRESSURE WARNING	> 3 V = > 3 PSI	B+
O	FC25-20	VEHICLE SPEED	22 Hz @ 10 MPH (16 KM/H); 44 Hz @ 20 MPH (32 KM/H) @ B+	
I	FC25-21	DIMMER OVERRIDE	GROUND	B+
I	FC25-22	CHARGE WARNING	B+	GROUND
I	FC25-23	LOW COOLANT WARNING	GROUND	B+

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

The following symbols are used to represent values for Control Module Pin Out data:

I	Input	D	Serial and encoded communications	B+	Battery voltage	KHz	Frequency x 1000
O	Output	C	CAN (Network)	V	Voltage (DC)	MS	Milliseconds
SG	Signal Ground	S	SCP Network	Hz	Frequency	MV	Millivolts

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.

Fig. 08.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
ANALOG CLOCK	FC38 / 6-WAY AMP MICRO QUADLOCK / BLACK	CENTER AIR VENT
COOLANT LEVEL SWITCH	EM55 / 2-WAY AMP JUNIOR POWER TIMER / BROWN	ENGINE COMPARTMENT / ON COOLANT RESERVOIR
FUEL LEVEL SENSOR	BT14 / LUCAR – LOCKING POSILOCK MKI BT15 / LUCAR – LOCKING POSILOCK MKI	FUEL TANK SENDER UNIT / TRUNK CARPET
INSTRUMENT PACK	FC24 / 48-WAY AMP MODULE PCB SIGNAL / BLACK FC25 / 24-WAY AMP MODULE PCB SIGNAL / BLACK	FASCIA
OIL PRESSURE SWITCH	PI40 / 1-WAY ECONOSEAL EC J2 / BLACK	ENGINE BLACK / BELOW GENERATOR
TRIP COMPUTER SWITCH PACK	FC27 / 10-WAY AMP MICRO QUAD LOCK / BLACK	FASCIA
TRIP CYCLE SWITCH (COLUMN SWITCHGEAR)	SC2 / 10-WAY MULTILOCK 070 / YELLOW	COLUMN SWITCHGEAR HARNESS / ADJACENT TO STEERING COLUMN MOTOR

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT4	54-WAY THROUGH PANEL / GREY	BELOW PARCEL SHELF / TRUNK / REAR BULKHEAD / RH SIDE
EM2	20-WAY MULTILOCK 070 / GREY	PASSENGER 'A' POST / LOWER 'A' POST FINISHER
FC1	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW PASSENGER SIDE AIR VENT / GLOVE BOX ASSEMBLY
PI1	57-WAY SUMITOMO TS090 / BLACK	ENGINE COMPARTMENT / BULKHEAD / REAR OF ENGINE

GROUNDS

Ground	Location / Type
EM8L	EYELET (PAIR) – EMS LH GROUND STUD
FC17L	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
FC17R	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
FC29R	EYELET (PAIR) – LH BULKHEAD GROUND STUD / CABIN SIDE

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

DATE OF ISSUE: SEPTEMBER 1998

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
D	FC15-10	SRS AUDIBLE BACKUP	ENCODED COMMUNICATIONS	
I	FC15-15	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-31	SEAT BELT SWITCH STATUS	GROUND (UNFASTENED)	B+ (FASTENED)
I	FC15-32	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-41	STARTER ENGAGE REQUEST	GROUND (CRANKING)	B+
I	FC15-80	BATTERY SUPPLY VOLTAGE	B+	B+
O	FC15-82	AUDIBLE WARNING SPEAKER	AUDIO OUTPUT	
O	FC15-83	AUDIBLE WARNING SPEAKER	AUDIO OUTPUT	
S	FC15-84	SCP NETWORK	2 – 1600 Hz	
S	FC15-85	SCP NETWORK	2 – 1600 Hz	
I	FC15-104	BATTERY SUPPLY VOLTAGE	B+	B+

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

Fig. 08.2

COMPONENTS

Component	Connector / Type / Color	Location / Access
AUDIBLE WARNING SPEAKER (COLUMN SWITCHGEAR)	SC1 / 12-WAY MULTILOCK 070 / WHITE	COLUMN SWITCHGEAR HARNESS / ADJACENT TO STEERING COLUMN MOTOR
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
SEAT BELT SWITCH	SM8-D / 2-WAY MULTILOCK 070 / BLACK	DRIVER SEAT

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
CA23	10-WAY MULTILOCK 070 / WHITE	BELOW DRIVER SEAT
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY
SC1	12-WAY MULTILOCK 070 / WHITE	COLUMN SWITCHGEAR

GROUNDS

Ground	Location / Type
CA25R	EYELET (PAIR) – PASSENGER SEAT GROUND STUD
CA26R	EYELET (PAIR) – DRIVER SEAT GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

The following symbols are used to represent values for Control Module Pin Out data:

I	Input	D	Serial and encoded communications	B+	Battery voltage	KHz	Frequency x 1000
O	Output	C	CAN (Network)	V	Voltage (DC)	MS	Milliseconds
SG	Signal Ground	S	SCP Network	Hz	Frequency	MV	Millivolts

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 THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
O	FC15-1	RH FRONT SIDE LAMP SUPPLY	B+	GROUND
O	FC15-2	LH FRONT DI LAMP SUPPLY	B+ (PULSED)	GROUND
O	FC15-3	RH FRONT DI LAMP SUPPLY	B+ (PULSED)	GROUND
I	FC15-14	HEADLAMP MAIN BEAM REQUEST	GROUND	B+
I	FC15-15	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-16	SIDE LAMP REQUEST	GROUND	B+
O	FC15-20	FRONT FOG LAMP RELAY ACTIVATE	GROUND	B+
I	FC15-30	HEADLAMP FLASH REQUEST	GROUND (MOMENTARY)	B+
I	FC15-38	FRONT FOG LAMP REQUEST	GROUND	B+
I	FC15-41	STARTER ENGAGE REQUEST	GROUND (CRANKING)	B+
I	FC15-42	HEADLAMP DIP REQUEST	GROUND (MOMENTARY)	B+
O	FC15-45	MAIN BEAM RELAY ACTIVATE	GROUND	B+
O	FC15-53	LH FRONT SIDE LAMP SUPPLY	B+	GROUND
I	FC15-59	HAZARD LAMP REQUEST	GROUND (MOMENTARY)	B+
I	FC15-61	RH DI REQUEST	GROUND	B+
O	FC15-68	DIP BEAM RELAY ACTIVATE	GROUND	B+
I	FC15-79	BATTERY SUPPLY VOLTAGE	B+	B+
I	FC15-80	BATTERY SUPPLY VOLTAGE	B+	B+
S	FC15-84	SCP NETWORK	2 – 1600 Hz	
S	FC15-85	SCP NETWORK	2 – 1600 Hz	
I	FC15-88	LH DI REQUEST	GROUND	B+
O	FC15-96	HAZARD LAMP STATUS	GROUND (PULSE)	B+

INSTRUMENT PACK

▽	Pin	Description	Active	Inactive
S	FC24-19	SCP NETWORK	2 – 1600 Hz	
S	FC24-20	SCP NETWORK	2 – 1600 Hz	

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 09.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
CENTER CONSOLE SWITCH PACK	CC1 / 16-WAY FORD IDC S.U. / BLACK	CENTER CONSOLE SWITCH PACK
DIRECTION INDICATOR LAMP – LH FRONT	BL2 / 2-WAY REINSHAGEN / VOLKSWAGEN / BLACK	FRONT BUMPER – LH SIDE
DIRECTION INDICATOR LAMP – RH FRONT	BR2 / 2-WAY REINSHAGEN / VOLKSWAGEN / BLACK	FRONT BUMPER – RH SIDE
FOG LAMP SWITCHES	FC3 / 10-WAY AMP MICRO QUAD LOCK / NATURAL	FASCIA / OUTBOARD OF STEERING COLUMN
FOG LAMP – LH FRONT	BL4 / 2-WAY DELPHI / PACKARD METRIPACK 280 / GREY	FRONT BUMPER – LH SIDE
FOG LAMP – RH FRONT	BR4 / 2-WAY DELPHI / PACKARD METRIPACK 280 / GREY	FRONT BUMPER – RH SIDE
LAMP UNIT – LH FRONT	LS38 / 6-WAY AUGAT 1.6 / BLACK	ENGINE COMPARTMENT / LH FRONT
LAMP UNIT – RH FRONT	LS40 / 6-WAY AUGAT 1.6 / BLACK	ENGINE COMPARTMENT / RH FRONT
FUSE BOX – ENGINE COMPARTMENT	LS5 / 10-WAY U.T.A. FUSE BOX / NATURAL LS6 / 10-WAY U.T.A. FUSE BOX / BLACK LS7 / 10-WAY U.T.A. FUSE BOX / GREEN LS8 / 10-WAY U.T.A. FUSE BOX / BLUE ST19 / EYELET	ENGINE COMPARTMENT / LH FRONT
INSTRUMENT PACK	FC24 / 48-WAY AMP MODULE PCB SIGNAL / BLACK FC25 / 24-WAY AMP MODULE PCB SIGNAL / BLACK	FASCIA
LIGHTING STALK (COLUMN SWITCHGEAR)	SC2 / 10-WAY MULTILOCK 070 / YELLOW	COLUMN SWITCHGEAR HARNESS / ADJACENT TO STEERING COLUMN MOTOR
SIDE MARKER – LH FRONT	BL5 / 2-WAY REINSHAGEN / VOLKSWAGEN / BLACK	FRONT BUMPER – LH SIDE
SIDE MARKER – RH FRONT	BR5 / 2-WAY REINSHAGEN / VOLKSWAGEN / BLACK	FRONT BUMPER – RH SIDE

RELAYS

Relay	Case Color	Connector / Color	Location / Access
DIP BEAM RELAY	BROWN	BUS	RELAY #5, ENGINE COMPARTMENT FUSE BOX / ENGINE COMPARTMENT
FRONT FOG RELAY	BROWN	BUS	RELAY #2, ENGINE COMPARTMENT FUSE BOX / ENGINE COMPARTMENT
MAIN BEAM RELAY	BROWN	BUS	RELAY #3, ENGINE COMPARTMENT FUSE BOX / ENGINE COMPARTMENT

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BL1	4-WAY AUGAT 1.6 / BLACK	BEHIND LEFT HAND WHEEL ARCH LINER
BR1	4-WAY AUGAT 1.6 / BLACK	ADJACENT TO BOTTOM OF WASHER FLUID RESERVOIR
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY
FC7	20-WAY MULTILOCK 070 / YELLOW	ABOVE DIMMER MODULE / COIN TRAY
LS3	54-WAY THROUGH PANEL CONNECTOR / BLACK	LH 'A' POST / LOWER 'A' POST FINISHER

GROUNDS

Ground	Location / Type
CC3L	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE
CC3R	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE
FC17L	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
FC17R	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
LS18L	EYELET (PAIR) – LH FORWARD GROUND STUD
LS19R	EYELET (PAIR) – RH FORWARD GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

DATE OF ISSUE: SEPTEMBER 1998

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
O	FC15-1	RH FRONT SIDE LAMP SUPPLY	B+	GROUND
O	FC15-2	LH FRONT DI LAMP SUPPLY	B+ (PULSED)	GROUND
O	FC15-3	RH FRONT DI LAMP SUPPLY	B+ (PULSED)	GROUND
I	FC15-14	HEADLAMP MAINBEAM REQUEST	GROUND	B+
I	FC15-15	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-16	SIDE LAMP REQUEST	GROUND	B+
O	FC15-20	FRONT FOG LAMP RELAY ACTIVATE	GROUND	B+
O	FC15-27	LH SIDE DI REPEATER LAMP SUPPLY (ROW ONLY)	B+ (PULSED)	GROUND
I	FC15-30	HEADLAMP FLASH REQUEST	GROUND (MOMENTARY)	B+
I	FC15-38	FRONT FOG LAMP REQUEST	GROUND	B+
I	FC15-41	STARTER ENGAGE REQUEST	GROUND (CRANKING)	B+
I	FC15-42	HEADLAMP DIP REQUEST	GROUND (MOMENTARY)	B+
O	FC15-45	MAIN BEAM RELAY ACTIVATE	GROUND	B+
O	FC15-53	LH FRONT SIDE LAMP SUPPLY	B+	GROUND
I	FC15-59	HAZARD LAMP REQUEST	GROUND (MOMENTARY)	B+
I	FC15-61	RH DI REQUEST	GROUND	B+
O	FC15-68	DIP BEAM RELAY ACTIVATE	GROUND	B+
I	FC15-79	BATTERY SUPPLY VOLTAGE	B+	B+
I	FC15-80	BATTERY SUPPLY VOLTAGE	B+	B+
O	FC15-81	RH SIDE DI REPEATER LAMP SUPPLY (ROW ONLY)	B+ (PULSED)	GROUND
S	FC15-84	SCP NETWORK	2 – 1600 Hz	
S	FC15-85	SCP NETWORK	2 – 1600 Hz	
I	FC15-88	LH DI REQUEST	GROUND	B+
O	FC15-96	HAZARD LAMP STATUS	GROUND (PULSE)	B+

INSTRUMENT PACK

▽	Pin	Description	Active	Inactive
S	FC24-19	SCP NETWORK	2 – 1600 Hz	
S	FC24-20	SCP NETWORK	2 – 1600 Hz	

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 09.2

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
CENTER CONSOLE SWITCH PACK	CC1 / 16-WAY FORD IDC S.U. / BLACK	CENTER CONSOLE SWITCH PACK
DIRECTION INDICATOR LAMP – LH FRONT	BL2 / 2-WAY REINSHAGEN / VOLKSWAGEN / BLACK	FRONT BUMPER – LH SIDE
DIRECTION INDICATOR LAMP – RH FRONT	BR2 / 2-WAY REINSHAGEN / VOLKSWAGEN / BLACK	FRONT BUMPER – RH SIDE
FOG LAMP SWITCHES	FC3 / 10-WAY AMP MICRO QUAD LOCK / NATURAL	FASCIA / OUTBOARD OF STEERING COLUMN
FOG LAMP – LH FRONT	BL4 / 2-WAY DELPHI / PACKARD METRIPACK 280 / GREY	FRONT BUMPER – LH SIDE
FOG LAMP – RH FRONT	BR4 / 2-WAY DELPHI / PACKARD METRIPACK 280 / GREY	FRONT BUMPER – RH SIDE
FRONT LAMP UNIT – LH	LS38 / 6-WAY AUGAT 1.6 / BLACK	ENGINE COMPARTMENT / LH FRONT
FRONT LAMP UNIT – RH	LS40 / 6-WAY AUGAT 1.6 / BLACK	ENGINE COMPARTMENT / RH FRONT
FUSE BOX – ENGINE COMPARTMENT	LS5 / 10-WAY U.T.A. FUSE BOX / NATURAL LS6 / 10-WAY U.T.A. FUSE BOX / BLACK LS7 / 10-WAY U.T.A. FUSE BOX / GREEN LS8 / 10-WAY U.T.A. FUSE BOX / BLUE ST19 / EYELET	ENGINE COMPARTMENT / LH FRONT
INSTRUMENT PACK	FC24 / 48-WAY AMP MODULE PCB SIGNAL / BLACK FC25 / 24-WAY AMP MODULE PCB SIGNAL / BLACK	FASCIA
LIGHTING STALK (COLUMN SWITCHGEAR)	SC2 / 10-WAY MULTILOCK 070 / YELLOW	COLUMN SWITCHGEAR HARNESS / ADJACENT TO STEERING COLUMN MOTOR
SIDE DI REPEATER – LH	LS17 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	BEHIND LEFT HAND WHEEL ARCH LINER
SIDE DI REPEATER – RH	CA80 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	BEHIND RIGHT HAND WHEEL ARCH LINER

RELAYS

Relay	Case Color	Connector / Color	Location / Access
DIP BEAM RELAY	BROWN	BUS	RELAY #5, ENGINE COMPARTMENT FUSE BOX / ENGINE COMPARTMENT
FRONT FOG RELAY	BROWN	BUS	RELAY #2, ENGINE COMPARTMENT FUSE BOX / ENGINE COMPARTMENT
MAIN BEAM RELAY	BROWN	BUS	RELAY #3, ENGINE COMPARTMENT FUSE BOX / ENGINE COMPARTMENT

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BL1	4-WAY AUGAT 1.6 / BLACK	BEHIND LEFT HAND WHEEL ARCH LINER
BR1	4-WAY AUGAT 1.6 / BLACK	ADJACENT TO BOTTOM OF WASHER FLUID RESERVOIR
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY
FC7	20-WAY MULTILOCK 070 / YELLOW	ABOVE DIMMER MODULE / COIN TRAY
LS3	54-WAY THROUGH PANEL CONNECTOR / BLACK	LH 'A' POST / LOWER 'A' POST FINISHER

GROUNDS

Ground	Location / Type
CA33R	EYELET (PAIR) – RH 'A' POST GROUND SCREW
CC3L	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE
CC3R	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE
FC17L	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
FC17R	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
LS18L	EYELET (PAIR) – LH FORWARD GROUND STUD
LS19R	EYELET (PAIR) – RH FORWARD GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

DATE OF ISSUE: SEPTEMBER 1998

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC15-12	REAR FOG LAMP REQUEST	GROUND	B+
I	FC15-15	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-16	SIDE LAMP REQUEST	GROUND	B+
O	FC15-28	RH TAIL LAMP SUPPLY	B+	GROUND
I	FC15-41	STARTER ENGAGE REQUEST	GROUND (CRANKING)	B+
O	FC15-44	REAR FOG LAMP STATUS	GROUND	B+
O	FC15-49	TRAILER RH DI LAMP SUPPLY	B+ (PULSED)	GROUND
O	FC15-50	LH DI LAMP SUPPLY	B+ (PULSED)	GROUND
O	FC15-54	LH TAIL LAMP SUPPLY	B+	GROUND
I	FC15-59	HAZARD LAMP REQUEST	GROUND (MOMENTARY)	B+
I	FC15-61	RH DI REQUEST	GROUND	B+
O	FC15-75	TRAILER LH DI LAMP SUPPLY	B+ (PULSED)	GROUND
O	FC15-76	RH DI LAMP SUPPLY	B+ (PULSED)	GROUND
I	FC15-79	BATTERY SUPPLY VOLTAGE	B+	B+
I	FC15-80	BATTERY SUPPLY VOLTAGE	B+	B+
S	FC15-84	SCP NETWORK	2 – 1600 Hz	
S	FC15-85	SCP NETWORK	2 – 1600 Hz	
I	FC15-88	LH DI REQUEST	GROUND	B+
O	FC15-95	SIDE MARKER & NUMBER PLATE LAMP RELAY ACTIVATE	GROUND	B+
O	FC15-96	HAZARD LAMP STATUS	GROUND (PULSE)	B+
I	FC15-104	BATTERY SUPPLY VOLTAGE	B+	B+

INSTRUMENT PACK

▽	Pin	Description	Active	Inactive
S	FC24-19	SCP NETWORK	2 – 1600 Hz	
S	FC24-20	SCP NETWORK	2 – 1600 Hz	
C	FC24-24	CAN NETWORK	15 – 1500 Hz	
C	FC24-47	CAN NETWORK	15 – 1500 Hz	

SECURITY AND LOCKING CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	BT1-3	RH STOP LAMP SUPPLY	B+	GROUND
O	BT1-4	REAR FOG LAMP SUPPLY	B+	GROUND
O	BT1-5	REVERSE LAMP SUPPLY	B+	GROUND
I	BT1-6	BATTERY SUPPLY	B+	B+
O	BT1-7	SPLIT CHARGE CONTROL		
S	BT1-8	SCP NETWORK	2 – 1600 Hz	
O	BT1-9	LH STOP LAMP SUPPLY	B+	GROUND
I	BT1-13	LOGIC GROUND	GROUND	GROUND
I	BT1-14	LOGIC GROUND	GROUND	GROUND
S	BT1-16	SCP NETWORK	2 – 1600 Hz	
I	BT2-1	BRAKE SWITCH STATUS	GROUND (BRAKE ON)	B+
I	BT2-6	TRAILER CONNECTION STATUS	GROUND (TRAILER PRESENT)	B+ (NO TRAILER)

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 09.3

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
BRAKE SWITCH	CC40 / 4-WAY MULTILOCK 070 / WHITE	ADJACENT TO THE BRAKE PEDAL MOUNTING ASSEMBLY
CENTER CONSOLE SWITCH PACK	CC1 / 16-WAY FORD IDC S.U. / BLACK	CENTER CONSOLE SWITCH PACK
DIODE (BT40) – NUMBER PLATE	BT40 / 2-WAY DIODE MODULE ASSEMBLY	ADJACENT TO BATTERY / BATTERY COVER
FOG LAMP SWITCHES	FC3 / 10-WAY AMP MICRO QUAD LOCK / NATURAL	FASCIA / OUTBOARD OF STEERING COLUMN
FUSE BOX – TRUNK	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	TRUNK ELECTRICAL CARRIER
HIGH MOUNTED STOP LAMP	CA35 / 2-WAY YAZAKI / NATURAL	BACKLIGHT
INSTRUMENT PACK	FC24 / 48-WAY AMP MODULE PCB SIGNAL / BLACK FC25 / 24-WAY AMP MODULE PCB SIGNAL / BLACK	FASCIA
LIGHTING STALK (COLUMN SWITCHGEAR)	SC2 / 10-WAY MULTILOCK 070 / YELLOW	COLUMN SWITCHGEAR HARNESS / ADJACENT TO STEERING COLUMN MOTOR
NUMBER PLATE LAMP – LH	BT27 / 2-WAY AMP POSILOCK II / BLACK	BEHIND TRUNK LID LINER
NUMBER PLATE LAMP – RH	BT26 / 2-WAY AMP POSILOCK II / BLACK	BEHIND TRUNK LID LINER
REAR SIDE MARKER – LH	BT29 / 2-WAY REINSHAGEN / VOLKSWAGEN / BLACK	TRUNK LH SIDE / TRUNK CARPET
REAR SIDE MARKER – RH	BT31 / 2-WAY REINSHAGEN / VOLKSWAGEN / BLACK	TRUNK RH SIDE / TRUNK CARPET
SECURITY AND LOCKING CONTROL MODULE	BT1 / 16-WAY FORD 2.8 TIMER / BLACK BT2 / 26-WAY FORD IDC / BLACK BT6 / 1-WAY COAXIAL CONNECTOR	BELOW TRUNK FUSE BOX
TAIL LAMP UNIT – LH	BT51 / 7-WAY FRAM – FORD 2.8 TIMER / BLACK	TRUNK LH SIDE / REAR LAMP COVER
TAIL LAMP UNIT – RH	BT50 / 7-WAY FRAM – FORD 2.8 TIMER / BLACK	TRUNK RH SIDE / REAR LAMP COVER
TRAILER CONNECTOR	BT32 / 14-WAY MULTILOCK 070 / YELLOW	ABOVE TRUNK FUSE BOX

RELAYS

Relay	Case Color	Connector / Color	Location / Access
STOP LAMP RELAY	BROWN	BUS	RELAY #5, TRUNK FUSE BOX / TRUNK
SIDE MARKER AND NUMBER PLATE LAMP RELAY	BROWN	BUS	RELAY #3, TRUNK FUSE BOX / TRUNK

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT4	54-WAY THROUGH PANEL / GREY	BELOW PARCEL SHELF / TRUNK / REAR BULKHEAD / RH SIDE
CA19	20-WAY MULTILOCK 070 / YELLOW	LH 'A' POST CONNECTOR MOUNTING BRACKET / LOWER 'A' POST FINISHER
FC1	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW PASSENGER SIDE AIR VENT / GLOVE BOX ASSEMBLY
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY
FC7	20-WAY MULTILOCK 070 / YELLOW	ABOVE DIMMER MODULE / COIN TRAY

GROUNDS

Ground	Location / Type
BT20	EYELET (SINGLE) – TRUNK / RH REAR GROUND STUD
BT21L	EYELET (PAIR) – TRUNK / RH REAR GROUND STUD
BT22*	EYELET (SINGLE) – TRUNK / RH CENTER GROUND STUD (*STANDARD ICE)
BT22L*	EYELET (PAIR) – TRUNK / RH CENTER GROUND STUD (*PREMIUM ICE)
CA31L	EYELET (PAIR) – RH DRIVE SHAFT TUNNEL GROUND STUD
CC3L	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE
CC3R	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE
FC17L	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
FC17R	EYELET (PAIR) – EMS BULKHEAD GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

DATE OF ISSUE: SEPTEMBER 1998

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC15-12	REAR FOG LAMP REQUEST	GROUND	B+
I	FC15-15	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-16	SIDE LAMP REQUEST	GROUND	B+
O	FC15-28	RH TAIL LAMP SUPPLY	B+	GROUND
I	FC15-41	STARTER ENGAGE REQUEST	GROUND (CRANKING)	B+
O	FC15-44	REAR FOG LAMP STATUS	GROUND	B+
O	FC15-49	TRAILER RH DI LAMP SUPPLY	B+ (PULSED)	GROUND
O	FC15-50	LH DI LAMP SUPPLY	B+ (PULSED)	GROUND
O	FC15-54	LH TAIL LAMP SUPPLY	B+	GROUND
I	FC15-59	HAZARD LAMP REQUEST	GROUND (MOMENTARY)	B+
I	FC15-61	RH DI REQUEST	GROUND	B+
O	FC15-75	TRAILER LH DI LAMP SUPPLY	B+ (PULSED)	GROUND
O	FC15-76	RH DI LAMP SUPPLY	B+ (PULSED)	GROUND
I	FC15-79	BATTERY SUPPLY VOLTAGE	B+	B+
I	FC15-80	BATTERY SUPPLY VOLTAGE	B+	B+
S	FC15-84	SCP NETWORK	2 – 1600 Hz	
S	FC15-85	SCP NETWORK	2 – 1600 Hz	
I	FC15-88	LH DI REQUEST	GROUND	B+
O	FC15-95	SIDE MARKER & NUMBER PLATE LAMP RELAY ACTIVATE	GROUND	B+
O	FC15-96	HAZARD LAMP STATUS	GROUND (PULSE)	B+
I	FC15-104	BATTERY SUPPLY VOLTAGE	B+	B+

INSTRUMENT PACK

▽	Pin	Description	Active	Inactive
S	FC24-19	SCP NETWORK	2 – 1600 Hz	
S	FC24-20	SCP NETWORK	2 – 1600 Hz	
C	FC24-24	CAN NETWORK	15 – 1500 Hz	
C	FC24-47	CAN NETWORK	15 – 1500 Hz	

SECURITY AND LOCKING CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	BT1-3	RH STOP LAMP SUPPLY	B+	GROUND
O	BT1-4	REAR FOG LAMP SUPPLY	B+	GROUND
O	BT1-5	REVERSE LAMP SUPPLY	B+	GROUND
I	BT1-6	BATTERY SUPPLY	B+	B+
O	BT1-7	SPLIT CHARGE CONTROL		
S	BT1-8	SCP NETWORK	2 – 1600 Hz	
O	BT1-9	LH STOP LAMP SUPPLY	B+	GROUND
I	BT1-13	LOGIC GROUND	GROUND	GROUND
I	BT1-14	LOGIC GROUND	GROUND	GROUND
S	BT1-16	SCP NETWORK	2 – 1600 Hz	
I	BT2-1	BRAKE SWITCH STATUS	GROUND (BRAKE ON)	B+
I	BT2-6	TRAILER CONNECTION STATUS	GROUND (TRAILER PRESENT)	B+ (NO TRAILER)

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 09.4

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
BRAKE SWITCH	CC40 / 4-WAY MULTILOCK 070 / WHITE	ADJACENT TO THE BRAKE PEDAL MOUNTING ASSEMBLY
CENTER CONSOLE SWITCH PACK	CC1 / 16-WAY FORD IDC S.U. / BLACK	CENTER CONSOLE SWITCH PACK
DIODE (BT40) – NUMBER PLATE	BT40 / 2-WAY DIODE MODULE ASSEMBLY	ADJACENT TO BATTERY / BATTERY COVER
FOG LAMP SWITCHES	FC3 / 10-WAY AMP MICRO QUAD LOCK / NATURAL	FASCIA / OUTBOARD OF STEERING COLUMN
FUSE BOX – TRUNK	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	TRUNK ELECTRICAL CARRIER
HIGH MOUNTED STOP LAMP	CA35 / 2-WAY YAZAKI / NATURAL	BACKLIGHT
INSTRUMENT PACK	FC24 / 48-WAY AMP MODULE PCB SIGNAL / BLACK FC25 / 24-WAY AMP MODULE PCB SIGNAL / BLACK	FASCIA
LIGHTING STALK (COLUMN SWITCHGEAR)	SC2 / 10-WAY MULTILOCK 070 / YELLOW	COLUMN SWITCHGEAR HARNESS / ADJACENT TO STEERING COLUMN MOTOR
NUMBER PLATE LAMP – LH	BT27 / 2-WAY AMP POSILOCK II / BLACK	BEHIND TRUNK LID LINER
NUMBER PLATE LAMP – RH	BT26 / 2-WAY AMP POSILOCK II / BLACK	BEHIND TRUNK LID LINER
SECURITY AND LOCKING CONTROL MODULE	BT1 / 16-WAY FORD 2.8 TIMER / BLACK BT2 / 26-WAY FORD IDC / BLACK BT6 / 1-WAY COAXIAL CONNECTOR	BELOW TRUNK FUSE BOX
TAIL LAMP UNIT – LH	BT51 / 7-WAY FRAM – FORD 2.8 TIMER / BLACK	TRUNK LH SIDE / REAR LAMP COVER
TAIL LAMP UNIT – RH	BT50 / 7-WAY FRAM – FORD 2.8 TIMER / BLACK	TRUNK RH SIDE / REAR LAMP COVER
TRAILER CONNECTOR	BT32 / 14-WAY MULTILOCK 070 / YELLOW	ABOVE TRUNK FUSE BOX

