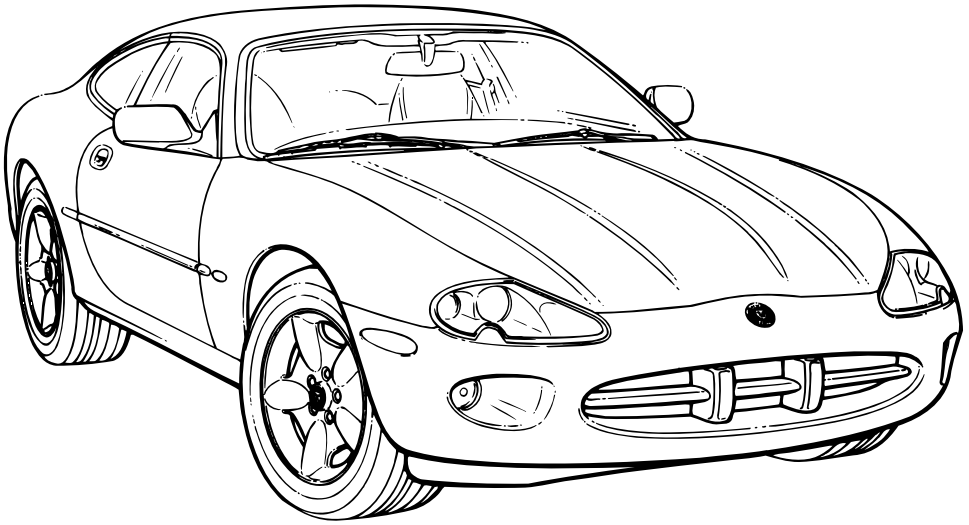
XK8 Range 2001 Model Year Electrical Guide



XK8 Range 2001

Publication number s,2001,XK8
Date of Issue: September 2000

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 XK8 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:

ACP	Audio Control Protocol Network
B+	Battery Voltage
CAN	Controller Area Network
COUPE	Coupe Vehicles
CONV.	Convertible Vehicles
DI	Direction Indicator
LH	Left-Hand
LHD	Left-Hand Drive
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

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".

XK8 Electrical System

The vehicle electrical system is a ground side switched system. The ignition switch switches ground circuits on / off to complete system circuits and apply power. Circuits that require ignition switch position control are supplied with "ignition switched grounds". Both power grounds (high current consumers) and logic grounds (electronic switching circuits) are used throughout the system.

Three data networks are employed in the vehicle: a high speed Controller Area Network (CAN) for the engine, drive train and related systems, a Standard Corporate Protocol network (SCP) for the body systems, and an Audio Control Protocol network (ACP) for certain In-Car Entertainment and Telephone functions. 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. In addition to the two networks, the vehicle uses a serial data bus (ISO) for diagnostics, security sounder operation and for the programming of certain control modules.

FIGURES

FIGURES

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 12.

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.

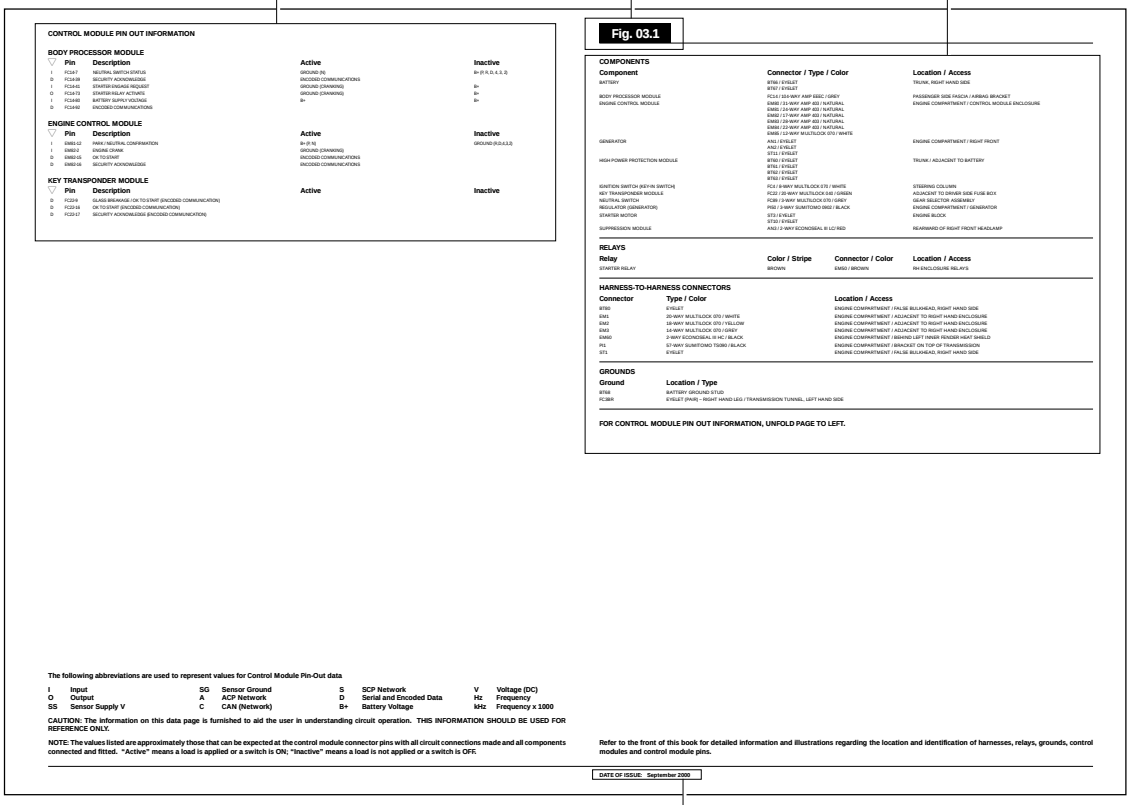
When network data is required for the understanding of a particular circuit, the user is directed to the Appendix.

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 soperation 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	FC14-7	NEUTRAL SWITCH STATUS	GROUND (N)	B+ (P, R, 1, 2, 3)
B	FC14-8	SECURITY ACKNOWLEDGE	ENCODED COMMUNICATIONS	
I	FC14-10	STARTER ENGAGE REQUEST	GROUND (CRANKING)	B+
O	FC14-13	STARTER RELAY ACTIVATE	GROUND (CRANKING)	B+
I	FC14-6	BATTERY SUPPLY VOLTAGE	B+	B+
B	FC14-5	ENCODED COMMUNICATIONS		

ENGINE CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	EM01-12	PARK / NEUTRAL CONFIRMATION	B+ (P, N)	GROUND (R,D,1,2,3)
I	EM02-2	ENGINE CRANK	GROUND (CRANKING)	
O	EM02-15	OK TO START	ENCODED COMMUNICATIONS	
B	EM02-16	SECURITY ACKNOWLEDGE	ENCODED COMMUNICATIONS	

KEY TRANSPONDER MODULE

▽	Pin	Description	Active	Inactive
O	FC22-9	GLASS BREAKAGE / OK TO START (ENCODED COMMUNICATION)		
O	FC22-10	OK TO START (ENCODED COMMUNICATION)		
B	FC22-17	SECURITY ACKNOWLEDGE (ENCODED COMMUNICATION)		

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

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

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

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

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

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Fig. 03.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
BATTERY	BT66 / EYELET BT67 / EYELET	TRUNK, RIGHT HAND SIDE
BODY PROCESSOR MODULE	FC14 / 33-WAY AMP EEEC / GREY	PASSENGER SIDE FASCIA / AIRBAG BRACKET
ENGINE CONTROL MODULE	EM02 / 31-WAY AMP 403 / NATURAL EM01 / 19-WAY AMP 403 / NATURAL EM02 / 17-WAY AMP 403 / NATURAL EM03 / 23-WAY AMP 403 / NATURAL EM04 / 23-WAY AMP 403 / NATURAL EM05 / 12-WAY MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
GENERATOR	AN1 / EYELET AN2 / EYELET	ENGINE COMPARTMENT / RIGHT FRONT
HIGH POWER PROTECTION MODULE	ST11 / EYELET BT60 / EYELET BT61 / EYELET BT62 / EYELET BT63 / EYELET	TRUNK / ADJACENT TO BATTERY
IGNITION SWITCH (KEY-IN SWITCH)	FC4 / 8-WAY MULTILOCK 070 / WHITE	STEERING COLUMN
KEY TRANSPONDER MODULE	FC22 / 20-WAY MULTILOCK 040 / GREEN	ADJACENT TO DRIVER SIDE FUSE BOX
NEUTRAL SWITCH	FC69 / 3-WAY MULTILOCK 070 / GREY	GEAR SELECTOR ASSEMBLY
REGULATOR (GENERATOR)	RG2 / 3-WAY SUMITOMO 0822 / BLACK	ENGINE COMPARTMENT / GENERATOR
STARTER MOTOR	ST3 / EYELET ST10 / EYELET	ENGINE BLOCK
SUPPRESSION MODULE	AN3 / 2-WAY ECONOSEAL III LC / RED	REARWARD OF RIGHT FRONT HEADLAMP

RELAYS

Relay	Color / Stripe	Connector / Color	Location / Access
STARTER RELAY	BROWN	EM50 / BROWN	RH ENCLOSURE RELAYS

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT60	EYELET	ENGINE COMPARTMENT / FALSE BULKHEAD, RIGHT HAND SIDE
EM1	20-WAY MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
EM2	19-WAY MULTILOCK 070 / YELLOW	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
EM3	14-WAY MULTILOCK 070 / GREY	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
EM50	2-WAY ECONOSEAL III HC / BLACK	ENGINE COMPARTMENT / BEHIND LEFT INNER FENDER HEAT SHIELD
P1	57-WAY SUMITOMO TS080 / BLACK	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
ST1	EYELET	ENGINE COMPARTMENT / FALSE BULKHEAD, RIGHT HAND SIDE

GROUNDS

Ground	Location / Type
BT68	BATTERY GROUND STUD
FC38R	EYELET (PAIR) – RIGHT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE

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

DATA PAGE

DATE OF ISSUE

FIGURE

MODEL RANGE AND YEAR

TITLE

FIGURE NUMBER

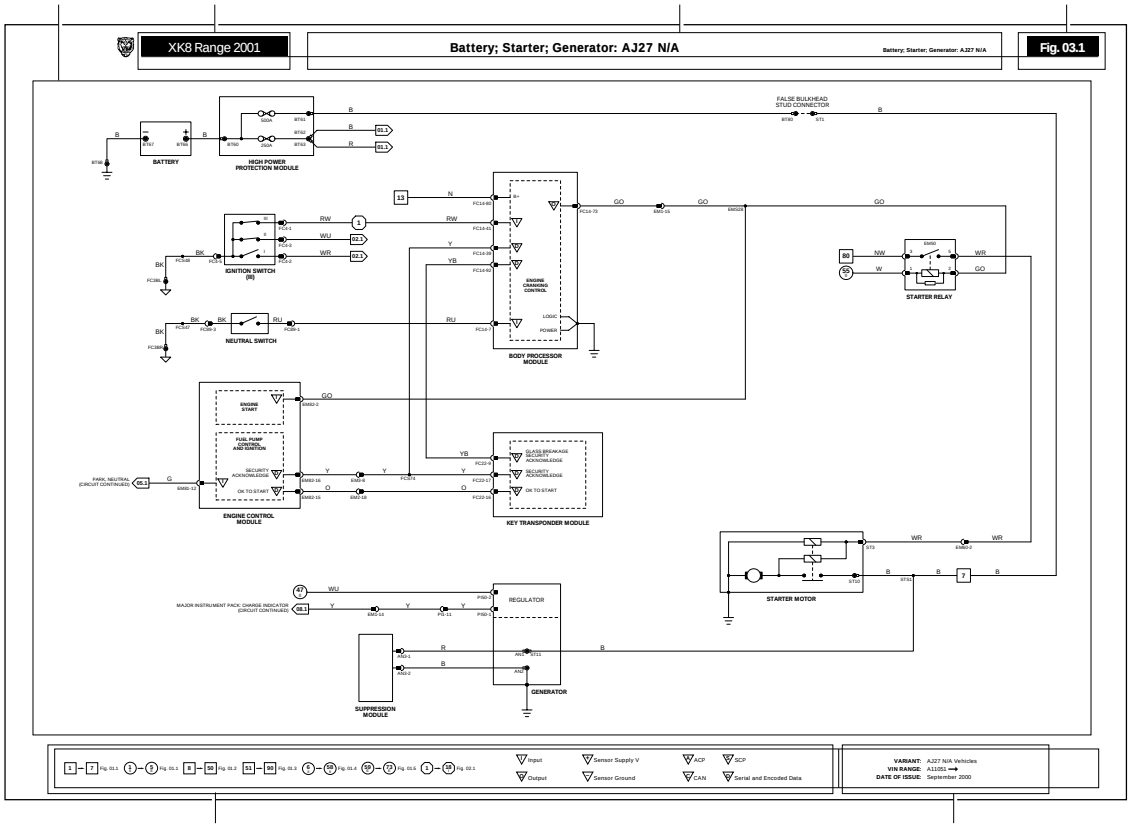


FIGURE PAGE

KEY TO REFERENCE SYMBOLS

VARIANT, VIN RANGE AND DATE OF ISSUE

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

Battery Power Supply

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

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.

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).

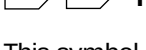


Figure Number Reference Flag

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.

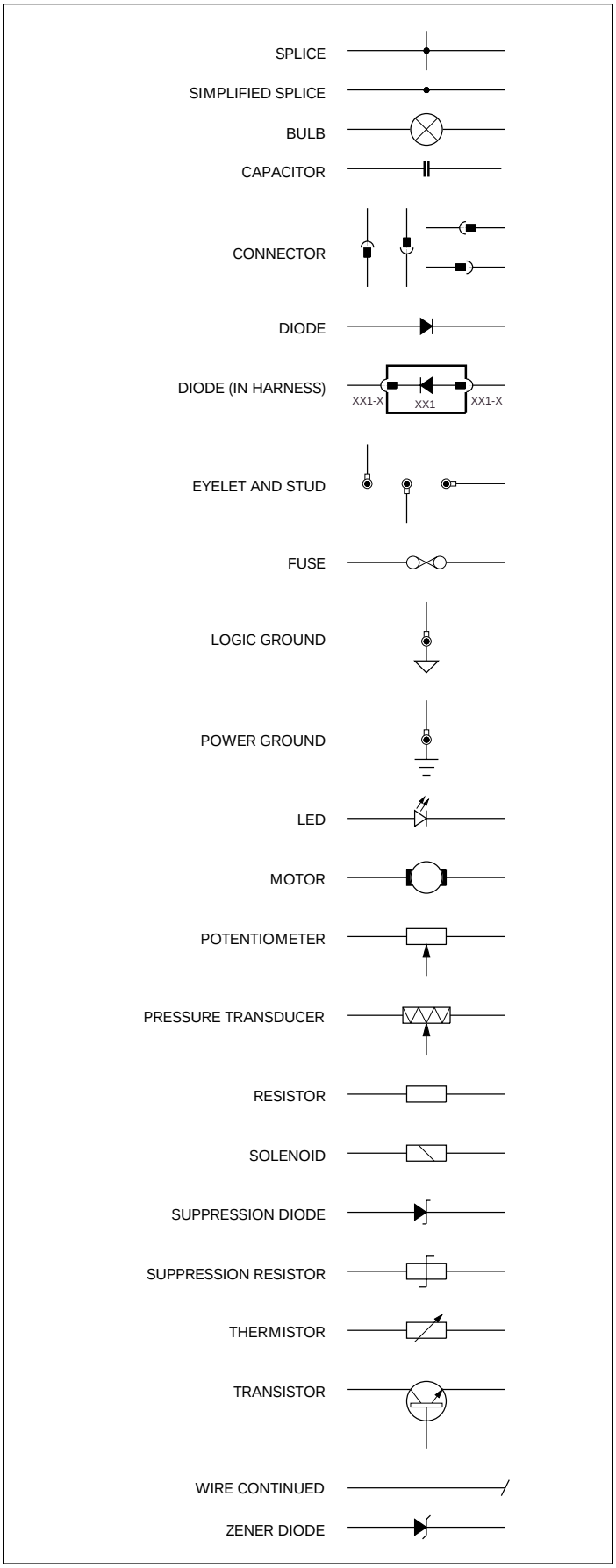
In most other cases, it is not necessary to refer to another figure for completion of a circuit, as the reference flags are used to indicate parallel circuits and circuits that share components. Most of the circuits where this situation occurs are overlapped to avoid the necessity for cross-referencing 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)

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 color code letters, the first letter indicates the main color and the subsequent letter indicates the tracer color.

Wiring Harness Codes

Code	Description
AC	Air Conditioning (Climate Control)
AN	Generator Suppression Module
AS	Generator to Starter
BB	Trunk Bridging Link
BC	Main Power Distribution
BL	Trunk Lid
BT	Trunk
DD	Door, Driver
DP	Door, Passenger
EL	Engine Management Speed Control Link
EM	Engine Management
EN	Engine Management Side Marker Link
FC	Fascia
FL	LH Front Wheel
FR	RH Front Wheel
IC	In-Car Entertainment
IS	Inclination Sensor Link
LF	Left Forward
LL	Power Steering Link
PI	Engine
QL	Convertible LH Quarter Light Link
QR	Convertible RH Quarter Light Link
RF	Roof
RH	Rearward
RL	LH Rear Wheel
RR	RH Rear Wheel
RT	Radio Telephone
SA	Starter to Generator Link
SC	Column Switchgear
SD	Seat, Driver
SP	Seat, Passenger
SW	Steering Wheel
TL	Telephone

Code Numbering

When numbering connectors, grounds and splices, Jaguar Engineering uses a three-position format: AC001, AC002, etc. Because space is limited in this Electrical Guide, the codes have been shortened. Thus AC001-001 becomes AC1-1, AC002-001 becomes AC2-1, etc.

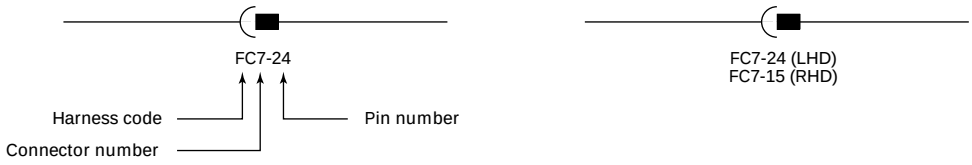
Harness Component Numbers

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).

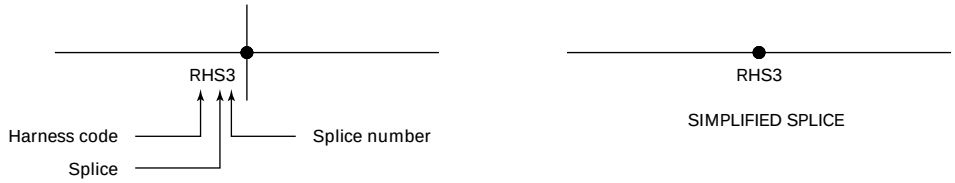


Splices

HARNESS CODE + S (SPLICE) + SPLICE NUMBER

EXAMPLE: RHS3 (no dash is used)

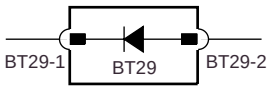
NOTE: In order to avoid unnecessary circuit complication, multiple splices (more than two wires) within components, in wires leading from input components to multiple circuits and in harness 'ground' sides, are simplified so as not to show wires from other circuits.



Diodes

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

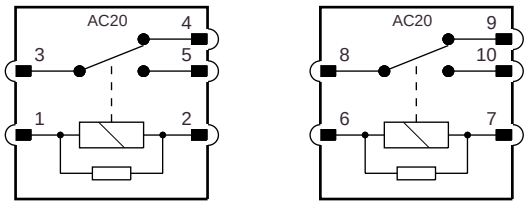
EXAMPLE:



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 STUD NUMBER + EYELET STUD POSITION (A,B,C) + EYELET DESIGNATION (S,L,R)

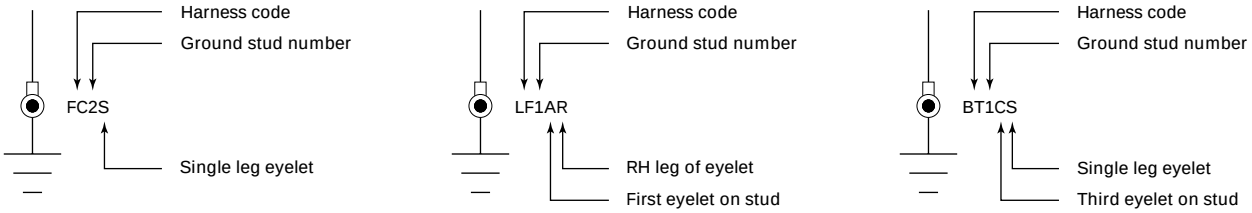
Eyelet stud position

There may be up to three eyelets on one stud. A, B and C are used to indicate the position of the eyelet on the stud: A – first (bottom), B – second (middle), C – third (top).

Eyelet designation

Two eyelet variations are used: a single eyelet and an eyelet pair. The single eyelet has a single 'leg', which is identified by an S; the eyelet pair has two 'legs', identified as L (left) or R (right).

EXAMPLES:

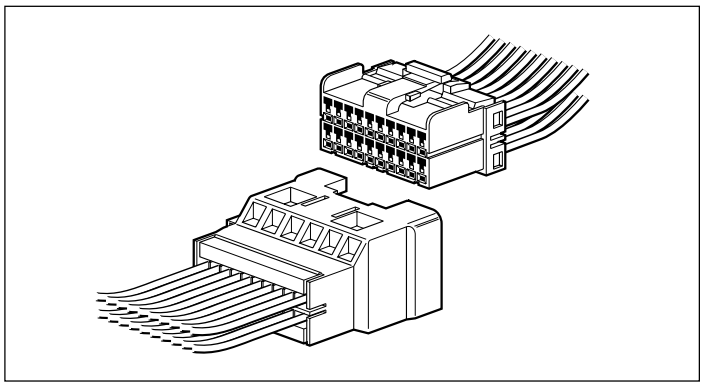


Where the ground designation differs from LHD to RHD, the RHD ground is shown in parentheses. If the ground designation is the same for LHD and RHD, only one ground designation is used.

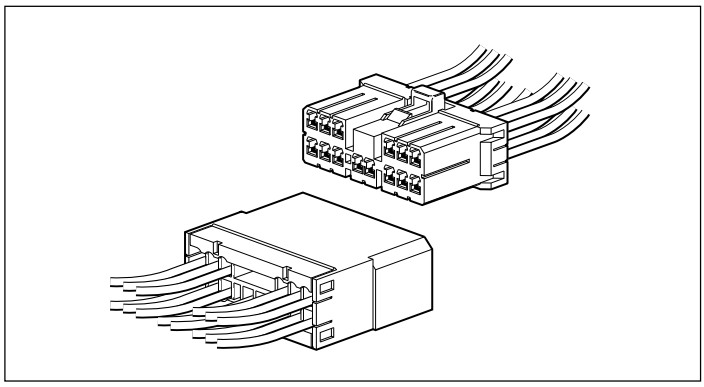
EXAMPLES:

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

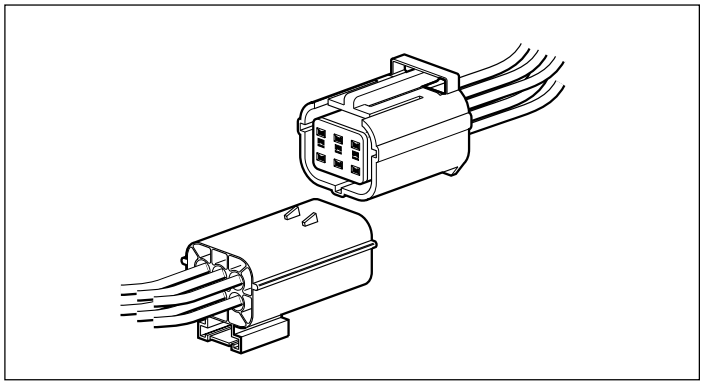
Multilock 040
Low current (used as harness and 'direct' connection connector).



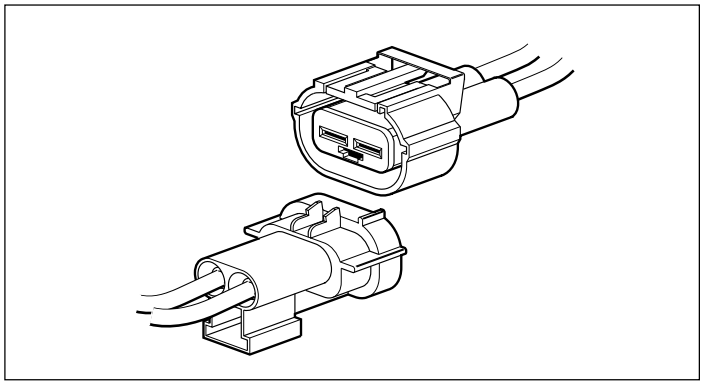
Multilock 070
High current (used as harness and 'direct' connection connector).



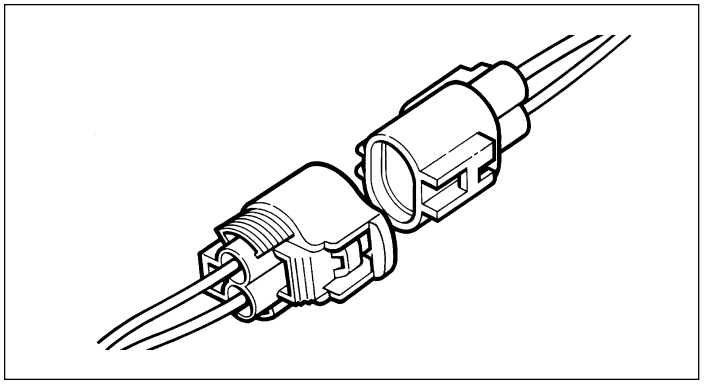
Econoseal III LC
Low current sealed connector.

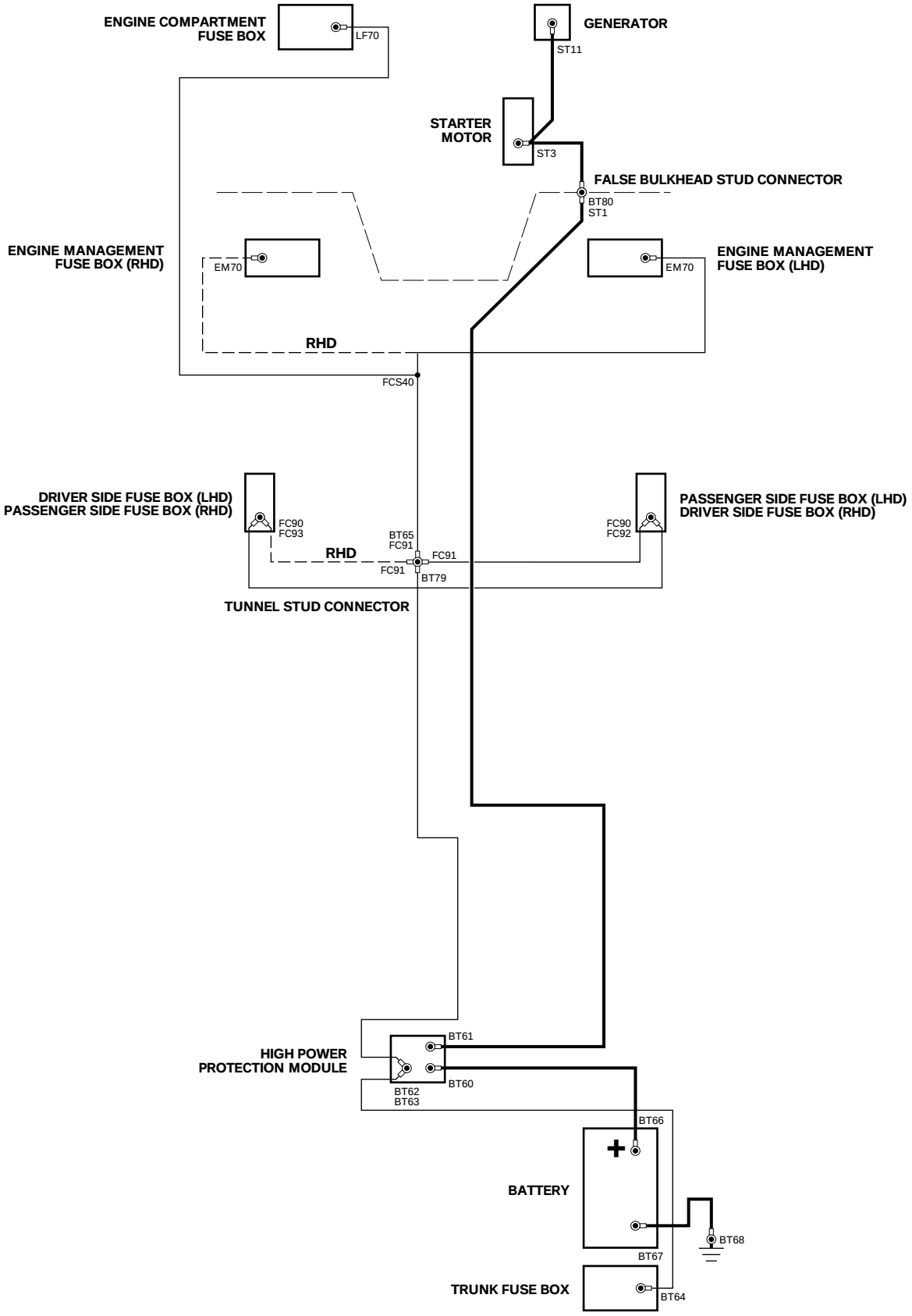


Econoseal III HC
High current sealed connector.

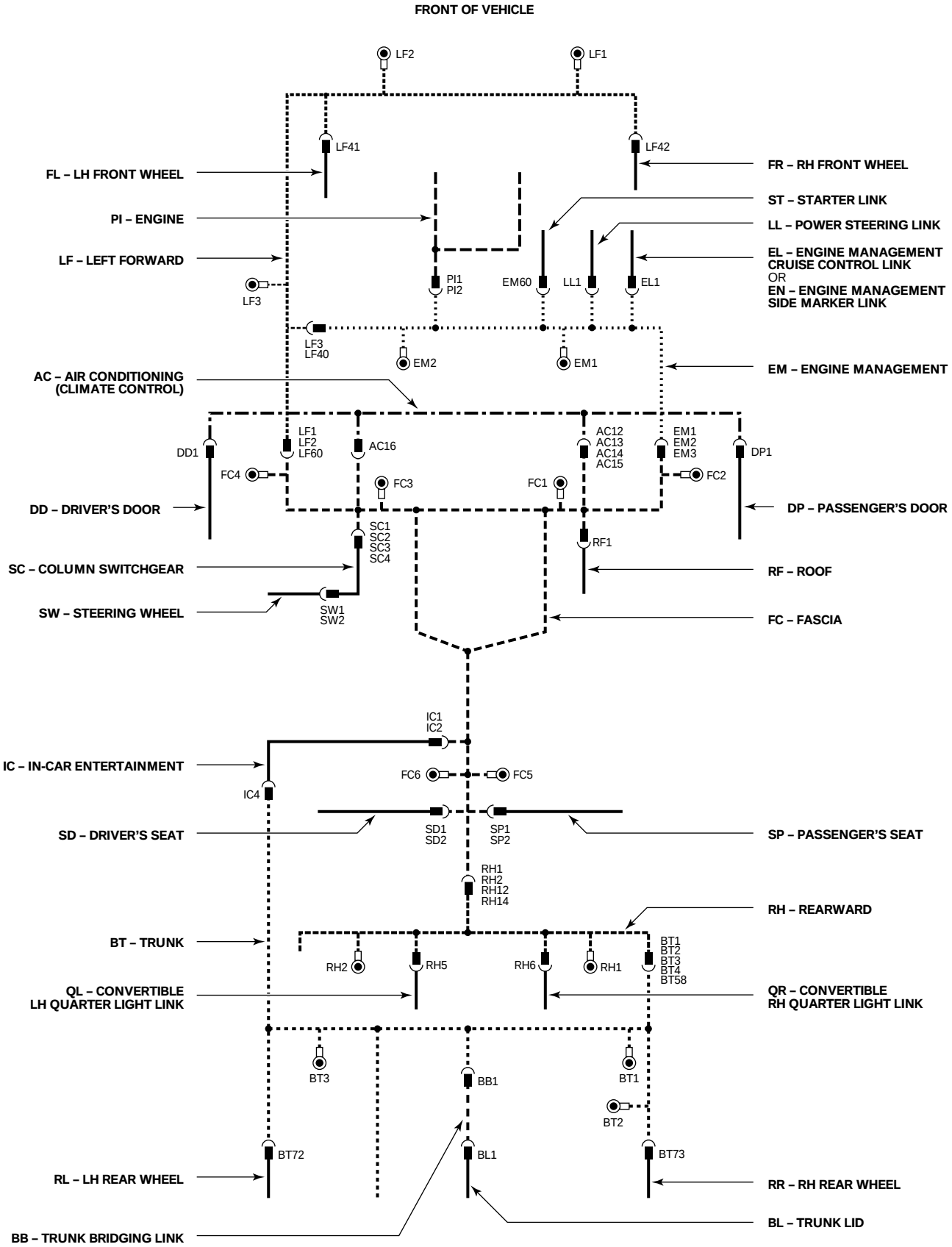


Ford Card
Used for SRS only.

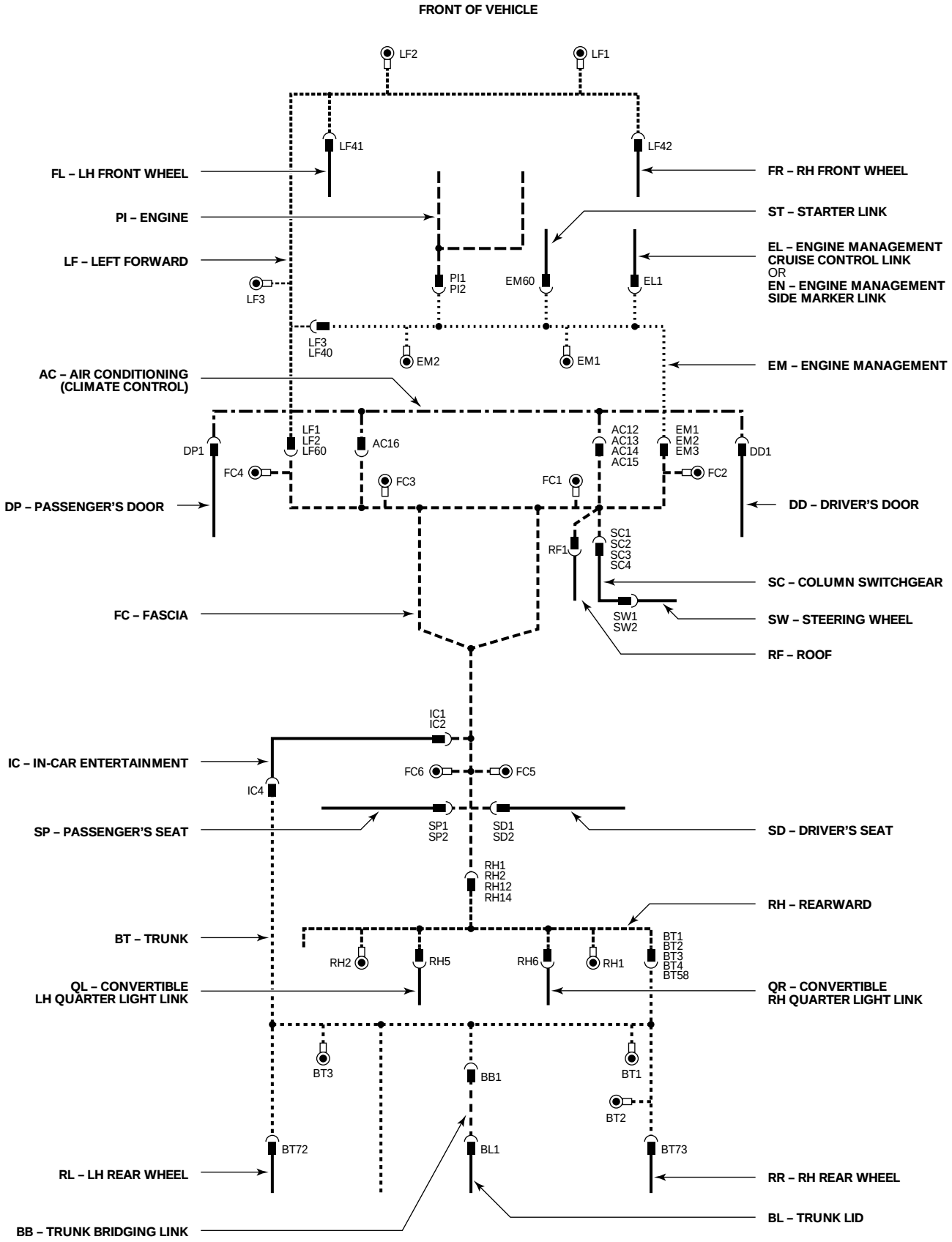


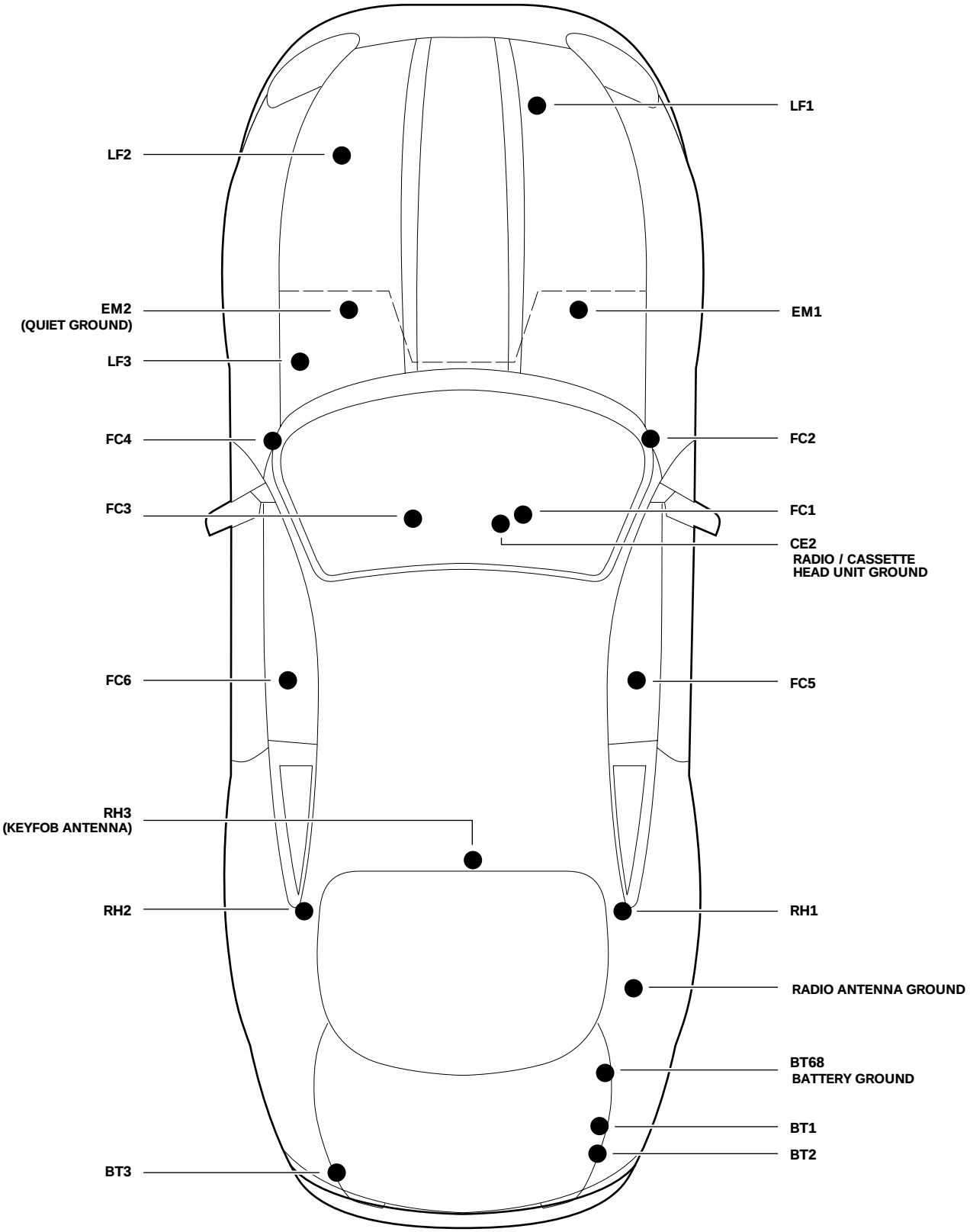

ENGINE COMPARTMENT FUSE BOX
LF70
GENERATOR
ST11
STARTER MOTOR
ST3
FALSE BULKHEAD STUD CONNECTOR
BT80
ST1
ENGINE MANAGEMENT FUSE BOX (RHD)
EM70
EM70
ENGINE MANAGEMENT FUSE BOX (LHD)
RHD
FCS40
DRIVER SIDE FUSE BOX (LHD)
PASSENGER SIDE FUSE BOX (RHD)
FC90
FC93
BT65
FC91
FC91
RHD
FC91
BT79
FC90
FC92
PASSENGER SIDE FUSE BOX (LHD)
DRIVER SIDE FUSE BOX (RHD)
TUNNEL STUD CONNECTOR
HIGH POWER PROTECTION MODULE
BT61
BT60
BT62
BT63
BT66
BATTERY
BT68
BT67
TRUNK FUSE BOX
BT64

LHD

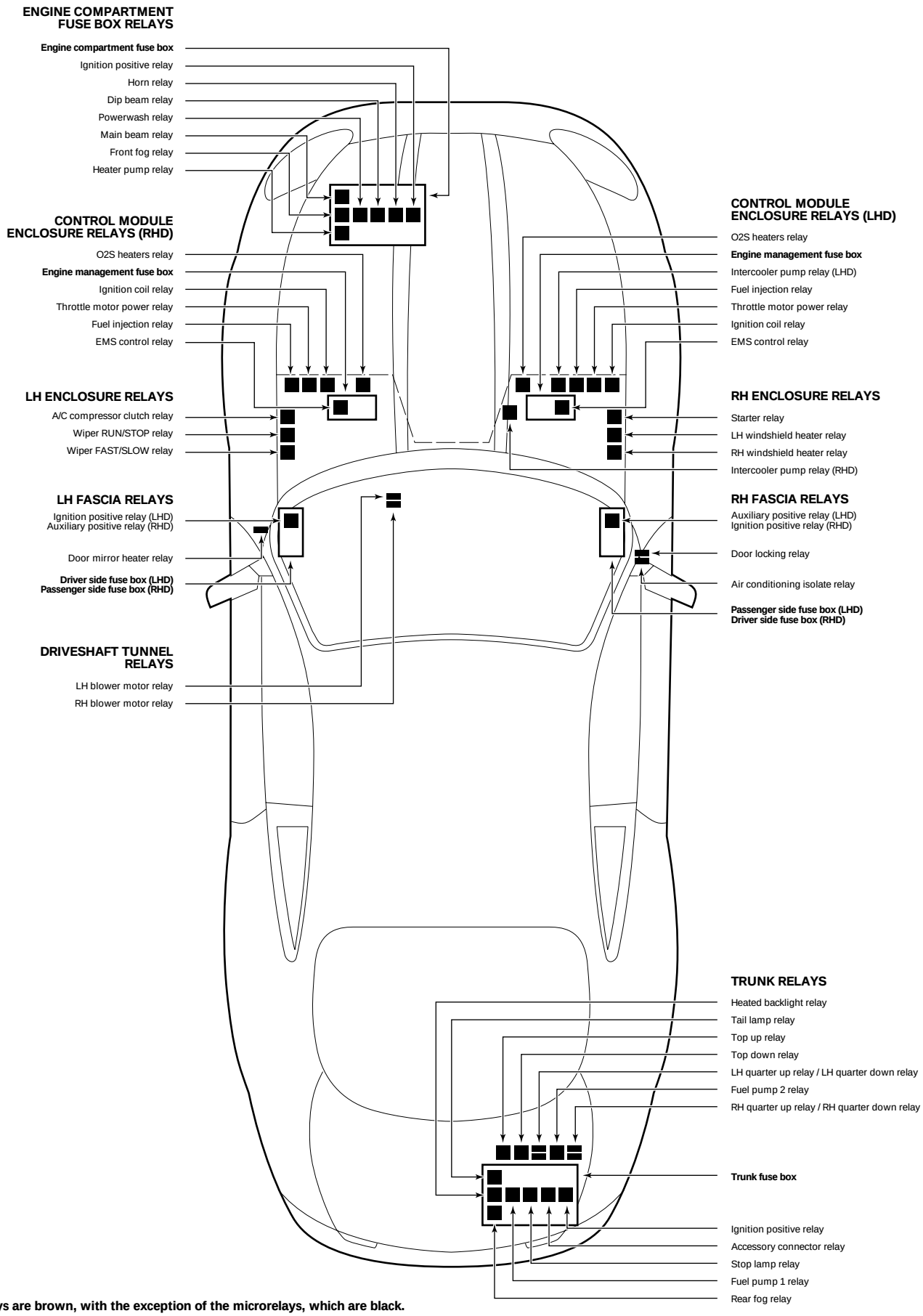

FRONT OF VEHICLE
LF2
LF1
LF41
LF42
FL – LH FRONT WHEEL
FR – RH FRONT WHEEL
ST – STARTER LINK
PI – ENGINE
LL – POWER STEERING LINK
LF – LEFT FORWARD
EL – ENGINE MANAGEMENT CRUISE CONTROL LINK
OR
EN – ENGINE MANAGEMENT SIDE MARKER LINK
LF3
PI1
PI2
EM60
LL1
EL1
LF3
LF40
EM2
EM1
AC – AIR CONDITIONING (CLIMATE CONTROL)
EM – ENGINE MANAGEMENT
DD1
LF1
LF2
LF60
AC16
AC12
AC13
AC14
AC15
EM1
EM2
EM3
DP1
FC4
FC3
FC1
FC2
DD – DRIVER'S DOOR
DP – PASSENGER'S DOOR
SC1
SC2
SC3
SC4
RF1
SC – COLUMN SWITCHGEAR
RF – ROOF
SW – STEERING WHEEL
SW1
SW2
FC – FASCIA
IC1
IC2
IC – IN-CAR ENTERTAINMENT
FC6
FC5
IC4
SD – DRIVER'S SEAT
SD1
SD2
SP1
SP2
SP – PASSENGER'S SEAT
RH1
RH2
RH12
RH14
RH – REARWARD
BT – TRUNK
RH2
RH5
RH6
RH1
BT1
BT2
BT3
BT4
BT58
QL – CONVERTIBLE LH QUARTER LIGHT LINK
QR – CONVERTIBLE RH QUARTER LIGHT LINK
BT3
BB1
BT1
BT2
BT72
BL1
BT73
RL – LH REAR WHEEL
RR – RH REAR WHEEL
BL – TRUNK LID
BB – TRUNK BRIDGING LINK