RELAYS

Relay	Case Color	Connector / Color	Location / Access
STOP LAMP RELAY	BROWN	BUS	RELAY #5, TRUNK FUSE BOX / TRUNK
SIDE MARKER AND NUMBER PLATE LAMP RELAY	BROWN	BUS	RELAY #3, TRUNK FUSE BOX / TRUNK

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT4	54-WAY THROUGH PANEL / GREY	BELOW PARCEL SHELF / TRUNK / REAR BULKHEAD / RH SIDE
CA19	20-WAY MULTILOCK 070 / YELLOW	LH 'A' POST CONNECTOR MOUNTING BRACKET / LOWER 'A' POST FINISHER
FC1	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW PASSENGER SIDE AIR VENT / GLOVE BOX ASSEMBLY
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY
FC7	20-WAY MULTILOCK 070 / YELLOW	ABOVE DIMMER MODULE / COIN TRAY

GROUNDS

Ground	Location / Type
BT20	EYELET (SINGLE) – TRUNK / RH REAR GROUND STUD
BT21L	EYELET (PAIR) – TRUNK / RH REAR GROUND STUD
BT22*	EYELET (SINGLE) – TRUNK / RH CENTER GROUND STUD (*STANDARD ICE)
BT22L*	EYELET (PAIR) – TRUNK / RH CENTER GROUND STUD (*PREMIUM ICE)
SCA31L	EYELET (PAIR) – RH DRIVE SHAFT TUNNEL GROUND STUD
CC3L	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE
CC3R	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE
FC17L	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
FC17R	EYELET (PAIR) – EMS BULKHEAD GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

DATE OF ISSUE: SEPTEMBER 1998

Fig. 09.5

COMPONENTS

Component	Connector / Type / Color	Location / Access
HEADLAMP LEVELING ACTUATOR – LH	LF41 / 3-WAY REINSHAGEN / BLACK	ENGINE COMPARTMENT / LH HEADLAMP
HEADLAMP LEVELING ACTUATOR – RH	LF42 / 3-WAY REINSHAGEN / BLACK	ENGINE COMPARTMENT / RH HEADLAMP
HEADLAMP LEVELING SWITCH (FASCIA SWITCH PACK)	FC14 / 6-WAY JAE IL-AG5 / GREEN	FASCIA SWITCH PACK

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY
LS3	54-WAY THROUGH PANEL CONNECTOR / BLACK	LH 'A' POST / LOWER 'A' POST FINISHER

GROUNDS

Ground	Location / Type
FC17L	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
LS18L	EYELET (PAIR) – LH FORWARD GROUND STUD
LS19R	EYELET (PAIR) – RH FORWARD GROUND STUD

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

CONTROL MODULE PIN OUT INFORMATION

DRIVER DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	DD10-1	BATTERY POWER SUPPLY	B+	B+
I	DD10-8	LOGIC GROUND	GROUND	GROUND
S	DD10-9	SCP NETWORK	2 – 1600 Hz	
O	DD10-14	DRIVER DOOR PUDDLE LAMP SUPPLY	B+	GROUND
S	DD10-16	SCP NETWORK	2 – 1600 Hz	
I	DD10-17	POWER GROUND	GROUND	GROUND
I	DD11-4	DRIVER DOOR LOCK BARREL UNLOCK REQUEST	B+ (MOMENTARY)	GROUND
I	DD11-12	DRIVER DOOR LOCK BARREL LOCK REQUEST	B+ (MOMENTARY)	GROUND
I	DD11-20	DRIVER DOOR SWITCH	GROUND (DOOR OPEN)	B+

DRIVER REAR DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	RD10-1	BATTERY POWER SUPPLY	B+	B+
I	RD10-8	LOGIC GROUND	GROUND	GROUND
S	RD10-9	SCP NETWORK	2 – 1600 Hz	
O	RD10-14	PASSENGER DOOR PUDDLE LAMP SUPPLY	B+ (LIGHT ON)	GROUND
S	RD10-16	SCP NETWORK	2 – 1600 Hz	
I	RD10-17	POWER GROUND	GROUND	GROUND
I	RD11-20	DRIVER REAR DOOR SWITCH	GROUND (DOOR OPEN)	B+

PASSENGER DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	PD10-1	BATTERY POWER SUPPLY	B+	B+
I	PD10-8	LOGIC GROUND	GROUND	GROUND
S	PD10-9	SCP NETWORK	2 – 1600 Hz	
O	PD10-14	PASSENGER DOOR PUDDLE LAMP SUPPLY	B+ (LIGHT ON)	GROUND
S	PD10-16	SCP NETWORK	2 – 1600 Hz	
I	PD10-17	POWER GROUND	GROUND	GROUND
I	PD11-20	PASSENGER DOOR SWITCH	GROUND (DOOR OPEN)	B+

PASSENGER REAR DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	RP10-1	BATTERY POWER SUPPLY	B+	B+
I	RP10-8	LOGIC GROUND	GROUND	GROUND
S	RP10-9	SCP NETWORK	2 – 1600 Hz	
O	RP10-14	PASSENGER DOOR PUDDLE LAMP SUPPLY	B+ (LIGHT ON)	GROUND
S	RP10-16	SCP NETWORK	2 – 1600 Hz	
I	RP10-17	POWER GROUND	GROUND	GROUND
I	RP11-20	PASSENGER REAR DOOR SWITCH	GROUND (DOOR OPEN)	B+

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC15-15	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-24	COURTESY LAMP SUPPLY	B+	GROUND
I	FC15-32	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-41	STARTER ENGAGE REQUEST	GROUND (CRANKING)	B+
O	FC15-57	COURTESY LAMP ACTIVATE REQUEST	GROUND (MOMENTARY)	B+
I	FC15-67	KEY IN IGNITION	GROUND (KEY IN)	B+ (KEY OUT)
O	FC15-74	COURTESY LAMP SUPPLY	B+	GROUND
I	FC15-80	BATTERY SUPPLY VOLTAGE	B+	B+
S	FC15-84	SCP NETWORK	2 – 1600 Hz	
S	FC15-85	SCP NETWORK	2 – 1600 Hz	
O	FC15-101	ILLUMINATION BATTERY SUPPLY VOLTAGE	B+	B+
I	FC15-104	BATTERY SUPPLY VOLTAGE	B+	B+

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 10.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
DOOR CONTROL MODULE – DRIVER	DD10 / 22-WAY FORD 2.8 TIMER / BLUE DD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR CONTROL MODULE – DRIVER REAR	RD10 / 22-WAY FORD 2.8 TIMER / BLUE RD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR CONTROL MODULE – PASSENGER	PD10 / 22-WAY FORD 2.8 TIMER / BLUE PD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR CONTROL MODULE – PASSENGER REAR	RP10 / 22-WAY FORD 2.8 TIMER / BLUE RP11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR LOCK SWITCHES – DRIVER	DD3 / 13-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
DOOR SWITCH – DRIVER	DD3 / 13-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
DOOR SWITCH – DRIVER REAR	RD3 / 6-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
DOOR SWITCH – PASSENGER	PD3 / 13-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
DOOR SWITCH – PASSENGER REAR	RP3 / 6-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
'E' POST LAMP – LH	IC4 / 4-WAY MULTILOCK 040 / BLACK	LH 'E' POST / 'E' POST TRIM
'E' POST LAMP – RH	CA5 / 4-WAY MULTILOCK 040 / BLACK	RH 'E' POST / 'E' POST TRIM
GARAGE DOOR OPENER	CA53 / 8-WAY MULTILOCK 040 / BLACK	ROOF CONSOLE
GLOVE BOX LAMP	FC33 / LUCAR – STRAIGHT – 2.8 FC34 / LUCAR – STRAIGHT – 2.8	GLOVE BOX
IGNITION SWITCH (KEY-IN SWITCH)	FC4 / 8-WAY MULTILOCK 070 / WHITE	STEERING COLUMN
PUDDLE LAMP – DRIVER REAR DOOR	RD14 / 2-WAY AMP JUNIOR TIMER / BLACK	DOOR CASING / TRIM PANEL
PUDDLE LAMP – DRIVER DOOR	DD14 / 2-WAY AMP JUNIOR TIMER / BLACK	DOOR CASING / TRIM PANEL
PUDDLE LAMP – DRIVER PASSENGER	PD14 / 2-WAY AMP JUNIOR TIMER / BLACK	DOOR CASING / TRIM PANEL
PUDDLE LAMP – PASSENGER REAR DOOR	RP14 / 2-WAY AMP JUNIOR TIMER / BLACK	DOOR CASING / TRIM PANEL
TRUNK LAMP – LH	BT46 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	TRUNK LH SIDE / TRUNK CARPET
TRUNK LAMP – RH	BT47 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	TRUNK RH SIDE / TRUNK CARPET
TRUNK SWITCH	BT41 / 2-WAY AUGAT 1.6 / BLACK	BEHIND TRUNK LID LINER
VANITY LAMP – LH	CA69 / 2-WAY MULTILOCK 070 / WHITE	LH SUN VISOR
VANITY LAMP – RH	CA70 / 2-WAY MULTILOCK 070 / WHITE	RH SUN VISOR

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT4	54-WAY THROUGH PANEL / GREY	BELOW PARCEL SHELF / TRUNK / REAR BULKHEAD / RH SIDE
CA8	20-WAY MULTILOCK 070 / WHITE	DRIVER 'A' POST / DOOR HARNESS GAITER
CA10	8-WAY MULTILOCK 070 / YELLOW	DRIVER 'A' POST / DOOR HARNESS GAITER
CA11	20-WAY MULTILOCK 070 / WHITE	PASSENGER 'A' POST / DOOR HARNESS GAITER
CA12	8-WAY MULTILOCK 070 / YELLOW	PASSENGER 'A' POST / DOOR HARNESS GAITER
CA14	6-WAY MULTILOCK 070 / WHITE	DRIVER 'B/C' POST / DOOR HARNESS GAITER
CA16	6-WAY MULTILOCK 070 / WHITE	PASSENGER 'B/C' POST / DOOR HARNESS GAITER
FC1	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW PASSENGER SIDE AIR VENT / GLOVE BOX ASSEMBLY
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY
IC1	14-WAY MULTILOCK 070 / WHITE	LH HEELBOARD

GROUNDS

Ground	Location / Type
CA30L	EYELET (PAIR) – LH 'A' POST GROUND SCREW
CA30R	EYELET (PAIR) – LH 'A' POST GROUND SCREW
CA31L	EYELET (PAIR) – RH DRIVE SHAFT TUNNEL GROUND STUD
CA33L	EYELET (PAIR) – RH 'A' POST GROUND SCREW
CA33R	EYELET (PAIR) – RH 'A' POST GROUND SCREW
CA36L	EYELET (PAIR) – LH 'A' POST GROUND SCREW
CA36R	EYELET (PAIR) – LH 'A' POST GROUND SCREW
FC17L	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
FC29L	EYELET (PAIR) – LH BULKHEAD GROUND STUD / CABIN SIDE
IC20	EYELET (SINGLE) – TRUNK / LH FORWARD GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

CONTROL MODULE PIN OUT INFORMATION

DIMMER MODULE

▽	Pin	Description	Active	Inactive
O	FC23-1	INSTRUMENT PACK ILLUMINATION BULB SUPPLY	B+ (LIGHTS ON)	GROUND
O	FC23-2	INSTRUMENT PACK ILLUMINATION BULB SUPPLY	B+ (LIGHTS ON)	GROUND
I	FC23-3	IGNITION SWITCHED GROUND SUPPLY	GROUND	
I	FC23-4	SIDE LAMPS ON REQUEST	GROUND	
I	FC23-5	DIMMER POTENTIOMETER FEEDBACK VOLTAGE	1.3 V = DIM; 4 V = BRIGHT	
O	FC23-6	DIMMER POTENTIOMETER REFERENCE GROUND	GROUND	GROUND
O	FC23-7	GENERAL ILLUMINATION BULB SUPPLY	B+ (LIGHTS ON)	GROUND
O	FC23-8	GENERAL ILLUMINATION BULB SUPPLY	B+ (LIGHTS ON)	GROUND
I	FC23-9	GROUND SUPPLY	GROUND	GROUND
I	FC23-10	BATTERY POWER SUPPLY	B+	B+
I	FC23-11	BATTERY POWER SUPPLY	B+	B+
O	FC23-12	DIMMER POTENTIOMETER REFERENCE VOLTAGE	4 V	0 V

INSTRUMENT PACK

▽	Pin	Description	Active	Inactive
I	FC24-26	GROUND	GROUND	GROUND
I	FC24-27	ILLUMINATION SUPPLY	B+	GROUND
I	FC25-21	DIMMER OVERRIDE	GROUND	B+

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 10.2

COMPONENTS

Component	Connector / Type / Color	Location / Access
AIR CONDITIONING CONTROL PANEL	CC27 / 12-WAY MULTILOCK 040 / BLUE	CENTER CONSOLE
CENTER CONSOLE SWITCH PACK	CC1 / 16-WAY FORD IDC S.U. / BLACK	CENTER CONSOLE SWITCH PACK
CIGAR LIGHTER – FRONT	CA74 / 3-WAY MULTILOCK 070 / WHITE	CENTER CONSOLE ASSEMBLY
CIGAR LIGHTER – REAR	CA75 / 2-WAY AMP / METALLIC CA76 / LUCAR – LOCKING POSILOCK MKI	REAR CENTER CONSOLE VENT
ANALOG CLOCK	FC38 / 6-WAY AMP MICRO QUADLOCK / BLACK	CENTER AIR VENT
CRUISE CONTROL ON / OFF SWITCH	CC20 / 10-WAY AMP MICRO QUAD LOCK / NATURAL	CENTER CONSOLE ASSEMBLY
DIMMER CONTROL	SC11 / 6-WAY MULTILOCK 070 / WHITE	COLUMN SWITCHGEAR
DIMMER MODULE	FC23 / 12-WAY MULTILOCK 040 / BLACK	BELOW INSTRUMENT PACK
FASCIA SWITCH PACK	FC14 / 6-WAY JAE IL-AG5 / GREEN	FASCIA SWITCH PACK
FOG LAMP SWITCHES	FC3 / 10-WAY AMP MICRO QUAD LOCK / NATURAL	FASCIA / OUTBOARD OF STEERING COLUMN
GEAR SELECTOR ILLUMINATION MODULE	CC14 / 10-WAY MULTILOCK 070 / WHITE	CENTER CONSOLE ASSEMBLY
INSTRUMENT PACK	FC24 / 48-WAY AMP MODULE PCB SIGNAL / BLACK FC25 / 24-WAY AMP MODULE PCB SIGNAL / BLACK	FASCIA
LIGHTING STALK (COLUMN SWITCHGEAR)	SC2 / 10-WAY MULTILOCK 070 / YELLOW	COLUMN SWITCHGEAR HARNESS / ADJACENT TO STEERING COLUMN MOTOR
MODE SWITCH (TRANSMISSION)	CC4 / 10-WAY AMP MICRO QUAD LOCK / BLACK	CENTER CONSOLE ASSEMBLY
RADIO / CASSETTE HEAD UNIT	CA3 / COAXIAL CONNECTOR IC10 / 20-WAY MULTILOCK 070 / WHITE IC19 / CD AUTOCHANGER DATA CABLE	CENTER CONSOLE
ROOF CONSOLE	CA53 / 8-WAY MULTILOCK 040 / BLACK	ROOF CONSOLE
SPLICE HEADER – CA224	CA224 / 20-WAY SUMITOMO SPLICE HEADER / GREEN	LH HEELBOARD / HEELBOARD COVER
SWITCH PACK – DRIVER DOOR	DD1 / 26-WAY MQS-26 / YELLOW	DOOR TRIM PANEL
SWITCH PACK – DRIVER REAR DOOR	RD1 / 5-WAY LAG / GREEN	DOOR TRIM PANEL
SWITCH PACK – PASSENGER DOOR	PD1 / 26-WAY MQS-26 / GREEN	DOOR TRIM PANEL
SWITCH PACK – PASSENGER REAR DOOR	RP1 / 5-WAY LAG / GREEN	DOOR TRIM PANEL
TRIP COMPUTER SWITCH PACK	FC27 / 10-WAY AMP MICRO QUAD LOCK / BLACK	FASCIA

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
CA8	20-WAY MULTILOCK 070 / WHITE	DRIVER 'A' POST / DOOR HARNESS GAITER
CA11	20-WAY MULTILOCK 070 / WHITE	PASSENGER 'A' POST / DOOR HARNESS GAITER
CA14	6-WAY MULTILOCK 070 / WHITE	DRIVER 'B/C' POST / DOOR HARNESS GAITER
CA16	6-WAY MULTILOCK 070 / WHITE	PASSENGER 'B/C' POST / DOOR HARNESS GAITER
CA19	20-WAY MULTILOCK 070 / YELLOW	LH 'A' POST CONNECTOR MOUNTING BRACKET / LOWER 'A' POST FINISHER
CA27	10-WAY MULTILOCK 070 / WHITE	BELOW PASSENGER SEAT
CA45	4-WAY MULTILOCK 070 / WHITE	PASSENGER 'B/C' POST / DOOR HARNESS GAITER
CA46	4-WAY MULTILOCK 070 / WHITE	DRIVER 'B/C' POST / DOOR HARNESS GAITER
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY
FC7	20-WAY MULTILOCK 070 / YELLOW	ABOVE DIMMER MODULE / COIN TRAY
SC3	12-WAY MULTILOCK 070 / GREY	ADJACENT TO STEERING COLUMN MOTOR
SM25-P	10-WAY MULTILOCK 070 / WHITE	BEHIND PASSENGER SEAT BACK FINISHER

GROUNDS

Ground	Location / Type
CA30L	EYELET (PAIR) – LH 'A' POST GROUND SCREW
CA33L	EYELET (PAIR) – RH 'A' POST GROUND SCREW
CA36L	EYELET (PAIR) – LH 'A' POST GROUND SCREW
CA47L	EYELET (PAIR) – DRIVE SHAFT TUNNEL GROUND STUD – RH SIDE
CA47R	EYELET (PAIR) – DRIVE SHAFT TUNNEL GROUND STUD – RH SIDE
CC2R	EYELET (PAIR) – DRIVE SHAFT TUNNEL GROUND STUD – LH SIDE
CC3L	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE
CC3R	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE
FC17R	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
FC17R	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
FC29L	EYELET (PAIR) – LH BULKHEAD GROUND STUD / CABIN SIDE
FC29R	EYELET (PAIR) – LH BULKHEAD GROUND STUD / CABIN SIDE

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

←

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

DATE OF ISSUE: SEPTEMBER 1998

CONTROL MODULE PIN OUT INFORMATION

POWER ASSISTED STEERING CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	CA32-2	TRANSDUCER NEGATIVE	2 V @ IDLE DECREASING WITH VEHICLE SPEED	
I	CA32-4	VEHICLE SPEED	B+ @ 10 MPH (16 KM/H) = 20 Hz, 20 MPH (32 KM/H) = 40 Hz	
O	CA32-5	TRANSDUCER POSITIVE	9 V @ IDLE INCREASING WITH VEHICLE SPEED	
I	CA32-6	IGNITION SWITCHED POWER SUPPLY	B+	0 V
I	CA32-8	GROUND	0 V	0 V

Fig. 11.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
POWER ASSISTED STEERING CONTROL MODULE	CA32 / 9-WAY RISTS / BLACK / RED	LOWER LH 'A' POST / LOWER 'A' POST FINISHER
VARIABLE STEERING CONVERTER	LL3 / 2-WAY AMP JUNIOR POWER TIMER / NATURAL	STEERING RACK / CONTROL VALVE

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY
LL2	2-WAY AUGAT 1.6 / BLACK	BELOW CHASSIS RAIL / LH SIDE
LS3	54-WAY THROUGH PANEL CONNECTOR / BLACK	LH 'A' POST / LOWER 'A' POST FINISHER

GROUNDS

Ground	Location / Type
CA30L	EYELET (PAIR) – LH 'A' POST GROUND SCREW

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

The following symbols are used to represent values for Control Module Pin Out data:

I	Input	D	Serial and encoded communications	B+	Battery voltage	KHz	Frequency x 1000
O	Output	C	CAN (Network)	V	Voltage (DC)	MS	Milliseconds
SG	Signal Ground	S	SCP Network	Hz	Frequency	MV	Millivolts

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 THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

DATE OF ISSUE: SEPTEMBER 1998

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC15-11	AUTO TILT REQUEST	GROUND	B+
I	FC15-15	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-25	GROUND SUPPLY	GROUND	GROUND
I	FC15-32	IGNITION SWITCHED GROUND	GROUND	B+
O	FC15-40	COLUMN MOTOR POTENTIOMETER REFERENCE VOLTAGE	5V	
I	FC15-41	STARTER ENGAGE REQUEST	GROUND (CRANKING)	B+
O	FC15-52	COLUMN REACH MOTOR SUPPLY	B+	GROUND
I	FC15-58	NOT IN PARK MICROSWITCH STATUS	GROUND (PARK)	B+ (NOT IN PARK)
I	FC15-66	COLUMN REACH MOTOR POTENTIOMETER FEEDBACK	0.5 V = OUT, 4 V = IN	
I	FC15-67	KEY IN IGNITION	GROUND (KEY IN)	B+ (KEY OUT)
O	FC15-78	COLUMN REACH MOTOR SUPPLY	B+	GROUND
I	FC15-80	BATTERY SUPPLY VOLTAGE	B+	B+
S	FC15-84	SCP NETWORK	2 – 1600 Hz	
S	FC15-85	SCP NETWORK	2 – 1600 Hz	
I	FC15-87	COLUMN MOVEMENT REQUEST	UP = 10.1V, DOWN = 12.1V, RETRACT = 8.5V, EXTEND = 6.8V	
O	FC15-90	COLUMN TILT MOTOR POTENTIOMETER REFERENCE GROUND	GROUND	GROUND
O	FC15-91	COLUMN REACH MOTOR POTENTIOMETER REFERENCE GROUND	GROUND	GROUND
I	FC15-93	COLUMN TILT MOTOR POTENTIOMETER FEEDBACK	UP = 4V, DOWN = 0.5V	
O	FC15-99	COLUMN TILT MOTOR SUPPLY	B+	GROUND
O	FC15-100	COLUMN TILT MOTOR SUPPLY	B+	GROUND
I	FC15-102	BATTERY SUPPLY VOLTAGE	B+	B+

DRIVER DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	DD10-1	BATTERY POWER SUPPLY	B+	B+
I	DD10-8	LOGIC GROUND	GROUND	GROUND
S	DD10-9	SCP NETWORK	2 – 1600 Hz	
S	DD10-16	SCP NETWORK	2 – 1600 Hz	
O	DD11-2	SEAT MEMORY STATUS LED	GROUND (LED ON)	B+
I	DD11-20	DRIVER DOOR SWITCH	GROUND (DOOR OPEN)	B+

DRIVER REAR DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	RD10-1	BATTERY POWER SUPPLY	B+	B+
I	RD10-8	LOGIC GROUND	GROUND	GROUND
S	RD10-9	SCP NETWORK	2 – 1600 Hz	
S	RD10-16	SCP NETWORK	2 – 1600 Hz	
1	RD10-19	MODULE IDENTIFICATION	GROUND	GROUND
I	RD11-5	MEMORY 1	B+	GROUND
I	RD11-7	MODULE IDENTIFICATION	GROUND	GROUND
I	RD11-13	MEMORY SET	B+	GROUND
I	RD11-15	MEMORY 3	B+	GROUND
I	RD11-22	MEMORY 2	B+	GROUND

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 11.2

COMPONENTS

Component	Connector / Type / Color	Location / Access
AUTO TILT SWITCH (COLUMN SWITCHGEAR)	SC9 / 8-WAY GROTE AND HARTMAN MDK / BLACK	COLUMN SWITCHGEAR
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
COLUMN JOYSTICK (COLUMN SWITCHGEAR)	SC9 / 8-WAY GROTE AND HARTMAN MDK / BLACK	COLUMN SWITCHGEAR
DOOR CONTROL MODULE – DRIVER	DD10 / 22-WAY FORD 2.8 TIMER / BLUE DD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR CONTROL MODULE – DRIVER REAR	RD10 / 22-WAY FORD 2.8 TIMER / BLUE RD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR SWITCH – DRIVER	DD3 / 13-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
IGNITION SWITCH (KEY-IN SWITCH)	FC4 / 8-WAY MULTILOCK 070 / WHITE	STEERING COLUMN
MEMORY SWITCHES (DRIVER DOOR SWITCH PACK)	DD1 / 26-WAY MQS-26 / YELLOW	DOOR TRIM PANEL
NOT-IN-PARK MICROSWITCH	CC13 / 3-WAY MULTILOCK 070 / WHITE	CENTER CONSOLE ASSEMBLY
STEERING COLUMN MOTORS	FC49 / 6-WAY MULTILOCK 070 / WHITE FC50 / 8-WAY MULTILOCK 070 / YELLOW	STEERING COLUMN

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
CA8	20-WAY MULTILOCK 070 / WHITE	DRIVER 'A' POST / DOOR HARNESS GAITER
CA10	8-WAY MULTILOCK 070 / YELLOW	DRIVER 'A' POST / DOOR HARNESS GAITER
CA13	4-WAY MULTILOCK 070 / WHITE	DRIVER 'B/C' POST / DOOR HARNESS GAITER
CA14	6-WAY MULTILOCK 070 / WHITE	DRIVER 'B/C' POST / DOOR HARNESS GAITER
FC7	20-WAY MULTILOCK 070 / YELLOW	ABOVE DIMMER MODULE / COIN TRAY

GROUNDS

Ground	Location / Type
CA33L	EYELET (PAIR) – RH 'A' POST GROUND SCREW
CA36L	EYELET (PAIR) – LH 'A' POST GROUND SCREW
CC3L	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE
FC17L	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
FC17R	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
FC29L	EYELET (PAIR) – LH BULKHEAD GROUND STUD / CABIN SIDE

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

←

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC15-15	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-32	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-41	STARTER ENGAGE REQUEST	GROUND (CRANKING)	B+
I	FC15-58	NOT IN PARK MICROSWITCH STATUS	GROUND (PARK)	B+ (NOT IN PARK)
I	FC15-80	BATTERY SUPPLY VOLTAGE	B+	B+
S	FC15-84	SCP NETWORK	2 – 1600 Hz	
S	FC15-85	SCP NETWORK	2 – 1600 Hz	
O	FC15-101	ILLUMINATION BATTERY SUPPLY VOLTAGE	B+	B+

DRIVER DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	DD10-1	BATTERY POWER SUPPLY	B+	B+
O	DD10-2	DRIVER DOOR MIRROR VERTICAL / HORIZONTAL MOTOR COMMON SUPPLY	B+ = LEFT / DOWN; GROUND = RIGHT / UP	
O	DD10-3	DRIVER DOOR MIRROR HORIZONTAL MOVEMENT MOTOR	B+ = RIGHT	GROUND = LEFT
O	DD10-4	DRIVER DOOR MIRROR VERTICAL MOVEMENT MOTOR	B+ = UP	GROUND = DOWN
I	DD10-8	LOGIC GROUND	GROUND	GROUND
S	DD10-9	SCP NETWORK	2 – 1600 Hz	
S	DD10-16	SCP NETWORK	2 – 1600 Hz	
I	DD10-17	POWER GROUND	GROUND	GROUND
O	DD10-20	DRIVER DOOR MIRROR POTENTIOMETER COMMON REFERENCE VOLTAGE	B+	B+
I	DD10-21	DRIVER DOOR MIRROR POTENTIOMETER HORIZONTAL POSITION FEEDBACK	1 V = LEFT; 8 V = RIGHT	
I	DD10-22	DRIVER DOOR MIRROR POTENTIOMETER VERTICAL POSITION FEEDBACK	1 V = DOWN; 8 V = UP	
I	DD11-1	MIRROR COMMON GROUND	GROUND	GROUND
O	DD11-2	SEAT MEMORY STATUS LED	GROUND (LED ON)	B+
I	DD11-3	LH VERTICAL MOVEMENT REQUEST	B+ = DOWN	GROUND = UP
I	DD11-5	PASSENGER MIRROR SELECT	B+	GROUND
I	DD11-9	RH VERTICAL MOVEMENT REQUEST	B+ = DOWN	GROUND = UP
I	DD11-10	LH HORIZONTAL MOVEMENT REQUEST	B+ = LEFT	GROUND = RIGHT
I	DD11-13	DRIVER MIRROR SELECT	B+	GROUND
I	DD11-17	RH HORIZONTAL MOVEMENT REQUEST	B+ = LEFT	GROUND = RIGHT
I	DD11-20	DRIVER DOOR SWITCH	GROUND (DOOR OPEN)	B+