RHD


FRONT OF VEHICLE
LF2
LF1
LF41
LF42
FL – LH FRONT WHEEL
FR – RH FRONT WHEEL
PI – ENGINE
ST – STARTER LINK
LF – LEFT FORWARD
EL – ENGINE MANAGEMENT CRUISE CONTROL LINK
OR
EN – ENGINE MANAGEMENT SIDE MARKER LINK
LF3
PI1
PI2
EM60
EL1
LF3
LF40
EM2
EM1
EM – ENGINE MANAGEMENT
AC – AIR CONDITIONING (CLIMATE CONTROL)
DP1
LF1
LF2
LF60
AC16
AC12
AC13
AC14
AC15
EM1
EM2
EM3
DD1
FC4
FC3
FC1
FC2
DP – PASSENGER'S DOOR
DD – DRIVER'S DOOR
RF1
SC1
SC2
SC3
SC4
SC – COLUMN SWITCHGEAR
FC – FASCIA
SW1
SW2
SW – STEERING WHEEL
RF – ROOF
IC1
IC2
IC – IN-CAR ENTERTAINMENT
FC6
FC5
IC4
SP – PASSENGER'S SEAT
SP1
SP2
SD1
SD2
SD – DRIVER'S SEAT
RH1
RH2
RH12
RH14
RH – REARWARD
BT – TRUNK
BT1
BT2
BT3
BT4
BT58
RH2
RH5
RH6
RH1
QL – CONVERTIBLE LH QUARTER LIGHT LINK
QR – CONVERTIBLE RH QUARTER LIGHT LINK
BT3
BB1
BT1
BT2
BT72
BL1
BT73
RL – LH REAR WHEEL
RR – RH REAR WHEEL
BB – TRUNK BRIDGING LINK
BL – TRUNK LID

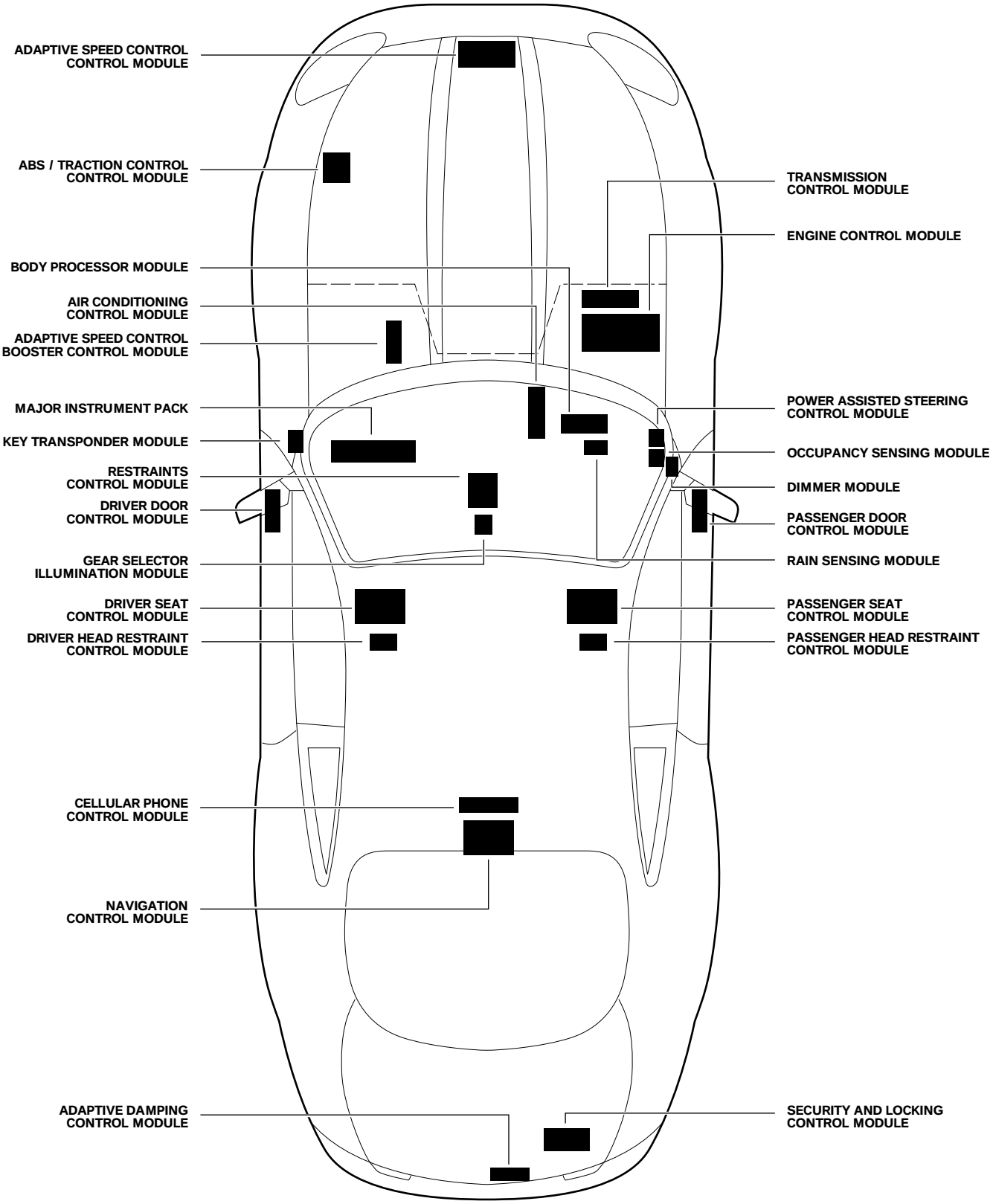

LF1
LF2
EM2
(QUIET GROUND)
EM1
LF3
FC4
FC2
FC3
FC1
CE2
RADIO / CASSETTE
HEAD UNIT GROUND
FC6
FC5
RH3
(KEYFOB ANTENNA)
RH2
RH1
RADIO ANTENNA GROUND
BT68
BATTERY GROUND
BT1
BT2
BT3

Relay and Fuse Box Location

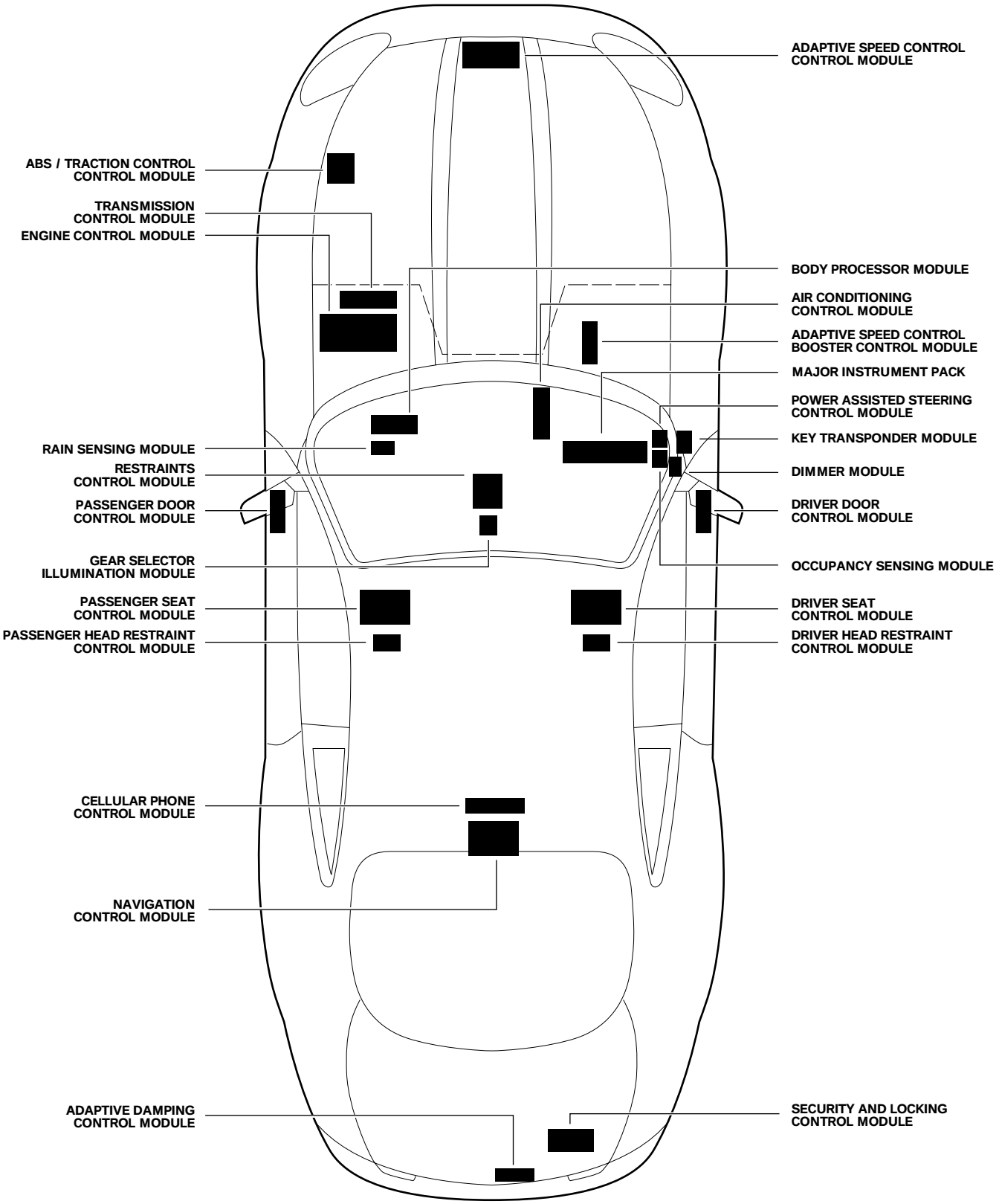


NOTE: All relays are brown, with the exception of the microrelays, which are black.

LHD


ADAPTIVE SPEED CONTROL CONTROL MODULE
ABS / TRACTION CONTROL CONTROL MODULE
BODY PROCESSOR MODULE
AIR CONDITIONING CONTROL MODULE
ADAPTIVE SPEED CONTROL BOOSTER CONTROL MODULE
MAJOR INSTRUMENT PACK
KEY TRANSPONDER MODULE
RESTRAINTS CONTROL MODULE
DRIVER DOOR CONTROL MODULE
GEAR SELECTOR ILLUMINATION MODULE
DRIVER SEAT CONTROL MODULE
DRIVER HEAD RESTRAINT CONTROL MODULE
CELLULAR PHONE CONTROL MODULE
NAVIGATION CONTROL MODULE
ADAPTIVE DAMPING CONTROL MODULE
TRANSMISSION CONTROL MODULE
ENGINE CONTROL MODULE
POWER ASSISTED STEERING CONTROL MODULE
OCCUPANCY SENSING MODULE
DIMMER MODULE
PASSENGER DOOR CONTROL MODULE
RAIN SENSING MODULE
PASSENGER SEAT CONTROL MODULE
PASSENGER HEAD RESTRAINT CONTROL MODULE
SECURITY AND LOCKING CONTROL MODULE

RHD


ADAPTIVE SPEED CONTROL CONTROL MODULE
ABS / TRACTION CONTROL CONTROL MODULE
TRANSMISSION CONTROL MODULE
ENGINE CONTROL MODULE
BODY PROCESSOR MODULE
AIR CONDITIONING CONTROL MODULE
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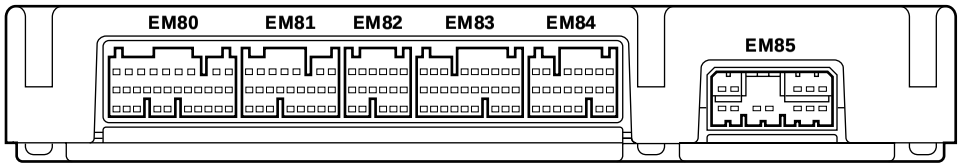
PASSENGER SEAT CONTROL MODULE
DRIVER SEAT CONTROL MODULE
PASSENGER HEAD RESTRAINT CONTROL MODULE
DRIVER HEAD RESTRAINT CONTROL MODULE
CELLULAR PHONE CONTROL MODULE
NAVIGATION CONTROL MODULE
ADAPTIVE DAMPING CONTROL MODULE
SECURITY AND LOCKING CONTROL MODULE

ENGINE CONTROL MODULE: AJ27 N/A



EM80 / 31-WAY / NATURAL

9 GW	8 GW	7 R	6 R	5 G	4 G	3 B			2 O*	1 UY
21 B	20 U	19 W	18 W	17 O	16 YU	15 YG	14 —	13 —	12 U	11 UY	10 WU
31 B	30 —	29 BK		28 —	27 U		26 —	25 RW	24 —	23 UY	22 Y

EM81 / 24-WAY / NATURAL

7 RG	6 OG	5 W	4 WU	3 U			2 RW	1 OY
16 RG*	15 YG	14 YR	13 WU	12 G	11 —	10 N	9 B	8 B
24 BG	23 —	22 OY		21 BK	20 —	19 G	18 O	17 WR

EM82 / 17-WAY / NATURAL

6 GR	5 G	4 R	3 —	2 GO	1 OY
12 GU	11 N	10 Y	9 W	8 OG	7 BG
17 O	16 Y		15 O	14 UY	13 WR

EM83 / 28-WAY / NATURAL

9 N	8 Y	7 P		6 BG	5 OY	4 WR	3 RU	2 —	1 —		
19 G	18 B	17 O	16 G	15 G	14 N	13 BG	12 BR	11 YG	10 YG		
28 GW	27 BW	26 BW	25 Y	24 Y	23 N		22 N	21 N	20 NR		

EM84 / 22-WAY / NATURAL

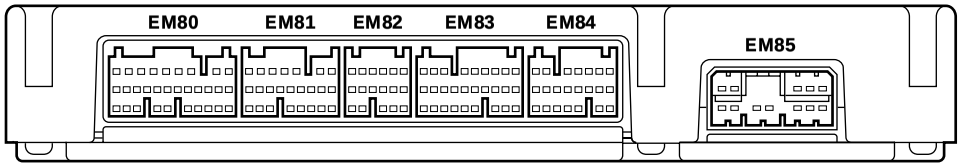
7 U	6 BW		5 BW	4 BW	3 BO	2 BG	1 B	
15 UY	14 BG	13 BR	12 GU	11 GR	10 GO	9 GW	8 —	
22 B	21 BO	20 GB	19 GW	18 GO		17 GU	16 B	

* Not used – ROW Vehicles.

EM85 / 12-WAY / WHITE

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

ENGINE CONTROL MODULE: AJ27 SC



EM80 / 31-WAY / NATURAL

9 GW	8 GW	7 R	6 R	5 G	4 G	3 B			2 O*	1 UY
21 B	20 U	19 W	18 W	17 O	16 YU	15 YG	14 RW	13 —	12 U	11 UY	10 WU
31 B	30 —	29 BK		28 BW	27 U		26 —	25 RW	24 —	23 UY	22 Y

EM81 / 24-WAY / NATURAL

7 —	6 —	5 W	4 WU	3 U			2 —	1 —
16 RG*	15 YG	14 YR	13 WU	12 G	11 —	10 N	9 B	8 B
24 BG	23 O	22 OY		21 BK	20 —	19 G	18 O	17 WR

EM82 / 17-WAY / NATURAL

6 GR	5 G	4 R	3 W	2 GO	1 OY
12 GU	11 N	10 Y	9 W	8 OG	7 BG
17 O	16 Y		15 O	14 UY	13 WR

EM83 / 28-WAY / NATURAL

9 N	8 Y	7 P		6 BG	5 OY	4 WR	3 —	2 —	1 —		
19 G	18 B	17 O	16 G	15 G	14 N	13 BG	12 BR	11 YG	10 YG		
28 GW	27 BW	26 BW	25 Y	24 Y	23 N		22 N	21 N	20 NR		

EM84 / 22-WAY / NATURAL

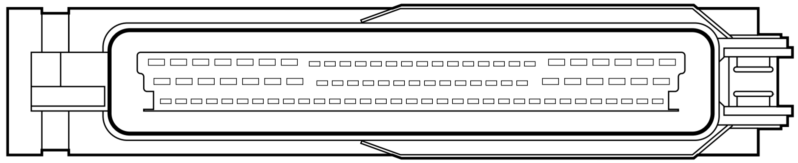
7 U	6 BW		5 BW	4 BW	3 BO	2 BG	1 B	
15 UY	14 BG	13 BR	12 GU	11 GR	10 GO	9 GW	8 —	
22 B	21 BO	20 GB	19 GW	18 GO		17 GU	16 B	

* Not used – ROW Vehicles.

EM85 / 12-WAY / WHITE

5 U	4 YG			3 YU	2 UY	1 RU
12 —	11 —		10 YR	9 YR	8 WG	7 B	6 B

TRANSMISSION CONTROL MODULE: AJ27 N/A



EM7

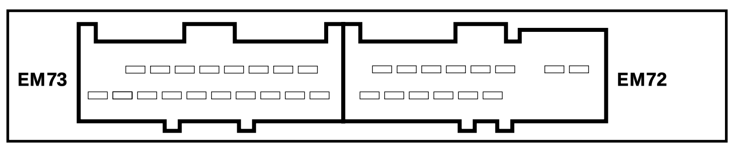
EM7 / 88-WAY / BLACK

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
OY	RU	—	O	OG	B	—	R	W	—	—	RU	OG	N	W	B	—	—	—	—	BG	UY	W	—	—	NR	—	BW

29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55
O	YB	—	YU	YU	B	—	Y	Y	—	—	—	—	G	—	O	RG	—	—	—	—	—	O	RU	RW	WB	WB

56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	G	Y	—	G	Y	—	—

TRANSMISSION CONTROL MODULE: AJ27 SC



EM73 / 18-WAY / BLACK

23	24	25	26	27	28	29	30
—	—	GB	GU	GU	GR	WB	B

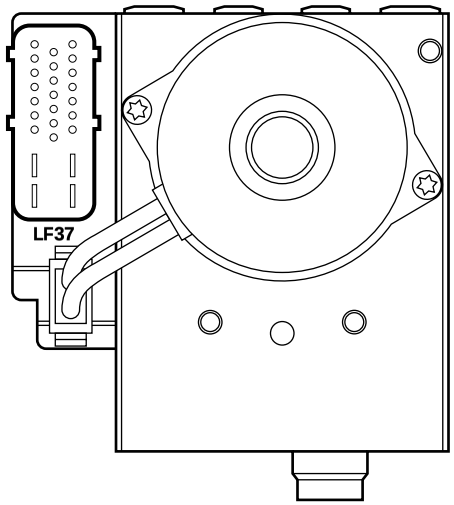
1	2	3	4	5	6	7	8	9	10
G	BW	RU	—	—	—	—	—	—	—

EM72 / 14-WAY / BLACK

33	34	35	36	37	38	L	H
BW	UY	U	O	O	RW	G	Y

12	13	14	15	16	17
G	BG	YB	YU	YU	OG

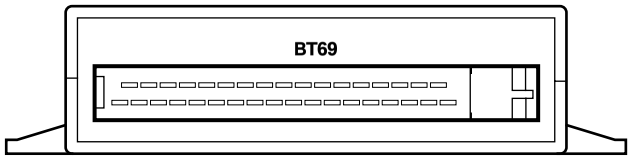
ABS / TRACTION CONTROL CONTROL MODULE



LF37 / 25-WAY / BLACK

1 UY	2 OG	3 Y	4 G	5 Y	6 Y	7 O	8 B	9 NR	
10 —	11 —	12 —	13 U	14 R	15 G	16 RW			
17 W	18 R	19 O	20 WU	21 W	22 U	23 —	24 B	25 NW	

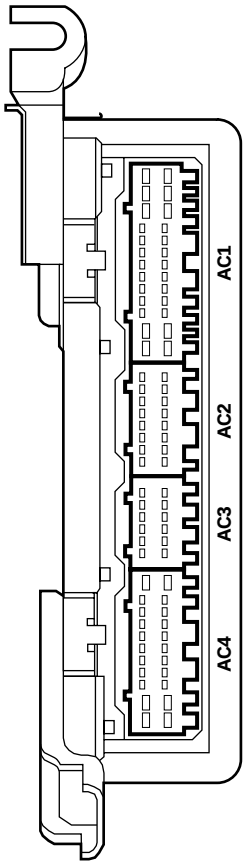
ADAPTIVE DAMPING CONTROL MODULE



BT69 / 35-WAY / BLACK

19 —	20 BG	21 U	22 R	23 —	24 OG	25 U	26 OG	27 NW	28 W	29 —	30 O	31 OY	32 O	33 GU	34 OY	35 —
1 YR	2 —	3 OY	4 —	5 —	6 —	7 —	8 —	9 —	10 O	11 WR	12 —	13 R	14 OG	15 OG	16 —	17 —	18 B

AIR CONDITIONING CONTROL MODULE



AC1 / 26-WAY / GREY

14 —	15 —	16 GR	17 RW	18 GU	19 RU	20 YR	21 Y	22 NR	23 —	24 —	25 O	26 GU
1 RG	2 U	3 UY	4 UY	5 GR	6 RW	7 UY	8 RW	9 R	10 —	11 —	12 OY	13 UY

AC2 / 16-WAY / GREY

9 —	10 O	11 YG	12 —	13 UY	14 —	15 U	16 GU
1 OG	2 RG	3 Y	4 —	5 YB	6 YG	7 OG	8 GO

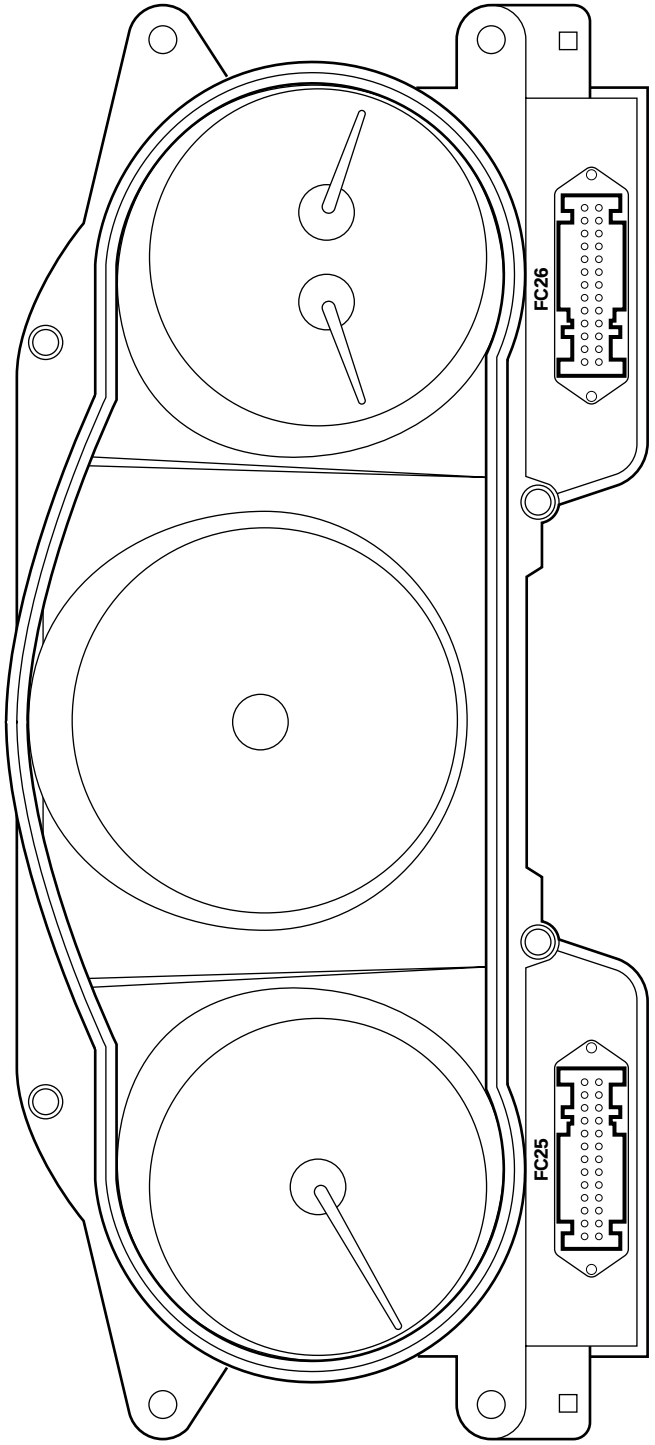
AC3 / 12-WAY / GREY

7 Y	8 YR	9 —	10 —	11 U	12 WU
1 UY	2 Y	3 YG	4 —	5 OY	6 U

AC4 / 22-WAY / GREY

14 B	15 GW	16 OY	17 U	18 GW	19 BW	20 BK	21 O	22 —
3 WR	4 WU	5 NW	6 RW	7 U	8 U	9 UY	10 W	11 —

12 WR	13 B
1 WU	2 GW



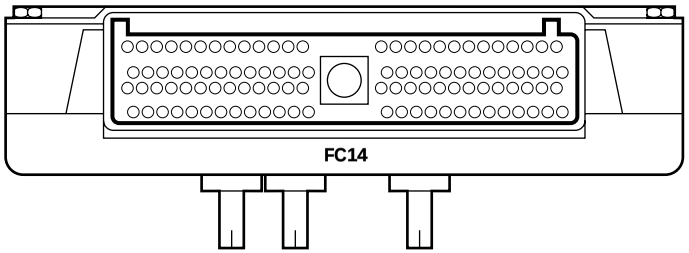
FC26 / 26-WAY / YELLOW

13 BW	12 RU	11 G	10 O	9 Y	8 RG	7 OG	6 U	5 OY	4 YG	3 RW	2 RW	1 R
26 —	25 —	24 —	23 OG	22 Y	21 RG	20 OY	19 G	18 OG	17 OY	16 Y	15 UY	14 RW