DRIVER REAR DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	RD10-1	BATTERY POWER SUPPLY	B+	B+
I	RD10-8	LOGIC GROUND	GROUND	GROUND
S	RD10-9	SCP NETWORK	2 – 1600 Hz	
S	RD10-16	SCP NETWORK	2 – 1600 Hz	
1	RD10-19	MODULE IDENTIFICATION	GROUND	GROUND
I	RD11-5	MEMORY 1	B+	GROUND
I	RD11-7	MODULE IDENTIFICATION	GROUND	GROUND
I	RD11-13	MEMORY SET	B+	GROUND
I	RD11-15	MEMORY 3	B+	GROUND
I	RD11-22	MEMORY 2	B+	GROUND

INSTRUMENT PACK

▽	Pin	Description	Active	Inactive
S	FC24-19	SCP NETWORK	2 – 1600 Hz	
S	FC24-20	SCP NETWORK	2 – 1600 Hz	
C	FC24-24	CAN NETWORK	15 – 1500 Hz	
C	FC24-47	CAN NETWORK	15 – 1500 Hz	

PASSENGER DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	PD10-1	BATTERY POWER SUPPLY	B+	B+
O	PD10-2	PASSENGER DOOR MIRROR VERTICAL / HORIZONTAL MOVEMENT MOTORS COMMON	B+ = LEFT / DOWN	GROUND = RIGHT / UP
O	PD10-3	PASSENGER DOOR MIRROR HORIZONTAL MOVEMENT MOTOR	B+ = RIGHT	GROUND
O	PD10-4	PASSENGER DOOR MIRROR VERTICAL MOVEMENT MOTOR	B+ = UP	GROUND
I	PD10-8	LOGIC GROUND	GROUND	GROUND
S	PD10-9	SCP NETWORK	2 – 1600 Hz	
S	PD10-16	SCP NETWORK	2 – 1600 Hz	
I	PD10-17	POWER GROUND	GROUND	GROUND
O	PD10-20	PASSENGER DOOR MIRROR POTENTIOMETER COMMON REFERENCE VOLTAGE	B+	B+
I	PD10-21	PASSENGER DOOR MIRROR POTENTIOMETER HORIZONTAL POSITION FEEDBACK VOLTAGE	1 V = LEFT; 8 V = RIGHT	
I	PD10-22	PASSENGER DOOR MIRROR POTENTIOMETER VERTICAL POSITION FEEDBACK VOLTAGE	1 V = DOWN; 8 V = UP	

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 11.3

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
DOOR CONTROL MODULE – DRIVER REAR	RD10 / 22-WAY FORD 2.8 TIMER / BLUE RD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR CONTROL MODULE – DRIVER	DD10 / 22-WAY FORD 2.8 TIMER / BLUE DD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR CONTROL MODULE – PASSENGER	PD10 / 22-WAY FORD 2.8 TIMER / BLUE PD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR MIRROR MOTORS – DRIVER	DD8 / 12-WAY MULTILOCK 040 / BLACK	DRIVER DOOR
DOOR MIRROR MOTORS – PASSENGER	PD8 / 12-WAY MULTILOCK 040 / BLACK	PASSENGER DOOR
DOOR SWITCH – DRIVER	DD3 / 13-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
INSTRUMENT PACK	FC24 / 48-WAY AMP MODULE PCB SIGNAL / BLACK FC25 / 24-WAY AMP MODULE PCB SIGNAL / BLACK	FASCIA
MEMORY SWITCHES (DRIVER DOOR SWITCH PACK)	DD1 / 26-WAY MQS-26 / YELLOW	DOOR TRIM PANEL
MIRROR JOYSTICK (DRIVER DOOR SWITCH PACK)	DD1 / 26-WAY MQS-26 / YELLOW	DOOR TRIM PANEL
MIRROR SELECT SWITCH (DRIVER DOOR SWITCH PACK)	DD1 / 26-WAY MQS-26 / YELLOW	DOOR TRIM PANEL
NOT-IN-PARK MICROSWITCH	CC13 / 3-WAY MULTILOCK 070 / WHITE	CENTER CONSOLE ASSEMBLY

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
CA8	20-WAY MULTILOCK 070 / WHITE	DRIVER 'A' POST / DOOR HARNESS GAITER
CA10	8-WAY MULTILOCK 070 / YELLOW	DRIVER 'A' POST / DOOR HARNESS GAITER
CA11	20-WAY MULTILOCK 070 / WHITE	PASSENGER 'A' POST / DOOR HARNESS GAITER
CA12	8-WAY MULTILOCK 070 / YELLOW	PASSENGER 'A' POST / DOOR HARNESS GAITER
CA13	4-WAY MULTILOCK 070 / WHITE	DRIVER 'B/C' POST / DOOR HARNESS GAITER
CA14	6-WAY MULTILOCK 070 / WHITE	DRIVER 'B/C' POST / DOOR HARNESS GAITER
FC1	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW PASSENGER SIDE AIR VENT / GLOVE BOX ASSEMBLY
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY
FC7	20-WAY MULTILOCK 070 / YELLOW	ABOVE DIMMER MODULE / COIN TRAY

GROUNDS

Ground	Location / Type
CA30R	EYELET (PAIR) – LH 'A' POST GROUND SCREW
CA33L	EYELET (PAIR) – RH 'A' POST GROUND SCREW
CA33R	EYELET (PAIR) – RH 'A' POST GROUND SCREW
CA36L	EYELET (PAIR) – LH 'A' POST GROUND SCREW
CC3L	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC15-15	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-32	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-41	STARTER ENGAGE REQUEST	GROUND (CRANKING)	B+
I	FC15-80	BATTERY SUPPLY VOLTAGE	B+	B+
S	FC15-84	SCP NETWORK	2 – 1600 Hz	
S	FC15-85	SCP NETWORK	2 – 1600 Hz	
O	FC15-101	ILLUMINATION BATTERY SUPPLY VOLTAGE	B+	B+

DRIVER DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	DD10-1	BATTERY POWER SUPPLY	B+	B+
O	DD10-2	DRIVER DOOR MIRROR VERTICAL / HORIZONTAL MOTOR COMMON SUPPLY	B+ = LEFT / DOWN; GROUND = RIGHT / UP	
O	DD10-3	DRIVER DOOR MIRROR HORIZONTAL MOVEMENT MOTOR	B+ = RIGHT	GROUND = LEFT
O	DD10-4	DRIVER DOOR MIRROR VERTICAL MOVEMENT MOTOR	B+ = UP	GROUND = DOWN
I	DD10-8	LOGIC GROUND	GROUND	GROUND
S	DD10-9	SCP NETWORK	2 – 1600 Hz	
S	DD10-16	SCP NETWORK	2 – 1600 Hz	
I	DD10-17	POWER GROUND	GROUND	GROUND
I	DD11-1	MIRROR COMMON GROUND	GROUND	GROUND
I	DD11-3	LH VERTICAL MOVEMENT REQUEST	B+ = DOWN	GROUND = UP
I	DD11-5	PASSENGER MIRROR SELECT	B+	GROUND
I	DD11-9	RH VERTICAL MOVEMENT REQUEST	B+ = DOWN	GROUND = UP
I	DD11-10	LH HORIZONTAL MOVEMENT REQUEST	B+ = LEFT	GROUND = RIGHT
I	DD11-13	DRIVER MIRROR SELECT	B+	GROUND
I	DD11-17	RH HORIZONTAL MOVEMENT REQUEST	B+ = LEFT	GROUND = RIGHT

PASSENGER DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	PD10-1	BATTERY POWER SUPPLY	B+	B+
O	PD10-2	PASSENGER DOOR MIRROR VERTICAL / HORIZONTAL MOVEMENT MOTORS COMMON	B+ = LEFT / DOWN	GROUND = RIGHT / UP
O	PD10-3	PASSENGER DOOR MIRROR HORIZONTAL MOVEMENT MOTOR	B+ = RIGHT	GROUND
O	PD10-4	PASSENGER DOOR MIRROR VERTICAL MOVEMENT MOTOR	B+ = UP	GROUND
I	PD10-8	LOGIC GROUND	GROUND	GROUND
S	PD10-9	SCP NETWORK	2 – 1600 Hz	
S	PD10-16	SCP NETWORK	2 – 1600 Hz	
I	PD10-17	POWER GROUND	GROUND	GROUND

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

The following symbols are used to represent values for Control Module Pin Out data:

I	Input	D	Serial and encoded communications	B+	Battery voltage	KHz	Frequency x 1000
O	Output	C	CAN (Network)	V	Voltage (DC)	MS	Milliseconds
SG	Signal Ground	S	SCP Network	Hz	Frequency	MV	Millivolts

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.

Fig. 11.4

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
DOOR CONTROL MODULE – DRIVER REAR	RD10 / 22-WAY FORD 2.8 TIMER / BLUE RD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR CONTROL MODULE – DRIVER	DD10 / 22-WAY FORD 2.8 TIMER / BLUE DD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR CONTROL MODULE – PASSENGER	PD10 / 22-WAY FORD 2.8 TIMER / BLUE PD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR MIRROR MOTORS – DRIVER	DD8 / 12-WAY MULTILOCK 040 / BLACK	DRIVER DOOR
DOOR MIRROR MOTORS – PASSENGER	PD8 / 12-WAY MULTILOCK 040 / BLACK	PASSENGER DOOR
MIRROR JOYSTICK (DRIVER DOOR SWITCH PACK)	DD1 / 26-WAY MQS-26 / YELLOW	DOOR TRIM PANEL
MIRROR SELECT SWITCH (DRIVER DOOR SWITCH PACK)	DD1 / 26-WAY MQS-26 / YELLOW	DOOR TRIM PANEL

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
CA8	20-WAY MULTILOCK 070 / WHITE	DRIVER 'A' POST / DOOR HARNESS GAITER
CA10	8-WAY MULTILOCK 070 / YELLOW	DRIVER 'A' POST / DOOR HARNESS GAITER
CA11	20-WAY MULTILOCK 070 / WHITE	PASSENGER 'A' POST / DOOR HARNESS GAITER
CA12	8-WAY MULTILOCK 070 / YELLOW	PASSENGER 'A' POST / DOOR HARNESS GAITER
CA13	4-WAY MULTILOCK 070 / WHITE	DRIVER 'B/C' POST / DOOR HARNESS GAITER
CA14	6-WAY MULTILOCK 070 / WHITE	DRIVER 'B/C' POST / DOOR HARNESS GAITER
FC1	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW PASSENGER SIDE AIR VENT / GLOVE BOX ASSEMBLY
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY

GROUNDS

Ground	Location / Type
CA30R	EYELET (PAIR) – LH 'A' POST GROUND SCREW
CA33L	EYELET (PAIR) – RH 'A' POST GROUND SCREW
CA33R	EYELET (PAIR) – RH 'A' POST GROUND SCREW
CA36L	EYELET (PAIR) – LH 'A' POST GROUND SCREW

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

DATE OF ISSUE: SEPTEMBER 1998

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC15-15	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-16	SIDE LAMP REQUEST	GROUND	B+
I	FC15-32	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-42	HEADLAMP DIP REQUEST	GROUND (MOMENTARY)	B+
O	FC15-72	MIRROR FOLDBACK RELAY ACTIVATE	GROUND	B+
O	FC15-77	MIRROR FOLD OUT RELAY ACTIVATE	GROUND	B+
I	FC15-80	BATTERY SUPPLY VOLTAGE	B+	B+
S	FC15-84	SCP NETWORK	2 – 1600 Hz	
S	FC15-85	SCP NETWORK	2 – 1600 Hz	
O	FC15-101	ILLUMINATION BATTERY SUPPLY VOLTAGE	B+	B+

DRIVER DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	DD10-1	BATTERY POWER SUPPLY	B+	B+
I	DD10-8	LOGIC GROUND	GROUND	GROUND
S	DD10-9	SCP NETWORK	2 – 1600 Hz	
S	DD10-16	SCP NETWORK	2 – 1600 Hz	
I	DD10-17	POWER GROUND	GROUND	GROUND
I	DD11-1	MIRROR COMMON GROUND	GROUND	GROUND
I	DD11-3	FOLD-BACK REQUEST	B+ = DOWN	GROUND = UP
I	DD11-5	PASSENGER MIRROR SELECT	B+	GROUND
I	DD11-9	FOLD-OUT REQUEST	B+ = DOWN	GROUND = UP
I	DD11-10	LH HORIZONTAL MOVEMENT REQUEST	B+ = LEFT	GROUND = RIGHT
I	DD11-13	DRIVER MIRROR SELECT	B+	GROUND
I	DD11-17	RH HORIZONTAL MOVEMENT REQUEST	B+ = LEFT	GROUND = RIGHT

INSTRUMENT PACK

▽	Pin	Description	Active	Inactive
S	FC24-19	SCP NETWORK	2 – 1600 Hz	
S	FC24-20	SCP NETWORK	2 – 1600 Hz	
C	FC24-24	CAN NETWORK	15 – 1500 Hz	
C	FC24-47	CAN NETWORK	15 – 1500 Hz	

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

The following symbols are used to represent values for Control Module Pin Out data:

I	Input	D	Serial and encoded communications	B+	Battery voltage	KHz	Frequency x 1000
O	Output	C	CAN (Network)	V	Voltage (DC)	MS	Milliseconds
SG	Signal Ground	S	SCP Network	Hz	Frequency	MV	Millivolts

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.

Fig. 11.5

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
DOOR CONTROL MODULE – DRIVER	DD10 / 22-WAY FORD 2.8 TIMER / BLUE DD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR MIRROR – DRIVER	DD8 / 12-WAY MULTILOCK 040 / BLACK	DRIVER DOOR
DOOR MIRROR – PASSENGER	PD8 / 12-WAY MULTILOCK 040 / BLACK	PASSENGER DOOR
INSTRUMENT PACK	FC24 / 48-WAY AMP MODULE PCB SIGNAL / BLACK FC25 / 24-WAY AMP MODULE PCB SIGNAL / BLACK	FASCIA
INTERIOR REAR VIEW MIRROR	CA55 / 6-WAY MULTILOCK 070 / YELLOW	WINDSHIELD / IN FRONT OF ROOF CONSOLE
LIGHTING STALK (COLUMN SWITCHGEAR)	SC2 / 10-WAY MULTILOCK 070 / YELLOW	COLUMN SWITCHGEAR HARNESS / ADJACENT TO STEERING COLUMN MOTOR
MIRROR JOYSTICK (DRIVER DOOR SWITCH PACK)	DD1 / 26-WAY MQS-26 / YELLOW	DOOR TRIM PANEL
MIRROR SELECT SWITCH (DRIVER DOOR SWITCH PACK)	DD1 / 26-WAY MQS-26 / YELLOW	DOOR TRIM PANEL
SPLICE HEADER – CA224	CA224 / 20-WAY SUMITOMO SPLICE HEADER / GREEN	LH HEELBOARD / HEELBOARD COVER

RELAYS

Relay	Case Color	Connector / Color	Location / Access
FOLD-BACK RELAY	BLACK	CA60 / BLACK	LH HEELBOARD RELAYS / HEELBOARD COVER
FOLD-OUT RELAY	BLACK	CA60 / BLACK	LH HEELBOARD RELAYS / HEELBOARD COVER

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT4	54-WAY THROUGH PANEL / GREY	BELOW PARCEL SHELF / TRUNK / REAR BULKHEAD / RH SIDE
CA8	20-WAY MULTILOCK 070 / WHITE	DRIVER 'A' POST / DOOR HARNESS GAITER
CA10	8-WAY MULTILOCK 070 / YELLOW	DRIVER 'A' POST / DOOR HARNESS GAITER
CA11	20-WAY MULTILOCK 070 / WHITE	PASSENGER 'A' POST / DOOR HARNESS GAITER
FC1	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW PASSENGER SIDE AIR VENT / GLOVE BOX ASSEMBLY
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY

GROUNDS

Ground	Location / Type
CA30R	EYELET (PAIR) – LH 'A' POST GROUND SCREW
CA33L	EYELET (PAIR) – RH 'A' POST GROUND SCREW
CA33R	EYELET (PAIR) – RH 'A' POST GROUND SCREW
CA36L	EYELET (PAIR) – LH 'A' POST GROUND SCREW
CA38R	EYELET (PAIR) – LH HEELBOARD POST GROUND SCREW
FC17R	EYELET (PAIR) – EMS BULKHEAD GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

DATE OF ISSUE: SEPTEMBER 1998

CONTROL MODULE PIN OUT INFORMATION

ADAPTIVE DAMPING CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	EM68-1	INSTRUMENT PACK ADAPTIVE DAMPENING MIL	GROUND	B+
O	EM68-3	ACCELEROMETER COMMON GROUND SUPPLY	GROUND	GROUND
D	EM68-10	SERIAL COMMUNICATIONS		
I	EM68-11	IGNITION SWITCHED POWER SUPPLY	B+	GROUND
O	EM68-13	LH REAR DAMPER BATTERY POWER SUPPLY	B+	B+
O	EM68-14	RH FRONT DAMPER BATTERY POWER SUPPLY	B+	B+
O	EM68-15	RH REAR DAMPER BATTERY POWER SUPPLY	B+	B+
I	EM68-18	GROUND	GROUND	GROUND
I	EM68-20	FRONT LATERAL ACCELEROMETER FEEDBACK	< 0.2 V OR > 4.8 V	2.3 – 2.7 V = HARD
I	EM68-21	FRONT VERTICAL ACCELEROMETER FEEDBACK	< 0.2 V OR > 4.8 V	2.3 – 2.7 V = HARD
I	EM68-22	REAR VERTICAL ACCELEROMETER FEEDBACK	< 0.2 V OR > 4.8 V	2.3 – 2.7 V = HARD
I	EM68-24	VEHICLE SPEED SIGNAL	22 Hz @ 10 MPH (16 KM / H); 44 Hz @ 20 MPH (32 KM / H) @ B+	
O	EM68-25	ACCELEROMETER COMMON VOLTAGE SUPPLY	5 V	5 V
I	EM68-26	BRAKE SWITCH	GROUND	B+
I	EM68-27	BATTERY POWER SUPPLY	B+	B+
D	EM68-28	SERIAL COMMUNICATIONS		
O	EM68-30	LH FRONT DAMPER BATTERY POWER SUPPLY	B+	B+
O	EM68-31	LH FRONT DAMPER	GROUND	B+
O	EM68-32	LH REAR DAMPER	GROUND	B+
O	EM68-33	RH FRONT DAMPER	GROUND	B+
O	EM68-34	RH REAR DAMPER	GROUND	B+

Fig. 11.6

COMPONENTS

Component	Connector / Type / Color	Location / Access
ACCELEROMETER – FRONT LATERAL	EM28 / 3-WAY AMP MICRO QUAD LOCK / BLACK	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
ACCELEROMETER – FRONT VERTICAL	EM4 / 3-WAY AMP MICRO QUAD LOCK / BLACK	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
ACCELEROMETER – REAR VERTICAL	BT7 / 3-WAY AMP MICRO QUAD LOCK / BLACK	BELOW FUEL TANK / TRUNK CARPET
ADAPTIVE DAMPING CONTROL MODULE	EM68 / 35-WAY AMP JUNIOR POWER TIMER / BLACK	ADJACENT TO PASSENGER SIDE BLOWER / GLOVE BOX ASSEMBLY
BRAKE SWITCH	CC40 / 4-WAY MULTILOCK 070 / WHITE	ADJACENT TO THE BRAKE PEDAL MOUNTING ASSEMBLY
DAMPER SOLENOID – LH FRONT	EM64 / 2-WAY DELPHI / REINSHAGEN / BLACK	ENGINE COMPARTMENT / LEFT HAND SIDE
DAMPER SOLENOID – LH REAR	LA1 / 2-WAY DELPHI / REINSHAGEN / BLACK	REAR AXLE / LH REAR DAMPER SOLENOID
DAMPER SOLENOID – RH FRONT	EM65 / 2-WAY DELPHI / REINSHAGEN / BLACK	ENGINE COMPARTMENT / RIGHT HAND SIDE
DAMPER SOLENOID – RH REAR	RA1 / 2-WAY DELPHI / REINSHAGEN / BLACK	REAR AXLE / RH REAR DAMPER SOLENOID

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT4	54-WAY THROUGH PANEL / GREY	BELOW PARCEL SHELF / TRUNK / REAR BULKHEAD / RH SIDE
CA9	4-WAY MULTILOCK 070 / WHITE	BELOW REAR SEAT CUSHION
CA19	20-WAY MULTILOCK 070 / YELLOW	LH 'A' POST CONNECTOR MOUNTING BRACKET / LOWER 'A' POST FINISHER
CA29	4-WAY MULTILOCK 070 / WHITE	BELOW REAR SEAT CUSHION
EM1	12-WAY AUGAT 1.6 / BLACK	ENGINE COMPARTMENT / ADJACENT TO ABS PUMP
EM2	20-WAY MULTILOCK 070 / GREY	PASSENGER 'A' POST / LOWER 'A' POST FINISHER
FC1	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW PASSENGER SIDE AIR VENT / GLOVE BOX ASSEMBLY
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY
LS3	54-WAY THROUGH PANEL CONNECTOR / BLACK	LH 'A' POST / LOWER 'A' POST FINISHER

GROUNDS

Ground	Location / Type
EM17	EYELET (SINGLE) – EMS BULKHEAD GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

The following symbols are used to represent values for Control Module Pin Out data:

I	Input	D	Serial and encoded communications	B+	Battery voltage	KHz	Frequency x 1000
O	Output	C	CAN (Network)	V	Voltage (DC)	MS	Milliseconds
SG	Signal Ground	S	SCP Network	Hz	Frequency	MV	Millivolts

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 THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC15-15	IGNITION SWITCHED GROUND	GROUND	B+
O	FC15-17	SEAT HEATER STATUS (LHD = PASSENGER, RHD = DRIVER)	GROUND	B+
I	FC15-32	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-35	SEAT HEATER REQUEST (LHD = PASSENGER, RHD = DRIVER)	GROUND (MOMENTARY)	B+
I	FC15-41	STARTER ENGAGE REQUEST	GROUND (CRANKING)	B+
O	FC15-69	SEAT HEATER STATUS (LHD = DRIVER, RHD = PASSENGER)	GROUND	B+
I	FC15-80	BATTERY SUPPLY VOLTAGE	B+	B+
S	FC15-84	SCP NETWORK	2 – 1600 Hz	
S	FC15-85	SCP NETWORK	2 – 1600 Hz	
I	FC15-86	SEAT HEATER REQUEST (LHD = DRIVER, RHD = PASSENGER)	GROUND (MOMENTARY)	B+

DRIVER DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	DD10-1	BATTERY POWER SUPPLY	B+	B+
I	DD10-8	LOGIC GROUND	GROUND	GROUND
S	DD10-9	SCP NETWORK	2 – 1600 Hz	
S	DD10-16	SCP NETWORK	2 – 1600 Hz	
O	DD11-2	SEAT MEMORY STATUS LED	GROUND (LED ON)	B+

DRIVER REAR DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	RD10-1	BATTERY POWER SUPPLY	B+	B+
I	RD10-8	LOGIC GROUND	GROUND	GROUND
S	RD10-9	SCP NETWORK	2 – 1600 Hz	
S	RD10-16	SCP NETWORK	2 – 1600 Hz	
I	RD10-19	MODULE IDENTIFICATION	GROUND	GROUND
I	RD11-5	MEMORY 1	B+	GROUND
I	RD11-7	MODULE IDENTIFICATION	GROUND	GROUND
I	RD11-13	MEMORY SET	B+	GROUND
I	RD11-15	MEMORY 3	B+	GROUND
I	RD11-22	MEMORY 2	B+	GROUND

DRIVER SEAT CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	SM1-1D	DRIVER SEAT SQUAB FORE / AFT RECLINE MOTOR SUPPLY	B+	GROUND
O	SM1-2D	DRIVER SEAT SQUAB FORE / AFT RECLINE MOTOR SUPPLY	B+	GROUND
O	SM1-3D	DRIVER SEAT CUSHION RAISE / LOWER FRONT MOTOR SUPPLY	B+	GROUND
O	SM1-4D	DRIVER SEAT CUSHION RAISE / LOWER FRONT MOTOR SUPPLY	B+	GROUND
O	SM1-5D	DRIVER HEADREST RAISE / LOWER MOTOR SUPPLY	B+	GROUND
O	SM1-6D	DRIVER HEADREST RAISE / LOWER MOTOR SUPPLY	B+	GROUND
O	SM1-7D	DRIVER SEAT CUSHION FORE / AFT MOTOR SUPPLY	B+	GROUND
O	SM1-8D	DRIVER SEAT CUSHION FORE / AFT MOTOR SUPPLY	B+	GROUND
I	SM1-9D	DRIVER SEAT CUSHION FORE MOVEMENT REQUEST	B+	GROUND
I	SM1-10D	DRIVER SEAT CUSHION AFT MOVEMENT REQUEST	B+	GROUND
I	SM1-11D	DRIVER SEAT CUSHION LOWER REAR MOVEMENT REQUEST	B+	GROUND
I	SM1-12D	DRIVER SEAT CUSHION RAISE REAR MOVEMENT REQUEST	B+	GROUND
I	SM1-13D	DRIVER SEAT CUSHION RAISE FRONT MOVEMENT REQUEST	B+	GROUND
I	SM1-14D	DRIVER SEAT CUSHION LOWER FRONT MOVEMENT REQUEST	B+	GROUND
I	SM1-15D	DRIVER SEAT SQUAB AFT RECLINE MOVEMENT REQUEST	B+	GROUND
I	SM1-16D	DRIVER SEAT SQUAB FORE RECLINE MOVEMENT REQUEST	B+	GROUND
O	SM2-1D	DRIVER SEAT CUSHION REAR / SQUAB RECLINE MOTOR POT. REF. GROUND	GROUND	GROUND
O	SM2-2D	DRIVER SEAT CUSHION FORE / AFT MOTOR POT. REFERENCE GROUND	GROUND	GROUND
O	SM2-5D	DRIVER SEAT CUSHION REAR / SQUAB RECLINE MOTOR POT. REF. VOLTAGE	5V	
O	SM2-6D	DRIVER SEAT CUSHION FRONT MOTOR POT. REFERENCE VOLTAGE	5V	
I	SM2-8D	DRIVER SEAT HEADREST MOTOR POTENTIOMETER FEEDBACK	10 V = UP, 1 V = DOWN	
I	SM2-9D	DRIVER SEAT CUSHION FRONT MOTOR POTENTIOMETER FEEDBACK	10 V = UP, 1 V = DOWN	
I	SM2-10D	DRIVER SEAT CUSHION REAR MOTOR POTENTIOMETER FEEDBACK	10 V = UP, 1 V = DOWN	
I	SM2-11D	DRIVER SEAT SQUAB RECLINE MOTOR POTENTIOMETER FEEDBACK	9 V = FORE, 2 V = AFT	
I	SM2-12D	DRIVER SEAT CUSHION FORE / AFT MOTOR POTENTIOMETER FEEDBACK	2 V = FORE, 10 V = AFT	
O	SM2-14D	DRIVER SEAT HEADREST MOTOR POTENTIOMETER REFERENCE GROUND	GROUND	GROUND
O	SM2-15D	DRIVER SEAT CUSHION FRONT MOTOR POTENTIOMETER REFERENCE GROUND	GROUND	GROUND
O	SM2-18D	DRIVER SEAT CUSHION FORE / AFT MOTOR POT. REFERENCE VOLTAGE	5V	
O	SM2-19D	DRIVER SEAT HEADREST MOTOR POTENTIOMETER REFERENCE VOLTAGE	5V	
I	SM3-1D	MODULE IDENTIFICATION	GROUND (DRIVER)	
I	SM3-2D	POWER GROUND	GROUND	GROUND
O	SM3-3D	DRIVER SEAT RAISE / LOWER MOTOR SUPPLY	B+	GROUND
O	SM3-4D	DRIVER SEAT RAISE / LOWER MOTOR SUPPLY	B+	GROUND
I	SM3-5D	BATTERY POWER SUPPLY	B+	B+
I	SM3-6D	DRIVER SEAT HEADREST RAISE MOVEMENT REQUEST	B+	GROUND
I	SM3-8D	DRIVER SEAT HEADREST LOWER MOVEMENT REQUEST	B+	GROUND
S	SM3-9D	SCP NETWORK	2 – 1600 Hz	
S	SM3-10D	SCP NETWORK	2 – 1600 Hz	

INSTRUMENT PACK

▽	Pin	Description	Active	Inactive
S	FC24-19	SCP NETWORK	2 – 1600 Hz	
S	FC24-20	SCP NETWORK	2 – 1600 Hz	
C	FC24-24	CAN NETWORK	15 – 1500 Hz	
C	FC24-47	CAN NETWORK	15 – 1500 Hz	

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 12.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
DOOR CONTROL MODULE – DRIVER	DD10 / 22-WAY FORD 2.8 TIMER / BLUE DD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR CONTROL MODULE – DRIVER REAR	RD10 / 22-WAY FORD 2.8 TIMER / BLUE RD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
INSTRUMENT PACK	FC24 / 48-WAY AMP MODULE PCB SIGNAL / BLACK FC25 / 24-WAY AMP MODULE PCB SIGNAL / BLACK	FASCIA
MEMORY SWITCHES (DRIVER DOOR SWITCH PACK)	DD1 / 26-WAY MQS-26 / YELLOW	DOOR TRIM PANEL
SEAT CONTROL MODULE – DRIVER	SM1-D / 16-WAY FORD 2.8 TIMER / BLACK SM2-D / 26-WAY FORD IDC / BLACK SM3-D / 10-WAY FORD 2.8 TIMER / BLACK	DRIVER SEAT / UNDER
SEAT CUSHION HEATERS – DRIVER	SM7-D / 3-WAY MULTILOCK 070 / YELLOW	DRIVER SEAT
SEAT HEATER SWITCH (CENTER CONSOLE SWITCH PACK)	CC1 / 16-WAY FORD IDC S.U. / BLACK	
SEAT LUMBAR PUMP – DRIVER	SM10-D / 3-WAY MULTILOCK 070 / YELLOW	DRIVER SEAT
SEAT MOTORS – DRIVER	SM4-D / 6-WAY MULTILOCK 070 / GREY SM6-D / 6-WAY MULTILOCK 070 / YELLOW SM11-D / 6-WAY MULTILOCK 070 / WHITE SM12-D / 6-WAY MULTILOCK 070 / WHITE SM13-D / 6-WAY MULTILOCK 070 / YELLOW	DRIVER SEAT / UNDER
SEAT SQUAB HEATERS – DRIVER	SM9-D / 3-WAY MULTILOCK 070 / GREY	DRIVER SEAT
SWITCH PACK – DRIVER SEAT	SM5-D / 16-WAY MULTILOCK 040 / BLACK	DRIVER SEAT

RELAYS

Relay	Case Color	Connector / Color	Location / Access
SEAT HEATER RELAY – DRIVER	BROWN	SM14-D / BROWN	FRONT SEAT RELAYS / UNDER SEAT

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
CA8	20-WAY MULTILOCK 070 / WHITE	DRIVER 'A' POST / DOOR HARNESS GAITER
CA10	8-WAY MULTILOCK 070 / YELLOW	DRIVER 'A' POST / DOOR HARNESS GAITER
CA13	4-WAY MULTILOCK 070 / WHITE	DRIVER 'B/C' POST / DOOR HARNESS GAITER
CA14	6-WAY MULTILOCK 070 / WHITE	DRIVER 'B/C' POST / DOOR HARNESS GAITER
CA23	10-WAY MULTILOCK 070 / WHITE	BELOW DRIVER SEAT
FC1	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW PASSENGER SIDE AIR VENT / GLOVE BOX ASSEMBLY
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY
FC7	20-WAY MULTILOCK 070 / YELLOW	ABOVE DIMMER MODULE / COIN TRAY

GROUNDS

Ground	Location / Type
CA25L	EYELET (PAIR) – PASSENGER SEAT GROUND STUD
CA25R	EYELET (PAIR) – PASSENGER SEAT GROUND STUD
CA26L	EYELET (PAIR) – DRIVER SEAT GROUND STUD
CA26R	EYELET (PAIR) – DRIVER SEAT GROUND STUD
CA33L	EYELET (PAIR) – RH 'A' POST GROUND SCREW
CA36L	EYELET (PAIR) – LH 'A' POST GROUND SCREW
CC3L	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

←

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC15-15	IGNITION SWITCHED GROUND	GROUND	B+
O	FC15-17	SEAT HEATER STATUS (LHD = PASSENGER, RHD = DRIVER)	GROUND	B+
I	FC15-32	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-35	SEAT HEATER REQUEST (LHD = PASSENGER, RHD = DRIVER)	GROUND (MOMENTARY)	B+
I	FC15-41	STARTER ENGAGE REQUEST	GROUND (CRANKING)	B+
O	FC15-69	SEAT HEATER STATUS (LHD = DRIVER, RHD = PASSENGER)	GROUND	B+
I	FC15-80	BATTERY SUPPLY VOLTAGE	B+	B+
S	FC15-84	SCP NETWORK	2 – 1600 Hz	
S	FC15-85	SCP NETWORK	2 – 1600 Hz	
I	FC15-86	SEAT HEATER REQUEST (LHD = DRIVER, RHD = PASSENGER)	GROUND (MOMENTARY)	B+

DRIVER SEAT CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	SM1-1D	DRIVER SEAT SQUAB FORE / AFT RECLINE MOTOR SUPPLY	B+	GROUND
O	SM1-2D	DRIVER SEAT SQUAB FORE / AFT RECLINE MOTOR SUPPLY	B+	GROUND
O	SM1-3D	DRIVER SEAT CUSHION RAISE / LOWER FRONT MOTOR SUPPLY	B+	GROUND
O	SM1-4D	DRIVER SEAT CUSHION RAISE / LOWER FRONT MOTOR SUPPLY	B+	GROUND
O	SM1-5D	DRIVER HEADREST RAISE / LOWER MOTOR SUPPLY	B+	GROUND
O	SM1-6D	DRIVER HEADREST RAISE / LOWER MOTOR SUPPLY	B+	GROUND
O	SM1-7D	DRIVER SEAT CUSHION FORE / AFT MOTOR SUPPLY	B+	GROUND
O	SM1-8D	DRIVER SEAT CUSHION FORE / AFT MOTOR SUPPLY	B+	GROUND
I	SM1-9D	DRIVER SEAT CUSHION FORE MOVEMENT REQUEST	B+	GROUND
I	SM1-10D	DRIVER SEAT CUSHION AFT MOVEMENT REQUEST	B+	GROUND
I	SM1-11D	DRIVER SEAT CUSHION LOWER REAR MOVEMENT REQUEST	B+	GROUND
I	SM1-12D	DRIVER SEAT CUSHION RAISE REAR MOVEMENT REQUEST	B+	GROUND
I	SM1-13D	DRIVER SEAT CUSHION RAISE FRONT MOVEMENT REQUEST	B+	GROUND
I	SM1-14D	DRIVER SEAT CUSHION LOWER FRONT MOVEMENT REQUEST	B+	GROUND
I	SM1-15D	DRIVER SEAT SQUAB AFT RECLINE MOVEMENT REQUEST	B+	GROUND
I	SM1-16D	DRIVER SEAT SQUAB FORE RECLINE MOVEMENT REQUEST	B+	GROUND
I	SM3-1D	MODULE IDENTIFICATION	GROUND (DRIVER)	
I	SM3-2D	POWER GROUND	GROUND	GROUND
O	SM3-3D	DRIVER SEAT RAISE / LOWER MOTOR SUPPLY	B+	GROUND
O	SM3-4D	DRIVER SEAT RAISE / LOWER MOTOR SUPPLY	B+	GROUND
I	SM3-5D	BATTERY POWER SUPPLY	B+	B+
I	SM3-6D	DRIVER SEAT HEADREST RAISE MOVEMENT REQUEST	B+	GROUND
I	SM3-8D	DRIVER SEAT HEADREST LOWER MOVEMENT REQUEST	B+	GROUND
S	SM3-9D	SCP NETWORK	2 – 1600 Hz	
S	SM3-10D	SCP NETWORK	2 – 1600 Hz	

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

The following symbols are used to represent values for Control Module Pin Out data:

I	Input	D	Serial and encoded communications	B+	Battery voltage	KHz	Frequency x 1000
O	Output	C	CAN (Network)	V	Voltage (DC)	MS	Milliseconds
SG	Signal Ground	S	SCP Network	Hz	Frequency	MV	Millivolts

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.

Fig. 12.2

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
DOOR CONTROL MODULE – DRIVER	DD10 / 22-WAY FORD 2.8 TIMER / BLUE DD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR CONTROL MODULE – DRIVER REAR	RD10 / 22-WAY FORD 2.8 TIMER / BLUE RD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
SEAT CONTROL MODULE – DRIVER	SM1-D / 16-WAY FORD 2.8 TIMER / BLACK SM2-D / 26-WAY FORD IDC / BLACK SM3-D / 10-WAY FORD 2.8 TIMER / BLACK	DRIVER SEAT / UNDER
SEAT CUSHION HEATERS – DRIVER	SM7-D / 3-WAY MULTILOCK 070 / YELLOW	DRIVER SEAT
SEAT HEATER SWITCH (CENTER CONSOLE SWITCH PACK)	CC1 / 16-WAY FORD IDC S.U. / BLACK	CENTER CONSOLE SWITCH PACK
SEAT LUMBAR PUMP – DRIVER	SM10-D / 3-WAY MULTILOCK 070 / YELLOW	DRIVER SEAT
SEAT MOTORS – DRIVER	SM4-D / 6-WAY MULTILOCK 070 / GREY SM6-D / 6-WAY MULTILOCK 070 / YELLOW SM11-D / 6-WAY MULTILOCK 070 / WHITE SM12-D / 6-WAY MULTILOCK 070 / WHITE SM13-D / 6-WAY MULTILOCK 070 / YELLOW	DRIVER SEAT / UNDER
SEAT SQUAB HEATERS – DRIVER	SM9-D / 3-WAY MULTILOCK 070 / GREY	DRIVER SEAT
SWITCH PACK – DRIVER SEAT	SM5-D / 16-WAY MULTILOCK 040 / BLACK	DRIVER SEAT

RELAYS

Relay	Case Color	Connector / Color	Location / Access
SEAT HEATER RELAY – DRIVER	BROWN	SM14-D / BROWN	FRONT SEAT RELAYS / UNDER SEAT

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
CA8	20-WAY MULTILOCK 070 / WHITE	DRIVER 'A' POST / DOOR HARNESS GAITER
CA13	4-WAY MULTILOCK 070 / WHITE	DRIVER 'B/C' POST / DOOR HARNESS GAITER
CA23	10-WAY MULTILOCK 070 / WHITE	BELOW DRIVER SEAT
FC1	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW PASSENGER SIDE AIR VENT / GLOVE BOX ASSEMBLY
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY
FC7	20-WAY MULTILOCK 070 / YELLOW	ABOVE DIMMER MODULE / COIN TRAY

GROUNDS

Ground	Location / Type
CA25L	EYELET (PAIR) – PASSENGER SEAT GROUND STUD
CA25R	EYELET (PAIR) – PASSENGER SEAT GROUND STUD
CA26L	EYELET (PAIR) – DRIVER SEAT GROUND STUD
CA26R	EYELET (PAIR) – DRIVER SEAT GROUND STUD
CC3L	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC15-15	IGNITION SWITCHED GROUND	GROUND	B+
O	FC15-17	SEAT HEATER STATUS (LHD = PASSENGER, RHD = DRIVER)	GROUND	B+
I	FC15-32	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-35	SEAT HEATER REQUEST (LHD = PASSENGER, RHD = DRIVER)	GROUND (MOMENTARY)	B+
I	FC15-41	STARTER ENGAGE REQUEST	GROUND (CRANKING)	B+
O	FC15-69	SEAT HEATER STATUS (LHD = DRIVER, RHD = PASSENGER)	GROUND	B+
I	FC15-80	BATTERY SUPPLY VOLTAGE	B+	B+
I	FC15-86	SEAT HEATER REQUEST (LHD = DRIVER, RHD = PASSENGER)	GROUND (MOMENTARY)	B+

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 12.3

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
DOOR CONTROL MODULE – DRIVER	DD10 / 22-WAY FORD 2.8 TIMER / BLUE DD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR CONTROL MODULE – DRIVER REAR	RD10 / 22-WAY FORD 2.8 TIMER / BLUE RD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
SEAT CUSHION HEATERS – DRIVER	SM7-D / 3-WAY MULTILOCK 070 / YELLOW	DRIVER SEAT
SEAT HEATER SWITCH (CENTER CONSOLE SWITCH PACK)	CC1 / 16-WAY FORD IDC S.U. / BLACK	CENTER CONSOLE SWITCH PACK
SEAT MOTOR – DRIVER (RAISE / LOWER ONLY)	SM16-D / 6-WAY MULTILOCK 070 / GREY	DRIVER SEAT / UNDER
SEAT SQUAB HEATERS – DRIVER	SM9-D / 3-WAY MULTILOCK 070 / GREY	DRIVER SEAT
SWITCH PACK – DRIVER SEAT (RAISE / LOWER ONLY)	SM17-D / 16-WAY MULTILOCK 040 / BLACK	DRIVER SEAT / UNDER

RELAYS

Relay	Case Color	Connector / Color	Location / Access
SEAT HEATER RELAY – DRIVER	BROWN	SM14-D / BROWN	FRONT SEAT RELAYS / UNDER SEAT
SEAT RAISE RELAY	BLACK	SM18-D / BLACK	FRONT SEAT RELAYS / UNDER SEAT
SEAT LOWER RELAY	BLACK	SM18-D / BLACK	FRONT SEAT RELAYS / UNDER SEAT

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
CA8	20-WAY MULTILOCK 070 / WHITE	DRIVER 'A' POST / DOOR HARNESS GAITER
CA13	4-WAY MULTILOCK 070 / WHITE	DRIVER 'B/C' POST / DOOR HARNESS GAITER
CA23	10-WAY MULTILOCK 070 / WHITE	BELOW DRIVER SEAT
FC1	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW PASSENGER SIDE AIR VENT / GLOVE BOX ASSEMBLY
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY
FC7	20-WAY MULTILOCK 070 / YELLOW	ABOVE DIMMER MODULE / COIN TRAY

GROUNDS

Ground	Location / Type
CA25L	EYELET (PAIR) – PASSENGER SEAT GROUND STUD
CA26L	EYELET (PAIR) – DRIVER SEAT GROUND STUD
CC3L	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

←

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

DATE OF ISSUE: SEPTEMBER 1998

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC15-15	IGNITION SWITCHED GROUND	GROUND	B+
O	FC15-17	SEAT HEATER STATUS (LHD = PASSENGER, RHD = DRIVER)	GROUND	B+
I	FC15-32	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-35	SEAT HEATER REQUEST (LHD = PASSENGER, RHD = DRIVER)	GROUND (MOMENTARY)	B+
I	FC15-41	STARTER ENGAGE REQUEST	GROUND (CRANKING)	B+
O	FC15-69	SEAT HEATER STATUS (LHD = DRIVER, RHD = PASSENGER)	GROUND	B+
I	FC15-80	BATTERY SUPPLY VOLTAGE	B+	B+
S	FC15-84	SCP NETWORK	2 – 1600 Hz	
S	FC15-85	SCP NETWORK	2 – 1600 Hz	
I	FC15-86	SEAT HEATER REQUEST (LHD = DRIVER, RHD = PASSENGER)	GROUND (MOMENTARY)	B+

PASSENGER SEAT CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	SM1-1P	PASSENGER SEAT SQUAB FORE / AFT RECLINE MOTOR SUPPLY	B+	GROUND
O	SM1-2P	PASSENGER SEAT SQUAB FORE / AFT RECLINE MOTOR SUPPLY	B+	GROUND
O	SM1-3P	PASSENGER SEAT CUSHION RAISE / LOWER FRONT MOTOR SUPPLY	B+	GROUND
O	SM1-4P	PASSENGER SEAT CUSHION RAISE / LOWER FRONT MOTOR SUPPLY	B+	GROUND
O	SM1-5P	PASSENGER SEAT HEADREST RAISE / LOWER MOTOR SUPPLY	B+	GROUND
O	SM1-6P	PASSENGER SEAT HEADREST RAISE / LOWER MOTOR SUPPLY	B+	GROUND
O	SM1-7P	PASSENGER SEAT CUSHION FORE / AFT MOTOR SUPPLY	B+	GROUND
O	SM1-8P	PASSENGER SEAT CUSHION FORE / AFT MOTOR SUPPLY	B+	GROUND
I	SM1-9P	PASSENGER SEAT CUSHION FORE MOVEMENT REQUEST	B+	GROUND
I	SM1-10P	PASSENGER SEAT CUSHION AFT MOVEMENT REQUEST	B+	GROUND
I	SM1-11P	PASSENGER SEAT CUSHION LOWER REAR MOVEMENT REQUEST	B+	GROUND
I	SM1-12P	PASSNGER SEAT CUSHION RAISE REAR MOVEMENT REQUEST	B+	GROUND
I	SM1-13P	PASSENGER SEAT CUSHION RAISE FRONT MOVEMENT REQUEST	B+	GROUND
I	SM1-14P	PASSENGER SEAT CUSHION LOWER FRONT MOVEMENT REQUEST	B+	GROUND
I	SM1-15P	PASSENGER SEAT SQUAB AFT RECLINE MOVEMENT REQUEST	B+	GROUND
I	SM1-16P	PASSENGER SEAT SQUAB FORE RECLINE MOVEMENT REQUEST	B+	GROUND
I	SM3-2P	COMMON GROUND SUPPLY	GROUND	GROUND
O	SM3-3P	PASSENGER SEAT CUSHION RAISE / LOWER REAR MOTOR SUPPLY	B+	GROUND
O	SM3-4P	PASSENGER SEAT CUSHION RAISE / LOWER REAR MOTOR SUPPLY	B+	GROUND
I	SM3-5P	BATTERY SUPPLY	B+	B+
I	SM3-6P	PASSENGER SEAT HEADREST RAISE MOVEMENT REQUEST	B+	GROUND
I	SM3-8P	PASSENGER SEAT HEADREST LOWER MOVEMENT REQUEST	B+	GROUND
S	SM3-9P	SCP NETWORK	2 – 1600 Hz	
S	SM3-10P	SCP NETWORK	2 – 1600 Hz	

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

Fig. 12.4

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
SEAT CONTROL MODULE – PASSENGER	SM1-P / 16-WAY FORD 2.8 TIMER / BLACK SM3-P / 10-WAY FORD 2.8 TIMER / BLACK	PASSENGER SEAT / UNDER
SEAT CUSHION HEATERS – PASSENGER	SM7-P / 3-WAY MULTILOCK 070 / YELLOW	PASSENGER SEAT
SEAT HEATER SWITCH (CENTER CONSOLE SWITCH PACK)	CC1 / 16-WAY FORD IDC S.U. / BLACK	CENTER CONSOLE SWITCH PACK
SEAT LUMBAR PUMP – PASSENGER	SM10-P / 3-WAY MULTILOCK 070 / YELLOW	PASSENGER SEAT
SEAT MOTORS – PASSENGER	SM4-P / 6-WAY MULTILOCK 070 / GREY SM6-P / 6-WAY MULTILOCK 070 / YELLOW SM11-P / 6-WAY MULTILOCK 070 / WHITE SM12-P / 6-WAY MULTILOCK 070 / WHITE SM13-P / 6-WAY MULTILOCK 070 / YELLOW	PASSENGER SEAT / UNDER
SEAT SQUAB HEATERS – PASSENGER	SM9-P / 3-WAY MULTILOCK 070 / GREY	PASSENGER SEAT
SWITCH PACK – PASSENGER SEAT	SM5-P / 16-WAY MULTILOCK 040 / BLACK	PASSENGER SEAT

RELAYS

Relay	Case Color	Connector / Color	Location / Access
SEAT HEATER RELAY – PASSENGER	BROWN	SM14-P / BROWN	FRONT SEAT RELAYS / UNDER SEAT

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
CA27	10-WAY MULTILOCK 070 / WHITE	BELOW PASSENGER SEAT
FC1	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW PASSENGER SIDE AIR VENT / GLOVE BOX ASSEMBLY
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY
FC7	20-WAY MULTILOCK 070 / YELLOW	ABOVE DIMMER MODULE / COIN TRAY

GROUNDS

Ground	Location / Type
CA25L	EYELET (PAIR) – PASSENGER SEAT GROUND STUD
CA26L	EYELET (PAIR) – DRIVER SEAT GROUND STUD
CC3L	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

The following symbols are used to represent values for Control Module Pin Out data:

I	Input	D	Serial and encoded communications	B+	Battery voltage	KHz	Frequency x 1000
O	Output	C	CAN (Network)	V	Voltage (DC)	MS	Milliseconds
SG	Signal Ground	S	SCP Network	Hz	Frequency	MV	Millivolts

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 THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC15-15	IGNITION SWITCHED GROUND	GROUND	B+
O	FC15-17	SEAT HEATER STATUS (LHD = PASSENGER, RHD = DRIVER)	GROUND	B+
I	FC15-32	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-35	SEAT HEATER REQUEST (LHD = PASSENGER, RHD = DRIVER)	GROUND (MOMENTARY)	B+
I	FC15-41	STARTER ENGAGE REQUEST	GROUND (CRANKING)	B+
O	FC15-69	SEAT HEATER STATUS (LHD = DRIVER, RHD = PASSENGER)	GROUND	B+
I	FC15-80	BATTERY SUPPLY VOLTAGE	B+	B+
S	FC15-84	SCP NETWORK	2 – 1600 Hz	
S	FC15-85	SCP NETWORK	2 – 1600 Hz	
I	FC15-86	SEAT HEATER REQUEST (LHD = DRIVER, RHD = PASSENGER)	GROUND (MOMENTARY)	B+

PASSENGER SEAT CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	SM1-1P	PASSENGER SEAT SQUAB FORE / AFT RECLINE MOTOR SUPPLY	B+	GROUND
O	SM1-2P	PASSENGER SEAT SQUAB FORE / AFT RECLINE MOTOR SUPPLY	B+	GROUND
O	SM1-3P	PASSENGER SEAT CUSHION RAISE / LOWER FRONT MOTOR SUPPLY	B+	GROUND
O	SM1-4P	PASSENGER SEAT CUSHION RAISE / LOWER FRONT MOTOR SUPPLY	B+	GROUND
O	SM1-5P	PASSENGER SEAT HEADREST RAISE / LOWER MOTOR SUPPLY	B+	GROUND
O	SM1-6P	PASSENGER SEAT HEADREST RAISE / LOWER MOTOR SUPPLY	B+	GROUND
O	SM1-7P	PASSENGER SEAT CUSHION FORE / AFT MOTOR SUPPLY	B+	GROUND
O	SM1-8P	PASSENGER SEAT CUSHION FORE / AFT MOTOR SUPPLY	B+	GROUND
I	SM1-9P	PASSENGER SEAT CUSHION FORE MOVEMENT REQUEST	B+	GROUND
I	SM1-10P	PASSENGER SEAT CUSHION AFT MOVEMENT REQUEST	B+	GROUND
I	SM1-11P	PASSENGER SEAT CUSHION LOWER REAR MOVEMENT REQUEST	B+	GROUND
I	SM1-12P	PASSNGER SEAT CUSHION RAISE REAR MOVEMENT REQUEST	B+	GROUND
I	SM1-13P	PASSENGER SEAT CUSHION RAISE FRONT MOVEMENT REQUEST	B+	GROUND
I	SM1-14P	PASSENGER SEAT CUSHION LOWER FRONT MOVEMENT REQUEST	B+	GROUND
I	SM1-15P	PASSENGER SEAT SQUAB AFT RECLINE MOVEMENT REQUEST	B+	GROUND
I	SM1-16P	PASSENGER SEAT SQUAB FORE RECLINE MOVEMENT REQUEST	B+	GROUND
I	SM3-2P	COMMON GROUND SUPPLY	GROUND	GROUND
O	SM3-3P	PASSENGER SEAT CUSHION RAISE / LOWER REAR MOTOR SUPPLY	B+	GROUND
O	SM3-4P	PASSENGER SEAT CUSHION RAISE / LOWER REAR MOTOR SUPPLY	B+	GROUND
I	SM3-5P	BATTERY SUPPLY	B+	B+
I	SM3-6P	PASSENGER SEAT HEADREST RAISE MOVEMENT REQUEST	B+	GROUND
I	SM3-8P	PASSENGER SEAT HEADREST LOWER MOVEMENT REQUEST	B+	GROUND
S	SM3-9P	SCP NETWORK	2 – 1600 Hz	
S	SM3-10P	SCP NETWORK	2 – 1600 Hz	

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

Fig. 12.5

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
FORE / AFT SWITCH – PASSENGER REAR	SM19-P / 10-WAY AMP MICRO QUAD LOCK / BLACK	PASSENGER SEAT / REAR
RECLINE SWITCH – PASSENGER REAR	SM20-P / 10-WAY AMP MICRO QUAD LOCK / BLACK	PASSENGER SEAT / REAR
SEAT CONTROL MODULE – PASSENGER	SM1-P / 16-WAY FORD 2.8 TIMER / BLACK SM3-P / 10-WAY FORD 2.8 TIMER / BLACK	PASSENGER SEAT / UNDER
SEAT CUSHION HEATERS – PASSENGER	SM7-P / 3-WAY MULTILOCK 070 / YELLOW	PASSENGER SEAT
SEAT HEATER SWITCH (CENTER CONSOLE SWITCH PACK)	CC1 / 16-WAY FORD IDC S.U. / BLACK	CENTER CONSOLE SWITCH PACK
SEAT LUMBAR PUMP – PASSENGER	SM10-P / 3-WAY MULTILOCK 070 / YELLOW	PASSENGER SEAT
SEAT MOTORS – PASSENGER	SM4-P / 6-WAY MULTILOCK 070 / GREY SM6-P / 6-WAY MULTILOCK 070 / YELLOW SM11-P / 6-WAY MULTILOCK 070 / WHITE SM12-P / 6-WAY MULTILOCK 070 / WHITE SM13-P / 6-WAY MULTILOCK 070 / YELLOW	PASSENGER SEAT / UNDER
SEAT SQUAB HEATERS – PASSENGER	SM9-P / 3-WAY MULTILOCK 070 / GREY	PASSENGER SEAT
SWITCH PACK – PASSENGER SEAT	SM5-P / 16-WAY MULTILOCK 040 / BLACK	PASSENGER SEAT

RELAYS

Relay	Case Color	Connector / Color	Location / Access
SEAT HEATER RELAY – PASSENGER	BROWN	SM14-P / BROWN	FRONT SEAT RELAYS / UNDER SEAT

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
CA27	10-WAY MULTILOCK 070 / WHITE	BELOW PASSENGER SEAT
FC1	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW PASSENGER SIDE AIR VENT / GLOVE BOX ASSEMBLY
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY
FC7	20-WAY MULTILOCK 070 / YELLOW	ABOVE DIMMER MODULE / COIN TRAY
SM25-P	10-WAY MULTILOCK 070 / WHITE	BEHIND PASSENGER SEAT BACK FINISHER

GROUNDS

Ground	Location / Type
CA25L	EYELET (PAIR) – PASSENGER SEAT GROUND STUD
CA26L	EYELET (PAIR) – DRIVER SEAT GROUND STUD
CC3L	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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 THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

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CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC15-15	IGNITION SWITCHED GROUND	GROUND	B+
O	FC15-17	SEAT HEATER STATUS (LHD = PASSENGER, RHD = DRIVER)	GROUND	B+
I	FC15-32	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-35	SEAT HEATER REQUEST (LHD = PASSENGER, RHD = DRIVER)	GROUND (MOMENTARY)	B+
I	FC15-41	STARTER ENGAGE REQUEST	GROUND (CRANKING)	B+
O	FC15-69	SEAT HEATER STATUS (LHD = DRIVER, RHD = PASSENGER)	GROUND	B+
I	FC15-80	BATTERY SUPPLY VOLTAGE	B+	B+
I	FC15-86	SEAT HEATER REQUEST (LHD = DRIVER, RHD = PASSENGER)	GROUND (MOMENTARY)	B+

Fig. 12.6

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
SEAT CUSHION HEATERS – DRIVER	SM7-D / 3-WAY MULTILOCK 070 / YELLOW	DRIVER SEAT
SEAT CUSHION HEATERS – PASSENGER	SM7-P / 3-WAY MULTILOCK 070 / YELLOW	PASSENGER SEAT
SEAT HEATER SWITCHES (CENTER CONSOLE SWITCH PACK)	CC1 / 16-WAY FORD IDC S.U. / BLACK	CENTER CONSOLE SWITCH PACK
SEAT SQUAB HEATERS – DRIVER	SM9-D / 3-WAY MULTILOCK 070 / GREY	DRIVER SEAT
SEAT SQUAB HEATERS – PASSENGER	SM9-P / 3-WAY MULTILOCK 070 / GREY	PASSENGER SEAT

RELAYS

Relay	Case Color	Connector / Color	Location / Access
SEAT HEATER RELAY – DRIVER	BROWN	SM14-D / BROWN	FRONT SEAT RELAYS / UNDER SEAT
SEAT HEATER RELAY – PASSENGER	BROWN	SM14-P / BROWN	FRONT SEAT RELAYS / UNDER SEAT

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
CA23	10-WAY MULTILOCK 070 / WHITE	BELOW DRIVER SEAT
CA27	10-WAY MULTILOCK 070 / WHITE	BELOW PASSENGER SEAT
FC1	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW PASSENGER SIDE AIR VENT / GLOVE BOX ASSEMBLY
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY
FC7	20-WAY MULTILOCK 070 / YELLOW	ABOVE DIMMER MODULE / COIN TRAY

GROUNDS

Ground	Location / Type
CC3L	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE
CA25L	EYELET (PAIR) – PASSENGER SEAT GROUND STUD
CA26L	EYELET (PAIR) – DRIVER SEAT GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