FC25 / 26-WAY / BLACK

1 WG	2 RG	3 YR	4 BK	5 —	6 RU	7 YB	8 UY	9 R	10 Y	11 Y	12 —	13 Y
14 U	15 R	16 B	17 RW	18 Y	19 O	20 —	21 —	22 —	23 G	24 G	25 BR	26 —

BODY PROCESSOR MODULE

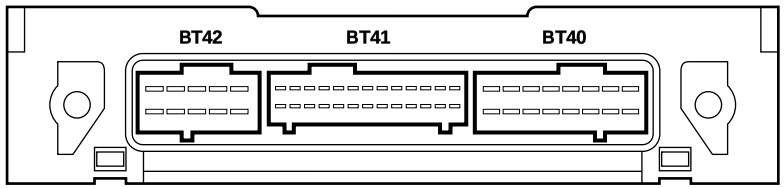


FC14 / 104-WAY / GREY

79 NG	80 N	81 GR	82 GR	83 GB	84 U	85 Y	86 OG	87 Y	88 YG	89 GR	90 BG	91 BW	
53 R	54 G	55 YU	56 OY	57 —	58 YB	59 Y	60 RW	61 WG	62 GU	63 Y	64 —	65 —	
27 GO	28 RW	29 Y	30 U	31 Y	32 WR	33 RG	34 GO	35 G	36 GW	37 GR	38 RU	39 Y	
1 BG	2 GW	3 W	4 GU	5 YR	6 Y	7 RU	8 BW	9 GU	10 YR	11 YB	12 W	13 GO	

92 YB	93 Y	94 G	95 RU	96 N	97 WG	98 GB	99 UY	100 BR	101 RW	102 N	103 —	104 NW	
66 RU	67 O	68 OG	69 O	70 GW	71 YR	72 —	73 GO	74 RW	75 —	76 GO	77 GU	78 U	
40 WU	41 RW	42 UY	43 BG	44 U	45 U	46 —	47 —	48 OG	49 —	50 GW	51 RW	52 BW	
14 O	15 WU	16 RW	17 OY	18 YB	19 WG	20 OG	21 —	22 WB	23 WU	24 NW	25 B	26 YG	

SECURITY AND LOCKING CONTROL MODULE



BT42 / 10-WAY / BLACK

5 RU	4 RU	3 RG	2 U	1 OY
10 R	9 RW	8 R	7 UY	6 O

BT41 / 26-WAY / BLACK

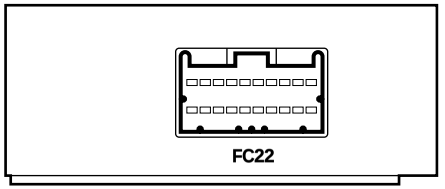
13 RW	12 RW	11 —	10 BK	9 —	8 GW	7 YU	6 RU	5 RW	4 —	3 GW*	2 —	1 —	
26 YR	25 —	24 —	23 —	22 —	21 —	20 —	19 YR	18 —	17 —	16 —	15 —	14 —	

BT40 / 16-WAY / BLACK

8 Y	7 OG	6 NR	5 Y	4 GW*	3 U*	2 O	1 O
16 U	15 NW	14 BK	13 BK	12 —	11 —	10 UY*	9 GR*

* Not used – COUPE Vehicles.

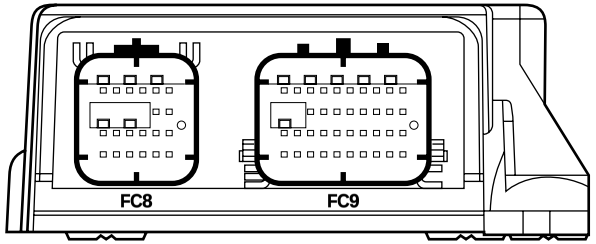
KEY TRANSPONDER MODULE



FC22 / 20-WAY / GREEN

10 —	9 YB	8 OG	7 O	6 O	5 —	4 NR	3 —	2 —	1 YB
20 —	19 —	18 —	17 Y	16 O	15 —	14 WU	13 WR	12 BK	11 —

RESTRAINTS CONTROL MODULE



FC8 / 24-WAY / BLACK

1 WR	2 RU	3 RW	4 BW	5 NW	6 NG
				11 O	12 W
13 RW	14 BW	15 Y	16 BK	17 —	18 —
19 YB	20 OG	21 OG	22 BW	23 —	24 —

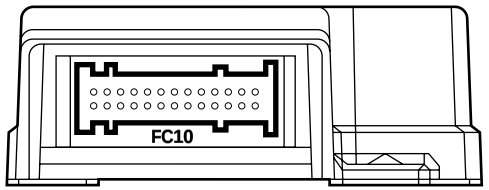
FC9 / 40-WAY / BLACK

1 —	2 —	3 —	4 —	5 —	6 —	7 —	8 —	9 —	10 —
		13 —	14 —	15 —	16 —	17 O	18 U	19 OY	20 YU
21 UY	22 OY	23 BW	24 RW	25 YU	26 YG	27 W	28 G	29 WU	30 GU
31 RW	32 BW	33 RW	34 BW	35 —	36 —	37 —	38 —	39 —	40 —

(RHD)

27 WU	28 GU	29 W	30 G

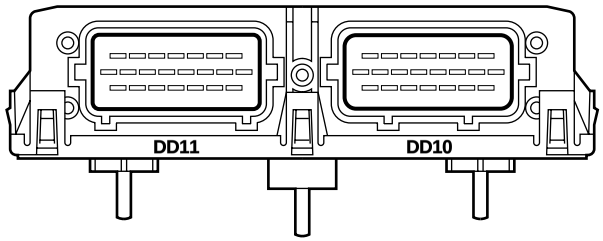
OCCUPANCY SENSING MODULE



FC10 / 26-WAY / YELLOW

14 —	15 —	16 —	17 —	18 W	19 O	20 N	21 Y	22 W	23 BK	24 U	25 O	26 —
1 W	2 G	3 W	4 Y	5 W	6 U	7 N	8 G	9 —	10 —	11 U	12 O	13 —

DRIVER DOOR CONTROL MODULE



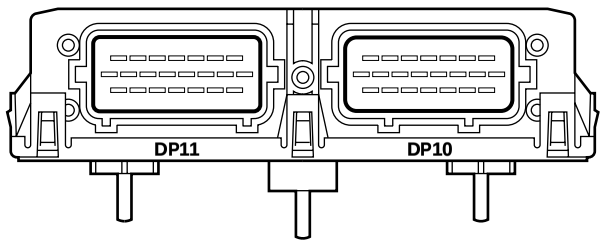
DD11 / 22-WAY / BLACK

7 BR	6 WU	5 GU	4 NG	3 YR	2 U	1 NR
15 WG	14 —	13 —	12 OY	11 —	10 WB	9 Y	8 BK
22 UY	21 O	20 GW	19 —	18 —	17 O	16 —

DD10 / 22-WAY / BLUE

7 O	6 YB	5 Y	4 UY	3 U	2 BW	1 N
15 OY	14 GW	13 UY	12 RW	11 U	10 BG	9 U	8 BK
22 OG	21 RU	20 WU	19 GB	18 BO	17 B	16 Y

PASSENGER DOOR CONTROL MODULE



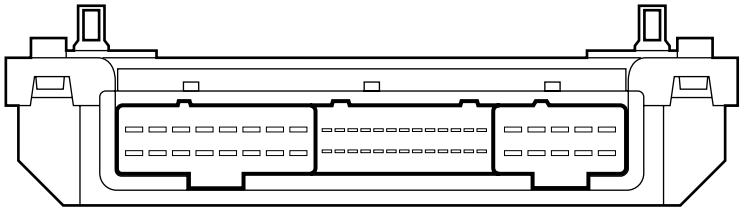
DP11 / 22-WAY / BLACK

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

DP10 / 22-WAY / BLUE

7 O	6 YB	5 Y	4 UY	3 U	2 BW	1 N
15 OY	14 GW	13 UY	12 RW	11 U	10 BG	9 U	8 BK
22 OG	21 RU	20 WU	19 —	18 BO	17 B	16 Y

DRIVER SEAT CONTROL MODULE



SD3 / 16-WAY / BLACK

9	10	11	12	13	14	15	16
UY	OY	W	WG	GU	GR	GW	NR
1	2	3	4	5	6	7	8
GO	BG	O	R	G	GR	WU	WR

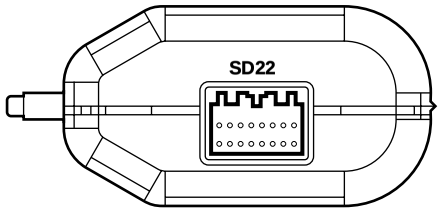
SD4 / 26-WAY / BLACK

14	15	16	17	18	19	20	21	22	23	24	25	26
WU	YG	—	—	WR	YB	—	—	—	—	—	—	—
1	2	3	4	5	6	7	8	9	10	11	12	13
WG	BG	—	—	W	WB	—	Y	—	WR	W	BO	—

SD5 / 10-WAY / BLACK

6	7	8	9	10
—	—	G	Y	U
1	2	3	4	5
BO	B	OG	UY	NR

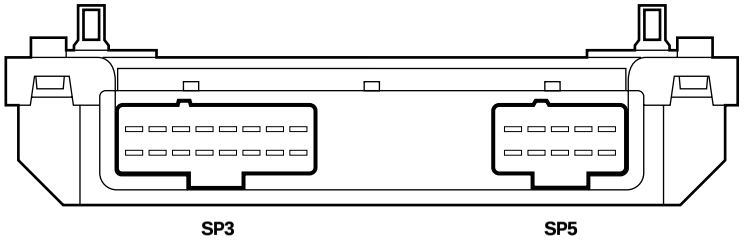
DRIVER HEAD RESTRAINT CONTROL MODULE



SD22 / 16-WAY / BLACK

8	7	6	5	4	3	2	1
B	B	G	UY	RU	OG	—	N
16	15	14	13	12	11	10	9
BW	BG	Y	U	YU	W	WG	NG

PASSENGER SEAT CONTROL MODULE



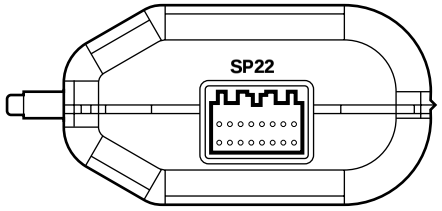
SP3 / 16-WAY / BLACK

9	10	11	12	13	14	15	16
UY	OY	W	WG	W	WG	GW	NR
1	2	3	4	5	6	7	8
GO	NG	O	R	G	GR	WU	WR

SP5 / 10-WAY / BLACK

6	7	8	9	10
—	—	G	Y	U
1	2	3	4	5
—	B	OG	OY	NR

PASSENGER HEAD RESTRAINT CONTROL MODULE



SP22 / 16-WAY / BLACK

8	7	6	5	4	3	2	1
—	B	G	UY	RU	OG	—	N
16	15	14	13	12	11	10	9
BW	BG	Y	U	YU	W	WG	NG

Fig. 01.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
BATTERY	BT66 / EYELET BT67 / EYELET	TRUNK, RIGHT HAND SIDE
BODY PROCESSOR MODULE	FC14 / 104-WAY AMP EEEC / GREY	PASSENGER SIDE FASCIA / AIRBAG BRACKET
FUSE BOX – DRIVER SIDE	FC5 / 10-WAY U.T.A. FUSEBOX / NATURAL FC6 / 10-WAY U.T.A. FUSEBOX / BLACK FC90 / EYELET FC92 / EYELET FC94 / EYELET	FASCIA / DRIVER SIDE
FUSE BOX – ENGINE COMPARTMENT	LF5 / 10-WAY U.T.A. FUSEBOX / NATURAL LF6 / 10-WAY U.T.A. FUSEBOX / BLACK LF7 / 10-WAY U.T.A. FUSEBOX / GREEN LF8 / 10-WAY U.T.A. FUSEBOX / BLUE LF70 / EYELET	ENGINE COMPARTMENT / LEFT FRONT
FUSE BOX – ENGINE MANAGEMENT	EM19 / 10-WAY U.T.A. FUSEBOX / NATURAL EM20 / 10-WAY U.T.A. FUSEBOX / BLACK EM70 / EYELET	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
FUSE BOX – PASSENGER SIDE	FC20 / 10-WAY U.T.A. FUSEBOX / NATURAL FC21 / 10-WAY U.T.A. FUSEBOX / BLACK FC90 / EYELET FC93 / EYELET	FASCIA / PASSENGER SIDE
FUSE BOX – TRUNK	BT10 / 10-WAY U.T.A. FUSEBOX / NATURAL BT11 / 10-WAY U.T.A. FUSEBOX / BLACK} BT12 / 10-WAY U.T.A. FUSEBOX / GREEN BT13 / 10-WAY U.T.A. FUSEBOX / 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	BT44 / 2-WAY ECONOSEAL III HC / BLACK BT49 / 1-WAY LUCAR BT66 / EYELET	TRUNK / ADJACENT TO BATTERY

RELAYS

Relay	Color / Stripe	Connector / Color	Location / Access
AUXILIARY POSITIVE RELAY	BROWN	BUS	PASSENGER SIDE FUSE BOX
EMS CONTROL RELAY	BROWN	BUS	ENGINE MANAGEMENT FUSE BOX
IGNITION POSITIVE RELAY	BROWN	BUS	DRIVER SIDE FUSE BOX
IGNITION POSITIVE RELAY	BROWN	BUS	ENGINE COMPARTMENT FUSE BOX
IGNITION POSITIVE RELAY	BROWN	BUS	TRUNK FUSE BOX

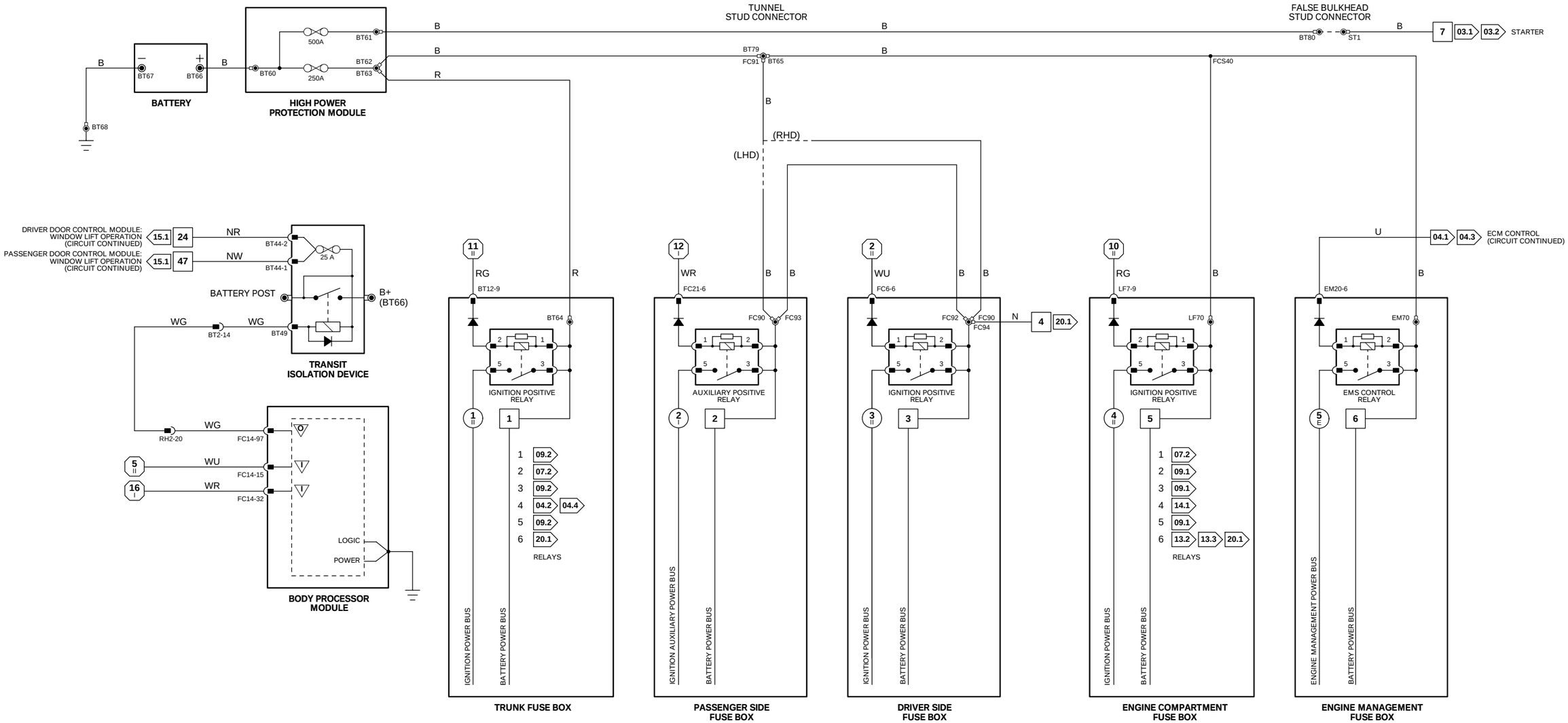
HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT2	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
BT65	EYELET	TRANSMISSION TUNNEL
BT79	EYELET	TRANSMISSION TUNNEL
BT80	EYELET	ENGINE COMPARTMENT / FALSE BULKHEAD, RIGHT HAND SIDE
FC91	EYELET	TRANSMISSION TUNNEL
RH2	20-WAY MULTILOCK 070 / WHITE	REAR OF CENTER CONSOLE ASSEMBLY
ST1	EYELET	ENGINE COMPARTMENT / FALSE BULKHEAD, RIGHT HAND SIDE

GROUNDS

Ground	Location / Type
BT68	BATTERY GROUND STUD
BT2BR	EYELET (PAIR) – RIGHT HAND LEG / TRUNK, RIGHT REAR
BT2BS	EYELET (SINGLE) / TRUNK, RIGHT REAR

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



1 → 7 Fig. 01.1 | 1 II → 5 E Fig. 01.1 | 8 → 50 Fig. 01.2 | 51 → 90 Fig. 01.3 | 6 II → 58 II Fig. 01.4 | 59 E → 73 E Fig. 01.5 | 1 → 18 I Fig. 02.1

I Input | O Output | + Sensor Supply V | − Sensor Ground | A ACP | C CAN | S SCP | D Serial and Encoded Data

VARIANT: All Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

Fig. 01.2

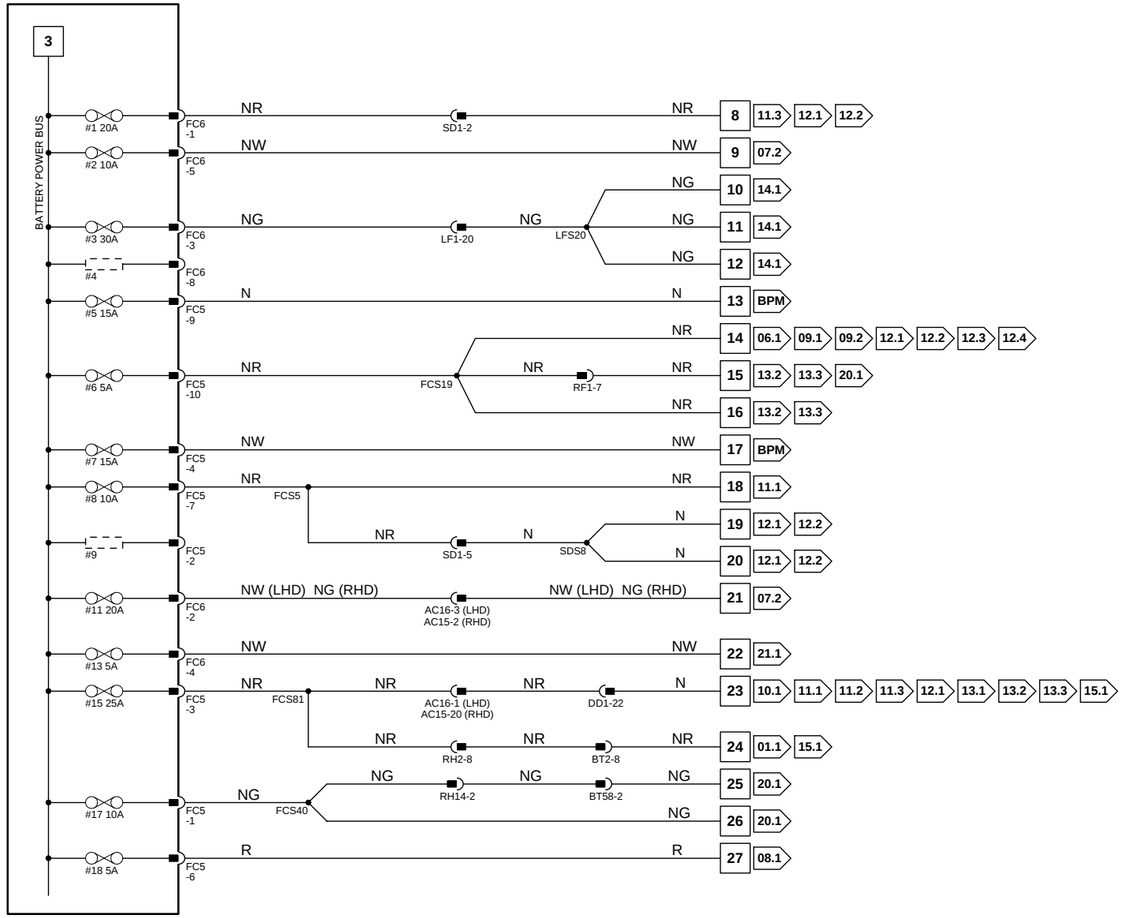
COMPONENTS

Component	Connector / Type / Color	Location / Access
FUSE BOX – DRIVER SIDE	FC5 / 10-WAY U.T.A. FUSEBOX / NATURAL FC6 / 10-WAY U.T.A. FUSEBOX / BLACK FC90 / EYELET FC92 / EYELET FC94 / EYELET	FASCIA / DRIVER SIDE
FUSE BOX – PASSENGER SIDE	FC20 / 10-WAY U.T.A. FUSEBOX / NATURAL FC21 / 10-WAY U.T.A. FUSEBOX / BLACK FC90 / EYELET FC93 / EYELET	FASCIA / PASSENGER SIDE