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CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC15-15	IGNITION SWITCHED GROUND	GROUND	B+
O	FC15-17	SEAT HEATER STATUS (LHD = PASSENGER, RHD = DRIVER)	GROUND	B+
I	FC15-32	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-35	SEAT HEATER REQUEST (LHD = PASSENGER, RHD = DRIVER)	GROUND (MOMENTARY)	B+
I	FC15-41	STARTER ENGAGE REQUEST	GROUND (CRANKING)	B+
O	FC15-69	SEAT HEATER STATUS (LHD = DRIVER, RHD = PASSENGER)	GROUND	B+
I	FC15-80	BATTERY SUPPLY VOLTAGE	B+	B+
I	FC15-86	SEAT HEATER REQUEST (LHD = DRIVER, RHD = PASSENGER)	GROUND (MOMENTARY)	B+

Fig. 12.7

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
SEAT CUSHION HEATERS – DRIVER	SM7-D / 3-WAY MULTILOCK 070 / YELLOW	DRIVER SEAT
SEAT CUSHION HEATERS – PASSENGER	SM7-P / 3-WAY MULTILOCK 070 / YELLOW	PASSENGER SEAT
SEAT HEATER SWITCHES (CENTER CONSOLE SWITCH PACK)	CC1 / 16-WAY FORD IDC S.U. / BLACK	CENTER CONSOLE SWITCH PACK
SEAT SQUAB HEATERS – DRIVER	SM9-D / 3-WAY MULTILOCK 070 / GREY	DRIVER SEAT
SEAT SQUAB HEATERS – PASSENGER	SM9-P / 3-WAY MULTILOCK 070 / GREY	PASSENGER SEAT

RELAYS

Relay	Case Color	Connector / Color	Location / Access
SEAT HEATER RELAY – DRIVER	BROWN	SM14-D / BROWN	FRONT SEAT RELAYS / UNDER SEAT
SEAT HEATER RELAY – PASSENGER	BROWN	SM14-P / BROWN	FRONT SEAT RELAYS / UNDER SEAT

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
CA23	10-WAY MULTILOCK 070 / WHITE	BELOW DRIVER SEAT
CA27	10-WAY MULTILOCK 070 / WHITE	BELOW PASSENGER SEAT
FC1	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW PASSENGER SIDE AIR VENT / GLOVE BOX ASSEMBLY
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY
FC7	20-WAY MULTILOCK 070 / YELLOW	ABOVE DIMMER MODULE / COIN TRAY

GROUNDS

Ground	Location / Type
CC3L	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE
CA25L	EYELET (PAIR) – PASSENGER SEAT GROUND STUD
CA26L	EYELET (PAIR) – DRIVER SEAT GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

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CONTROL MODULE PIN OUT INFORMATION

REAR SEAT CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	BS1-11	LH LUMBAR SWITCH INFLATE	B+	0 V
I	BS2-3	GROUND	GROUND	GROUND
I	BS2-4	BATTERY POWER SUPPLY	B+	B+
I	BS2-5	GROUND	GROUND	GROUND
I	BS2-6	BATTERY POWER SUPPLY	B+	B+
I	BS2-12	BATTERY POWER SUPPLY	B+	B+
O	BS6-1	RH REAR SEAT LUMBAR PUMP FEED	B+	B+
O	BS6-2	RH REAR SEAT LUMBER DEFLATE SOLENOID VALVE	B+	0 V
O	BS6-3	LH REAR SEAT MOTOR – FORE / AFT MOTOR	B+	0 V
O	BS6-4	LH REAR SEAT MOTOR – FORE / AFT MOTOR	B+	0 V
O	BS6-5	LH REAR SEAT – HEADREST MOTOR	B+	0 V
O	BS6-6	LH REAR SEAT – HEADREST MOTOR	B+	0 V
O	BS6-7	RH REAR SEAT MOTOR – FORE / AFT MOTOR	B+	0 V
O	BS6-8	RH REAR SEAT MOTOR – FORE / AFT MOTOR	B+	0 V
O	BS6-10	LH REAR SEAT LUMBAR PUMP FEED	B+	B+
O	BS6-11	RH REAR SEAT – HEADREST MOTOR	B+	0 V
O	BS6-12	RH REAR SEAT – HEADREST MOTOR	B+	0 V
I	BS7-8	RH LUMBAR SWITCH – INFLATE REQUEST	B+	0 V
I	BS7-9	RH FORE / AFT SWITCH – AFT REQUEST	B+	0 V
I	BS7-10	RH FORE / AFT SWITCH – FORE REQUEST	B+	0 V
I	BS7-14	RH HEADREST SWITCH – LOWER REQUEST	B+	0 V
I	BS7-15	RH HEADREST SWITCH – RAISE REQUEST	B+	0 V
I	BS7-16	LH HEADREST SWITCH – LOWER REQUEST	B+	0 V
I	BS7-17	LH HEADREST SWITCH – RAISE REQUEST	B+	0 V
I	BS7-18	LH FORE / AFT SWITCH – AFT REQUEST	B+	0 V
I	BS7-19	LH FORE / AFT SWITCH – FORE REQUEST	B+	0 V
I	BS7-20	RH LUMBAR SWITCH – DEFLATE REQUEST	B+	0 V

The following symbols are used to represent values for Control Module Pin Out data:

I	Input	D	Serial and encoded communications	B+	Battery voltage	KHz	Frequency x 1000
O	Output	C	CAN (Network)	V	Voltage (DC)	MS	Milliseconds
SG	Signal Ground	S	SCP Network	Hz	Frequency	MV	Millivolts

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.

Fig. 12.8

COMPONENTS

Component	Connector / Type / Color	Location / Access
SEAT CONTROL MODULE – REAR	BS1 / 22-WAY MULTILOCK 47 / BLUE BS2 / 12-WAY MULTILOCK 47 / BLUE BS6 / 12-WAY MULTILOCK 47 / WHITE BS7 / 22-WAY MULTILOCK 47 / WHITE	BELOW REAR CENTER CONSOLE
SEAT FORE / AFT MOTOR – LH REAR	BS21 / 3-WAY MULTILOCK 070 / WHITE	BELOW SEAT CUSHION
SEAT FORE / AFT MOTOR – RH REAR	BS22 / 3-WAY MULTILOCK 070 / WHITE	BELOW SEAT CUSHION
SEAT FORE / AFT SWITCH – LH REAR	BC3 / 10-WAY AMP MICRO QUAD LOCK / BLACK	REAR CENTER CONSOLE SWITCH PACK
SEAT FORE / AFT SWITCH – RH REAR	BC5 / 10-WAY AMP MICRO QUAD LOCK / BLACK	REAR CENTER CONSOLE SWITCH PACK
SEAT HEADREST MOTOR – LH REAR	BB3-L / 6-WAY MULTILOCK 070 / YELLOW	REAR SEAT
SEAT HEADREST MOTOR – RH REAR	BB3-R / 6-WAY MULTILOCK 070 / YELLOW	REAR SEAT
SEAT HEADREST SWITCH – LH REAR	BC4 / 10-WAY AMP MICRO QUAD LOCK / BLACK	REAR CENTER CONSOLE SWITCH PACK
SEAT HEADREST SWITCH – RH REAR	BC7 / 10-WAY AMP MICRO QUAD LOCK / BLACK	REAR CENTER CONSOLE SWITCH PACK
SEAT LUMBAR PUMP – LH REAR	BB4-L / 3-WAY MULTILOCK 070 / YELLOW	REAR SEAT
SEAT LUMBAR PUMP – RH REAR	BB4-R / 3-WAY MULTILOCK 070 / YELLOW	REAR SEAT
SEAT LUMBAR SWITCH – LH REAR	BC8 / 10-WAY AMP MICRO QUAD LOCK / BLACK	REAR CENTER CONSOLE SWITCH PACK
SEAT LUMBAR SWITCH – RH REAR	BC6 / 10-WAY AMP MICRO QUAD LOCK / BLACK	REAR CENTER CONSOLE SWITCH PACK

RELAYS

Relay	Case Color	Connector / Color	Location / Access
LUMBAR DEFLATE RELAY – LH	BLACK	BS10 / BLACK	RH HEELBOARD RELAYS / HEELBOARD COVER

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BS3	6-WAY MULTILOCK 070 / WHITE	BELOW REAR SEAT CUSHION
BS4	20-WAY MULTILOCK 070 / WHITE	BELOW REAR CENTER CONSOLE SEAT SWITCHES
BS5	6-WAY MULTILOCK 070 / WHITE	BELOW REAR SEAT CUSHION
CA109	12-WAY MULTILOCK 070 / WHITE	BELOW REAR SEAT CUSHION

GROUNDS

Ground	Location / Type
CA38L	EYELET (PAIR) – LH HEELBOARD POST GROUND SCREW
CA110L	EYELET (PAIR) – LH HEELBOARD POST GROUND SCREW
CA110R	EYELET (PAIR) – LH HEELBOARD POST GROUND SCREW

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

←

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

DATE OF ISSUE: SEPTEMBER 1998

Fig. 12.9

COMPONENTS

Component	Connector / Type / Color	Location / Access
SEAT CUSHION HEATER – LH REAR	BB1-L / 3-WAY MULTILOCK 070 / YELLOW	REAR SEAT
SEAT CUSHION HEATER – RH REAR	BB1-R / 3-WAY MULTILOCK 070 / YELLOW	REAR SEAT
SEAT HEATER SWITCH – LH REAR (LWB VEHICLES)	BC1 / 10-WAY AMP MICRO QUAD LOCK / BLACK	REAR CENTER CONSOLE SWITCH PACK
SEAT HEATER SWITCH – RH REAR (LWB VEHICLES)	BC2 / 10-WAY AMP MICRO QUAD LOCK / BLACK	REAR CENTER CONSOLE SWITCH PACK
SEAT HEATER TIMER – LH REAR	BS8 / 5-WAY RELAY BASE / BROWN	RH HEELBOARD / HEELBOARD COVER
SEAT HEATER TIMER – RH REAR	BS9 / 5-WAY RELAY BASE / BROWN	RH HEELBOARD / HEELBOARD COVER
SQUAB HEATER – LH REAR	BB5-L / 3-WAY MULTILOCK 070 / GREY	REAR SEAT
SQUAB HEATER – RH REAR	BB5-R / 3-WAY MULTILOCK 070 / GREY	REAR SEAT

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BS3	6-WAY MULTILOCK 070 / WHITE	BELOW REAR SEAT CUSHION
BS4	20-WAY MULTILOCK 070 / WHITE	BELOW REAR CENTER CONSOLE SEAT SWITCHES
BS5	6-WAY MULTILOCK 070 / WHITE	BELOW REAR SEAT CUSHION
CA109	12-WAY MULTILOCK 070 / WHITE	BELOW REAR SEAT CUSHION

GROUNDS

Ground	Location / Type
CA38L	EYELET (PAIR) – LH HEELBOARD POST GROUND SCREW

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC15-5	TRUNK RELEASE REQUEST	GROUND (MOMENTARY)	B+
I	FC15-15	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-32	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-33	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-41	STARTER ENGAGE REQUEST	GROUND (CRANKING)	B+
I	FC15-55	VALET REQUEST	GROUND (MOMENTARY)	B+
I	FC15-58	NOT IN PARK MICROSWITCH STATUS	GROUND (PARK)	B+ (NOT IN PARK)
I	FC15-63	CENTRAL LOCKING REQUEST	GROUND (MOMENTARY)	B+
I	FC15-67	KEY IN IGNITION	GROUND (KEY IN)	B+ (KEY OUT)
O	FC15-71	DOOR LOCKING RELAY ACTIVATE	GROUND (PULSE)	B+
I	FC15-80	BATTERY SUPPLY VOLTAGE	B+	B+
S	FC15-84	SCP NETWORK	2 – 1600 Hz	
S	FC15-85	SCP NETWORK	2 – 1600 Hz	

DRIVER DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	DD10-1	BATTERY POWER SUPPLY	B+	B+
O	DD10-5	DRIVERS DOOR LOCK ACTUATOR MOTOR UNLOCK	B+	GROUND
O	DD10-6	DRIVERS DOOR LOCK ACTUATOR MOTOR LOCK	B+	GROUND
I	DD10-8	LOGIC GROUND	GROUND	GROUND
S	DD10-9	SCP NETWORK	2 – 1600 Hz	
S	DD10-16	SCP NETWORK	2 – 1600 Hz	
I	DD10-17	POWER GROUND	GROUND	GROUND
I	DD11-4	DRIVER DOOR LOCK BARREL UNLOCK REQUEST	B+ (MOMENTARY)	GROUND
I	DD11-12	DRIVER DOOR LOCK BARREL LOCK REQUEST	B+ (MOMENTARY)	GROUND
I	DD11-20	DRIVER DOOR SWITCH	GROUND (DOOR OPEN)	B+

DRIVER REAR DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	RD10-1	BATTERY POWER SUPPLY	B+	B+
O	RD10-5	DRIVER REAR DOOR LOCK ACTUATOR MOTOR UNLOCK	B+	GROUND
O	RD10-6	DRIVER REAR DOOR LOCK ACTUATOR MOTOR LOCK	B+	GROUND
I	RD10-8	LOGIC GROUND	GROUND	GROUND
S	RD10-9	SCP NETWORK	2 – 1600 Hz	
S	RD10-16	SCP NETWORK	2 – 1600 Hz	
I	RD10-17	POWER GROUND	GROUND	GROUND
I	RD10-19	MODULE IDENTIFICATION	GROUND	GROUND
I	RD11-7	MODULE IDENTIFICATION	GROUND	GROUND
I	RD11-20	DRIVER REAR DOOR SWITCH	GROUND (DOOR OPEN)	B+

PASSENGER DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	PD10-1	BATTERY POWER SUPPLY	B+	B+
O	PD10-5	PASSENGER DOOR LOCK ACTUATOR MOTOR UNLOCK	B+	GROUND
O	PD10-6	PASSENGER DOOR LOCK ACTUATOR MOTOR LOCK	B+	GROUND
I	PD10-8	LOGIC GROUND	GROUND	GROUND
S	PD10-9	SCP NETWORK	2 – 1600 Hz	
S	PD10-16	SCP NETWORK	2 – 1600 Hz	
I	PD10-17	POWER GROUND	GROUND	GROUND
I	PD11-20	PASSENGER DOOR SWITCH	GROUND (DOOR OPEN)	B+

PASSENGER REAR DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	RP10-1	BATTERY POWER SUPPLY	B+	B+
O	RP10-5	PASSENGER REAR DOOR LOCK ACTUATOR MOTOR UNLOCK	B+	GROUND
O	RP10-6	PASSENGER REAR DOOR LOCK ACTUATOR MOTOR LOCK	B+	GROUND
I	RP10-8	LOGIC GROUND	GROUND	GROUND
S	RP10-9	SCP NETWORK	2 – 1600 Hz	
S	RP10-16	SCP NETWORK	2 – 1600 Hz	
I	RP10-17	POWER GROUND	GROUND	GROUND
I	RP11-20	PASSENGER REAR DOOR SWITCH	GROUND (DOOR OPEN)	B+

SECURITY AND LOCKING CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	BT1-1	TRUNK RELEASE ACTUATOR ACTIVATE	B+ (PULSE)	GROUND
O	BT1-2	FUEL FILLER FLAP UNLOCK RELAY ACTIVATE	B+ (PULSE)	GROUND
S	BT1-8	SCP NETWORK	2 – 1600 Hz	
O	BT1-10	FUEL FILLER FLAP LOCK RELAY ACTIVATE	B+	GROUND
I	BT1-13	LOGIC GROUND	GROUND	GROUND
I	BT1-14	LOGIC GROUND	GROUND	GROUND
I	BT1-15	BATTERY POWER SUPPLY	B+	B+
S	BT1-16	SCP NETWORK	2 – 1600 Hz	
I	BT2-3	TRUNK RELEASE REQUEST	GROUND (MOMENTARY)	B+
I	BT2-5	TRUNK SECURITY SWITCH STATUS	GROUND (INTRUSION)	B+ (SECURE)
I	BT2-7	DRIVER DOOR LOCK STATUS		
I	BT2-19	PASSENGER DOOR LOCK STATUS		
I	BT6-1	KEY FOB ANTENNA		
I	BT6-2	KEY FOB ANTENNA SHIELD	GROUND	GROUND

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 13.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
CENTRAL LOCKING SWITCH (CENTER CONSOLE SWITCH PACK)	CC1 / 16-WAY FORD IDC S.U. / BLACK	CENTER CONSOLE SWITCH PACK
DOOR CONTROL MODULE – DRIVER	DD10 / 22-WAY FORD 2.8 TIMER / BLUE DD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR CONTROL MODULE – DRIVER REAR	RD10 / 22-WAY FORD 2.8 TIMER / BLUE RD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR CONTROL MODULE – PASSENGER	PD10 / 22-WAY FORD 2.8 TIMER / BLUE PD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR CONTROL MODULE – PASSENGER REAR	RP10 / 22-WAY FORD 2.8 TIMER / BLUE RP11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR LOCK ACTUATOR – DRIVER	DD3 / 13-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
DOOR LOCK ACTUATOR – DRIVER REAR	RD3 / 6-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
DOOR LOCK ACTUATOR – PASSENGER	PD3 / 13-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
DOOR LOCK ACTUATOR – PASSENGER REAR	RP3 / 6-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
DOOR LOCK SWITCHES – DRIVER	DD3 / 13-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
DOOR SWITCH – DRIVER	DD3 / 13-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
DOOR SWITCH – DRIVER REAR	RD3 / 6-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
DOOR SWITCH – PASSENGER	PD3 / 13-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
DOOR SWITCH – PASSENGER REAR	RP3 / 6-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
FUEL FILLER FLAP LOCK ACTUATOR	BT16 / 2-WAY LABINAL / NATURAL	TRUNK / LH FRONT
IGNITION SWITCH (KEY-IN SWITCH)	FC4 / 8-WAY MULTILOCK 070 / WHITE	STEERING COLUMN
KEY FOB ANTENNA	BT33 / 1-WAY COAXIAL CONNECTOR	TOP OF BACKLIGHT
NOT-IN-PARK MICROSWITCH	CC13 / 3-WAY MULTILOCK 070 / WHITE	CENTER CONSOLE ASSEMBLY
SECURITY AND LOCKING CONTROL MODULE	BT1 / 16-WAY FORD 2.8 TIMER / BLACK BT2 / 26-WAY FORD IDC / BLACK BT6 / 1-WAY COAXIAL CONNECTOR	BELOW TRUNK FUSE BOX
SPLICE HEADER – CA223	CA223 / 20-WAY SUMITOMO SPLICE HEADER / BLACK	RH HEELBOARD / HEELBOARD COVER
TRUNK RELEASE ACTUATOR	BT43 / 2-WAY LABINAL / BROWN	BEHIND TRUNK LID LINER
TRUNK RELEASE SWITCH	BT42 / 2-WAY MULTILOCK 040 / GREEN	BEHIND TRUNK LID LINER
TRUNK RELEASE SWITCH (FASCIA SWITCH PACK)	FC14 / 6-WAY JAE IL-AG5 / GREEN	FASCIA SWITCH PACK
TRUNK SWITCH	BT41 / 2-WAY AUGAT 1.6 / BLACK	BEHIND TRUNK LID LINER
VALET SWITCH (CENTER CONSOLE SWITCH PACK)	CC1 / 16-WAY FORD IDC S.U. / BLACK	CENTER CONSOLE SWITCH PACK

RELAYS

Relay	Case Color	Connector / Color	Location / Access
DOOR LOCKING RELAY	BLACK	CA50 / BLACK	LH HEELBOARD RELAYS / HEELBOARD COVER
FUEL FILLER FLAP LOCK RELAY	BLACK	BT23 / BLACK	TRUNK RELAYS / TRUNK
FUEL FILLER FLAP UNLOCK RELAY	BLACK	BT23 / BLACK	TRUNK RELAYS / TRUNK

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT4	54-WAY THROUGH PANEL / GREY	BELOW PARCEL SHELF / TRUNK / REAR BULKHEAD / RH SIDE
CA8	20-WAY MULTILOCK 070 / WHITE	DRIVER 'A' POST / DOOR HARNESS GAITER
CA10	8-WAY MULTILOCK 070 / YELLOW	DRIVER 'A' POST / DOOR HARNESS GAITER
CA11	20-WAY MULTILOCK 070 / WHITE	PASSENGER 'A' POST / DOOR HARNESS GAITER
CA11	20-WAY MULTILOCK 070 / WHITE	PASSENGER 'A' POST / DOOR HARNESS GAITER
CA12	8-WAY MULTILOCK 070 / YELLOW	PASSENGER 'A' POST / DOOR HARNESS GAITER
CA14	6-WAY MULTILOCK 070 / WHITE	DRIVER 'B/C' POST / DOOR HARNESS GAITER
CA16	6-WAY MULTILOCK 070 / WHITE	PASSENGER 'B/C' POST / DOOR HARNESS GAITER
CA45	4-WAY MULTILOCK 070 / WHITE	PASSENGER 'B/C' POST / DOOR HARNESS GAITER
CA46	4-WAY MULTILOCK 070 / WHITE	DRIVER 'B/C' POST / DOOR HARNESS GAITER
FC1	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW PASSENGER SIDE AIR VENT / GLOVE BOX ASSEMBLY
FC7	20-WAY MULTILOCK 070 / YELLOW	ABOVE DIMMER MODULE / COIN TRAY

GROUNDS

Ground	Location / Type
BT22*	EYELET (PAIR) – TRUNK / RH CENTER GROUND STUD (*STANDARD ICE)
BT22L*	EYELET (PAIR) – TRUNK / RH CENTER GROUND STUD (*PREMIUM ICE)
BT28L	EYELET (PAIR) – TRUNK / RH CENTER GROUND STUD
BT34	EYELET (SINGLE) – KEY FOB ANTENNA GROUND / BACKLIGHT / CENTER
CA30R	EYELET (PAIR) – LH 'A' POST GROUND SCREW
CA31L	EYELET (PAIR) – RH DRIVE SHAFT TUNNEL GROUND STUD
CA33L	EYELET (PAIR) – RH 'A' POST GROUND SCREW
CA33R	EYELET (PAIR) – RH 'A' POST GROUND SCREW
CA36L	EYELET (PAIR) – LH 'A' POST GROUND SCREW
CA36R	EYELET (PAIR) – LH 'A' POST GROUND SCREW
CC3L	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE
CC3R	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE
FC17L	EYELET (PAIR) – EMS BULKHEAD GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

←

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

DATE OF ISSUE: SEPTEMBER 1998

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC15-5	TRUNK RELEASE REQUEST	GROUND (MOMENTARY)	B+
I	FC15-15	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-32	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-33	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-41	STARTER ENGAGE REQUEST	GROUND (CRANKING)	B+
I	FC15-55	VALET REQUEST	GROUND (MOMENTARY)	B+
I	FC15-58	NOT IN PARK MICROSWITCH STATUS	GROUND (PARK)	B+ (NOT IN PARK)
I	FC15-63	CENTRAL LOCKING REQUEST	GROUND (MOMENTARY)	B+
I	FC15-67	KEY IN IGNITION	GROUND (KEY IN)	B+ (KEY OUT)
O	FC15-71	DOOR LOCKING RELAY ACTIVATE	GROUND (PULSE)	B+
I	FC15-80	BATTERY SUPPLY VOLTAGE	B+	B+
S	FC15-84	SCP NETWORK	2 – 1600 Hz	
S	FC15-85	SCP NETWORK	2 – 1600 Hz	

DRIVER DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	DD10-1	BATTERY POWER SUPPLY	B+	B+
O	DD10-5	DRIVERS DOOR LOCK ACTUATOR MOTOR UNLOCK	B+	GROUND
I	DD10-8	LOGIC GROUND	GROUND	GROUND
S	DD10-9	SCP NETWORK	2 – 1600 Hz	
S	DD10-16	SCP NETWORK	2 – 1600 Hz	
I	DD10-17	POWER GROUND	GROUND	GROUND
I	DD11-4	DRIVER DOOR LOCK BARREL UNLOCK REQUEST	B+ (MOMENTARY)	GROUND
I	DD11-12	DRIVER DOOR LOCK BARREL LOCK REQUEST	B+ (MOMENTARY)	GROUND
I	DD11-20	DRIVER DOOR SWITCH	GROUND (DOOR OPEN)	B+

DRIVER REAR DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	RD10-1	BATTERY POWER SUPPLY	B+	B+
O	RD10-5	DRIVER REAR DOOR LOCK ACTUATOR MOTOR UNLOCK	B+	GROUND
I	RD10-8	LOGIC GROUND	GROUND	GROUND
S	RD10-9	SCP NETWORK	2 – 1600 Hz	
S	RD10-16	SCP NETWORK	2 – 1600 Hz	
I	RD10-17	POWER GROUND	GROUND	GROUND
I	RD10-19	MODULE IDENTIFICATION	GROUND	GROUND
I	RD11-7	MODULE IDENTIFICATION	GROUND	GROUND
I	RD11-20	DRIVER REAR DOOR SWITCH	GROUND (DOOR OPEN)	B+

PASSENGER DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	PD10-1	BATTERY POWER SUPPLY	B+	B+
O	PD10-5	PASSENGER DOOR LOCK ACTUATOR MOTOR UNLOCK	B+	GROUND
I	PD10-8	LOGIC GROUND	GROUND	GROUND
S	PD10-9	SCP NETWORK	2 – 1600 Hz	
S	PD10-16	SCP NETWORK	2 – 1600 Hz	
I	PD10-17	POWER GROUND	GROUND	GROUND
I	PD11-20	PASSENGER DOOR SWITCH	GROUND (DOOR OPEN)	B+

PASSENGER REAR DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	RP10-1	BATTERY POWER SUPPLY	B+	B+
O	RP10-5	PASSENGER REAR DOOR LOCK ACTUATOR MOTOR UNLOCK	B+	GROUND
I	RP10-8	LOGIC GROUND	GROUND	GROUND
S	RP10-9	SCP NETWORK	2 – 1600 Hz	
S	RP10-16	SCP NETWORK	2 – 1600 Hz	
I	RP10-17	POWER GROUND	GROUND	GROUND
I	RP11-20	PASSENGER REAR DOOR SWITCH	GROUND (DOOR OPEN)	B+

SECURITY AND LOCKING CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	BT1-1	TRUNK RELEASE ACTUATOR ACTIVATE	B+ (PULSE)	GROUND
O	BT1-2	FUEL FILLER FLAP UNLOCK RELAY ACTIVATE	B+ (PULSE)	GROUND
S	BT1-8	SCP NETWORK	2 – 1600 Hz	
O	BT1-10	FUEL FILLER FLAP LOCK RELAY ACTIVATE	B+	GROUND
I	BT1-13	LOGIC GROUND	GROUND	GROUND
I	BT1-14	LOGIC GROUND	GROUND	GROUND
I	BT1-15	BATTERY POWER SUPPLY	B+	B+
S	BT1-16	SCP NETWORK	2 – 1600 Hz	
I	BT2-3	TRUNK RELEASE REQUEST	GROUND (MOMENTARY)	B+
I	BT2-5	TRUNK SECURITY SWITCH STATUS	GROUND (INTRUSION)	B+ (SECURE)
I	BT2-7	DRIVER DOOR LOCK STATUS		
I	BT2-19	PASSENGER DOOR LOCK STATUS		
I	BT6-1	KEY FOB ANTENNA		
I	BT6-2	KEY FOB ANTENNA SHIELD	GROUND	GROUND

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 13.2

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
CENTRAL LOCKING SWITCH (CENTER CONSOLE SWITCH PACK)	CC1 / 16-WAY FORD IDC S.U. / BLACK	CENTER CONSOLE SWITCH PACK
DOOR CONTROL MODULE – DRIVER	DD10 / 22-WAY FORD 2.8 TIMER / BLUE DD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR CONTROL MODULE – DRIVER REAR	RD10 / 22-WAY FORD 2.8 TIMER / BLUE RD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR CONTROL MODULE – PASSENGER	PD10 / 22-WAY FORD 2.8 TIMER / BLUE PD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR CONTROL MODULE – PASSENGER REAR	RP10 / 22-WAY FORD 2.8 TIMER / BLUE RP11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR LOCK ACTUATOR – DRIVER	DD3 / 13-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
DOOR LOCK ACTUATOR – DRIVER REAR	RD3 / 6-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
DOOR LOCK ACTUATOR – PASSENGER	PD3 / 13-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
DOOR LOCK ACTUATOR – PASSENGER REAR	RP3 / 6-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
DOOR LOCK SWITCHES – DRIVER	DD3 / 13-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
DOOR SWITCH – DRIVER	DD3 / 13-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
DOOR SWITCH – DRIVER REAR	RD3 / 6-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
DOOR SWITCH – PASSENGER	PD3 / 13-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
DOOR SWITCH – PASSENGER REAR	RP3 / 6-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
FUEL FILLER FLAP LOCK ACTUATOR	BT16 / 2-WAY LABINOL / NATURAL	TRUNK / LH FRONT
IGNITION SWITCH (KEY-IN SWITCH)	FC4 / 8-WAY MULTILOCK 070 / WHITE	STEERING COLUMN
KEY FOB ANTENNA	BT33 / 1-WAY COAXIAL CONNECTOR	TOP OF BACKLIGHT
NOT-IN-PARK MICROSWITCH	CC13 / 3-WAY MULTILOCK 070 / WHITE	CENTER CONSOLE ASSEMBLY
SECURITY AND LOCKING CONTROL MODULE	BT1 / 16-WAY FORD 2.8 TIMER / BLACK BT2 / 26-WAY FORD IDC / BLACK BT6 / 1-WAY COAXIAL CONNECTOR	BELOW TRUNK FUSE BOX
SPLICE HEADER – CA223	CA223 / 20-WAY SUMITOMO SPLICE HEADER / BLACK	RH HEELBOARD / HEELBOARD COVER
TRUNK RELEASE ACTUATOR	BT43 / 2-WAY LABINAL / BROWN	BEHIND TRUNK LID LINER
TRUNK RELEASE SWITCH	BT42 / 2-WAY MULTILOCK 040 / GREEN	BEHIND TRUNK LID LINER
TRUNK RELEASE SWITCH (FASCIA SWITCH PACK)	FC14 / 6-WAY JAE IL-AG5 / GREEN	FASCIA SWITCH PACK
TRUNK SWITCH	BT41 / 2-WAY AUGAT 1.6 / BLACK	BEHIND TRUNK LID LINER
VALET SWITCH (CENTER CONSOLE SWITCH PACK)	CC1 / 16-WAY FORD IDC S.U. / BLACK	CENTER CONSOLE SWITCH PACK

RELAYS

Relay	Case Color	Connector / Color	Location / Access
DOOR LOCKING RELAY	BLACK	CA50 / BLACK	LH HEELBOARD RELAYS / HEELBOARD COVER
FUEL FILLER FLAP LOCK RELAY	BLACK	BT23 / BLACK	TRUNK RELAYS / TRUNK
FUEL FILLER FLAP UNLOCK RELAY	BLACK	BT23 / BLACK	TRUNK RELAYS / TRUNK

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT4	54-WAY THROUGH PANEL / GREY	BELOW PARCEL SHELF / TRUNK / REAR BULKHEAD / RH SIDE
CA8	20-WAY MULTILOCK 070 / WHITE	DRIVER 'A' POST / DOOR HARNESS GAITER
CA10	8-WAY MULTILOCK 070 / YELLOW	DRIVER 'A' POST / DOOR HARNESS GAITER
CA11	20-WAY MULTILOCK 070 / WHITE	PASSENGER 'A' POST / DOOR HARNESS GAITER
CA11	20-WAY MULTILOCK 070 / WHITE	PASSENGER 'A' POST / DOOR HARNESS GAITER
CA12	8-WAY MULTILOCK 070 / YELLOW	PASSENGER 'A' POST / DOOR HARNESS GAITER
CA14	6-WAY MULTILOCK 070 / WHITE	DRIVER 'B/C' POST / DOOR HARNESS GAITER
CA16	6-WAY MULTILOCK 070 / WHITE	PASSENGER 'B/C' POST / DOOR HARNESS GAITER
CA45	4-WAY MULTILOCK 070 / WHITE	PASSENGER 'B/C' POST / DOOR HARNESS GAITER
CA46	4-WAY MULTILOCK 070 / WHITE	DRIVER 'B/C' POST / DOOR HARNESS GAITER
FC1	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW PASSENGER SIDE AIR VENT / GLOVE BOX ASSEMBLY
FC7	20-WAY MULTILOCK 070 / YELLOW	ABOVE DIMMER MODULE / COIN TRAY

GROUNDS

Ground	Location / Type
BT22*	EYELET (PAIR) – TRUNK / RH CENTER GROUND STUD (*STANDARD ICE)
BT22L*	EYELET (PAIR) – TRUNK / RH CENTER GROUND STUD (*PREMIUM ICE)
BT28L	EYELET (PAIR) – TRUNK / RH CENTER GROUND STUD
BT34	EYELET (SINGLE) – KEY FOB ANTENNA GROUND / BACKLIGHT / CENTER
CA30R	EYELET (PAIR) – LH 'A' POST GROUND SCREW
CA31L	EYELET (PAIR) – RH DRIVE SHAFT TUNNEL GROUND STUD
CA33L	EYELET (PAIR) – RH 'A' POST GROUND SCREW
CA33R	EYELET (PAIR) – RH 'A' POST GROUND SCREW
CA36L	EYELET (PAIR) – LH 'A' POST GROUND SCREW
CA36R	EYELET (PAIR) – LH 'A' POST GROUND SCREW
CC3L	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE
CC3R	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE
FC17L	EYELET (PAIR) – EMS BULKHEAD GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

DATE OF ISSUE: SEPTEMBER 1998

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC15-6	WASHER FLUID LEVEL SENSOR	GROUND (FULL)	B+ (EMPTY)
I	FC15-9	VARIABLE INTERMITTENT WIPE REQUEST		
I	FC15-15	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-16	SIDE LAMP REQUEST	GROUND	B+
O	FC15-18	POWER WASH RELAY ACTIVATE	GROUND	B+
O	FC15-19	WIPER FAST / SLOW RELAY ACTIVATE	GROUND (FAST)	B+ (SLOW)
O	FC15-26	WINSHIELD WASHER PUMP ACTIVATE	B+	GROUND
I	FC15-34	FAST WIPE SPEED REQUEST	GROUND	B+
I	FC15-37	PROGRAMMED WASH REQUEST	GROUND (MOMENTARY)	B+
O	FC15-43	WIPER RUN / STOP RELAY ACTIVATE	GROUND	B+
I	FC15-60	WIPER MOTOR PARK SWITCH STATUS	GROUND (PARKED)	B+ (NOT PARKED)
I	FC15-80	BATTERY SUPPLY VOLTAGE	B+	B+
I	FC15-94	SLOW / FLICK WIPE REQUEST	GROUND	B+
I	FC15-104	BATTERY SUPPLY VOLTAGE	B+	B+

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 14.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
FUSE BOX – ENGINE COMPARTMENT	LS5 / 10-WAY U.T.A. FUSE BOX / NATURAL LS6 / 10-WAY U.T.A. FUSE BOX / BLACK LS7 / 10-WAY U.T.A. FUSE BOX / GREEN LS8 / 10-WAY U.T.A. FUSE BOX / BLUE ST19 / EYELET	ENGINE COMPARTMENT / LH FRONT
LIGHTING STALK (COLUMN SWITCHGEAR)	SC2 / 10-WAY MULTILOCK 070 / YELLOW	COLUMN SWITCHGEAR HARNESS / ADJACENT TO STEERING COLUMN MOTOR
POWER WASH PUMP	LS43 / 2-WAY REINSHAGEN / VOLKSWAGEN / BLACK	RIGHT FRONT QUARTER PANEL / WASHER FLUID CONTAINER
WASH / WIPE STALK (COLUMN SWITCHGEAR)	SC1 / 12-WAY MULTILOCK 070 / WHITE	COLUMN SWITCHGEAR HARNESS / ADJACENT TO STEERING COLUMN MOTOR
WINDSHIELD WASH PUMP AND FLUID LEVEL SENSOR	LS44 / 3-WAY AUGAT 1.6 / BLACK	RIGHT FRONT QUARTER PANEL / WASHER FLUID CONTAINER
WIPER MOTOR	EM33 / 4-WAY AUGAT 1.6 / BLACK	ENGINE COMPARTMENT / BULKHEAD

RELAYS

Relay	Case Color	Connector / Color	Location / Access
WIPER RUN / STOP RELAY	BLACK	LS11 / BLACK	ENGINE COMPARTMENT FRONT RELAYS / ENGINE COMPARTMENT
WIPER FAST / SLOW RELAY	BLACK	LS11 / BLACK	ENGINE COMPARTMENT FRONT RELAYS / ENGINE COMPARTMENT
POWERWASH RELAY	BROWN	BUS	RELAY #4, ENGINE COMPARTMENT FUSE BOX / ENGINE COMPARTMENT

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
EM3	14-WAY MULTILOCK 070 / WHITE	PASSENGER 'A' POST / LOWER 'A' POST FINISHER
EM51	12-WAY AUGAT 1.6 / GREY	ENGINE COMPARTMENT / ADJACENT TO ABS PUMP
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY
LS3	54-WAY THROUGH PANEL CONNECTOR / BLACK	LH 'A' POST / LOWER 'A' POST FINISHER

GROUNDS

Ground	Location / Type
EM17	EYELET (SINGLE) – EMS BULKHEAD GROUND STUD
FC17R	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
LS18R	EYELET (PAIR) – LH FORWARD GROUND STUD
LS19L	EYELET (PAIR) – RH FORWARD GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC15-15	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-33	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-41	STARTER ENGAGE REQUEST	GROUND (CRANKING)	B+
O	FC15-46	DRIVER DOOR – SLIDING ROOF GLOBAL CLOSE REQUEST	GROUND (MOMENTARY)	B+
O	FC15-47	CENTRAL LOCKING SWITCH – SLIDING ROOF GLOBAL OPEN REQUEST	GROUND (MOMENTARY)	B+
I	FC15-63	CENTRAL LOCKING REQUEST	GROUND (MOMENTARY)	B+
I	FC15-80	BATTERY SUPPLY VOLTAGE	B+	B+
S	FC15-84	SCP NETWORK	2 – 1600 Hz	
S	FC15-85	SCP NETWORK	2 – 1600 Hz	
I	FC15-89	REAR WINDOW INHIBIT REQUEST	GROUND	B+

DRIVER DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	DD10-1	BATTERY POWER SUPPLY	B+	B+
O	DD10-7	WINDOW LIFT MOTOR DOWN SUPPLY	B+	GROUND
I	DD10-8	LOGIC GROUND	GROUND	GROUND
S	DD10-9	SCP NETWORK	2 – 1600 Hz	
I	DD10-10	DRIVER DOOR SWITCH PACK DRIVER WINDOW DOWN REQUEST	GROUND (MOMENTARY)	B+
O	DD10-15	DRIVER DOOR WINDOW LIFT MOTOR UP SUPPLY	B+	GROUND
S	DD10-16	SCP NETWORK	2 – 1600 Hz	
I	DD10-17	POWER GROUND	GROUND	GROUND
I	DD10-18	DRIVER DOOR SWITCH PACK DRIVER WINDOW UP REQUEST	GROUND (MOMENTARY)	GROUND
I	DD10-19	DRIVER DOOR SWITCH PACK PASSENGER WINDOW UP REQUEST	GROUND (MOMENTARY)	GROUND
I	DD11-4	DRIVER DOOR LOCK BARREL UNLOCK REQUEST	B+ (MOMENTARY)	GROUND
I	DD11-6	DRIVER DOOR SWITCH PACK PASSENGER REAR WINDOW UP REQUEST	GROUND (MOMENTARY)	GROUND
I	DD11-7	DRIVER DOOR SWITCH PACK PASSENGER WINDOW DOWN REQUEST	B+ (MOMENTARY)	GROUND
I	DD11-12	DRIVER DOOR LOCK BARREL LOCK REQUEST	B+ (MOMENTARY)	GROUND
I	DD11-15	DRIVER DOOR SWITCH PACK DRIVER REAR WINDOW DOWN REQUEST	GROUND (MOMENTARY)	B+
I	DD11-21	DRIVER DOOR SWITCH PACK PASSENGER REAR WINDOW DOWN REQUEST	B+ (MOMENTARY)	GROUND
I	DD11-22	DRIVER DOOR SWITCH PACK DRIVER REAR WINDOW UP REQUEST	GROUND (MOMENTARY)	GROUND

DRIVER REAR DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	RD10-1	BATTERY POWER SUPPLY	B+	B+
O	RD10-7	DRIVER REAR WINDOW LIFT MOTOR DOWN SUPPLY	B+	GROUND
I	RD10-8	LOGIC GROUND	GROUND	GROUND
S	RD10-9	SCP NETWORK	2 – 1600 Hz	
O	RD10-15	DRIVER REAR WINDOW LIFT MOTOR UP SUPPLY	B+	GROUND
S	RD10-16	SCP NETWORK	2 – 1600 Hz	
I	RD10-17	POWER GROUND	GROUND	GROUND
I	RD10-19	MODULE IDENTIFICATION	GROUND	GROUND
I	RD11-6	DRIVER REAR DOOR SWITCH PACK WINDOW UP REQUEST	GROUND (MOMENTARY)	GROUND
I	RD11-7	MODULE IDENTIFICATION	GROUND	GROUND
I	RD11-21	DRIVER REAR DOOR SWITCH PACK WINDOW DOWN REQUEST	B+ (MOMENTARY)	GROUND

PASSENGER DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	PD10-1	BATTERY POWER SUPPLY	B+	B+
O	PD10-7	PASSENGER WINDOW LIFT MOTOR DOWN SUPPLY	B+	GROUND
I	PD10-8	LOGIC GROUND	GROUND	GROUND
S	PD10-9	SCP NETWORK	2 – 1600 Hz	
O	PD10-15	PASSENGER WINDOW LIFT MOTOR UP SUPPLY	B+	GROUND
S	PD10-16	SCP NETWORK	2 – 1600 Hz	
I	PD10-17	POWER GROUND	GROUND	GROUND
I	PD11-6	PASSENGER DOOR SWITCH PACK WINDOW UP REQUEST	GROUND (MOMENTARY)	GROUND
I	PD11-21	PASSENGER DOOR SWITCH PACK WINDOW DOWN REQUEST	B+ (MOMENTARY)	GROUND

PASSENGER REAR DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	RP10-1	BATTERY POWER SUPPLY	B+	B+
O	RP10-7	PASSENGER REAR WINDOW LIFT MOTOR DOWN SUPPLY	B+	GROUND
I	RP10-8	LOGIC GROUND	GROUND	GROUND
S	RP10-9	SCP NETWORK	2 – 1600 Hz	
O	RP10-15	PASSENGER REAR WINDOW LIFT MOTOR UP SUPPLY	B+	GROUND
S	RP10-16	SCP NETWORK	2 – 1600 Hz	
I	RP10-17	POWER GROUND	GROUND	GROUND
I	RP11-6	PASSENGER REAR DOOR SWITCH PACK WINDOW UP REQUEST	GROUND (MOMENTARY)	GROUND
I	RP11-21	PASSENGER REAR DOOR SWITCH PACK WINDOW DOWN REQUEST	B+ (MOMENTARY)	GROUND

SECURITY AND LOCKING CONTROL MODULE

▽	Pin	Description	Active	Inactive
S	BT1-8	SCP NETWORK	2 – 1600 Hz	
I	BT1-13	LOGIC GROUND	GROUND	GROUND
I	BT1-14	LOGIC GROUND	GROUND	GROUND
I	BT1-15	BATTERY POWER SUPPLY	B+	B+
S	BT1-16	SCP NETWORK	2 – 1600 Hz	
I	BT6-1	KEY FOB ANTENNA		
I	BT6-2	KEY FOB ANTENNA SHIELD	GROUND	GROUND

SLIDING ROOF CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	CA64-1	BATTERY SUPPLY	B+	B+
I	CA64-2	CENTRAL LOCKING SWITCH – SLIDING ROOF GLOBAL CLOSE REQUEST	GROUND (MOMENTARY)	B+
I	CA64-3	GROUND SUPPLY	GROUND (MOMENTARY)	GROUND
I	CA64-4	DRIVER DOOR – SLIDING ROOF GLOBAL CLOSE REQUEST	GROUND	B+
I	CA64-5	SLIDING ROOF SWITCH OPEN REQUEST	GROUND (MOMENTARY)	B+
I	CA64-6	SLIDING ROOF SWITCH CLOSE REQUEST	GROUND (MOMENTARY)	B+
O	SR2-1	SLIDING ROOF MOTOR SUPPLY	B+	GROUND
O	SR2-3	SLIDING ROOF MOTOR SUPPLY	B+	GROUND

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 15.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
CENTRAL LOCKING SWITCH (CENTER CONSOLE SWITCH PACK)	CC1 / 16-WAY FORD IDC S.U. / BLACK	CENTER CONSOLE SWITCH PACK
DOOR CONTROL MODULE – DRIVER	DD10 / 22-WAY FORD 2.8 TIMER / BLUE DD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR CONTROL MODULE – DRIVER REAR	RD10 / 22-WAY FORD 2.8 TIMER / BLUE RD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR CONTROL MODULE – PASSENGER	PD10 / 22-WAY FORD 2.8 TIMER / BLUE PD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR CONTROL MODULE – PASSENGER REAR	RP10 / 22-WAY FORD 2.8 TIMER / BLUE RP11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR LOCK SWITCHES – DRIVER	DD3 / 13-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
INSTRUMENT PACK	FC24 / 48-WAY AMP MODULE PCB SIGNAL / BLACK FC25 / 24-WAY AMP MODULE PCB SIGNAL / BLACK	FASCIA
KEY FOB ANTENNA	BT33 / 1-WAY COAXIAL CONNECTOR	TOP OF BACKLIGHT
REAR WINDOW INHIBIT SWITCH (DRIVER DOOR SWITCH PACK)	DD1 / 26-WAY MQS-26 / YELLOW	DOOR TRIM PANEL
SECURITY AND LOCKING CONTROL MODULE	BT1 / 16-WAY FORD 2.8 TIMER / BLACK BT2 / 26-WAY FORD IDC / BLACK BT6 / 1-WAY COAXIAL CONNECTOR	BELOW TRUNK FUSE BOX
SLIDING ROOF CONTROL MODULE	CA64 / 6-WAY MULTILOCK 070 / WHITE	ROOF CONSOLE
SLIDING ROOF MOTOR	SR2 / 3-WAY MULTILOCK 070 / WHITE	ROOF CONSOLE
SLIDING ROOF SWITCH (ROOF CONSOLE)	CA53 / 8-WAY MULTILOCK 040 / BLACK	ROOF CONSOLE
SWITCH PACK – DRIVER REAR DOOR	RD1 / 5-WAY LAG / GREEN	DOOR TRIM PANEL
SWITCH PACK – PASSENGER DOOR	PD1 / 26-WAY MQS-26 / GREEN	DOOR TRIM PANEL
SWITCH PACK – PASSENGER REAR DOOR	RP1 / 5-WAY LAG / GREEN	DOOR TRIM PANEL
WINDOW LIFT MOTOR – DRIVER	DD16 / 2-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
WINDOW LIFT MOTOR – DRIVER REAR	RD16 / 2-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
WINDOW LIFT MOTOR – PASSENGER	PD16 / 2-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
WINDOW LIFT MOTOR – PASSENGER REAR	RP16 / 2-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
WINDOW LIFT SWITCH (DRIVER DOOR SWITCH PACK)	DD1 / 26-WAY MQS-26 / YELLOW	DOOR TRIM PANEL

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
CA8	20-WAY MULTILOCK 070 / WHITE	DRIVER 'A' POST / DOOR HARNESS GAITER
CA10	8-WAY MULTILOCK 070 / YELLOW	DRIVER 'A' POST / DOOR HARNESS GAITER
CA11	20-WAY MULTILOCK 070 / WHITE	PASSENGER 'A' POST / DOOR HARNESS GAITER
CA12	8-WAY MULTILOCK 070 / YELLOW	PASSENGER 'A' POST / DOOR HARNESS GAITER
CA14	6-WAY MULTILOCK 070 / WHITE	DRIVER 'B/C' POST / DOOR HARNESS GAITER
CA16	6-WAY MULTILOCK 070 / WHITE	PASSENGER 'B/C' POST / DOOR HARNESS GAITER
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY
FC7	20-WAY MULTILOCK 070 / YELLOW	ABOVE DIMMER MODULE / COIN TRAY

GROUNDS

Ground	Location / Type
BT22*	EYELET (PAIR) – TRUNK / RH CENTER GROUND STUD (*STANDARD ICE)
BT22L*	EYELET (PAIR) – TRUNK / RH CENTER GROUND STUD (*PREMIUM ICE)
BT34	EYELET (SINGLE) – KEY FOB ANTENNA GROUND / BACKLIGHT / CENTER
CA30L	EYELET (PAIR) – LH 'A' POST GROUND SCREW
CA30R	EYELET (PAIR) – LH 'A' POST GROUND SCREW
CA33L	EYELET (PAIR) – RH 'A' POST GROUND SCREW
CA33R	EYELET (PAIR) – RH 'A' POST GROUND SCREW
CA36L	EYELET (PAIR) – LH 'A' POST GROUND SCREW
CC3R	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

DATE OF ISSUE: SEPTEMBER 1998

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC15-15	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-33	IGNITION SWITCHED GROUND	GROUND	B+
I	FC15-41	STARTER ENGAGE REQUEST	GROUND (CRANKING)	B+
O	FC15-46	DRIVER DOOR – SLIDING ROOF GLOBAL CLOSE REQUEST	GROUND (MOMENTARY)	B+
O	FC15-47	CENTRAL LOCKING SWITCH – SLIDING ROOF GLOBAL OPEN REQUEST	GROUND (MOMENTARY)	B+
I	FC15-63	CENTRAL LOCKING REQUEST	GROUND (MOMENTARY)	B+
I	FC15-80	BATTERY SUPPLY VOLTAGE	B+	B+
S	FC15-84	SCP NETWORK	2 – 1600 Hz	
S	FC15-85	SCP NETWORK	2 – 1600 Hz	
I	FC15-89	REAR WINDOW INHIBIT REQUEST	GROUND	B+

DRIVER DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	DD10-1	BATTERY POWER SUPPLY	B+	B+
O	DD10-7	WINDOW LIFT MOTOR DOWN SUPPLY	B+	GROUND
I	DD10-8	LOGIC GROUND	GROUND	GROUND
S	DD10-9	SCP NETWORK	2 – 1600 Hz	
I	DD10-10	DRIVER DOOR SWITCH PACK DRIVER WINDOW DOWN REQUEST	GROUND (MOMENTARY)	B+
O	DD10-15	DRIVER DOOR WINDOW LIFT MOTOR UP SUPPLY	B+	GROUND
S	DD10-16	SCP NETWORK	2 – 1600 Hz	
I	DD10-17	POWER GROUND	GROUND	GROUND
I	DD10-18	DRIVER DOOR SWITCH PACK DRIVER WINDOW UP REQUEST	GROUND (MOMENTARY)	GROUND
I	DD10-19	DRIVER DOOR SWITCH PACK PASSENGER WINDOW UP REQUEST	GROUND (MOMENTARY)	GROUND
I	DD11-4	DRIVER DOOR LOCK BARREL UNLOCK REQUEST	B+ (MOMENTARY)	GROUND
I	DD11-6	DRIVER DOOR SWITCH PACK PASSENGER REAR WINDOW UP REQUEST	GROUND (MOMENTARY)	GROUND
I	DD11-7	DRIVER DOOR SWITCH PACK PASSENGER WINDOW DOWN REQUEST	B+ (MOMENTARY)	GROUND
I	DD11-12	DRIVER DOOR LOCK BARREL LOCK REQUEST	B+ (MOMENTARY)	GROUND
I	DD11-15	DRIVER DOOR SWITCH PACK DRIVER REAR WINDOW DOWN REQUEST	GROUND (MOMENTARY)	B+
I	DD11-21	DRIVER DOOR SWITCH PACK PASSENGER REAR WINDOW DOWN REQUEST	B+ (MOMENTARY)	GROUND
I	DD11-22	DRIVER DOOR SWITCH PACK DRIVER REAR WINDOW UP REQUEST	GROUND (MOMENTARY)	GROUND

DRIVER REAR DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	RD10-1	BATTERY POWER SUPPLY	B+	B+
O	RD10-7	DRIVER REAR WINDOW LIFT MOTOR DOWN SUPPLY	B+	GROUND
I	RD10-8	LOGIC GROUND	GROUND	GROUND
S	RD10-9	SCP NETWORK	2 – 1600 Hz	
O	RD10-15	DRIVER REAR WINDOW LIFT MOTOR UP SUPPLY	B+	GROUND
S	RD10-16	SCP NETWORK	2 – 1600 Hz	
I	RD10-17	POWER GROUND	GROUND	GROUND
I	RD10-19	MODULE IDENTIFICATION	GROUND	GROUND
I	RD11-6	DRIVER REAR DOOR SWITCH PACK WINDOW UP REQUEST	GROUND (MOMENTARY)	GROUND
I	RD11-7	MODULE IDENTIFICATION	GROUND	GROUND
I	RD11-21	DRIVER REAR DOOR SWITCH PACK WINDOW DOWN REQUEST	B+ (MOMENTARY)	GROUND

PASSENGER DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	PD10-1	BATTERY POWER SUPPLY	B+	B+
O	PD10-7	PASSENGER WINDOW LIFT MOTOR DOWN SUPPLY	B+	GROUND
I	PD10-8	LOGIC GROUND	GROUND	GROUND
S	PD10-9	SCP NETWORK	2 – 1600 Hz	
O	PD10-15	PASSENGER WINDOW LIFT MOTOR UP SUPPLY	B+	GROUND
S	PD10-16	SCP NETWORK	2 – 1600 Hz	
I	PD10-17	POWER GROUND	GROUND	GROUND
I	PD11-6	PASSENGER DOOR SWITCH PACK WINDOW UP REQUEST	GROUND (MOMENTARY)	GROUND
I	PD11-21	PASSENGER DOOR SWITCH PACK WINDOW DOWN REQUEST	B+ (MOMENTARY)	GROUND

PASSENGER REAR DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	RP10-1	BATTERY POWER SUPPLY	B+	B+
O	RP10-7	PASSENGER REAR WINDOW LIFT MOTOR DOWN SUPPLY	B+	GROUND
I	RP10-8	LOGIC GROUND	GROUND	GROUND
S	RP10-9	SCP NETWORK	2 – 1600 Hz	
O	RP10-15	PASSENGER REAR WINDOW LIFT MOTOR UP SUPPLY	B+	GROUND
S	RP10-16	SCP NETWORK	2 – 1600 Hz	
I	RP10-17	POWER GROUND	GROUND	GROUND
I	RP11-6	PASSENGER REAR DOOR SWITCH PACK WINDOW UP REQUEST	GROUND (MOMENTARY)	GROUND
I	RP11-21	PASSENGER REAR DOOR SWITCH PACK WINDOW DOWN REQUEST	B+ (MOMENTARY)	GROUND

SECURITY AND LOCKING CONTROL MODULE

▽	Pin	Description	Active	Inactive
S	BT1-8	SCP NETWORK	2 – 1600 Hz	
I	BT1-13	LOGIC GROUND	GROUND	GROUND
I	BT1-14	LOGIC GROUND	GROUND	GROUND
I	BT1-15	BATTERY POWER SUPPLY	B+	B+
S	BT1-16	SCP NETWORK	2 – 1600 Hz	
I	BT6-1	KEY FOB ANTENNA		
I	BT6-2	KEY FOB ANTENNA SHIELD	GROUND	GROUND

SLIDING ROOF CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	CA64-1	BATTERY SUPPLY	B+	B+
I	CA64-2	CENTRAL LOCKING SWITCH – SLIDING ROOF GLOBAL CLOSE REQUEST	GROUND (MOMENTARY)	B+
I	CA64-3	GROUND SUPPLY	GROUND (MOMENTARY)	GROUND
I	CA64-4	DRIVER DOOR – SLIDING ROOF GLOBAL CLOSE REQUEST	GROUND	B+
I	CA64-5	SLIDING ROOF SWITCH OPEN REQUEST	GROUND (MOMENTARY)	B+
I	CA64-6	SLIDING ROOF SWITCH CLOSE REQUEST	GROUND (MOMENTARY)	B+
O	SR2-1	SLIDING ROOF MOTOR SUPPLY	B+	GROUND
O	SR2-3	SLIDING ROOF MOTOR SUPPLY	B+	GROUND

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 15.2

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
CENTRAL LOCKING SWITCH (CENTER CONSOLE SWITCH PACK)	CC1 / 16-WAY FORD IDC S.U. / BLACK	CENTER CONSOLE SWITCH PACK
DOOR CONTROL MODULE – DRIVER	DD10 / 22-WAY FORD 2.8 TIMER / BLUE DD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR CONTROL MODULE – DRIVER REAR	RD10 / 22-WAY FORD 2.8 TIMER / BLUE RD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR CONTROL MODULE – PASSENGER	PD10 / 22-WAY FORD 2.8 TIMER / BLUE PD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR CONTROL MODULE – PASSENGER REAR	RP10 / 22-WAY FORD 2.8 TIMER / BLUE RP11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR LOCK SWITCHES – DRIVER	DD3 / 13-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
INSTRUMENT PACK	FC24 / 48-WAY AMP MODULE PCB SIGNAL / BLACK FC25 / 24-WAY AMP MODULE PCB SIGNAL / BLACK	FASCIA
KEY FOB ANTENNA	BT33 / 1-WAY COAXIAL CONNECTOR	TOP OF BACKLIGHT
REAR WINDOW INHIBIT SWITCH (DRIVER DOOR SWITCH PACK)	DD1 / 26-WAY MQS-26 / YELLOW	DOOR TRIM PANEL
SECURITY AND LOCKING CONTROL MODULE	BT1 / 16-WAY FORD 2.8 TIMER / BLACK BT2 / 26-WAY FORD IDC / BLACK BT6 / 1-WAY COAXIAL CONNECTOR	BELOW TRUNK FUSE BOX
SLIDING ROOF CONTROL MODULE	CA64 / 6-WAY MULTILOCK 070 / WHITE	ROOF CONSOLE
SLIDING ROOF MOTOR	SR2 / 3-WAY MULTILOCK 070 / WHITE	ROOF CONSOLE
SLIDING ROOF SWITCH (ROOF CONSOLE)	CA53 / 8-WAY MULTILOCK 040 / BLACK	ROOF CONSOLE
SWITCH PACK – DRIVER REAR DOOR	RD1 / 5-WAY LAG / GREEN	DOOR TRIM PANEL
SWITCH PACK – PASSENGER DOOR	PD1 / 26-WAY MQS-26 / GREEN	DOOR TRIM PANEL
SWITCH PACK – PASSENGER REAR DOOR	RP1 / 5-WAY LAG / GREEN	DOOR TRIM PANEL
WINDOW LIFT MOTOR – DRIVER	DD16 / 2-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
WINDOW LIFT MOTOR – DRIVER REAR	RD16 / 2-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
WINDOW LIFT MOTOR – PASSENGER	PD16 / 2-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
WINDOW LIFT MOTOR – PASSENGER REAR	RP16 / 2-WAY ECONOSEAL III LC / BLACK	DOOR CASING / TRIM PANEL
WINDOW LIFT SWITCH (DRIVER DOOR SWITCH PACK)	DD1 / 26-WAY MQS-26 / YELLOW	DOOR TRIM PANEL