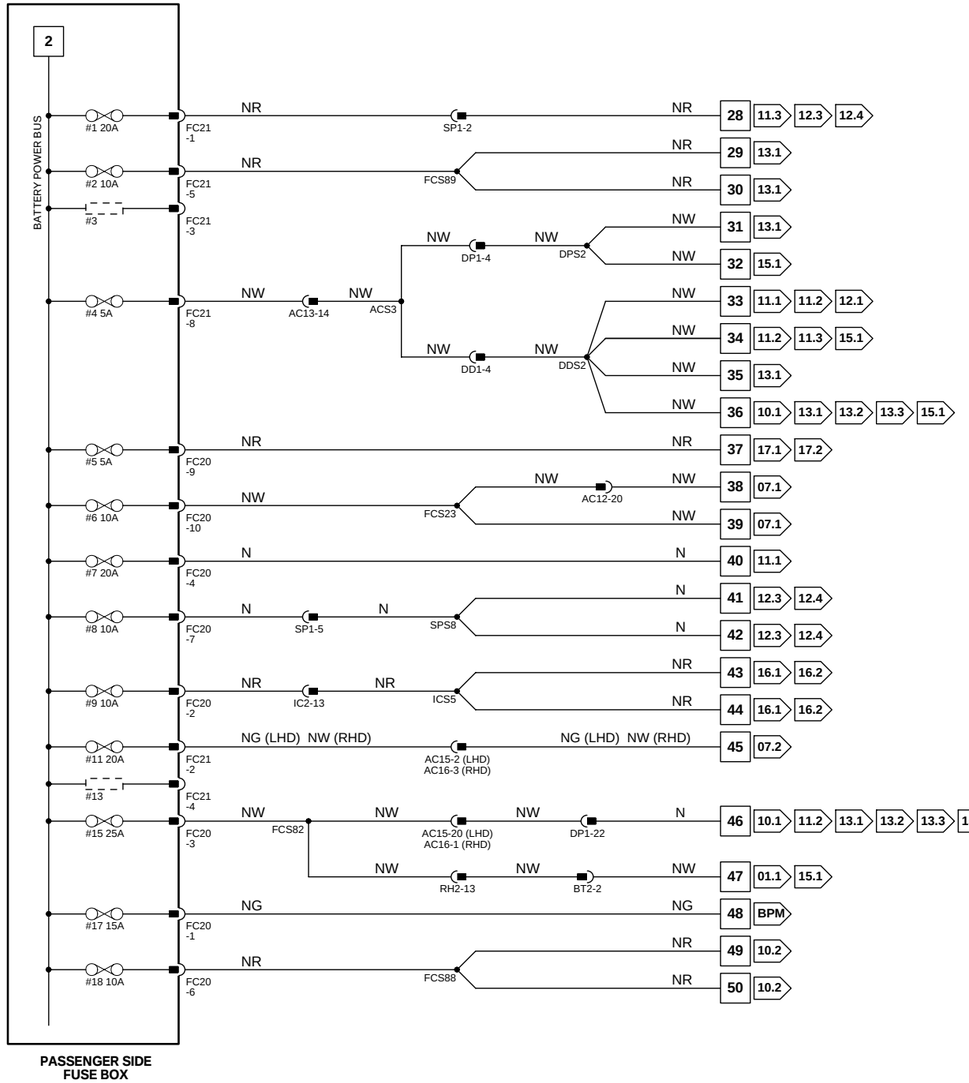
HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
AC12	20-WAY MULTILOCK 070 / WHITE	FASCIA TOP CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
AC13	20-WAY MULTILOCK 070 / YELLOW	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
AC14	14-WAY MULTILOCK 070 / GREY	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
AC15	20-WAY MULTILOCK 070 / GREY	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
AC16	6-WAY MULTILOCK 070 / YELLOW	LEFT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
BT2	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
BT58	4-WAY ECONOSEAL III HC / BLACK	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
DD1	23-WAY AMP – FORD / BLACK	DRIVER SIDE 'A' POST MOUNTING BRACKET/ 'A' POST TRIM
DP1	23-WAY AMP – FORD / BLACK	PASSENGER SIDE 'A' POST / 'A' POST TRIM
IC2	14-WAY MULTILOCK 070 / WHITE	BELOW CENTER CONSOLE GLOVE BOX
LF1	20-WAY MULTILOCK 070 / GREY	LEFT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
RF1	24-WAY CONNECTOR / BLACK	RIGHT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
RH14	2-WAY ECONOSEAL III HC / BLACK	REAR OF CENTER CONSOLE ASSEMBLY
RH2	20-WAY MULTILOCK 070 / WHITE	REAR OF CENTER CONSOLE ASSEMBLY
SD1	14-WAY MULTILOCK 070 / YELLOW	BELOW DRIVER SEAT
SP1	14-WAY MULTILOCK 070 / YELLOW	BELOW PASSENGER SEAT

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



DRIVER SIDE FUSE BOX



PASSENGER SIDE FUSE BOX

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

1 → 7 Fig. 01.1 (1 II → 5 E) Fig. 01.1 8 → 50 Fig. 01.2 51 → 90 Fig. 01.3 (6 II → 58 II) Fig. 01.4 (59 E → 73 E) Fig. 01.5 1 → 18 I Fig. 02.1

I Input
O Output
+ Sensor Supply V
− Sensor Ground
A ACP
C CAN
S SCP
D Serial and Encoded Data

VARIANT: All Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

Fig. 01.3

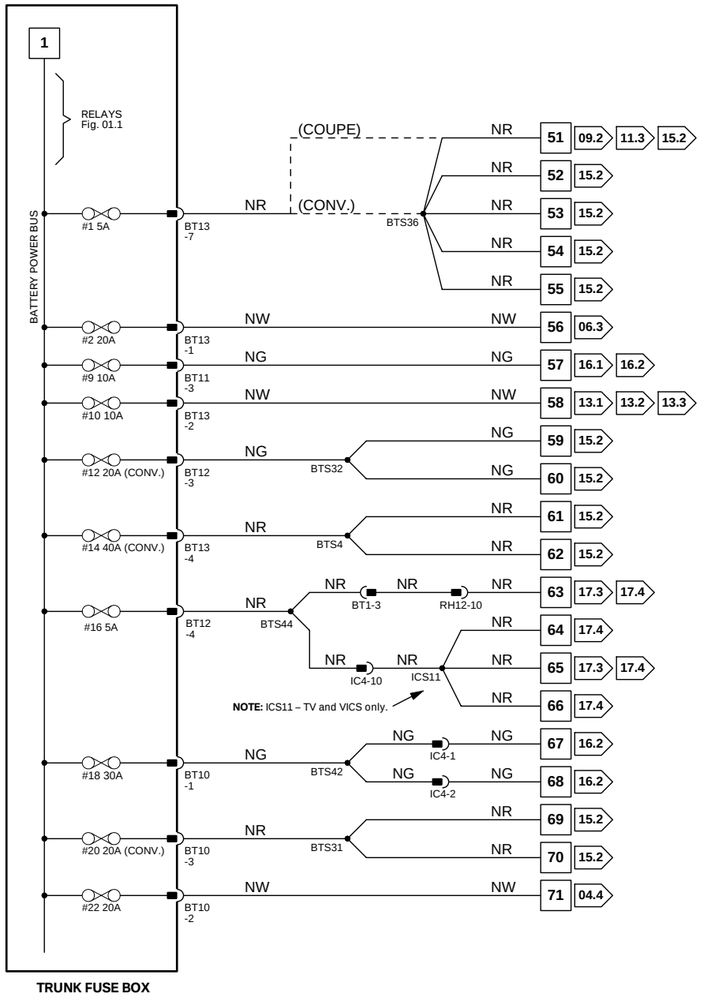
COMPONENTS

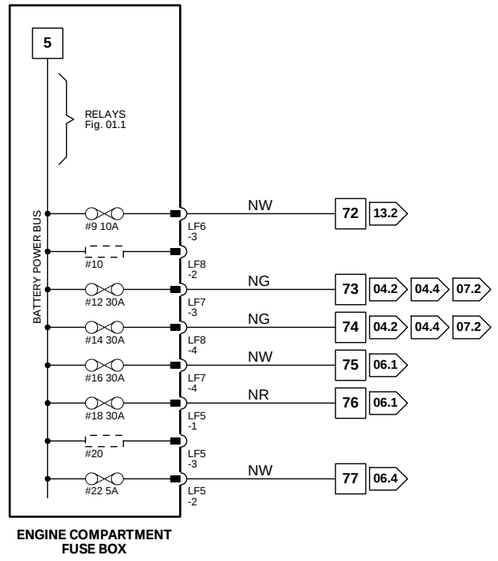
Component	Connector / Type / Color	Location / Access
FUSE BOX – ENGINE COMPARTMENT	LF5 / 10-WAY U.T.A. FUSEBOX / NATURAL LF6 / 10-WAY U.T.A. FUSEBOX / BLACK LF7 / 10-WAY U.T.A. FUSEBOX / GREEN LF8 / 10-WAY U.T.A. FUSEBOX / BLUE LF70 / EYELET	ENGINE COMPARTMENT / LEFT FRONT
FUSE BOX – ENGINE MANAGEMENT	EM19 / 10-WAY U.T.A. FUSEBOX / NATURAL EM20 / 10-WAY U.T.A. FUSEBOX / BLACK EM70 / EYELET	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
FUSE BOX – TRUNK	BT10 / 10-WAY U.T.A. FUSEBOX / NATURAL BT11 / 10-WAY U.T.A. FUSEBOX / BLACK BT12 / 10-WAY U.T.A. FUSEBOX / GREEN BT13 / 10-WAY U.T.A. FUSEBOX / BLUE BT64 / EYELET	TRUNK / ELECTRICAL CARRIER

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT1	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
IC4	4-WAY MULTILOCK 070 / WHITE	TRUNK / LEFT OF ANTENNA ASSEMBLY
RH12	18-WAY MULTILOCK 070 / YELLOW	REAR OF CENTER CONSOLE ASSEMBLY

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


1
RELAYS
Fig. 01.1
BATTERY POWER BUS
#1 5A
BT13
-7
(COUPE)
(CONV.)
BTS36
NR
51 09.2 11.3 15.2
52 15.2
53 15.2
54 15.2
55 15.2
#2 20A
BT13
-1
NW
56 06.3
#9 10A
BT11
-3
NG
57 16.1 16.2
#10 10A
BT13
-2
NW
58 13.1 13.2 13.3
#12 20A (CONV.)
BT12
-3
BTS32
NG
59 15.2
60 15.2
#14 40A (CONV.)
BT13
-4
BTS4
NR
61 15.2
62 15.2
#16 5A
BT12
-4
BTS44
BT1-3
RH12-10
63 17.3 17.4
64 17.4
IC4-10
ICS11
65 17.3 17.4
66 17.4
NOTE: ICS11 – TV and VICS only.
#18 30A
BT10
-1
BTS42
IC4-1
IC4-2
67 16.2
68 16.2
#20 20A (CONV.)
BT10
-3
BTS31
69 15.2
70 15.2
#22 20A
BT10
-2
71 04.4
TRUNK FUSE BOX


5
RELAYS
Fig. 01.1
BATTERY POWER BUS
#9 10A
LF6
-3
NW
72 13.2
#10
LF8
-2
#12 30A
LF7
-3
NG
73 04.2 04.4 07.2
#14 30A
LF8
-4
NG
74 04.2 04.4 07.2
#16 30A
LF7
-4
NW
75 06.1
#18 30A
LF5
-1
NR
76 06.1
#20
LF5
-3
#22 5A
LF5
-2
NW
77 06.4
ENGINE COMPARTMENT
FUSE BOX

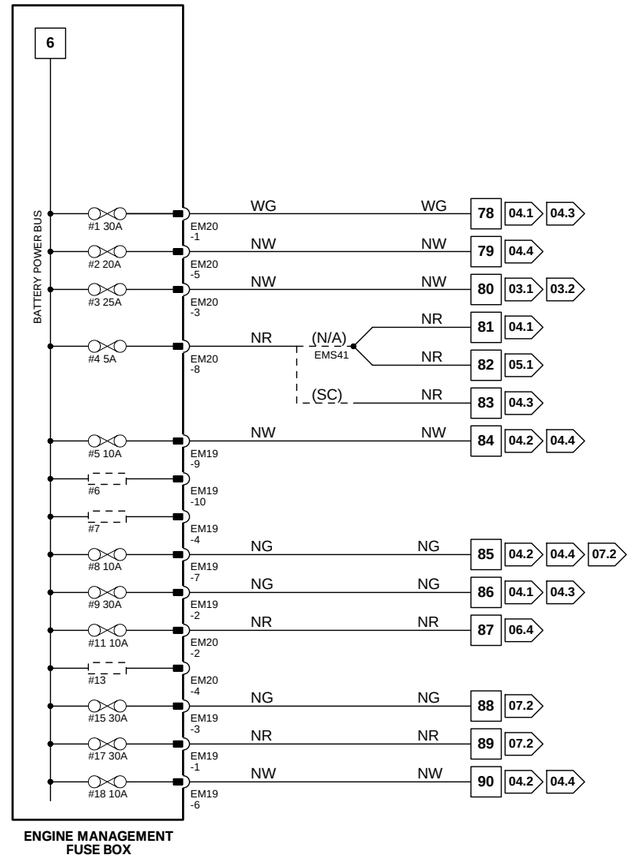

6
BATTERY POWER BUS
#1 30A
EM20
-1
WG
WG
78 04.1 04.3
#2 20A
EM20
-5
NW
NW
79 04.4
#3 25A
EM20
-3
NW
NW
80 03.1 03.2
#4 5A
EM20
-8
NR
(N/A)
EMS41
NR
81 04.1
NR
82 05.1
(SC)
NR
83 04.3
#5 10A
EM19
-9
NW
NW
84 04.2 04.4
#6
EM19
-10
#7
EM19
-4
#8 10A
EM19
-7
NG
NG
85 04.2 04.4 07.2
#9 30A
EM19
-2
NG
NG
86 04.1 04.3
#11 10A
EM20
-2
NR
NR
87 06.4
#13
EM20
-4
#15 30A
EM19
-3
NG
NG
88 07.2
#17 30A
EM19
-1
NR
NR
89 07.2
#18 10A
EM19
-6
NW
NW
90 04.2 04.4
ENGINE MANAGEMENT
FUSE BOX

Fig. 01.4

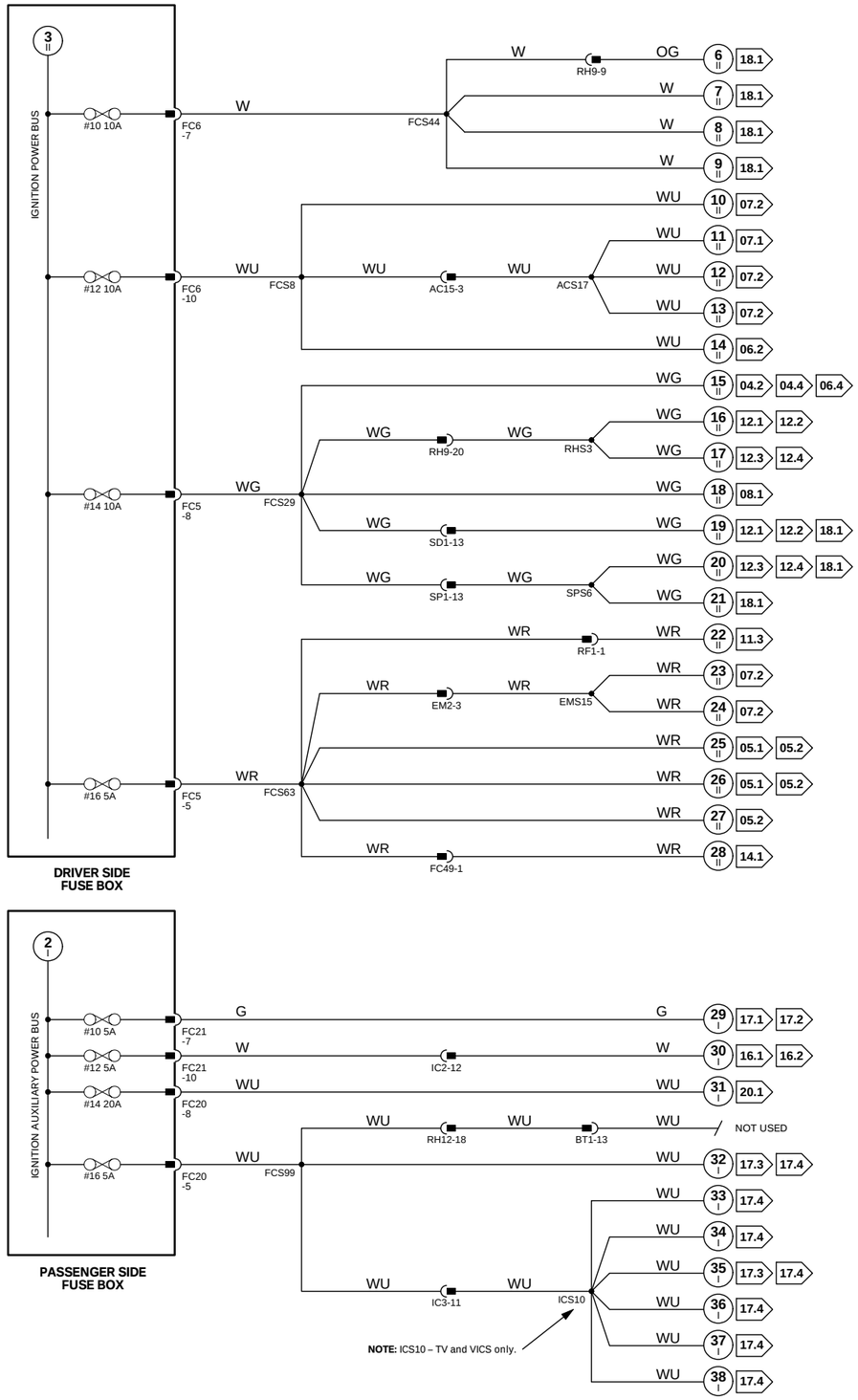
COMPONENTS

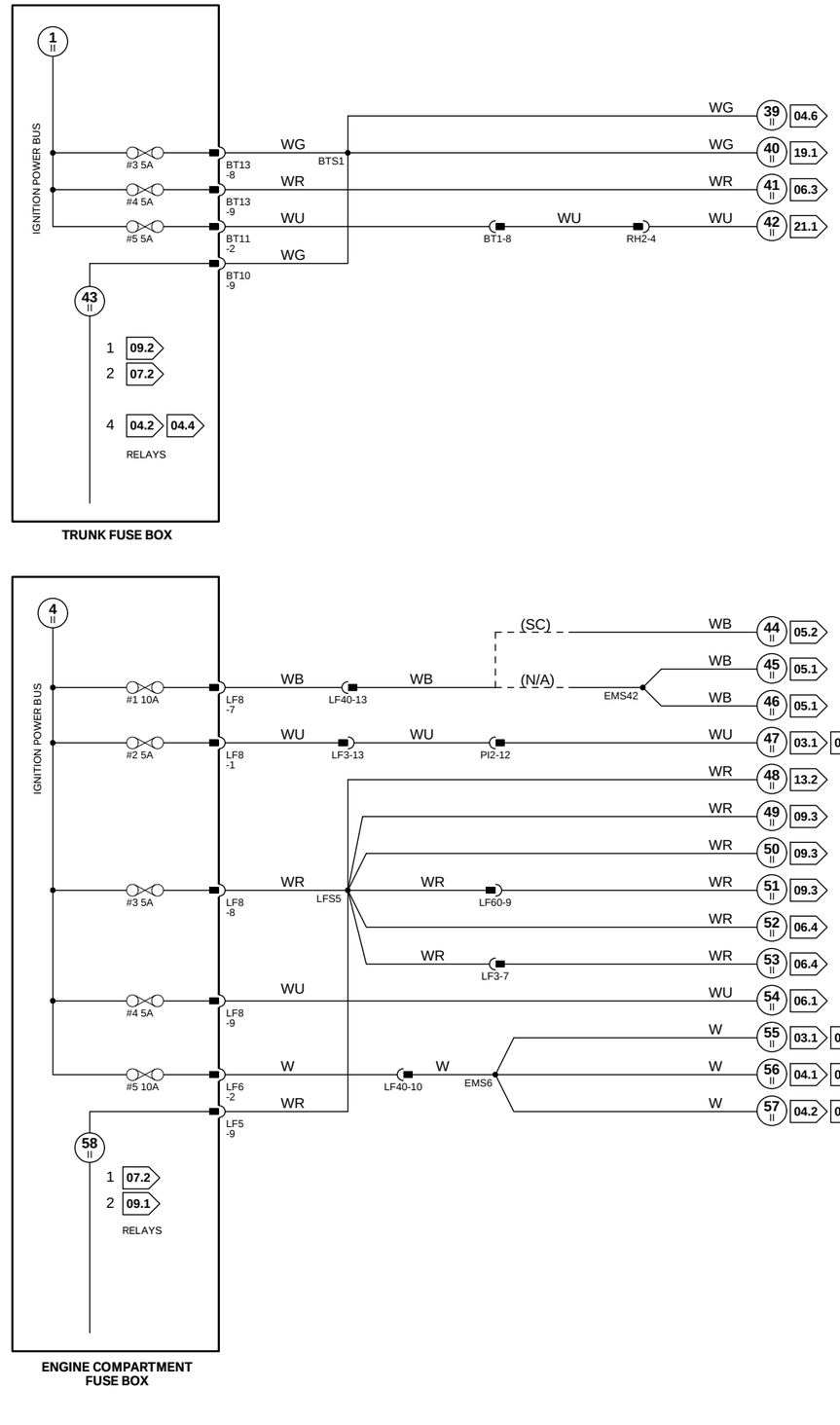
Component	Connector / Type / Color	Location / Access
FUSE BOX – DRIVER SIDE	FC5 / 10-WAY U.T.A. FUSEBOX / NATURAL FC6 / 10-WAY U.T.A. FUSEBOX / BLACK FC90 / EYELET FC92 / EYELET FC94 / EYELET	FASCIA / DRIVER SIDE
FUSE BOX – ENGINE COMPARTMENT	LF5 / 10-WAY U.T.A. FUSEBOX / NATURAL LF6 / 10-WAY U.T.A. FUSEBOX / BLACK LF7 / 10-WAY U.T.A. FUSEBOX / GREEN LF8 / 10-WAY U.T.A. FUSEBOX / BLUE LF70 / EYELET	ENGINE COMPARTMENT / LEFT FRONT
FUSE BOX – PASSENGER SIDE	FC20 / 10-WAY U.T.A. FUSEBOX / NATURAL FC21 / 10-WAY U.T.A. FUSEBOX / BLACK FC90 / EYELET FC93 / EYELET	FASCIA / PASSENGER SIDE
FUSE BOX – TRUNK	BT10 / 10-WAY U.T.A. FUSEBOX / NATURAL BT11 / 10-WAY U.T.A. FUSEBOX / BLACK BT12 / 10-WAY U.T.A. FUSEBOX / GREEN BT13 / 10-WAY U.T.A. FUSEBOX / BLUE BT64 / EYELET	TRUNK / ELECTRICAL CARRIER

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
AC15	20-WAY MULTILOCK 070 / GREY	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
BT1	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
EM2	18-WAY MULTILOCK 070 / YELLOW	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
IC2	14-WAY MULTILOCK 070 / WHITE	BELOW CENTER CONSOLE GLOVE BOX
IC3	14-WAY MULTILOCK 070 / GREY	BELOW CENTER CONSOLE GLOVE BOX
LF3	13-WAY ECONOSEAL III LC / WHITE	LHD: ENGINE COMPARTMENT / ADJACENT TO BRAKE SERVO RHD: ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
LF40	13-WAY ECONOSEAL III LC / BLACK	LHD: ENGINE COMPARTMENT / FORWARD OF BRAKE FLUID RESERVOIR RHD: ENGINE COMPARTMENT / BELOW CONTROL MODULE ENCLOSURE
LF60	20-WAY MULTILOCK 070 / WHITE	LEFT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
PI2	13-WAY ECONOSEAL III LC / BLACK	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
RF1	24-WAY CONNECTOR / BLACK	RIGHT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
RH2	20-WAY MULTILOCK 070 / WHITE	REAR OF CENTER CONSOLE ASSEMBLY
RH9	20-WAY MULTILOCK 070 / YELLOW	BELOW CENTER CONSOLE
SD1	14-WAY MULTILOCK 070 / YELLOW	BELOW DRIVER SEAT
SP1	14-WAY MULTILOCK 070 / YELLOW	BELOW PASSENGER SEAT

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





1 → 7 Fig. 01.1 (1 II → 5 E) Fig. 01.1 8 → 50 Fig. 01.2 51 → 90 Fig. 01.3 (6 II → 58 II) Fig. 01.4 (59 E → 73 E) Fig. 01.5 1 → 18 I Fig. 02.1

I Input
O Output
+ Sensor Supply V
– Sensor Ground
A ACP
C CAN
S SCP
D Serial and Encoded Data