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
CA8	20-WAY MULTILOCK 070 / WHITE	DRIVER 'A' POST / DOOR HARNESS GAITER
CA10	8-WAY MULTILOCK 070 / YELLOW	DRIVER 'A' POST / DOOR HARNESS GAITER
CA11	20-WAY MULTILOCK 070 / WHITE	PASSENGER 'A' POST / DOOR HARNESS GAITER
CA12	8-WAY MULTILOCK 070 / YELLOW	PASSENGER 'A' POST / DOOR HARNESS GAITER
CA14	6-WAY MULTILOCK 070 / WHITE	DRIVER 'B/C' POST / DOOR HARNESS GAITER
CA16	6-WAY MULTILOCK 070 / WHITE	PASSENGER 'B/C' POST / DOOR HARNESS GAITER
FC1	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW PASSENGER SIDE AIR VENT / GLOVE BOX ASSEMBLY
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY
FC7	20-WAY MULTILOCK 070 / YELLOW	ABOVE DIMMER MODULE / COIN TRAY

GROUNDS

Ground	Location / Type
BT22*	EYELET (PAIR) – TRUNK / RH CENTER GROUND STUD (*STANDARD ICE)
BT22L*	EYELET (PAIR) – TRUNK / RH CENTER GROUND STUD (*PREMIUM ICE)
BT34	EYELET (SINGLE) – KEY FOB ANTENNA GROUND / BACKLIGHT / CENTER
CA30L	EYELET (PAIR) – LH 'A' POST GROUND SCREW
CA30R	EYELET (PAIR) – LH 'A' POST GROUND SCREW
CA33L	EYELET (PAIR) – RH 'A' POST GROUND SCREW
CA33R	EYELET (PAIR) – RH 'A' POST GROUND SCREW
CA36L	EYELET (PAIR) – LH 'A' POST GROUND SCREW
CA36R	EYELET (PAIR) – LH 'A' POST GROUND SCREW
CC3R	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

←

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

DATE OF ISSUE: SEPTEMBER 1998

CONTROL MODULE PIN OUT INFORMATION

INSTRUMENT PACK

▽	Pin	Description	Active	Inactive
C	FC24-24	CAN NETWORK	15 – 1500 Hz	
C	FC24-47	CAN NETWORK	15 – 1500 Hz	
O	FC25-20	VEHICLE SPEED	22 Hz @ 10 MPH (16 KM/H); 44 Hz @ 20 MPH (32 KM/H) @ B+	

RADIO / CASSETTE HEAD UNIT

▽	Pin	Description	Active	Inactive
I	IC10-1	VEHICLE SPEED	22 Hz @ 10 MPH (16 KM/H); 44 Hz @ 20 MPH (32 KM/H) @ B+	
I	IC10-2	STEERING WHEEL AUDIO CONTROLS	0 V = MODE, 1.2 V = SEEK, 2.4 V = VOLUME '+', 3.7 V = VOLUME '-'	5V
O	IC10-5	ANTENNA UP	B+	GROUND

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

The following symbols are used to represent values for Control Module Pin Out data:

I	Input	D	Serial and encoded communications	B+	Battery voltage	KHz	Frequency x 1000
O	Output	C	CAN (Network)	V	Voltage (DC)	MS	Milliseconds
SG	Signal Ground	S	SCP Network	Hz	Frequency	MV	Millivolts

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.

Fig. 16.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
ANTENNA MOTOR	BT19 / 6-WAY YAZAKI TYPE C / WHITE	ANTENNA MOTOR ASSEMBLY / BATTERY COVER
CD AUTO-CHANGER	IC5 / CD AUTOCHANGER DATA CABLE	TRUNK LH SIDE / TRUNK CARPET
INSTRUMENT PACK	FC24 / 48-WAY AMP MODULE PCB SIGNAL / BLACK FC25 / 24-WAY AMP MODULE PCB SIGNAL / BLACK	FASCIA
RADIO / CASSETTE HEAD UNIT	CA3 / COAXIAL CONNECTOR IC10 / 20-WAY MULTILOCK 070 / WHITE IC19 / CD AUTOCHANGER DATA CABLE	CENTER CONSOLE
RADIO ANTENNA	CA7 / COAXIAL CONNECTOR	ANTENNA MOTOR ASSEMBLY / BATTERY COVER
RADIO CONTROL SWITCHES (STEERING WHEEL)	SW4 / 3-WAY EPC / BLACK / WHITE	STEERING WHEEL
RADIO TELEPHONE CONNECTOR	RT2 / 10-WAY MULTILOCK 070 / WHITE	BELOW CENTER CONSOLE GLOVE BOX
SPEAKER, 'A' POST TWEETER – LH	CA56 / 2-WAY MULTILOCK 040 / BLACK	LH 'A' POST / UPPER 'A' POST TRIM
SPEAKER, 'A' POST TWEETER – RH	CA54 / 2-WAY MULTILOCK 040 / BLACK	RH 'A' POST / UPPER 'A' POST TRIM
SPEAKER, REAR DOOR MID-BASS – DRIVER SIDE	RD6 / 2-WAY GROTE & HARTMAN MDK / BLACK	DOOR CASING / TRIM PANEL
SPEAKER, REAR DOOR MID-BASS – PASSENGER SIDE	RP6 / 2-WAY GROTE & HARTMAN MDK / BLACK	DOOR CASING / TRIM PANEL
SPEAKER, REAR DOOR TWEETER – DRIVER SIDE	RD5 / 2-WAY GROTE & HARTMAN MDK / BLACK	DOOR CASING / TRIM PANEL
SPEAKER, REAR DOOR TWEETER – PASSENGER SIDE	RP5 / 2-WAY GROTE & HARTMAN MDK / BLACK	DOOR CASING / TRIM PANEL
SPEAKER, FRONT DOOR MID-BASS – DRIVER SIDE	DD6 / 2-WAY GROTE & HARTMAN MDK / BLACK	DOOR CASING / TRIM PANEL
SPEAKER, FRONT DOOR MID-BASS – PASSENGER SIDE	PD6 / 2-WAY GROTE & HARTMAN MDK / BLACK	DOOR CASING / TRIM PANEL
SPEAKER, FRONT DOOR TWEETER – DRIVER SIDE	DD5 / 2-WAY GROTE & HARTMAN MDK / BLACK	DOOR CASING / TRIM PANEL
SPEAKER, FRONT DOOR TWEETER – PASSENGER SIDE	PD5 / 2-WAY GROTE & HARTMAN MDK / BLACK	DOOR CASING / TRIM PANEL

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT4	54-WAY THROUGH PANEL / GREY	BELOW PARCEL SHELF / TRUNK / REAR BULKHEAD / RH SIDE
CA10	8-WAY MULTILOCK 070 / YELLOW	DRIVER 'A' POST / DOOR HARNESS GAITER
CA12	8-WAY MULTILOCK 070 / YELLOW	PASSENGER 'A' POST / DOOR HARNESS GAITER
CA14	6-WAY MULTILOCK 070 / WHITE	DRIVER 'B/C' POST / DOOR HARNESS GAITER
CA16	6-WAY MULTILOCK 070 / WHITE	PASSENGER 'B/C' POST / DOOR HARNESS GAITER
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY
IC1	14-WAY MULTILOCK 070 / WHITE	LH HEELBOARD
IC3	12-WAY MULTILOCK 070 / WHITE	LH HEELBOARD
SC3	12-WAY MULTILOCK 070 / GREY	ADJACENT TO STEERING COLUMN MOTOR

GROUNDS

Ground	Location / Type
BT28L	EYELET (PAIR) – TRUNK / RH CENTER GROUND STUD
CE2	EYELET (SINGLE) – RADIO GROUND STUD / TRANSMISSION TUNNEL / CENTER
FC17R	EYELET (PAIR) – EMS BULKHEAD GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

DATE OF ISSUE: SEPTEMBER 1998

CONTROL MODULE PIN OUT INFORMATION

INSTRUMENT PACK

▽	Pin	Description	Active	Inactive
C	FC24-24	CAN NETWORK	15 – 1500 Hz	
C	FC24-47	CAN NETWORK	15 – 1500 Hz	
O	FC25-20	VEHICLE SPEED	22 Hz @ 10 MPH (16 KM/H); 44 Hz @ 20 MPH (32 KM/H) @ B+	

POWER AMPLIFIER

▽	Pin	Description	Active	Inactive
I	IC30-1	RH REAR CHANNEL LOW LEVEL INPUT	0 – 30 Mv	0 Mv
I	IC30-2	RH FRONT CHANNEL LOW LEVEL INPUT	0 – 30 Mv	0 Mv
SG	IC30-3	SIGNAL GROUND	GROUND	GROUND
I	IC30-6	LH REAR CHANNEL LOW LEVEL INPUT	0 – 30 Mv	0 Mv
I	IC30-7	LH FRONT CHANNEL LOW LEVEL INPUT	0 – 30 Mv	0 Mv
I	IC31-1	AMPLIFIER TRIGGER ON SIGNAL	B+	GROUND

RADIO / CASSETTE HEAD UNIT

▽	Pin	Description	Active	Inactive
I	IC10-1	VEHICLE SPEED	22 Hz @ 10 MPH (16 KM/H); 44 Hz @ 20 MPH (32 KM/H) @ B+	
I	IC10-2	STEERING WHEEL AUDIO CONTROLS	0 V = MODE, 1.2 V = SEEK, 2.4 V = VOLUME '+', 3.7 V = VOLUME '-'	5V
O	IC10-5	ANTENNA UP	B+	GROUND

NOTE: REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

The following symbols are used to represent values for Control Module Pin Out data:

I	Input	D	Serial and encoded communications	B+	Battery voltage	KHz	Frequency x 1000
O	Output	C	CAN (Network)	V	Voltage (DC)	MS	Milliseconds
SG	Signal Ground	S	SCP Network	Hz	Frequency	MV	Millivolts

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.

Fig. 16.2

COMPONENTS

Component	Connector / Type / Color	Location / Access
ANTENNA MOTOR	BT19 / 6-WAY YAZAKI TYPE C / WHITE	ANTENNA MOTOR ASSEMBLY / BATTERY COVER
CD AUTO-CHANGER	IC5 / CD AUTOCHANGER DATA CABLE	TRUNK LH SIDE / TRUNK CARPET
INSTRUMENT PACK	FC24 / 48-WAY AMP MODULE PCB SIGNAL / BLACK FC25 / 24-WAY AMP MODULE PCB SIGNAL / BLACK	FASCIA
POWER AMPLIFIER	IC30 / 12-WAY MULTILOCK 070 / WHITE IC31 / 18-WAY MULTILOCK 070 / WHITE	TRUNK LH SIDE / TRUNK CARPET
RADIO / CASSETTE HEAD UNIT	CA3 / COAXIAL CONNECTOR IC10 / 20-WAY MULTILOCK 070 / WHITE IC19 / CD AUTOCHANGER DATA CABLE	CENTER CONSOLE
RADIO ANTENNA	CA7 / COAXIAL CONNECTOR	ANTENNA MOTOR ASSEMBLY / BATTERY COVER
RADIO CONTROL SWITCHES (STEERING WHEEL)	SW4 / 3-WAY EPC / BLACK / WHITE	STEERING WHEEL
RADIO TELEPHONE CONNECTOR	RT2 / 10-WAY MULTILOCK 070 / WHITE	BELOW CENTER CONSOLE GLOVE BOX
SPEAKER, 'A' POST TWEETER – LH	CA56 / 2-WAY MULTILOCK 040 / BLACK	LH 'A' POST / UPPER 'A' POST TRIM
SPEAKER, 'A' POST TWEETER – RH	CA54 / 2-WAY MULTILOCK 040 / BLACK	RH 'A' POST / UPPER 'A' POST TRIM
SPEAKER, REAR DOOR MID-BASS – DRIVER SIDE	RD6 / 2-WAY GROTE & HARTMAN MDK / BLACK	DOOR CASING / TRIM PANEL
SPEAKER, REAR DOOR MID-BASS – PASSENGER SIDE	RP6 / 2-WAY GROTE & HARTMAN MDK / BLACK	DOOR CASING / TRIM PANEL
SPEAKER, REAR DOOR TWEETER – DRIVER SIDE	RD5 / 2-WAY GROTE & HARTMAN MDK / BLACK	DOOR CASING / TRIM PANEL
SPEAKER, REAR DOOR TWEETER – PASSENGER SIDE	RP5 / 2-WAY GROTE & HARTMAN MDK / BLACK	DOOR CASING / TRIM PANEL
SPEAKER, FRONT DOOR MID-BASS – DRIVER SIDE	DD6 / 2-WAY GROTE & HARTMAN MDK / BLACK	DOOR CASING / TRIM PANEL
SPEAKER, FRONT DOOR MID-BASS – PASSENGER SIDE	PD6 / 2-WAY GROTE & HARTMAN MDK / BLACK	DOOR CASING / TRIM PANEL
SUBWOOFER	BT52 / 2-WAY GROTE & HARTMAN MDK / BLACK BT53 / 2-WAY GROTE & HARTMAN MDK / BLACK	ABOVE FUEL TANK / TRUNK CARPET

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT4	54-WAY THROUGH PANEL / GREY	BELOW PARCEL SHELF / TRUNK / REAR BULKHEAD / RH SIDE
CA10	8-WAY MULTILOCK 070 / YELLOW	DRIVER 'A' POST / DOOR HARNESS GAITER
CA12	8-WAY MULTILOCK 070 / YELLOW	PASSENGER 'A' POST / DOOR HARNESS GAITER
CA14	6-WAY MULTILOCK 070 / WHITE	DRIVER 'B/C' POST / DOOR HARNESS GAITER
CA16	6-WAY MULTILOCK 070 / WHITE	PASSENGER 'B/C' POST / DOOR HARNESS GAITER
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY
IC1	14-WAY MULTILOCK 070 / WHITE	LH HEELBOARD
IC3	12-WAY MULTILOCK 070 / WHITE	LH HEELBOARD
SC3	12-WAY MULTILOCK 070 / GREY	ADJACENT TO STEERING COLUMN MOTOR

GROUNDS

Ground	Location / Type
BT22R	EYELET (PAIR) – TRUNK / RH CENTER GROUND STUD
BT28L	EYELET (PAIR) – TRUNK / RH CENTER GROUND STUD
CE2	EYELET (SINGLE) – RADIO GROUND STUD / TRANSMISSION TUNNEL / CENTER
FC17R	EYELET (PAIR) – EMS BULKHEAD GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

Fig. 16.3

COMPONENTS

Component	Connector / Type / Color	Location / Access
TELEPHONE ANTENNA	RT64 / COAXIAL CONNECTOR RT65 / COAXIAL CONNECTOR RT66 / COAXIAL CONNECTOR	BELOW CENTER CONSOLE GLOVE BOX HEATED BACKLIGHT / HEADLINING / REAR CENTER CONSOLE
TELEPHONE HANDSET – FRONT	RT5 / TELEPHONE / PROPRIETARY	CENTER CONSOLE
TELEPHONE HANDSET – REAR	RT10 / TELEPHONE / PROPRIETARY	CENTER CONSOLE
TELEPHONE MICROPHONE	CA67 / 2-WAY MULTILOCK 040 / BLUE	ROOF CONSOLE
TELEPHONE TRANSCEIVER	RT3 / TELEPHONE / PROPRIETARY RT4 / TELEPHONE / PROPRIETARY	CENTER CONSOLE

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
RT1	TELEPHONE / PROPRIETARY	CENTER CONSOLE
RT2	10-WAY MULTILOCK 070 / WHITE	BELOW CENTER CONSOLE GLOVE BOX

GROUNDS

Ground	Location / Type
CA38R	EYELET (PAIR) – LH HEELBOARD POST GROUND SCREW

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

CONTROL MODULE PIN OUT INFORMATION

AIRBAG / SRS SINGLE POINT SENSOR

▽	Pin	Description	Active	Inactive
O	CA61-1	LH SEAT BELT PRETENSIONER POWER SUPPLY	B+	OPEN CIRCUIT
O	CA61-2	LH SEAT BELT PRETENSIONER GROUND SUPPLY	GROUND	OPEN CIRCUIT
O	CA61-3	RH SEAT BELT PRETENSIONER POWER SUPPLY	B+	OPEN CIRCUIT
O	CA61-4	RH SEAT BELT PRETENSIONER GROUND SUPPLY	GROUND	OPEN CIRCUIT
I	CA61-5	IGNITION SUPPLY VOLTAGE	B+	GROUND
I	CA61-6	GROUND SUPPLY	GROUND	GROUND
O	CA61-7	INSTRUMENT PACK 'SRS' MIL	GROUND (NO FAULT)	B+
D	CA61-9	DIAGNOSTIC OUTPUT SERIAL OUTPUT	ENCODED COMMUNICATIONS	
O	CA61-10	STEERING WHEEL AIRBAG POWER SUPPLY	B+	OPEN CIRCUIT
O	CA61-11	STEERING WHEEL AIRBAG GROUND SUPPLY	GROUND	OPEN CIRCUIT
O	CA61-13	PASSENGER FASCIA AIRBAG POWER SUPPLY	B+	OPEN CIRCUIT
O	CA61-14	PASSENGER FASCIA AIRBAG GROUND SUPPLY	GROUND	OPEN CIRCUIT
O	CA61-16	DRIVER SIDE AIRBAG POWER SUPPLY	B+	OPEN CIRCUIT
O	CA61-17	DRIVER SIDE AIRBAG GROUND SUPPLY	GROUND	OPEN CIRCUIT
O	CA61-18	PASSENGER SIDE AIRBAG POWER SUPPLY	B+	OPEN CIRCUIT
O	CA61-19	PASSENGER SIDE AIRBAG GROUND SUPPLY	GROUND	OPEN CIRCUIT
I	CA61-20	LH SIDE IMPACT SENSOR GROUND SUPPLY	GROUND	B+
I	CA61-21	RH SIDE IMPACT SENSOR GROUND SUPPLY	GROUND	B+
I	CA61-22	LH SIDE IMPACT SENSOR STATUS	GROUND (SHORTED)	B+
I	CA61-23	RH SIDE IMPACT SENSOR STATUS	GROUND (SHORTED)	B+
I	CA61-24	LH SIDE IMPACT SENSOR GROUND SUPPLY STATUS	GROUND (NO FAULT)	GROUND
I	CA61-25	RH SIDE IMPACT SENSOR GROUND SUPPLY STATUS	GROUND (NO FAULT)	GROUND
O	CA61-40	SRS AUDIBLE BACKUP	ENCODED COMMUNICATIONS	

The following symbols are used to represent values for Control Module Pin Out data:

I	Input	D	Serial and encoded communications	B+	Battery voltage	KHz	Frequency x 1000
O	Output	C	CAN (Network)	V	Voltage (DC)	MS	Milliseconds
SG	Signal Ground	S	SCP Network	Hz	Frequency	MV	Millivolts

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.

Fig. 17.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
AIRBAG / SRS SINGLE POINT SENSOR	CA61 / 50-WAY ELO50 / YELLOW	BELOW CENTER CONSOLE ASSEMBLY
AIRBAG – DRIVER SIDE	SW11 / 3-WAY EPC / BLACK	CENTER OF STEERING WHEEL
AIRBAG – PASSENGER SIDE	CA81 / 3-WAY CARDEL / FORD / GREY	PASSENGER AIR BAG
IMPACT SENSOR – LH	CA15 / 3-WAY MOLEX C-GRID / BLACK	INSIDE 'B/C' POST / 'B/C' POST TRIM
IMPACT SENSOR – RH	CA22 / 3-WAY MOLEX C-GRID / BLACK	INSIDE 'B/C' POST / 'B/C' POST TRIM
SEAT BELT PRETENSIONER – LH	CA62 / 2-WAY FORD AIRBAG / YELLOW	INSIDE LH 'B/C' POST / 'B/C' POST TRIM
SEAT BELT PRETENSIONER – RH	CA65 / 2-WAY FORD AIRBAG / YELLOW	INSIDE RH 'B/C' POST / 'B/C' POST TRIM
SIDE AIRBAG – DRIVER	SM15-D / 2-WAY AMPHENOL / YELLOW	DRIVER SEAT / SIDE
SIDE AIRBAG – PASSENGER	SM15-P / 2-WAY AMPHENOL / YELLOW	PASSENGER SEAT / SIDE

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
CA66	3-WAY FORD / CARD / BLACK	BELOW SEAT
CA72	3-WAY FORD / CARD / BLACK	BELOW SEAT
FC5	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW DRIVER SIDE AIR VENT / COIN TRAY
SW10	3-WAY CARDELL/FORD / GREY	CENTER OF STEERING WHEEL

GROUNDS

Ground	Location / Type
CA48	EYELET (SINGLE) – RH HEELBOARD POST GROUND SCREW (AIRBAG ONLY GROUND)

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

◀

REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC15-4	HORN ACTIVATE REQUEST	GROUND (MOMENTARY)	B+
O	FC15-70	HORN RELAY ACTIVATE	GROUND (MOMENTARY)	B+
I	FC15-80	BATTERY SUPPLY VOLTAGE	B+	B+

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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.

Fig. 18.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
CIGAR LIGHTER – FRONT	CA74 / 3-WAY MULTILOCK 070 / WHITE	CENTER CONSOLE ASSEMBLY
CIGAR LIGHTER – REAR	CA75 / 2-WAY AMP / METALLIC CA76 / LUCAR – LOCKING POSILOCK MKI	REAR CENTER CONSOLE VENT
FUSE BOX – ENGINE COMPARTMENT	LS5 / 10-WAY U.T.A. FUSE BOX / NATURAL LS6 / 10-WAY U.T.A. FUSE BOX / BLACK LS7 / 10-WAY U.T.A. FUSE BOX / GREEN LS8 / 10-WAY U.T.A. FUSE BOX / BLUE ST19 / EYELET	ENGINE COMPARTMENT / LH FRONT
FUSE BOX – TRUNK	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	TRUNK ELECTRICAL CARRIER
HORN SWITCHES (STEERING WHEEL)	HP1 / 1-WAY BLADE HP2 / 1-WAY BLADE	CENTER OF STEERING WHEEL
HORN – LH	LS46 / LUCAR – LOCKING POSILOCK MKI LS47 / LUCAR – LOCKING POSILOCK MKI	FORWARD OF RADIATOR – LH SIDE / RADIATOR GRILLE
HORN – RH	LS48 / LUCAR – LOCKING POSILOCK MKI LS49 / LUCAR – LOCKING POSILOCK MKI	FORWARD OF RADIATOR – RH SIDE / RADIATOR GRILLE
PASSENGER COMPARTMENT ACCESSORY CONNECTOR	CA71 / 3-WAY AMP SERIES 250 PIN / BLACK	RH HEELBOARD / HEELBOARD COVER
TRUNK ACCESSORY CONNECTOR	BT25 / 3-WAY AMP SERIES 250 PIN / BLACK	ADJACENT TO BATTERY / BATTERY COVER

RELAYS

Relay	Case Color	Connector / Color	Location / Access
HORN RELAY	BROWN	BUS	RELAY #6, ENGINE COMPARTMENT FUSE BOX / ENGINE COMPARTMENT
ACCESSORY CONNECTOR RELAY	BROWN	BUS	RELAY #6, TRUNK FUSE BOX / TRUNK

HARNESS-TO-HARNESS 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	14-WAY MULTILOCK 070 / WHITE	PASSENGER 'A' POST / LOWER 'A' POST FINISHER
SC2	10-WAY MULTILOCK 070 / YELLOW	ADJACENT TO STEERING COLUMN MOTOR
SC3	12-WAY MULTILOCK 070 / GREY	ADJACENT TO STEERING COLUMN MOTOR
SW1	12-WAY MULTILOCK 040 / BLACK	INSIDE STEERING COLUMN COWL
SW2	6-WAY MULTILOCK 040 / BLACK	CENTER OF STEERING WHEEL

GROUNDS

Ground	Location / Type
BT21R	EYELET (PAIR) – TRUNK / RH REAR GROUND STUD
CA31R	EYELET (PAIR) – RH DRIVE SHAFT TUNNEL GROUND STUD
CA47L	EYELET (PAIR) – DRIVE SHAFT TUNNEL GROUND STUD – RH SIDE
CA47R	EYELET (PAIR) – DRIVE SHAFT TUNNEL GROUND STUD – RH SIDE
FC17R	EYELET (PAIR) – EMS BULKHEAD GROUND STUD
LS18R	EYELET (PAIR) – LH FORWARD GROUND STUD
LS20R	EYELET (PAIR) – RH FORWARD GROUND STUD

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

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REFER TO THE FRONT OF THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

CONTROL MODULE PIN OUT INFORMATION

REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

Fig. 19.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
ABS / TRACTION CONTROL CONTROL MODULE	LS27 / 25-WAY AMP / FORD / BLACK	ENGINE COMPARTMENT / BEHIND LH HEADLAMP ASSEMBLY
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
DATA LINK CONNECTOR	CC6 / 16-WAY AMP (OBD2) / BLACK	TRANSMISSION TUNNEL
DOOR CONTROL MODULE – DRIVER	DD10 / 22-WAY FORD 2.8 TIMER / BLUE DD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR CONTROL MODULE – DRIVER REAR	RD10 / 22-WAY FORD 2.8 TIMER / BLUE RD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR CONTROL MODULE – PASSENGER	PD10 / 22-WAY FORD 2.8 TIMER / BLUE PD11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
DOOR CONTROL MODULE – PASSENGER REAR	RP10 / 22-WAY FORD 2.8 TIMER / BLUE RP11 / 22-WAY FORD 2.8 TIMER / BLACK	DOOR CASING / TRIM PANEL
ENGINE CONTROL MODULE: AJ26 SC	EM10 / 28-WAY MULTILOCK 040 / GREY EM11 / 16-WAY MULTILOCK 040 / GREY EM12 / 22-WAY MULTILOCK 040 / GREY EM13 / 34-WAY MULTILOCK 040 / GREY EM14 / 12-WAY MULTILOCK 47 / WHITE EM15 / 22-WAY MULTILOCK 47 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
ENGINE CONTROL MODULE: AJ27 N/A	EM80 / 31-WAY AMP 403 / NATURAL EM81 / 24-WAY AMP 403 / NATURAL EM82 / 17-WAY AMP 403 / NATURAL EM83 / 28-WAY AMP 403 / NATURAL EM84 / 22-WAY AMP 403 / NATURAL EM85 / 12-WAY MULITLOCK 070 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
GEAR SELECTOR ILLUMINATION MODULE	CC14 / 10-WAY MULTILOCK 070 / WHITE	CENTER CONSOLE ASSEMBLY
INSTRUMENT PACK	FC24 / 48-WAY AMP MODULE PCB SIGNAL / BLACK FC25 / 24-WAY AMP MODULE PCB SIGNAL / BLACK	FASCIA
SEAT CONTROL MODULE – DRIVER	SM1-D / 16-WAY FORD 2.8 TIMER / BLACK SM2-D / 26-WAY FORD IDC / BLACK SM3-D / 10-WAY FORD 2.8 TIMER / BLACK	DRIVER SEAT / UNDER
SEAT CONTROL MODULE – PASSENGER	SM1-P / 16-WAY FORD 2.8 TIMER / BLACK SM3-P / 10-WAY FORD 2.8 TIMER / BLACK	PASSENGER SEAT / UNDER
SPLICE HEADER – CA222	CA222 / 20-WAY SUMITOMO SPLICE HEADER / GREY	RH HEELBOARD / HEELBOARD COVER
SPLICE HEADER – CA223	CA223 / 20-WAY SUMITOMO SPLICE HEADER / BLACK	RH HEELBOARD / HEELBOARD COVER
TRANSMISSION CONTROL MODULE: AJ27 N/A	EM7 / 88-WAY BOSCH / BLACK	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
TRANSMISSION CONTROL MODULE: AJ26 SC	EM61 / 18-WAY AMP JUNIOR POWER TIMER / BLACK EM62 / 14-WAY AMP JUNIOR POWER TIMER / BLACK	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT4	54-WAY THROUGH PANEL / GREY	BELOW PARCEL SHELF / TRUNK / REAR BULKHEAD / RH SIDE
CA8	20-WAY MULTILOCK 070 / WHITE	DRIVER 'A' POST / DOOR HARNESS GAITER
CA11	20-WAY MULTILOCK 070 / WHITE	PASSENGER 'A' POST / DOOR HARNESS GAITER
CA19	20-WAY MULTILOCK 070 / YELLOW	LH 'A' POST CONNECTOR MOUNTING BRACKET / LOWER 'A' POST FINISHER
CA23	10-WAY MULTILOCK 070 / WHITE	BELOW DRIVER SEAT
CA27	10-WAY MULTILOCK 070 / WHITE	BELOW PASSENGER SEAT
CA45	6-WAY MULTILOCK 070 / WHITE	PASSENGER 'B/C' POST / DOOR HARNESS GAITER
CA46	4-WAY MULTILOCK 070 / WHITE	DRIVER 'B/C' POST / DOOR HARNESS GAITER
EM1	12-WAY AUGAT 1.6 / BLACK	ENGINE COMPARTMENT / ADJACENT TO ABS PUMP
EM2	20-WAY MULTILOCK 070 / GREY	PASSENGER 'A' POST / LOWER 'A' POST FINISHER
FC1	54-WAY THROUGH PANEL CONNECTOR / GREY	BELOW PASSENGER SIDE AIR VENT / GLOVE BOX ASSEMBLY
FC7	20-WAY MULTILOCK 070 / YELLOW	ABOVE DIMMER MODULE / COIN TRAY
FC11	18-WAY MULTILOCK 070 / WHITE	ABOVE DIMMER MODULE / COIN TRAY

GROUNDS

Ground	Location / Type
CC3L	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

The following symbols are used to represent values for Control Module Pin Out data:

I	**Input**	**D**	**Serial and encoded communications**	**B+**	**Battery voltage**	**KHz**	**Frequency x 1000**
O	**Output**	**C**	**CAN (Network)**	**V**	**Voltage (DC)**	**MS**	**Milliseconds**
SG	**Signal Ground**	**S**	**SCP Network**	**Hz**	**Frequency**	**MV**	**Millivolts**

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 THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

DATE OF ISSUE: SEPTEMBER 1998

CONTROL MODULE PIN OUT INFORMATION

REFER TO THE APPENDIX AT THE REAR OF THIS BOOK FOR CAN AND SCP NETWORK MESSAGES.