VARIANT: All Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

Fig. 01.5

COMPONENTS

Component	Connector / Type / Color	Location / Access
FUSE BOX – ENGINE MANAGEMENT	EM19 / 10-WAY U.T.A. FUSEBOX / NATURAL EM20 / 10-WAY U.T.A. FUSEBOX / BLACK EM70 / EYELET	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT1	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
EM3	14-WAY MULTILOCK 070 / GREY	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
LF3	13-WAY ECONOSEAL III LC / WHITE	LHD: ENGINE COMPARTMENT / ADJACENT TO BRAKE SERVO RHD: ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
LF40	13-WAY ECONOSEAL III LC / BLACK	LHD: ENGINE COMPARTMENT / FORWARD OF BRAKE FLUID RESERVOIR RHD: ENGINE COMPARTMENT / BELOW CONTROL MODULE ENCLOSURE
PI1	57-WAY SUMITOMO TS090 / BLACK	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
RH2	20-WAY MULTILOCK 070 / WHITE	REAR OF CENTER CONSOLE ASSEMBLY

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

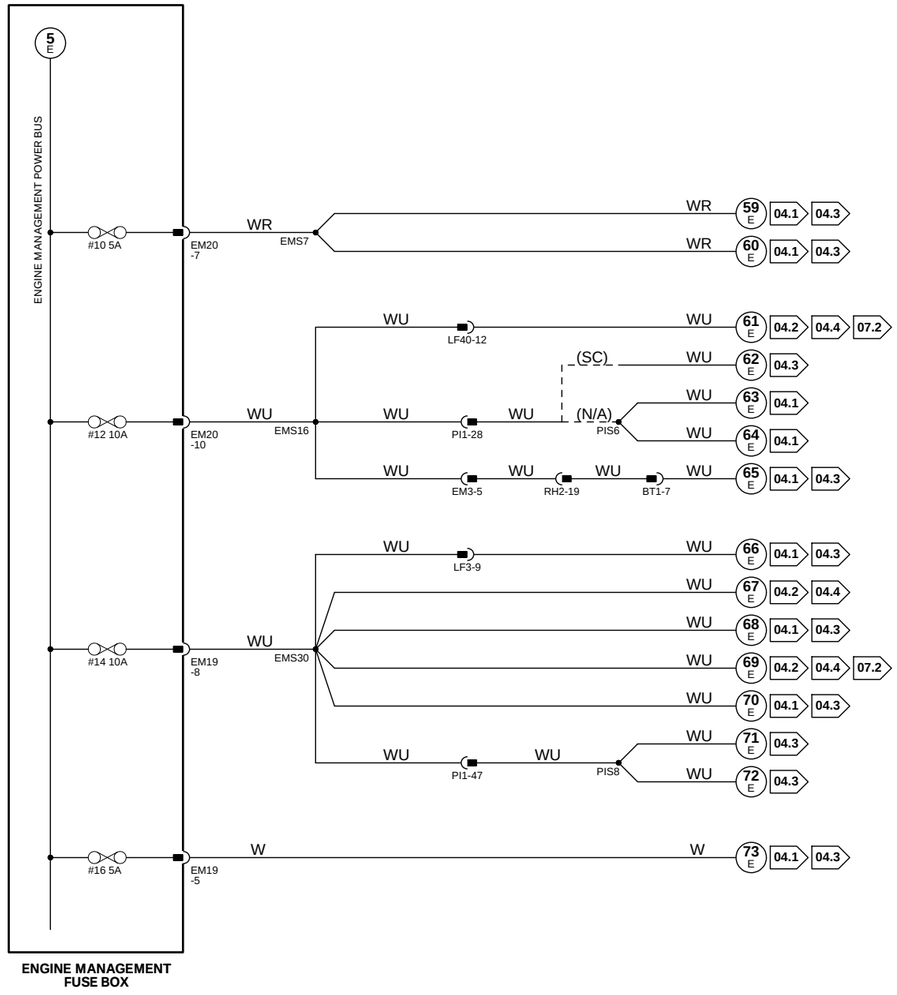

5 E
ENGINE MANAGEMENT POWER BUS
#10 5A
EM20 -7
WR
EMS7
WR
59 E
04.1
04.3
WR
60 E
04.1
04.3
#12 10A
EM20 -10
WU
EMS16
WU
LF40-12
WU
61 E
04.2
04.4
07.2
(SC)
WU
62 E
04.3
WU
PI1-28
WU
(N/A)
PIS6
WU
63 E
04.1
WU
64 E
04.1
WU
EM3-5
WU
RH2-19
WU
BT1-7
WU
65 E
04.1
04.3
#14 10A
EM19 -8
WU
EMS30
WU
LF3-9
WU
66 E
04.1
04.3
WU
67 E
04.2
04.4
WU
68 E
04.1
04.3
WU
69 E
04.2
04.4
07.2
WU
70 E
04.1
04.3
WU
PI1-47
WU
PIS8
WU
71 E
04.3
WU
72 E
04.3
#16 5A
EM19 -5
W
W
73 E
04.1
04.3
ENGINE MANAGEMENT FUSE BOX

Fig. 02.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
IGNITION SWITCH (KEY-IN SWITCH)	FC4 / 8-WAY MULTILOCK 070 / WHITE	STEERING COLUMN
INERTIA SWITCH	FC46 / 3-WAY ECONOSEAL III LC / BLACK	ADJACENT TO LEFT HAND FASCIA FUSE BOX

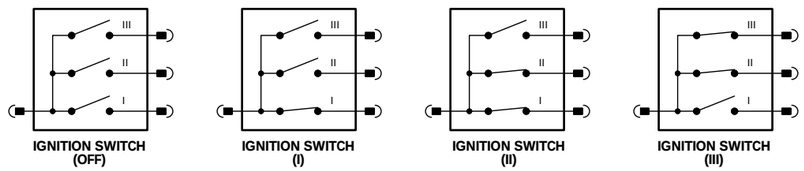
HARNESS-TO-HARNESS CONNECTORS

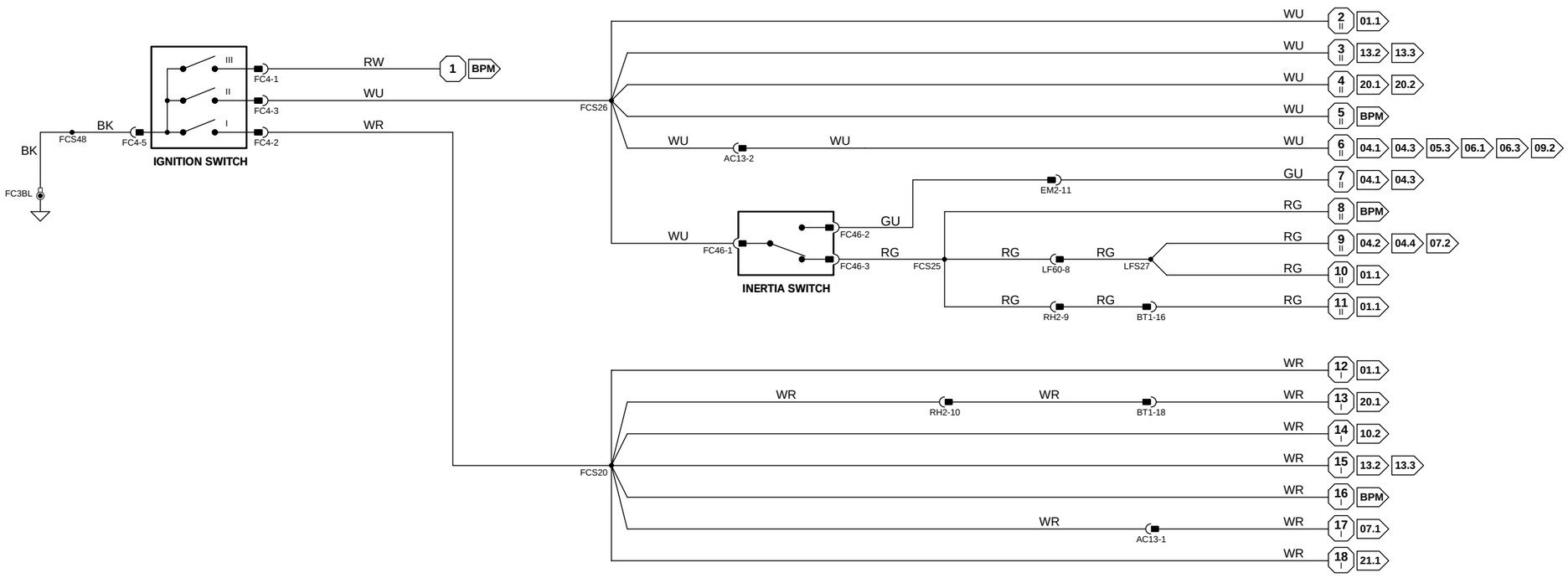
Connector	Type / Color	Location / Access
AC13	20-WAY MULTILOCK 070 / YELLOW	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
BT1	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
LF60	20-WAY MULTILOCK 070 / WHITE	LEFT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
RH2	20-WAY MULTILOCK 070 / WHITE	REAR OF CENTER CONSOLE ASSEMBLY

GROUNDS

Ground	Location / Type
FC3BL	EYELET (PAIR) – LEFT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE

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





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

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC14-7	NEUTRAL SWITCH STATUS	GROUND (N)	B+ (P, R, D, 4, 3, 2)
D	FC14-39	SECURITY ACKNOWLEDGE	ENCODED COMMUNICATIONS	
I	FC14-41	STARTER ENGAGE REQUEST	GROUND (CRANKING)	B+
O	FC14-73	STARTER RELAY ACTIVATE	GROUND (CRANKING)	B+
I	FC14-80	BATTERY SUPPLY VOLTAGE	B+	B+
D	FC14-92	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	GLASS BREAKAGE / OK TO START (ENCODED COMMUNICATION)		
D	FC22-16	OK TO START (ENCODED COMMUNICATION)		
D	FC22-17	SECURITY ACKNOWLEDGE (ENCODED COMMUNICATION)		

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

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

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

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

Fig. 03.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
BATTERY	BT66 / EYELET BT67 / EYELET	TRUNK, RIGHT HAND SIDE
BODY PROCESSOR MODULE	FC14 / 104-WAY AMP EEEC / GREY	PASSENGER SIDE FASCIA / AIRBAG BRACKET
ENGINE CONTROL MODULE	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 MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
GENERATOR	AN1 / EYELET AN2 / EYELET ST11 / EYELET	ENGINE COMPARTMENT / RIGHT FRONT
HIGH POWER PROTECTION MODULE	BT60 / EYELET BT61 / EYELET BT62 / EYELET BT63 / EYELET	TRUNK / ADJACENT TO BATTERY
IGNITION SWITCH (KEY-IN SWITCH)	FC4 / 8-WAY MULTILOCK 070 / WHITE	STEERING COLUMN
KEY TRANSPONDER MODULE	FC22 / 20-WAY MULTILOCK 040 / GREEN	ADJACENT TO DRIVER SIDE FUSE BOX
NEUTRAL SWITCH	FC89 / 3-WAY MULTILOCK 070 / GREY	GEAR SELECTOR ASSEMBLY
REGULATOR (GENERATOR)	PI50 / 3-WAY SUMITOMO 0902 / BLACK	ENGINE COMPARTMENT / GENERATOR
STARTER MOTOR	ST3 / EYELET ST10 / EYELET	ENGINE BLOCK
SUPPRESSION MODULE	AN3 / 2-WAY ECONOSEAL III LC/ RED	REARWARD OF RIGHT FRONT HEADLAMP

RELAYS

Relay	Color / Stripe	Connector / Color	Location / Access
STARTER RELAY	BROWN	EM50 / BROWN	RH ENCLOSURE RELAYS

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT80	EYELET	ENGINE COMPARTMENT / FALSE BULKHEAD, RIGHT HAND SIDE
EM1	20-WAY MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
EM2	18-WAY MULTILOCK 070 / YELLOW	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
EM3	14-WAY MULTILOCK 070 / GREY	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
EM60	2-WAY ECONOSEAL III HC / BLACK	ENGINE COMPARTMENT / BEHIND LEFT INNER FENDER HEAT SHIELD
PI1	57-WAY SUMITOMO TS090 / BLACK	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
ST1	EYELET	ENGINE COMPARTMENT / FALSE BULKHEAD, RIGHT HAND SIDE

GROUNDS

Ground	Location / Type
BT68	BATTERY GROUND STUD
FC3BR	EYELET (PAIR) – RIGHT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE

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

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

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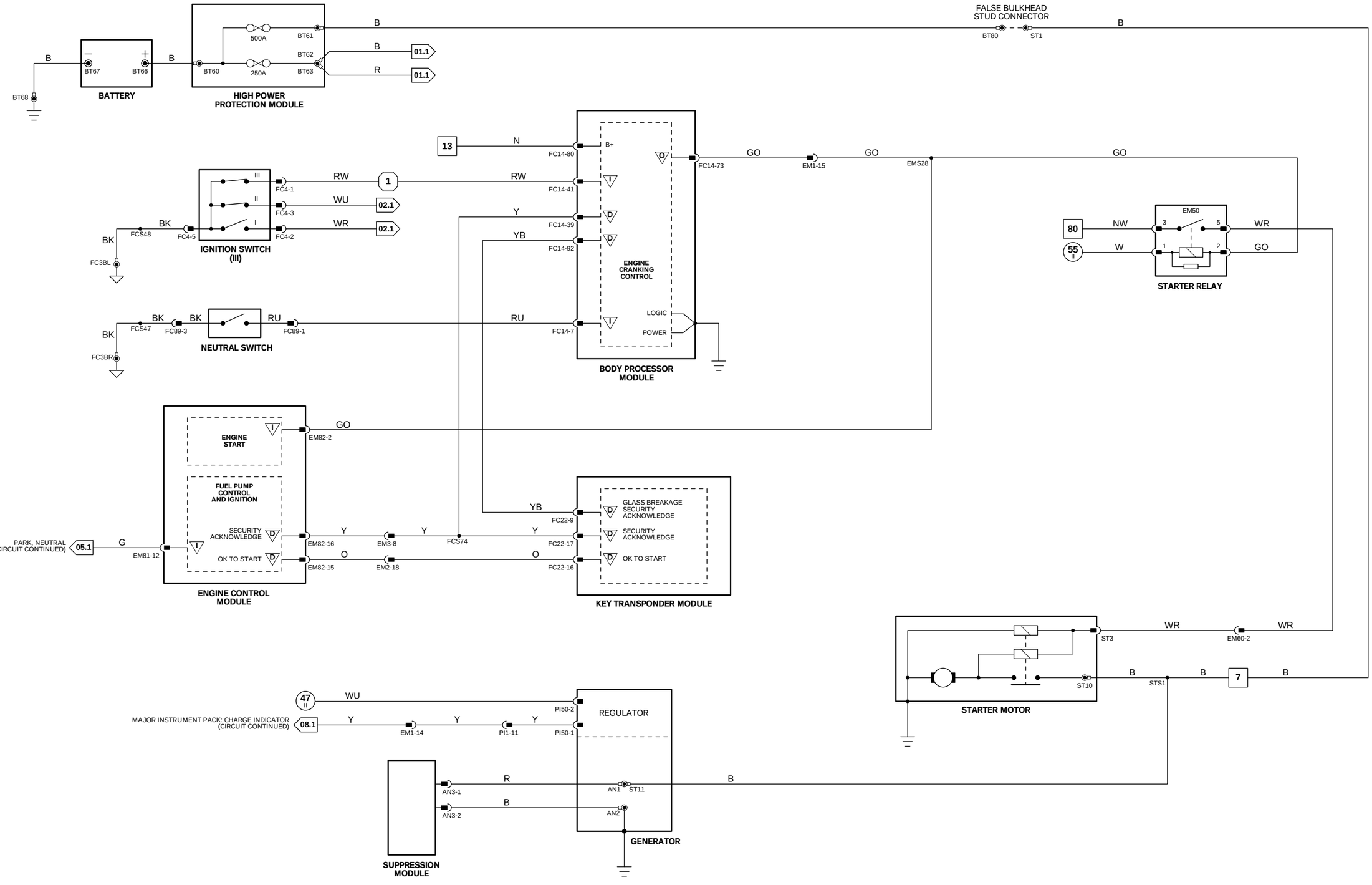

1 → 7 Fig. 01.1 (1 II → 5 E) Fig. 01.1 8 → 50 Fig. 02.2 51 → 90 Fig. 01.3 (6 II → 58 H) Fig. 01.4 (59 E → 73 E) Fig. 01.5 1 → (18 I) Fig. 02.1

I Input
O Output
+ Sensor Supply V
− Sensor Ground
A ACP
C CAN
S SCP
D Serial and Encoded Data

VARIANT: AJ27 N/A Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC14-7	NEUTRAL SWITCH STATUS	GROUND (N)	B+ (P, R, D, 4, 3, 2)
D	FC14-39	SECURITY ACKNOWLEDGE	ENCODED COMMUNICATIONS	
I	FC14-41	STARTER ENGAGE REQUEST	GROUND (CRANKING)	B+
O	FC14-73	STARTER RELAY ACTIVATE	GROUND (CRANKING)	B+
I	FC14-80	BATTERY SUPPLY VOLTAGE	B+	B+
D	FC14-92	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	GLASS BREAKAGE / OK TO START (ENCODED COMMUNICATION)		
D	FC22-16	OK TO START (ENCODED COMMUNICATION)		
D	FC22-17	SECURITY ACKNOWLEDGE (ENCODED COMMUNICATION)		

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

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

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

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

Fig. 03.2

COMPONENTS

Component	Connector / Type / Color	Location / Access
BATTERY	BT66 / EYELET BT67 / EYELET	TRUNK, RIGHT HAND SIDE
BODY PROCESSOR MODULE	FC14 / 104-WAY AMP EEEC / GREY	PASSENGER SIDE FASCIA / AIRBAG BRACKET
DUAL LINEAR SWITCH	FC100 / 12-WAY / MULTILOCK 070 / GREY	LEFT HAND SIDE OF GEAR SELECTOR / CENTER CONSOLE
ENGINE CONTROL MODULE	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 MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
GENERATOR	AN1 / EYELET AN2 / EYELET ST11 / EYELET	ENGINE COMPARTMENT / RIGHT FRONT
HIGH POWER PROTECTION MODULE	BT60 / EYELET BT61 / EYELET BT62 / EYELET BT63 / EYELET	TRUNK / ADJACENT TO BATTERY
IGNITION SWITCH (KEY-IN SWITCH)	FC4 / 8-WAY MULTILOCK 070 / WHITE	STEERING COLUMN
KEY TRANSPONDER MODULE	FC22 / 20-WAY MULTILOCK 040 / GREEN	ADJACENT TO DRIVER SIDE FUSE BOX
REGULATOR (GENERATOR)	PI50 / 3-WAY SUMITOMO 0902 / BLACK	ENGINE COMPARTMENT / GENERATOR
STARTER MOTOR	ST3 / EYELET ST10 / EYELET	ENGINE BLOCK
SUPPRESSION MODULE	AN3 / 2-WAY ECONOSEAL III LC/ RED	REARWARD OF RIGHT FRONT HEADLAMP

RELAYS

Relay	Color / Stripe	Connector / Color	Location / Access
STARTER RELAY	BROWN	EM50 / BROWN	RH ENCLOSURE RELAYS

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT80	EYELET	ENGINE COMPARTMENT / FALSE BULKHEAD, RIGHT HAND SIDE
EM1	20-WAY MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
EM2	18-WAY MULTILOCK 070 / YELLOW	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
EM3	14-WAY MULTILOCK 070 / GREY	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
EM60	2-WAY ECONOSEAL III HC / BLACK	ENGINE COMPARTMENT / BEHIND LEFT INNER FENDER HEAT SHIELD
PI1	57-WAY SUMITOMO TS090 / BLACK	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
ST1	EYELET	ENGINE COMPARTMENT / FALSE BULKHEAD, RIGHT HAND SIDE

GROUNDS

Ground	Location / Type
BT68	BATTERY GROUND STUD
EM1AR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM2AL	EYELET (PAIR) – LEFT HAND LEG / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE

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

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

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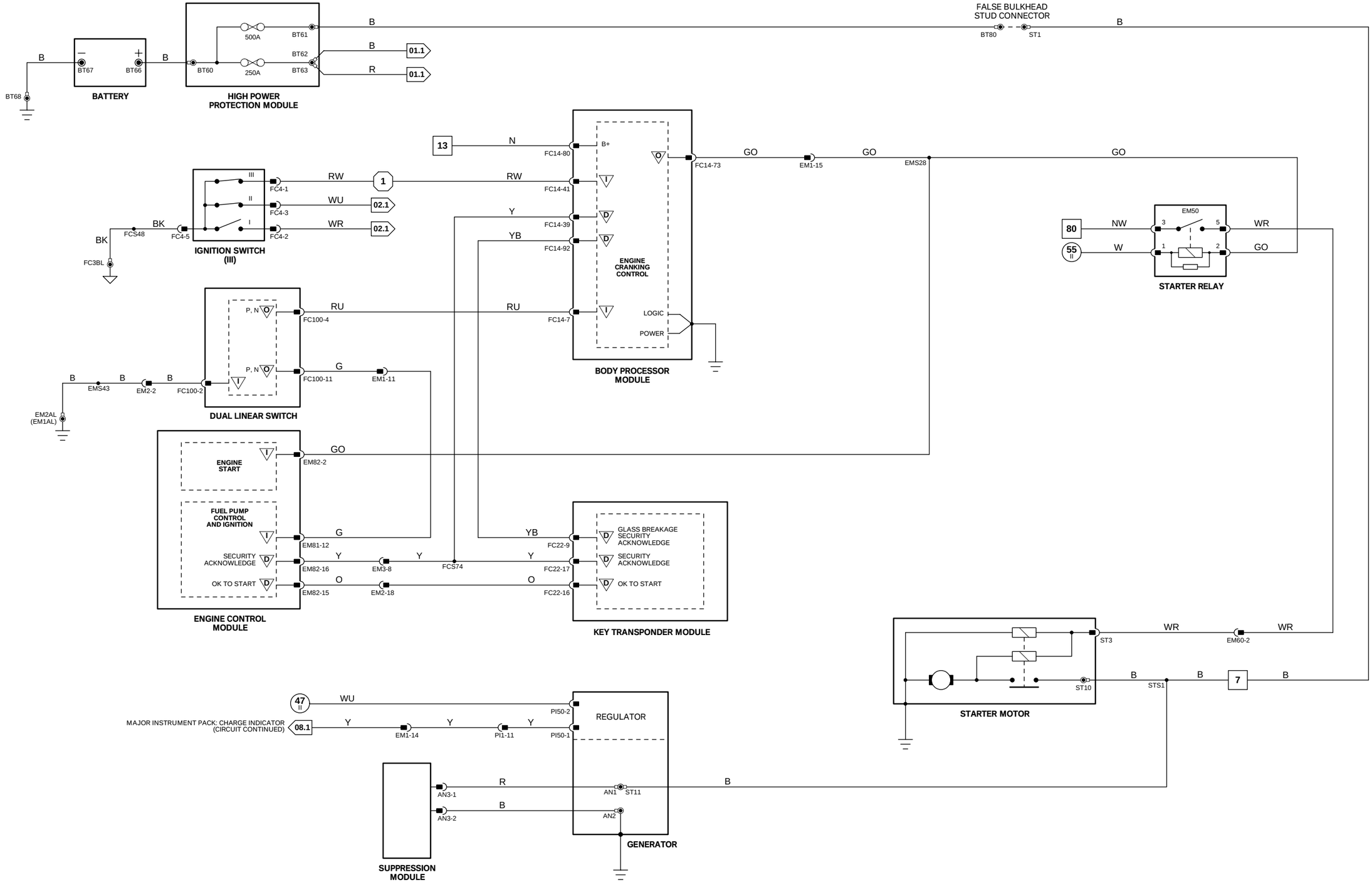


1 → 7 Fig. 01.1 | 1 II → 5 E Fig. 01.1 | 8 → 50 Fig. 01.2 | 51 → 90 Fig. 03.3 | 6 II → 58 H Fig. 01.4 | 59 E → 73 E Fig. 01.5 | 1 → 18 I Fig. 02.1

I Input | O Output | + Sensor Supply V | − Sensor Ground | A ACP | C CAN | S SCP | D Serial and Encoded Data

VARIANT: AJ27 SC Vehicles
VIN RANGE: A11051 ⟶
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