Fig. 19.2

COMPONENTS

Component	Connector / Type / Color	Location / Access
ADAPTIVE DAMPING CONTROL MODULE	EM68 / 35-WAY AMP JUNIOR POWER TIMER / BLACK	ADJACENT TO PASSENGER SIDE BLOWER / GLOVE BOX ASSEMBLY
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	RH SIDE OF TRANSMISSION TUNNEL / GLOVE BOX ASSEMBLY
AIR CONDITIONING CONTROL PANEL	CC27 / 12-WAY MULTILOCK 040 / BLUE	CENTER CONSOLE
AIRBAG / SRS SINGLE POINT SENSOR	CA61 / 50-WAY ELO50 / YELLOW	BELOW CENTER CONSOLE ASSEMBLY
BODY PROCESSOR MODULE	FC15 / 14-WAY AMP EEEC / GREY	BULKHEAD / BEHIND GLOVE BOX
DATA LINK CONNECTOR	CC6 / 16-WAY AMP (OBD2) / BLACK	TRANSMISSION TUNNEL
ENGINE CONTROL MODULE: AJ26 SC	EM10 / 28-WAY MULTILOCK 040 / GREY EM11 / 16-WAY MULTILOCK 040 / GREY EM12 / 22-WAY MULTILOCK 040 / GREY EM13 / 34-WAY MULTILOCK 040 / GREY EM14 / 12-WAY MULTILOCK 47 / WHITE EM15 / 22-WAY MULTILOCK 47 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
ENGINE CONTROL MODULE: AJ27 N/A	EM80 / 31-WAY AMP 403 / NATURAL EM81 / 24-WAY AMP 403 / NATURAL EM82 / 17-WAY AMP 403 / NATURAL EM83 / 28-WAY AMP 403 / NATURAL EM84 / 22-WAY AMP 403 / NATURAL EM85 / 12-WAY MULITLOCK 070 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
KEY TRANSPONDER MODULE	FC22 / 20-WAY MULTILOCK 040 / GREEN	BELOW INSTRUMENT PACK

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
CA19	20-WAY MULTILOCK 070 / YELLOW	LH 'A' POST CONNECTOR MOUNTING BRACKET / LOWER 'A' POST FINISHER
EM2	20-WAY MULTILOCK 070 / GREY	PASSENGER 'A' POST / LOWER 'A' POST FINISHER
EM3	14-WAY MULTILOCK 070 / WHITE	PASSENGER 'A' POST / LOWER 'A' POST FINISHER
EM53	20-WAY MULTILOCK 070 / WHITE	PASSENGER 'A' POST / LOWER 'A' POST FINISHER
FC11	18-WAY MULTILOCK 070 / WHITE	ABOVE DIMMER MODULE / COIN TRAY

GROUNDS

Ground	Location / Type
CC3L	EYELET (PAIR) – RH FRONT BULKHEAD STUD / CABIN SIDE

CONTROL MODULE PIN OUT INFORMATION (FOLD OUT PAGE)

The following symbols are used to represent values for Control Module Pin Out data:

I	Input	D	Serial and encoded communications	B+	Battery voltage	KHz	Frequency x 1000
O	Output	C	CAN (Network)	V	Voltage (DC)	MS	Milliseconds
SG	Signal Ground	S	SCP Network	Hz	Frequency	MV	Millivolts

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 THE BOOK FOR ILLUSTRATIONS DETAILING THE LOCATION AND IDENTIFICATION OF COMPONENTS, RELAYS, CONNECTORS, HARNESSES, GROUNDS, VEHICLE CONTROL MODULES AND CONTROL MODULE PINS.

DATE OF ISSUE: SEPTEMBER 1998

This Appendix contains a listing of CAN and SCP Network messages.

Abbreviations

The following abbreviations are used throughout this Appendix

BPM	Body Processor Module
DIAG	Diagnostics
DDCM	Driver Door Control Module
DRDCM	Driver Rear Door Control Module
DSCM	Driver Seat Control Module
INST	Instrument Pack
PDCM	Passenger Door Control Module
PRDCM	Passenger Rear Door Control Module
PSCM	Passenger Seat Control Module
R	Receive
T	Transmit
SLCM	Security and Locking Control Module

CAN Messages by Node

Node: Engine Control Module

Transmitted by ECM

Message	Usage
CAN traction acknowledge	Confirms torque reduction for traction control
CAN traction control estimated engine torque	Derived from map of engine characteristics
CAN shift energy management estimated engine torque	Derived from map of engine characteristics
CAN throttle position	Throttle valve position
CAN pedal position	Accelerator pedal position, throttle demand
CAN torque reduction acknowledge	Confirms torque reduction for shift energy management
CAN engine speed	Engine speed
CAN brake pedal pressed	Brake switch status
CAN cruise status	Cruise control system status
CAN park brake status	Indicates whether the parking brake is on
CAN OBDII clear fault codes	Request for ABS and TCM to clear their OBDII DTCs
CAN engine coolant temperature	Engine coolant temperature in Celsius
CAN engine OBDII MIL	MIL control for OBDII DTCs
CAN throttle malfunction red	Red throttle malfunction warnings
CAN throttle malfunction amber	Amber throttle malfunction warnings
CAN ECM fault code MIL status	Indicates whether the ECM DTC should switch MIL on
CAN ECM PECUS flag	PECUS programmed status of ECM
CAN engine fault codes	ECM DTCs, including OBDII P and C codes
CAN fuel used	Derived from injector pulse duration
CAN engine oil temperature (AJ27 only)	Engine oil temperature in Celsius
CAN barometric pressure (AJ27 only)	Atmospheric pressure as % of one atmosphere
CAN NWM token – ECM	Message for monitoring network status
CAN diagnostic data out – ECM	To external diagnostics device only

CAN Messages by Node

Node: Engine Control Module

Received by ECM

Message	Usage	Source
CAN torque reduction throttle	For traction control – throttle intervention	ABS
CAN fast torque reduction ignition	Fast stability control response – ignition retard	ABS
CAN fast torque reduction cylinder	Fast stability control response – cylinder fuel cut off	ABS
CAN torque reduction request	For shift energy management	TCM
CAN transmission overload	Protects transmission against excessive torque	TCM
CAN transmission input speed	Transmission input shaft speed	TCM
CAN transmission output speed	Transmission output shaft speed	TCM
CAN torque converter slip	Percentage of torque converter slip	TCM
CAN kickdown	Kickdown status	TCM
CAN traction status	Indicates if the traction algorithm is functioning	ABS
CAN vehicle reference speed	Vehicle speed based on a standard wheel size	ABS
CAN ABS fault codes	ABS DTCs, including OBDII P and C codes	ABS
CAN OBDII ABS clear acknowledge	Acknowledgment that OBDII DTCs have been cleared	ABS
CAN ABS fault code MIL status	Indicates whether the ABS DTC should switch MIL on	ABS
CAN ABS malfunction	Malfunction information for ABS and brake systems	ABS
CAN sidelamp status	Side lamp state for idle speed control	INST
CAN dipped beam status	Dipped beam state for idle speed control	INST
CAN main beam status	Main beam state for idle speed control	INST
CAN oil pressure low	Indicates low engine oil pressure	INST
CAN fuel level damped	Indicates ‘damped’ level of fuel in tank	INST
CAN fuel level raw	Indicates ‘raw – undamped’ level of fuel in tank	INST
CAN gear position actual	Actual transmission gear state	TCM
CAN torque converter status	Indicates torque converter lockup	TCM
CAN gear position selected	Position of transmission rotary switch	TCM
CAN gear selection fault	Indicates validity of Can gear position selected	TCM
CAN transmission shift map	Dynamic shift program currently selected	TCM
CAN transmission oil temperature	Transmission fluid temperature	TCM
CAN transmission malfunction	Transmission malfunction warning	TCM
CAN TCM fault code MIL status	Indicates whether the TCM DTC should switch MIL on	TCM
CAN OBDII TCM clear acknowledge	Acknowledgment that OBDII DTCs have been cleared	TCM
CAN transmission fault codes	TCM DTCs, including OBDII P and C codes	TCM
CAN left front wheel speed	Left front wheel speed	ABS
CAN right front wheel speed	Right front wheel speed	ABS
CAN left rear wheel speed	Left rear wheel speed	ABS
CAN right rear wheel speed	Right rear wheel speed	ABS
CAN NWM token – TCM	Message for monitoring network status	TCM
CAN NWM token – INST	Message for monitoring network status	INST
CAN NWM token – ABS	Message for monitoring network status	ABS
CAN diagnostic data in – ECM	From external diagnostics device only	DIAG

CAN Messages by Node

Node: Transmission Control Module

Transmitted by TCM

Message	Usage
CAN torque reduction request	For shift energy management
CAN transmission overload	Protects transmission against excessive torque
CAN transmission input speed	Transmission input shaft speed
CAN transmission output speed	Transmission output shaft speed
CAN torque converter slip	Percentage of torque converter slip
CAN kickdown	Kickdown status
CAN gear position actual	Actual transmission gear state
CAN torque converter status	Indicates torque converter lockup
CAN gear position selected	Position of transmission rotary switch
CAN gear selection fault	Indicates validity of CAN gear position selected
CAN transmission shift map	Dynamic shift program currently selected
CAN transmission oil temperature	Transmission fluid temperature
CAN transmission malfunction	Transmission malfunction warning
CAN TCM PECUS flag	PECUS programmed status of TCM
CAN gear position target (AJ26 SC only)	Target gear position for next shift
CAN torque transfer in progress (AJ26 SC only)	Indicates torque transfer in progress during gearshift
CAN TCM fault code MIL status	Indicates whether the TCM DTCs should switch MIL on
CAN OBDII TCM clear acknowledge	Acknowledgment that OBDII DTCs have been cleared
CAN transmission fault codes	TCM DTCs, including OBDII P and C codes
CAN NWM token – TCM	Message for monitoring network status
CAN diagnostic data out – TCM	To external diagnostics device only

Received by TCM

Message	Usage	Source
CAN traction status	Indicates if the traction control algorithm is functioning	ABS
CAN shift energy management estimated engine torque	Derived from map of engine characteristics	ECM
CAN throttle position	Throttle valve position	ECM
CAN pedal position	Accelerator pedal position, throttle demand	ECM
CAN torque reduction acknowledge	Confirms torque reduction for shift energy management	ECM
CAN engine speed	Engine speed	ECM
CAN brake pedal pressed (AJ26 SC only)	Brake switch status	ECM
CAN cruise status	Cruise control system status	ECM
CAN OBDII clear fault codes	Request for ABS and TCM to clear their OBDII DTCs	ECM
CAN engine coolant temperature	Engine coolant temperature in Celsius	ECM
CAN engine oil temperature (AJ27 only)	Engine oil temperature in Celsius	ECM
CAN left front wheel speed	Left front wheel speed	ABS
CAN right front wheel speed	Right front wheel speed	ABS
CAN left rear wheel speed	Left rear wheel speed	ABS
CAN right rear wheel speed	Right rear wheel speed	ABS
CAN NWM token– ECM	Message for monitoring network status	ECM
CAN NWM token – INST	Message for monitoring network status	INST
CAN NWM token – ABS	Message for monitoring network status	ABS
CAN diagnostic data in – TCM	From external diagnostics device only	DIAG

CAN Messages by Node

Node: Instrument Pack

Transmitted by INST

Message	Usage
CAN side lamp status	Sidelamp status for idle speed control
CAN dipped beam status	Dipped beam state for idle speed control
CAN main beam status	Main beam state for idle speed control
CAN oil pressure low	Indicates low engine oil pressure
CAN fuel level damped	Indicates 'damped' level of fuel in tank
CAN fuel level raw	Indicates 'raw – undamped' level of fuel in tank
CAN NWM token INST	Message for monitoring network status
CAN diagnostic data out INST	To external diagnostics device only

Received by INST

Message	Usage	Source
CAN traction status	Indicates if the traction algorithm is functioning	ABS
CAN ABS PECUS flag	PECUS programmed status of ABS / TC CM	ABS
CAN vehicle reference speed	Vehicle speed based on a standard wheel size	ABS
CAN reference distance traveled	Rolling count – based on a standard wheel size	ABS
CAN ABS malfunction	Malfunction information for ABS and brake systems	ABS
CAN engine speed	Engine speed	ECM
CAN brake pedal pressed	Brake switch status	ECM
CAN park brake status	Indicates whether the parking brake is on	ECM
CAN gear position selected	Position of transmission rotary switch	TCM
CAN gear selection fault	Indicates validity of CAN gear position selected	TCM
CAN transmission oil temperature	Transmission fluid temperature	TCM
CAN transmission malfunction	Transmission malfunction warning	TCM
CAN TCM PECUS flag	PECUS programmed status of TCM	TCM
CAN engine coolant temperature	Engine coolant temperature in Celsius	ECM
CAN engine OBDII MIL	MIL control for OBDII DTCs	ECM
CAN throttle malfunction red	Red throttle malfunction warnings	ECM
CAN throttle malfunction amber	Amber throttle malfunction warnings	ECM
CAN ECM PECUS flag	PECUS programmed status of ECM	ECM
CAN fuel used	Derived from the injector pulse duration	ECM
CAN right rear wheel speed	Rear right wheel speed	ABS
CAN NWM token – ECM	Message for monitoring network status	ECM
CAN NWM token – TCM	Message for monitoring network status	TCM
CAN NWM token – ABS	Message for monitoring network status	ABS
CAN diagnostic data in – INST	From external diagnostics device only	DIAG

CAN Messages by Node

Node: ABS / Traction Control Control Module

Transmitted by ABS / TCCM

Message	Usage
CAN torque reduction throttle	For traction control – throttle intervention
CAN fast torque reduction ignition	For fast stability control response – ignition retard
CAN fast torque reduction cylinder	For fast stability control response – cylinder fuel cut off
CAN traction status	Indicates if the traction control algorithm is functioning
CAN ABS PECUS flag	PECUS programmed status of ABS / TCCM
CAN vehicle reference speed	Vehicle speed based on a standard wheel size
CAN reference distance traveled	Rolling count – based on a standard wheel size
CAN ABS fault codes	ABS DTCs, including OBDII P and C codes
CAN OBDII ABS clear acknowledge	Acknowledgment that OBDII DTCs have been cleared
CAN ABS fault code MIL status	Indicates whether the ABS DTC should switch MIL on
CAN ABS malfunction	Malfunction information for ABS and brake systems
CAN ABS status	Indicates whether ABS is operating
CAN left front wheel speed	Left front wheel speed
CAN right front wheel speed	Right front wheel speed
CAN left rear wheel speed	Left rear wheel speed
CAN right rear wheel speed	Right rear wheel speed
CAN NWM token – ABS	Message for monitoring network status
CAN diagnostic data out – ABS	From external diagnostics device only

Received by ABS / TC CM

Message	Usage	Source
CAN traction acknowledge	Confirms torque reduction for traction control	ECM
CAN traction estimated engine torque	Derived from map of engine characteristics	ECM
CAN transmission input speed	Transmission input shaft speed	TCM
CAN transmission output speed	Transmission output shaft speed	TCM
CAN torque converter slip	Percentage of torque converter slop	TCM
CAN kickdown	Kickdown status	TCM
CAN throttle position	Throttle valve position	ECM
CAN pedal position	Accelerator pedal position, throttle demand	ECM
CAN engine speed	Engine speed	ECM
CAN brake pedal pressed	Brake switch status	ECM
CAN OBDII clear fault codes	Request for ABS and TCM to clear their OBDII DTCs	ECM
CAN gear position actual	Actual transmission gear state	TCM
CAN torque converter status	Indicates torque converter lockup	TCM
CAN transmission shift map	Dynamic shift program currently selected	TCM
CAN transmission malfunction	Transmission malfunction warning	TCM
CAN gear position target	Target gear position for next shift	TCM
CAN torque transfer in progress	Indicates torque transfer in progress during gearshift	TCM
CAN transmission fault codes	TCM DTCs, including OBDII P and C codes	TCM
CAN engine OBDII MIL	MIL control for OBDII DTCs	ECM
CAN throttle malfunction red	Red throttle malfunction warnings	ECM
CAN throttle malfunction amber	Amber throttle malfunction warnings	ECM
CAN ECM fault code MIL status	Indicates whether the ECM DTCs should switch MIL on	ECM
CAN engine DTCs	ECM DTCs, including OBDII P and C codes	ECM
CAN NWM token – ECM	Message for monitoring network status	ECM
CAN NWM token – TCM	Message for monitoring network status	TCM
CAN NWM token – INST	Message for monitoring network status	INST
CAN diagnostic data in – ABS	From external diagnostics device only	DIAG

CAN Messages by Node

Node: Gear Selector Illumination Module (listen Only)

Received by Gear Selector Illumination Module

Message	Usage	Source
CAN gear position selected	Gear selector indicator illumination	TCM
CAN gear selection fault	Indicates validity of gear position selected message	TCM

CAN Message Matrix

T = Transmit; R = Receive

Message	ABS	ECM	TCM	INST	Gear Selector	DIAG
CAN torque reduction throttle	T	R				
CAN fast torque reduction ignition	T	R				
CAN fast torque reduction cylinder	T	R				
CAN traction acknowledge	R	T				
CAN traction control estimated engine torque	R	T				
CAN torque reduction request		R	T			
CAN transmission overload		R	T			
CAN transmission input speed	R	R	T			
CAN transmission output speed	R	R	T			
CAN torque converter slip	R	R	T			
CAN kickdown	R	R	T			
CAN traction status	T	R	R	R		
CAN ABS PECUS flag	T			R		
CAN vehicle reference speed	T	R		R		
CAN reference distance traveled	T			R		
CAN ABS fault codes	T	R				
CAN OBDII ABS clear acknowledge	T	R				
CAN ABS fault code MIL status	T	R				
CAN ABS malfunction	T	R		R		
CAN ABS status	T					
CAN shift energy management estimated engine torque		T	R			
CAN throttle position	R	T	R			
CAN pedal position	R	T	R			
CAN torque reduction acknowledge		T	R			
CAN engine speed	R	T	R	R		
CAN brake pedal pressed	R	T	R	R		
CAN cruise status		T	*R			
CAN park brake status		T		*R		
CAN OBDII clear fault codes	R	T	R			
CAN side lamp status		R		T		
CAN dipped beam status		R		T		
CAN main beam status		R		T		
CAN oil pressure low		R		T		
CAN fuel level raw		R		T		
CAN fuel level damped		R		T		
CAN gear position actual	R	R	T			
CAN torque converter status	R	R	T			
CAN gear position selected	R	R	T	R	R	
CAN gear selection fault	R	R	T	R	R	
CAN transmission shift map	R	R	T			
CAN transmission oil temperature		R	T	R		
CAN transmission malfunction	R	R	T	R		
CAN TCM PECUS flag			T	R		
CAN gear position target **	R		T			
CAN torque transfer in progress **	R		T			
CAN TCM fault code MIL status		R	T			
CAN OBDII TCM clear acknowledge		R	T			
CAN transmission fault codes	R	R	T			
CAN engine coolant temperature		T	R	R		
CAN engine OBDII MIL	R	T		R		

*** NA engines only**

**** SC engines only**

Message	ABS	ECM	TCM	INST	Gear Selector	DIAG
CAN throttle malfunction red	R	T		R		
CAN throttle malfunction amber	R	T		R		
CAN ECM fault code MIL status	R	T				
CAN ECM PECUS flag		T		R		
CAN engine fault codes	R	T				
CAN fuel used		T		R		
CAN left front wheel speed	T	R	R			
CAN right front wheel speed	T	R	R			
CAN left rear wheel speed	T	R	R			
CAN right rear wheel speed	T	R	R	R		
CAN NWM token – ECM	R	T	R	R		
CAN NWM token – TCM	R	R	T	R		
CAN NWM token – INST	R	R	R	T		
CAN NWM token – ABS	T	R	R	R		
CAN diagnostic data in – ECM		R				T
CAN diagnostic data in – TCM			R			T
CAN diagnostic data in – INST				R		T
CAN diagnostic data in – ABS	R					T
CAN diagnostic data out – ECM		T				R
CAN diagnostic data out – TCM		T		R		
CAN diagnostic data out – INST				T		R
CAN diagnostic data out – ABS	T					R

SCP Message Matrix

T = Transmit; R = Receive

#	Message Name	INST	BPM	DDCM	PDCM	DSCM	PSCM	DRDCM	PRDCM	SLCM
1	Vehicle speed	T	R	R						
2	Brake pedal pressed	T	R							R
3	Module not programmed	R	T	T	T	T	T	T	T	T
4	Left hand drive vehicle		T	R						R
5	Valet mode OFF		T							R
6	Non-superlocking vehicle		T	R						
7	Trailer disconnected		R							T
8	Right hand drive vehicle		T	R						R
9	Valet mode ON		T							R
10	Superlocking ON		T	R						
11	Trailer connected		R							T
12	Reverse gear selected	T			R					R
13	Not-in-park switch – inactive		T	R	R	R		R		
14	Not-in-park switch – active		T	R	R	R		R		
15	Engine running	T	R							
16	Charging OK	T								R
17	Inertia switch – inactive		T	R	R					
18	Inertia switch – active		T	R	R					
19	Ignition switch status	R	T	R	R	R	R	R	R	R
20	Key not-in-ignition		T	R	R	R	R	R		R
21	Key in-ignition		T	R	R	R	R	R		R
22	Seatbelt telltale OFF	R	T							
23	Low washer fluid warning OFF	R	T							
24	Seatbelt telltale ON	R	T							
25	Low washer fluid warning ON	R	T							
26	Security audible indication		R	T	T					T
27	Remote panic enabled		R	R	R					T
28	Intrusion sensing disabled									
29	Security disarm		R	R	R					T
30	Ignition key invalid		T							R
31	Intrusion breach		T							R
32	Intrusion self-check failure		T							R
33	Intrusion sensing enabled									
34	Security armed		R	R	R					T
35	Ignition key valid		T							R
36	Memory set chime		R					T		
37	Recall memory 1		R	R	R	R		T		
38	Recall memory 2		R	R	R	R		T		
39	Recall memory 3		R	R	R	R		T		
40	Set memory 1		R	R	R	R		T		
41	Set memory 2		R	R	R	R		T		
42	Set memory 3		R	R	R	R		T		
43	Stop memory recall		R	R	R	R		T		
44	Memory LED OFF			R				T		
45	Memory recall cancelled		T	T	T	T		R		
46	Memory LED ON			R				T		
47	Mirror fold-flat		R	T						
48	Mirror fold-out		R	T						
49	Stop mirror			T	R					
50	Driver mirror up			T	R					
51	Passenger mirror up			T	R					
52	Driver mirror down			T	R					
53	Passenger mirror down			T	R					
54	Passenger mirror right			T	R					

#	Message Name	INST	BPM	DDCM	PDCM	DSCM	PSCM	DRDCM	PRDCM	SLCM
55	Passenger mirror left			T	R					
56	Unlock all doors			T / R	T / R			R	R	
57	Unlock fuel filler flap			T						R
58	Remote unlock		R	R	R			R		T
59	Remote trunk release		R							T
60	Lock all doors		R	T	T					
61	Lock fuel filler flap			T						R
62	Superlock all doors			T / R	T / R			R	R	
63	Remote superlock			R	R					T
64	Remote lock			R	R					T
65	Vehicle unlocked		R	T						R
66	Driver front door unlocked			R	R					T
67	Passenger front door unlocked			R	R					T
68	Exterior trunk release disabled		R	T						
69	Driver door lock cylinder status		R	T	R			R	R	R
70	Passenger door lock cylinder status		R	R	T			R	R	R
71	Remote transmitter ID							R		T
72	Vehicle locked		R	T						R
73	Driver front door locked			R	R					T
74	Passenger front door locked			R	R					T
75	Exterior trunk release enabled		R	T						
76	Central locking switch active		T	R	R					R
77	Open trunk		T							R
78	Hood closed	R	T	R	R					R
79	Driver front door closed	R	R	T	R	R		R		R
80	Passenger front door closed	R	R	R	T		R			R
81	Driver rear door closed	R	R	R	R			T		R
82	Passenger rear door closed	R	R	R	R				T	R
83	Trunk closed	R	R	R	R					T
84	Hood ajar	R	T	R	R					R
85	Driver front door ajar	R	R	T	R	R		R		R
86	Passenger front door ajar	R	R	R	T		R			R
87	Driver rear door ajar	R	R	R	R			T		R
88	Passenger rear door ajar	R	R	R	R				T	R
89	Trunk ajar	R	R	R	R					T
90	Exterior trunk release active		R							T
91	Driver seat exit position		T			R				
92	Driver seat entry / exit mode initiated		T			R				
93	Sunroof position status		R	T						
94	Stop global window close		T	R	R			R	R	
95	Stop sunroof close		R	T						
96	Stop passenger front window			T	R					
97	Stop driver rear window			T				R		
98	Stop passenger rear window			T					R	
99	Rear window switches – enable		T					R	R	
100	Open passenger front window			T	R					
101	Open driver rear window			T				R		
102	Open passenger rear window			T					R	
103	Global close windows		T	R	R			R	R	
104	Close driver front window			R						
105	Close sunroof		R	T						
106	Close passenger front window			T	R					
107	Close driver rear window			T				R		

(continued)

SCP Message Matrix

T = Transmit; R = Receive

#	Message Name	INST	BPM	DDCM	PDCM	DSCM	PSCM	DRDCM	PRDCM	SLCM
108	Close passenger rear window			T					R	
109	Inhibit rear window switches		T					R	R	
110	Tail lamp failure	R	T							
111	Stop lamp failure	R								T
112	Tail lamps OK	R	T							
113	Stop lamps OK	R								T
114	Rear fog lamps OFF		T							R
115	Remote headlamps OFF		R							T
116	Rear fog lamps ON		T							R
117	Remote headlamps ON		R							T
118	Dip beam OFF	R	T							
119	Side lamps OFF	R	T							
120	Hazard lamps OFF	R	T							
121	Left DI lamps OFF	R	T							
122	Right DI lamps OFF	R	T							
123	Main beam OFF	R	T							
124	Rear fog lamps OFF		R							T
125	Main beam flash disabled		T							R
126	Dip beam ON	R	T							
127	Side lamps ON	R	T							
128	Hazard lamps ON	R	T							
129	Left DI lamps ON	R	T							
130	Right DI lamps ON	R	T							
131	Main beam ON	R	T							
132	Rear fogs status – ON		R							T
133	Main beam flash enabled		T							R
134	Interior lights OFF	R	T							
135	Interior lights ON	R	T							
136	Valet mode message OFF	R	T							
137	Valet mode message	R	T							
138	Wake-up network	T	T	T	T	T	T	T	T	T
139	Network status – awake	T / R	T / R	T / R	T / R	T / R	T / R	T / R	T / R	T / R
140	Entering sleep mode	T / R	T / R	T / R	T / R	T / R	T / R	T / R	T / R	T / R