ENGINE CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	EM80-01	EVAP VALVE ACTIVATE	GROUND (VALVE OPEN)	B+
O	EM80-02	CANISTER CLOSE VALVE ACTIVATE	GROUND	B+
I	EM80-03	GROUND (POWER)	GROUND	GROUND
O	EM80-04	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
O	EM80-05	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
O	EM80-06	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
O	EM80-07	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
I	EM80-08	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
I	EM80-09	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
I	EM80-15	EOT SIGNAL	2.5 V @ 34 °C; 0.5 V @ 90 °C; (DECREASING VOLTAGE 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	EM81-01	VARIABLE VALVE TIMING SOLENOID + 'A' BANK	B+ (12% DUTY CYCLE @ IDLE) (INCREASING WITH ADVANCE)	GROUND
SG	EM81-02	VARIABLE VALVE TIMING SOLENOID – 'A' BANK	GROUND	GROUND
O	EM81-03	EMS CONTROLLED RELAY ACTIVATE	GROUND	B+
O	EM81-06	VARIABLE VALVE TIMING SOLENOID + 'B' BANK	B+ (12% DUTY CYCLE @ IDLE) (INCREASING WITH ADVANCE)	GROUND
SG	EM81-07	VARIABLE VALVE TIMING SOLENOID – 'B' BANK	GROUND	GROUND
I	EM81-08	GROUND (POWER)	GROUND	GROUND
I	EM81-09	PEDAL POSITION SIGNAL (PPS/1)	0.6 V = FOOT OFF; 3.8 V = PEDAL FULLY DEPRESSED	
I	EM81-10	TPS SIGNAl (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 SIGNAL	4.9 V = LOW PRESSURE, 0.2 V = HIGH PRESSURE	
I	EM81-17	EMS SWITCHED POWER SUPPLY 1	B+	0 V
I	EM81-18	PEDAL POSITION SIGNAL (PPS/2)	0.8 V = FOOT OFF; 2.4 V = PEDAL FULLY DEPRESSED	
I	EM81-19	TPS SIGNAL (TPS/2)	0.6 V = IDLE; 4.85 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
SS	EM82-01	SENSOR SUPPLY VOLTAGE 1	5 V	5 V
I	EM82-02	ENGINE CRANK	GROUND (CRANKING)	
I	EM82-04	HO2S, UPSTREAM 'A' BANK – VARIABLE CURRENT (µA)	3.5 V	
I	EM82-05	HO2S, UPSTREAM 'B' BANK – VARIABLE CURRENT (µA)	3.5 V	
O	EM82-06	THROTTLE MOTOR POWER RELAY ACTIVATE	GROUND	B+
SG	EM82-07	SENSORS SIGNAL GROUND 1	GROUND	GROUND
I	EM82-08	BRAKE SWITCH	GROUND	B+
I	EM82-09	IGNITION SWITCHED POWER SUPPLY	B+	B+
SS	EM82-10	HO2S, UPSTREAM 'A' BANK – CONSTANT	3.8 V	
SS	EM82-11	HO2S, UPSTREAM 'B' BANK – CONSTANT	3.8 V	
I	EM82-12	INERTIA SWITCH ACTIVATED (VEHICLE IMPACT)	GROUND	B+
I	EM82-13	EMS SWITCHED POWER SUPPLY 2	B+	0 V
I	EM82-14	ECT SIGNAL	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 SIGNAL	0.98 V @ 10 °C (DECREASING VOLTAGE WITH TEMPERATURE INCREASE)	
O	EM83-03	AIR ASSIST CLOSE VALVE ACTIVATE	8 V @ IDLE (78% DUTY CYCLE)	
SS	EM83-05	SENSOR SUPPLY VOLTAGE 2	5 V	5 V
SG	EM83-06	SENSOR SHIELD	GROUND	GROUND
SG	EM83-07	CKPS SIGNAL GROUND	GROUND	GROUND
I	EM83-08	CKPS SIGNAL	5 V @ 1000 RPM = 45 Hz; 2000 RPM = 90 Hz	
SG	EM83-09	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 SIGNAL	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 SIGNAL	0 kHz = NO KNOCK, 2 – 20 kHz = KNOCK	
C	EM83-24	CAN NETWORK	15 – 1500 Hz	
C	EM83-25	CAN NETWORK	15 – 1500 Hz	
SG	EM83-26	MAFS REFERENCE GROUND	GROUND	GROUND
SG	EM83-27	MAFS REFERENCE GROUND	GROUND	GROUND
I	EM83-28	MAFS SIGNAL	1.2 V @ IDLE, INCREASING WITH RPM INCREASE	
I	EM84-01	GROUND (DOWNSTREAM HO2S HEATERS)	GROUND	GROUND
O	EM84-07	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	EM85-01	HO2S HEATER, 'A' BANK UPSTREAM CONTROL	GROUND (85 – 90% DUTY CYCLE AT IDLE)	B+
O	EM85-02	HO2S HEATER, 'B' BANK UPSTREAM CONTROL	GROUND (85 – 90% DUTY CYCLE AT IDLE)	B+
O	EM85-05	"COOL BOX" COOLING FAN ACTIVATE	GROUND	B+
I	EM85-06	GROUND (HO2S A UPSTREAM HEATER)	GROUND	GROUND
I	EM85-07	GROUND (HO2S B UPSTREAM HEATER)	GROUND	GROUND
I	EM85-08	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 abbreviations are used to represent values for Control Module Pin-Out data

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

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

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

Fig. 04.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
AIR ASSIST CLOSE VALVE	PI29 / 3-WAY SUMITOMO SS / GREY	ENGINE COMPARTMENT / THROTTLE ASSEMBLY
BRAKE SWITCH	AC24 / 4-WAY MULTILOCK 070 / WHITE	TOP OF BRAKE PEDAL
CCV: CANISTER CLOSE VALVE	BT14 / 2-WAY YAZAKI 090 / BLACK	BEHIND REAR AXLE / RIGHT HAND SIDE
CKPS: CRANKSHAFT POSITION SENSOR	PI17 / 3-WAY ECONOSEAL III LC / BLACK	ENGINE / REAR OF BED PLATE
CMPS: CAMSHAFT POSITION SENSOR – A BANK	PI16 / 2-WAY YAZAKI 090 / BLACK	'A' BANK CYLINDER HEAD, REAR
CMPS: CAMSHAFT POSITION SENSOR – B BANK	PI15 / 2-WAY YAZAKI 090 / BLACK	'B' BANK CYLINDER HEAD, REAR
ECM AND TCM COOLING FAN	EM64 / 2-WAY MULTILOCK 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
ENGINE CONTROL MODULE	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 MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
EOTS: ENGINE OIL TEMPERATURE SENSOR	PI38 / 2-WAY ECONOSEAL EC J2 / GREY	ENGINE BLOCK / BELOW GENERATOR
EVAPP: EVAPORATIVE EMISSION CONTROL VALVE	LF58 / 2-WAY ECONOSEAL J2 / BLACK	BEHIND LEFT HAND WHEEL ARCH LINER
FTPS: FUEL TANK PRESSURE SENSOR	FT2 / 3-WAY ECONOSEAL III LC / BLACK	TRUNK / FUEL TANK EVAPORATIVE FLANGE
HO2S: HEATED OXYGEN SENSOR – A DOWNSTREAM	EM22 / 2-WAY SUMITOMO 090 II / BLACK	'A' BANK CATALYTIC CONVERTER
HO2S: HEATED OXYGEN SENSOR – A UPSTREAM	EM21 / 4-WAY SUMITOMO 090 II / GREY	'A' BANK CATALYTIC CONVERTER
HO2S: HEATED OXYGEN SENSOR – B DOWNSTREAM	EM24 / 2-WAY SUMITOMO 090 II / BLACK	'B' BANK CATALYTIC CONVERTER
HO2S: HEATED OXYGEN SENSOR – B UPSTREAM	EM23 / 4-WAY SUMITOMO 090 II / GREY	'B' BANK CATALYTIC CONVERTER
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 0902 / BLACK	ENGINE COMPARTMENT / REARWARD OF AIR CLEANER
PARKING BRAKE SWITCH	FC19 / 1-WAY LUCAR POSILOCK / BLACK	BELOW PARKING BRAKE LEVER
PPS: PEDAL POSITION SENSORS	PI42 / 5-WAY SUMITOMO TS090 / BLACK	ENGINE COMPARTMENT / THROTTLE ASSEMBLY
THROTTLE MOTOR	PI33 / 2-WAY SUMITOMO HM250 / BLACK	ENGINE COMPARTMENT / THROTTLE ASSEMBLY
TPS: THROTTLE POSITION SENSORS	PI6 / 4-WAY ECONOSEAL J2T / BLACK	ENGINE COMPARTMENT / THROTTLE ASSEMBLY
VVT SOLENOID VALVE: VARIABLE VALVE TIMING SOLENOID VALVE – A	PI31 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	ENGINE COMPARTMENT / 'A' BANK CYLINDER HEAD, FRONT
VVT SOLENOID VALVE: VARIABLE VALVE TIMING SOLENOID VALVE – B	PI32 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	ENGINE COMPARTMENT / 'B' BANK CYLINDER HEAD, FRONT

RELAYS

Relay	Color / Stripe	Connector / Color	Location / Access
THROTTLE MOTOR POWER RELAY	BROWN	EM16 / BROWN	CONTROL MODULE ENCLOSURE RELAYS
O2S HEATERS RELAY	BROWN	EM61 / BROWN	CONTROL MODULE ENCLOSURE RELAYS

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
AC13	20-WAY MULTILOCK 070 / YELLOW	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
BT1	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
BT2	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
EM1	20-WAY MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
EM2	18-WAY MULTILOCK 070 / YELLOW	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
EM3	14-WAY MULTILOCK 070 / GREY	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
FT1	10-WAY MULTILOCK 070 / WHITE	FUEL TANK / REAR
LF3	13-WAY ECONOSEAL III LC / WHITE	LHD: ENGINE COMPARTMENT / ADJACENT TO BRAKE SERVO RHD: ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
PI1	57-WAY SUMITOMO TS090 / BLACK	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
PI2	13-WAY ECONOSEAL III LC / BLACK	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
RH1	20-WAY MULTILOCK 070 / GREY	BEHIND GLOVE BOX
RH2	20-WAY MULTILOCK 070 / WHITE	REAR OF CENTER CONSOLE ASSEMBLY

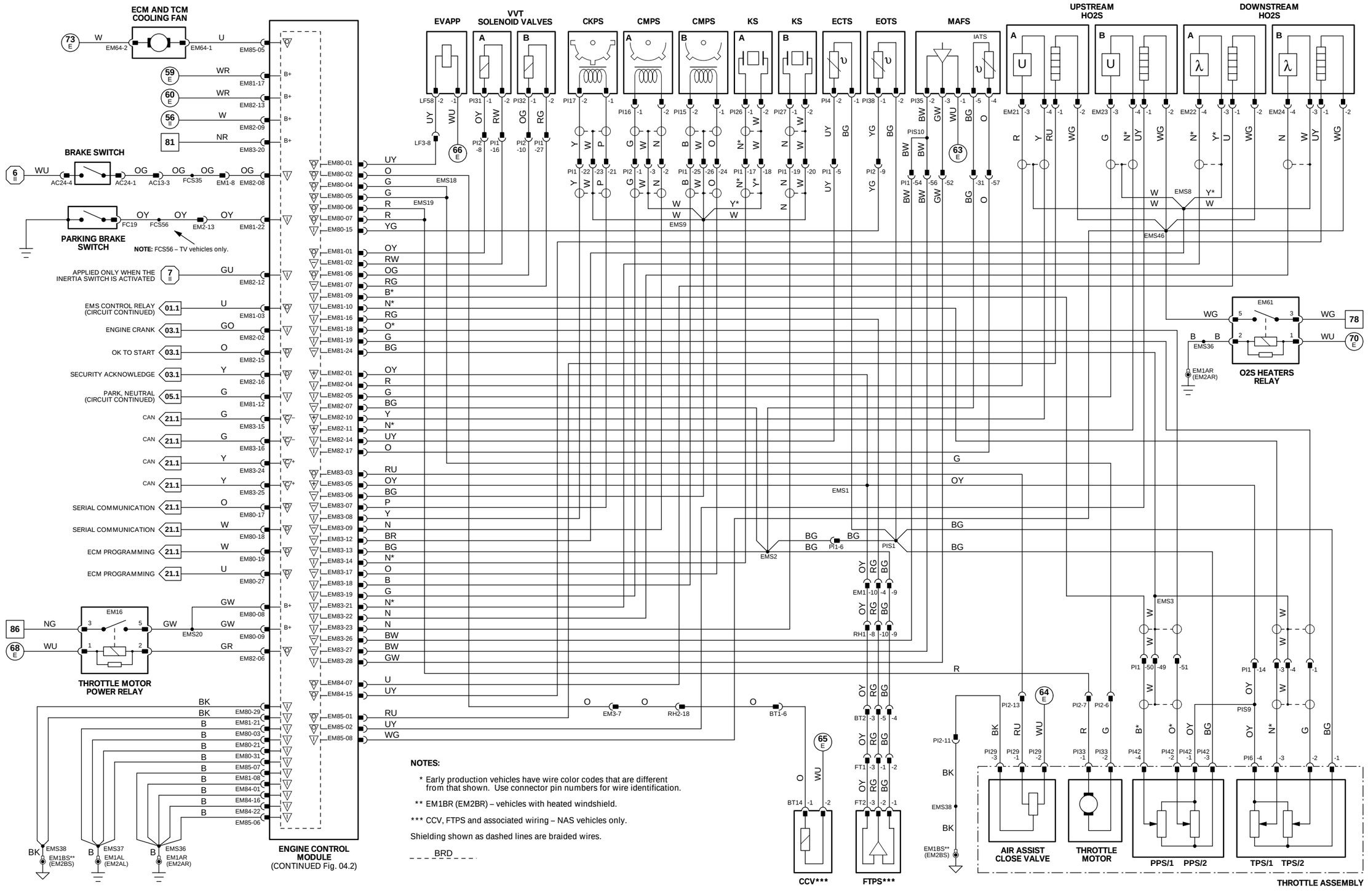
GROUNDS

Ground	Location / Type
EM1AL	EYELET (PAIR) – LEFT HAND LEG / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM1AR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM1BR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM1BS	EYELET (SINGLE) / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM2AL	EYELET (PAIR) – LEFT HAND LEG / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE
EM2AR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE
EM2BR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE
EM2BS	EYELET (SINGLE) / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE

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

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

DATE OF ISSUE: September 2000



NOTES:

* Early production vehicles have wire color codes that are different from that shown. Use connector pin numbers for wire identification.

** EM1BR (EM2BR) – vehicles with heated windshield.

*** CCV, FTPS and associated wiring – NAS vehicles only.

Shielding shown as dashed lines are braided wires.

BRD

1 → 7 Fig. 01.1 (1 II) → (5 E) Fig. 01.1 8 → 50 Fig. 01.2 51 → 90 Fig. 01.3 (6 II) → (58 II) Fig. 01.4 (59 E) → (73 E) Fig. 01.5 1 → (18 I) Fig. 02.1

I Input
O Output
+ Sensor Supply V
– Sensor Ground
A ACP
C CAN
S SCP
D Serial and Encoded Data

VARIANT: AJ27 N/A Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

AIR CONDITIONING CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	AC1-1	COMPRESSOR CLUTCH STATUS	B+ (ON)	0 V
O	AC3-1	AIR CONDITIONING ELECTRICAL LOAD SIGNAL	B+	0 V
I	AC4-7	LOAD INHIBIT	0 V	B+
O	AC4-9	COMPRESSOR CLUTCH ON REQUEST	B+	0 V
I	AC4-17	REFRIGERANT 4-WAY PRESSURE SWITCH	0 V (2 – 30 BAR)	B+ (OUT OF ACTIVE RANGE)

ENGINE CONTROL MODULE

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

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

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

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

Fig. 04.2

COMPONENTS

Component	Connector / Type / Color	Location / Access
AIR CONDITIONING COMPRESSOR CLUTCH	PI36 / 1-WAY SUMITOMO 090 A-TYPE / BLACK	ENGINE COMPARTMENT / A/C COMPRESSOR
AIR CONDITIONING CONTROL MODULE	AC1 / 26-WAY MULTILOCK 47 / GREY AC2 / 16-WAY MULTILOCK 47 / GREY AC3 / 12-WAY MULTILOCK 47 / GREY AC4 / 22-WAY MULTILOCK 47 / GREY	A/C UNIT / RIGHT HAND SIDE
BRAKE CANCEL SWITCH	AC24 / 4-WAY MULTILOCK 070 / WHITE	TOP OF BRAKE PEDAL
SPEED CONTROL ON / OFF SWITCH	FC63 / 10-WAY AMP MQL / NATURAL	REARWARD OF GEAR SELECTOR
SPEED CONTROL SWITCHES (STEERING WHEEL)	SW3 / 3-WAY EPC / BLACK	CENTER OF STEERING WHEEL
ENGINE CONTROL MODULE	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 MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
FUEL INJECTOR – 1A	PI7 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	INTAKE MANIFOLD / FUEL RAIL
FUEL INJECTOR – 1B	PI11 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	INTAKE MANIFOLD / FUEL RAIL
FUEL INJECTOR – 2A	PI8 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	INTAKE MANIFOLD / FUEL RAIL
FUEL INJECTOR – 2B	PI12 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	INTAKE MANIFOLD / FUEL RAIL
FUEL INJECTOR – 3A	PI9 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	INTAKE MANIFOLD / FUEL RAIL
FUEL INJECTOR – 3B	PI13 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	INTAKE MANIFOLD / FUEL RAIL
FUEL INJECTOR – 4A	PI10 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	INTAKE MANIFOLD / FUEL RAIL
FUEL INJECTOR – 4B	PI14 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	INTAKE MANIFOLD / FUEL RAIL
FUEL PUMP	FT3 / 6-WAY SUMITOMO DL090 / NATURAL	FUEL TANK EVAPORATIVE FLANGE
FUSE BOX – TRUNK	BT10 / 10-WAY U.T.A. FUSEBOX / NATURAL BT11 / 10-WAY U.T.A. FUSEBOX / BLACK BT12 / 10-WAY U.T.A. FUSEBOX / GREEN BT13 / 10-WAY U.T.A. FUSEBOX / 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	LF9 / 8-WAY TRW / BLACK	ADJACENT TO LEFT HAND HORN
RADIATOR FAN – LH	LF13 / 2-WAY REINSHAGEN METRI 630 / BLACK	ENGINE COMPARTMENT / FRONT
RADIATOR FAN – RH	LF12 / 2-WAY REINSHAGEN METRI 630 / BLACK	ENGINE COMPARTMENT / FRONT
REFRIGERANT 4-WAY PRESSURE SWITCH	LF57 / 6-WAY ECONOSEAL III LC / BLACK	ENGINE COMPARTMENT / REARWARD OF RADIATOR

RELAYS

Relay	Color / Stripe	Connector / Color	Location / Access
AIR CONDITIONING COMPRESSOR CLUTCH RELAY	BROWN	EM17	LH ENCLOSURE RELAYS
FUEL INJECTION RELAY	BROWN	EM5 / BROWN	CONTROL MODULE ENCLOSURE RELAYS
FUEL PUMP RELAY (#4)	BROWN	BUS	TRUNK FUSE BOX
IGNITION COIL RELAY	BROWN	EM26 / BROWN	CONTROL MODULE ENCLOSURE RELAYS

HARNESS-TO-HARNESS CONNECTORS

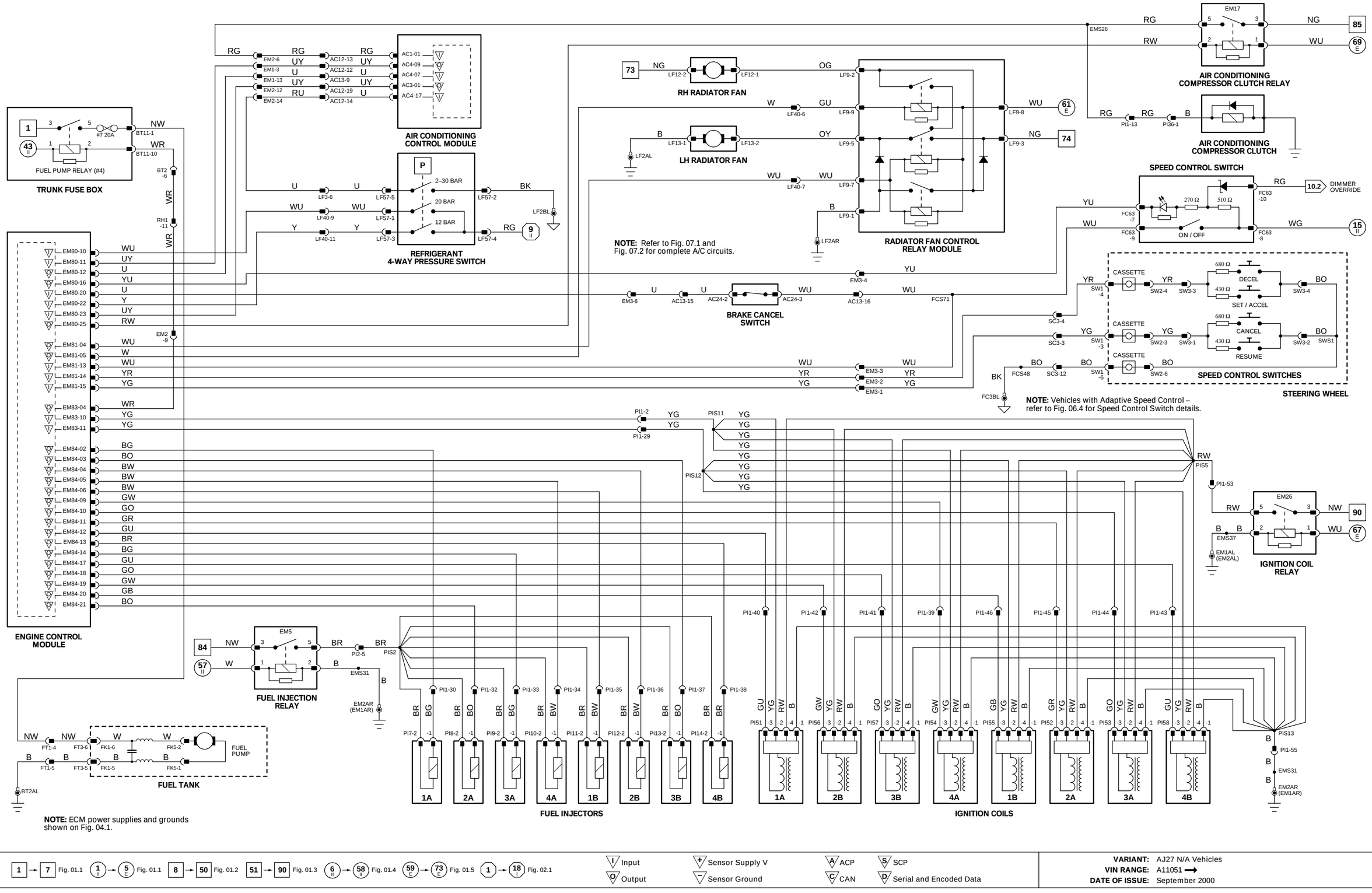
Connector	Type / Color	Location / Access
AC12	20-WAY MULTILOCK 070 / WHITE	FASCIA TOP CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
AC13	20-WAY MULTILOCK 070 / YELLOW	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
BT2	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
EM1	20-WAY MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
EM2	18-WAY MULTILOCK 070 / YELLOW	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
EM3	14-WAY MULTILOCK 070 / GREY	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
FT1	10-WAY MULTILOCK 070 / WHITE	FUEL TANK / REAR
LF3	13-WAY ECONOSEAL III LC / WHITE	LHD: ENGINE COMPARTMENT / ADJACENT TO BRAKE SERVO RHD: ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
LF40	13-WAY ECONOSEAL III LC / BLACK	LHD: ENGINE COMPARTMENT / FORWARD OF BRAKE FLUID RESERVOIR RHD: ENGINE COMPARTMENT / BELOW CONTROL MODULE ENCLOSURE
PI1	57-WAY SUMITOMO TS090 / BLACK	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
PI2	13-WAY ECONOSEAL III LC / BLACK	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
RH1	20-WAY MULTILOCK 070 / GREY	BEHIND GLOVE BOX
SC3	12-WAY MULTILOCK 070 / GREY	RIGHT HAND SIDE OF STEERING COLUMN
SW1	12-WAY MULTILOCK 040 / BLACK	INSIDE STEERING COLUMN COWL
SW2	6-WAY JST / WHITE	CENTER OF STEERING WHEEL

GROUNDS

Ground	Location / Type
BT2AL	EYELET (PAIR) – LEFT HAND LEG / TRUNK, RIGHT REAR
EM1AL	EYELET (PAIR) – LEFT HAND LEG / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM1AR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM2AL	EYELET (PAIR) – LEFT HAND LEG / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE
EM2AR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE
FC3BL	EYELET (PAIR) – LEFT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
LF2AL	EYELET (PAIR) – LEFT HAND LEG / ENGINE COMPARTMENT, FORWARD OF LEFT HAND HOOD CATCH
LF2AR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, FORWARD OF LEFT HAND HOOD CATCH
LF2BL	EYELET (PAIR) – LEFT HAND LEG / ENGINE COMPARTMENT, FORWARD OF LEFT HAND HOOD CATCH

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

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



1 → 7 Fig. 01.1 | 1 (II) → 5 (E) Fig. 01.1 | 8 → 50 Fig. 01.2 | 51 → 90 Fig. 01.3 | 6 (II) → 58 (II) Fig. 01.4 | 59 (E) → 73 (E) Fig. 01.5 | 1 → 18 (I) Fig. 02.1

I Input | O Output | + Sensor Supply V | − Sensor Ground | A ACP | C CAN | S SCP | D Serial and Encoded Data

VARIANT: AJ27 N/A Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

ENGINE CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	EM80-01	EVAP VALVE ACTIVATE	GROUND (VALVE OPEN)	B+
O	EM80-02	CANISTER CLOSE VALVE ACTIVATE	GROUND	B+
I	EM80-03	GROUND (POWER)	GROUND	GROUND
O	EM80-04	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
O	EM80-05	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
O	EM80-06	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
O	EM80-07	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
I	EM80-08	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
I	EM80-09	THROTTLE MOTOR POWER SUPPLY	B+	GROUND
I	EM80-15	EOT SIGNAL	2.5 V @ 34 °C; 0.5 V @ 90 °C; (DECREASING VOLTAGE 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	EM80-28	MAPS SIGNAL	1.2 V = IDLE; 3.6 V = ENGINE SWITCHED OFF	
I	EM80-29	GROUND (LOGIC 2)	GROUND	GROUND
I	EM80-31	GROUND (THROTTLE MOTOR 2)	GROUND	GROUND
O	EM81-03	EMS CONTROLLED RELAY ACTIVATE	GROUND	B+
I	EM81-08	GROUND (POWER)	GROUND	GROUND
I	EM81-09	PEDAL POSITION SIGNAL (PPS/1)	0.6 V = FOOT OFF; 3.8 V = PEDAL FULLY DEPRESSED	
I	EM81-10	TPS SIGNAL (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 SIGNAL	4.9 V = LOW PRESSURE, 0.2 V = HIGH PRESSURE	
I	EM81-17	EMS SWITCHED POWER SUPPLY 1	B+	0 V
I	EM81-18	PEDAL POSITION SIGNAL (PPS/2)	0.8 V = FOOT OFF; 2.4 V = PEDAL FULLY DEPRESSED	
I	EM81-19	TPS SIGNAL (TPS/2)	0.6 V = IDLE; 4.85 V = WOT	
I	EM81-21	GROUND (LOGIC 1)	GROUND	GROUND
I	EM81-22	PARKING BRAKE SWITCH	GROUND (APPLIED)	B+
I	EM81-23	IATS 2 SIGNAL	2.38 V @ 20 °C, (DECREASING VOLTAGE WITH TEMPERATURE INCREASE)	
SG	EM81-24	PEDAL POSITION / THROTTLE POSITION SENSORS SHIELD	GROUND	GROUND
SS	EM82-01	SENSOR SUPPLY VOLTAGE 1	5 V	5 V
I	EM82-02	ENGINE CRANK	GROUND (CRANKING)	
I	EM82-04	HO2S, UPSTREAM 'A' BANK – VARIABLE CURRENT (µA)	3.5 V	
I	EM82-05	HO2S, UPSTREAM 'B' BANK – VARIABLE CURRENT (µA)	3.5 V	
O	EM82-06	THROTTLE MOTOR POWER RELAY ACTIVATE	GROUND	B+
SG	EM82-07	SENSORS SIGNAL GROUND 1	GROUND	GROUND
I	EM82-08	BRAKE SWITCH	GROUND	B+
I	EM82-09	IGNITION SWITCHED POWER SUPPLY	B+	B+
SS	EM82-10	HO2S, UPSTREAM 'A' BANK – CONSTANT	3.8 V	
SS	EM82-11	HO2S, UPSTREAM 'B' BANK – CONSTANT	3.8 V	
I	EM82-12	INERTIA SWITCH ACTIVATED (VEHICLE IMPACT)	GROUND	B+
I	EM82-13	EMS SWITCHED POWER SUPPLY 2	B+	0 V
I	EM82-14	ECT SIGNAL	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 SIGNAL	0.98 V @ 10 °C (DECREASING VOLTAGE WITH TEMPERATURE INCREASE)	
SS	EM83-05	SENSOR SUPPLY VOLTAGE 2	5 V	5 V
SG	EM83-06	SENSOR SHIELD	GROUND	GROUND
SG	EM83-07	CKPS SIGNAL GROUND	GROUND	GROUND
I	EM83-08	CKPS SIGNAL	5 V @ 1000 RPM = 45 Hz; 2000 RPM = 90 Hz	
SG	EM83-09	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 SIGNAL	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 SIGNAL	0 kHz = NO KNOCK, 2 – 20 kHz = KNOCK	
C	EM83-24	CAN NETWORK	15 – 1500 Hz	
C	EM83-25	CAN NETWORK	15 – 1500 Hz	
SG	EM83-26	MAFS REFERENCE GROUND	GROUND	GROUND
SG	EM83-27	MAFS REFERENCE GROUND	GROUND	GROUND
I	EM83-28	MAFS SIGNAL	1.2 V @ IDLE, INCREASING WITH RPM INCREASE	
I	EM84-01	GROUND (DOWNSTREAM HO2S HEATERS)	GROUND	GROUND
O	EM84-07	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	EM85-01	HO2S HEATER, 'A' BANK UPSTREAM CONTROL	GROUND (85 – 90% DUTY CYCLE AT IDLE)	B+
O	EM85-02	HO2S HEATER, 'B' BANK UPSTREAM CONTROL	GROUND (85 – 90% DUTY CYCLE AT IDLE)	B+
O	EM85-03	EGR STEPPER MOTOR 'S1' WINDING SUPPLY	GROUND	B+
O	EM85-04	EGR STEPPER MOTOR 'S2' WINDING SUPPLY	GROUND	B+
O	EM85-05	"COOL BOX" COOLING FAN ACTIVATE	GROUND	B+
I	EM85-06	GROUND (HO2S A UPSTREAM HEATER)	GROUND	GROUND
I	EM85-07	GROUND (HO2S B UPSTREAM HEATER)	GROUND	GROUND
I	EM85-08	HO2S HEATERS OBD MONITOR	HEATERS ACTIVE = B+ V	
O	EM85-09	EGR STEPPER MOTOR 'S3' WINDING SUPPLY	GROUND	B+
O	EM85-10	EGR STEPPER MOTOR 'S4' WINDING SUPPLY	GROUND	B+

NOTE: Refer to the Appendix at the rear of this book for CAN and SCP Network Messages.

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

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

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

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

Fig. 04.3

COMPONENTS

Component	Connector / Type / Color	Location / Access
BRAKE SWITCH	AC24 / 4-WAY MULTILOCK 070 / WHITE	TOP OF BRAKE PEDAL
CCV: CANISTER CLOSE VALVE	BT14 / 2-WAY YAZAKI 090 / BLACK	BEHIND REAR AXLE / RIGHT HAND SIDE
CKPS: CRANKSHAFT POSITION SENSOR	PI17 / 3-WAY ECONOSEAL III LC / BLACK	ENGINE / REAR OF BED PLATE
CMPS: CAMSHAFT POSITION SENSOR – A BANK	PI16 / 2-WAY YAZAKI 090 / BLACK	'A' BANK CYLINDER HEAD, REAR
CMPS: CAMSHAFT POSITION SENSOR – B BANK	PI15 / 2-WAY YAZAKI 090 / BLACK	'B' BANK CYLINDER HEAD, REAR
ECM AND TCM COOLING FAN	EM64 / 2-WAY MULTILOCK 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
EGR VALVE	PI34 / 6-WAY / SUMITOMO 92 / GREY	ENGINE COMPARTMENT / REAR OF THROTTLE ASSEMBLY
ENGINE CONTROL MODULE	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 MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
EOTS: ENGINE OIL TEMPERATURE SENSOR	PI38 / 2-WAY ECONOSEAL EC J2 / GREY	ENGINE BLOCK / BELOW GENERATOR
EVAPP: EVAPORATIVE EMISSION CONTROL VALVE	LF58 / 2-WAY ECONOSEAL J2 / BLACK	BEHIND LEFT HAND WHEEL ARCH LINER
FTPS: FUEL TANK PRESSURE SENSOR	FT2 / 3-WAY ECONOSEAL III LC / BLACK	TRUNK / FUEL TANK EVAPORATIVE FLANGE
HO2S: HEATED OXYGEN SENSOR – A DOWNSTREAM	EM22 / 2-WAY SUMITOMO 090 II / BLACK	'A' BANK CATALYTIC CONVERTER
HO2S: HEATED OXYGEN SENSOR – A UPSTREAM	EM21 / 4-WAY SUMITOMO 090 II / GREY	'A' BANK CATALYTIC CONVERTER
HO2S: HEATED OXYGEN SENSOR – B DOWNSTREAM	EM24 / 2-WAY SUMITOMO 090 II / BLACK	'B' BANK CATALYTIC CONVERTER
HO2S: HEATED OXYGEN SENSOR – B UPSTREAM	EM23 / 4-WAY SUMITOMO 090 II / GREY	'B' BANK CATALYTIC CONVERTER
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 0902 / BLACK	ENGINE COMPARTMENT / REARWARD OF AIR CLEANER
MAPS: MANIFOLD ABSOLUTE PRESSURE SENSOR	EM10 / 3-WAY SUMITOMO / BLACK	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
PPS: PEDAL POSITION SENSORS	PI42 / 5-WAY SUMITOMO TS090 / BLACK	ENGINE COMPARTMENT / THROTTLE ASSEMBLY
THROTTLE MOTOR	PI33 / 2-WAY SUMITOMO HM250 / BLACK	ENGINE COMPARTMENT / THROTTLE ASSEMBLY
TPS: THROTTLE POSITION SENSORS	PI6 / 4-WAY ECONOSEAL J2T / BLACK	ENGINE COMPARTMENT / THROTTLE ASSEMBLY

RELAYS

Relay	Color / Stripe	Connector / Color	Location / Access
O2S HEATERS RELAY	BROWN	EM61 / BROWN	CONTROL MODULE ENCLOSURE RELAYS
THROTTLE MOTOR POWER RELAY	BROWN	EM16 / BROWN	CONTROL MODULE ENCLOSURE RELAYS

HARNESS-TO-HARNESS CONNECTORS

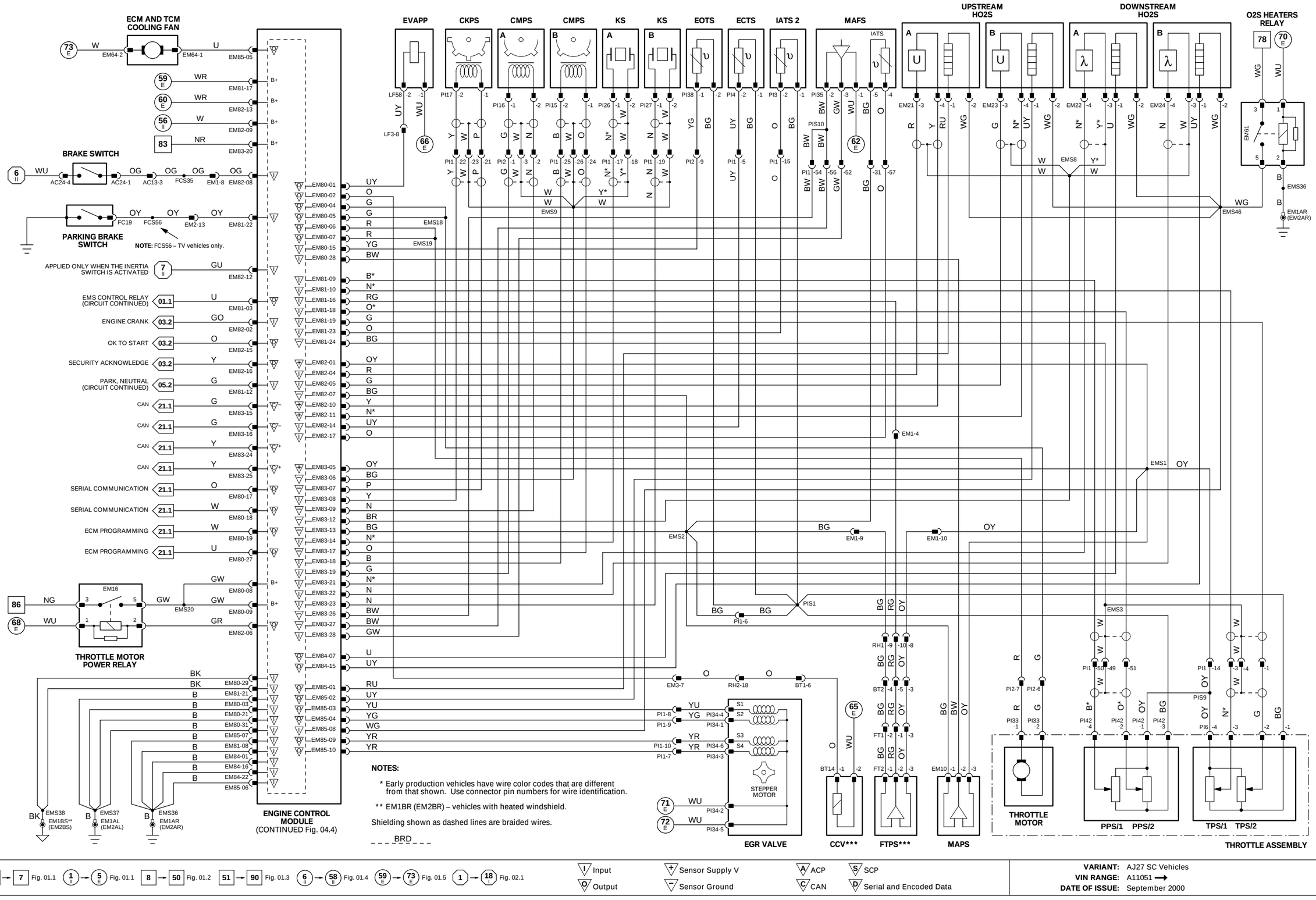
Connector	Type / Color	Location / Access
AC13	20-WAY MULTILOCK 070 / YELLOW	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
BT1	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
BT2	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
EM1	20-WAY MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
EM2	18-WAY MULTILOCK 070 / YELLOW	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
EM3	14-WAY MULTILOCK 070 / GREY	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
FT1	10-WAY MULTILOCK 070 / WHITE	FUEL TANK / REAR
LF3	13-WAY ECONOSEAL III LC / WHITE	LHD: ENGINE COMPARTMENT / ADJACENT TO BRAKE SERVO RHD: ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
PI1	57-WAY SUMITOMO TS090 / BLACK	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
PI2	13-WAY ECONOSEAL III LC / BLACK	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
RH1	20-WAY MULTILOCK 070 / GREY	BEHIND GLOVE BOX
RH2	20-WAY MULTILOCK 070 / WHITE	REAR OF CENTER CONSOLE ASSEMBLY

GROUNDS

Ground	Location / Type
EM1AL	EYELET (PAIR) – LEFT HAND LEG / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM1AR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM1BR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM1BS	EYELET (SINGLE) / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM2AL	EYELET (PAIR) – LEFT HAND LEG / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE
EM2AR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE
EM2BR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE
EM2BS	EYELET (SINGLE) / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE

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

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


ECM AND TCM COOLING FAN
BRAKE SWITCH
PARKING BRAKE SWITCH
NOTE: FCS56 – TV vehicles only.
APPLIED ONLY WHEN THE INERTIA SWITCH IS ACTIVATED
EMS CONTROL RELAY (CIRCUIT CONTINUED)
ENGINE CRANK
OK TO START
SECURITY ACKNOWLEDGE
PARK, NEUTRAL (CIRCUIT CONTINUED)
SERIAL COMMUNICATION
ECM PROGRAMMING
THROTTLE MOTOR POWER RELAY
ENGINE CONTROL MODULE (CONTINUED Fig. 04.4)
EVAPP
CKPS
CMPS
KS
EOTS
ECTS
IATS 2
MAFS
UPSTREAM HO2S
DOWNSTREAM HO2S
O2S HEATERS RELAY
EGR VALVE
CCV***
FTPS***
MAPS
THROTTLE MOTOR
PPS/1 PPS/2
TPS/1 TPS/2
THROTTLE ASSEMBLY
STEPPER MOTOR
NOTES:
* Early production vehicles have wire color codes that are different from that shown. Use connector pin numbers for wire identification.
** EM1BR (EM2BR) – vehicles with heated windshield.
Shielding shown as dashed lines are braided wires.
BRD
1 → 7 Fig. 01.1
1 → 5 Fig. 01.1
8 → 50 Fig. 02.1
51 → 90 Fig. 01.3
6 → 58 Fig. 01.4
59 → 73 Fig. 01.5
1 → 18 Fig. 02.1
Input
Output
Sensor Supply V
Sensor Ground
ACP
CAN
SCP
Serial and Encoded Data
VARIANT: AJ27 SC Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

AIR CONDITIONING CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	AC1-1	COMPRESSOR CLUTCH STATUS	B+ (ON)	0 V
O	AC3-1	AIR CONDITIONING ELECTRICAL LOAD SIGNAL	B+	0 V
I	AC4-7	LOAD INHIBIT	0 V	B+
O	AC4-9	COMPRESSOR CLUTCH ON REQUEST	B+	0 V
I	AC4-17	REFRIGERANT 4-WAY PRESSURE SWITCH	0 V (2 – 30 BAR)	B+ (OUT OF ACTIVE RANGE)

ENGINE CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	EM80-10	REFRIGERANT 4-WAY PRESSURE SWITCH HIGH PRESSURE	GROUND @ 20 BAR (290 PSI)	
I	EM80-11	A/CCM COMPRESSOR CLUTCH REQUEST	B+	GROUND
O	EM80-12	ELECTRICAL LOAD INHIBIT	GROUND	B+
O	EM80-14	INTERCOOLER PUMP RELAY ACTIVATE	GROUND	B+
O	EM80-16	SPEED CONTROL ON STATUS LED	GROUND	B+
I	EM80-20	SPEED CONTROL BRAKE CANCEL REQUEST	GROUND	B+
I	EM80-22	REFRIGERANT 4-WAY PRESSURE SWITCH HIGH PRESSURE	GROUND @ 12 BAR (174 PSI)	
I	EM80-23	A/CCM ELECTRICAL LOAD REQUEST (HEATED WINDSHIELD)	B+	GROUND
O	EM80-25	AIR CONDITIONING COMPRESSOR RELAY ACTIVATE	GROUND	B+
O	EM81-04	PARALLEL (HIGH) SPEED FAN ACTIVATE	GROUND	B+
O	EM81-05	SERIES (LOW) SPEED FAN ACTIVATE	GROUND	B+
I	EM81-13	SPEED CONTROL ON REQUEST	B+	GROUND
I	EM81-14	SPEED CONTROL SET +/-	7.3 V = (+), 8.8 V = (–)B+	
I	EM81-15	SPEED CONTROL CANCEL / RESUME	7.3 V = RESUME, 8.8 V = CANCEL B+	
O	EM82-03	FUEL PUMP RELAY 2 ACTIVATE	GROUND	B+
O	EM83-04	FUEL PUMP RELAY ACTIVATE	GROUND	B+
I	EM83-10	IGNITION MODULES 1A, 2B, 3B, 4A OBD MONITOR	23 Hz @ IDLE (5 V)	
I	EM83-11	IGNITION MODULES 1B, 2A, 3A, 4B OBD MONITOR	23 Hz @ IDLE (5 V)	
O	EM84-02	INJECTOR 1A ACTIVATE	GROUND	B+
O	EM84-03	INJECTOR 3B ACTIVATE	GROUND	B+
O	EM84-04	INJECTOR 2B ACTIVATE	GROUND	B+
O	EM84-05	INJECTOR 4A ACTIVATE	GROUND	B+
O	EM84-06	INJECTOR 1B ACTIVATE	GROUND	B+
O	EM84-09	IGNITION MODULE 4A SWITCHING	GROUND (85 – 90% DUTY CYCLE @ IDLE)	B+
O	EM84-10	IGNITION MODULE 3A SWITCHING	GROUND (85 – 90% DUTY CYCLE @ IDLE)	B+
O	EM84-11	IGNITION MODULE 2A SWITCHING	GROUND (85 – 90% DUTY CYCLE @ IDLE)	B+
O	EM84-12	IGNITION MODULE 1A SWITCHING	GROUND (85 – 90% DUTY CYCLE @ IDLE)	B+
O	EM84-13	INJECTOR 4B ACTIVATE	GROUND	B+
O	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 abbreviations are used to represent values for Control Module Pin-Out data

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

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

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

Fig. 04.4

COMPONENTS

Component	Connector / Type / Color	Location / Access
AIR CONDITIONING COMPRESSOR CLUTCH	PI36 / 1-WAY SUMITOMO 090 A-TYPE / BLACK	ENGINE COMPARTMENT / A/C COMPRESSOR
AIR CONDITIONING CONTROL MODULE	AC1 / 26-WAY MULTILOCK 47 / GREY AC2 / 16-WAY MULTILOCK 47 / GREY AC3 / 12-WAY MULTILOCK 47 / GREY AC4 / 22-WAY MULTILOCK 47 / GREY	A/C UNIT / RIGHT HAND SIDE
BRAKE CANCEL SWITCH	AC24 / 4-WAY MULTILOCK 070 / WHITE	TOP OF BRAKE PEDAL
SPEED CONTROL ON / OFF SWITCH	FC63 / 10-WAY AMP MQL / NATURAL	REARWARD OF GEAR SELECTOR
SPEED CONTROL SWITCHES (STEERING WHEEL)	SW3 / 3-WAY EPC / BLACK	CENTER OF STEERING WHEEL
ENGINE CONTROL MODULE	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 MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
FUEL INJECTOR – 1A	IJ3 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	INTAKE MANIFOLD / FUEL RAIL
FUEL INJECTOR – 1B	IJ7 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	INTAKE MANIFOLD / FUEL RAIL
FUEL INJECTOR – 2A	IJ4 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	INTAKE MANIFOLD / FUEL RAIL
FUEL INJECTOR – 2B	IJ8 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	INTAKE MANIFOLD / FUEL RAIL
FUEL INJECTOR – 3A	IJ5 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	INTAKE MANIFOLD / FUEL RAIL
FUEL INJECTOR – 3B	IJ9 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	INTAKE MANIFOLD / FUEL RAIL
FUEL INJECTOR – 4A	IJ6 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	INTAKE MANIFOLD / FUEL RAIL
FUEL INJECTOR – 4B	IJ10 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	INTAKE MANIFOLD / FUEL RAIL
FUEL PUMPS	FT3 / 6-WAY SUMITOMO DL090 / NATURAL	FUEL TANK EVAPORATIVE FLANGE
FUSE BOX – TRUNK	BT10 / 10-WAY U.T.A. FUSEBOX / NATURAL BT11 / 10-WAY U.T.A. FUSEBOX / BLACK BT12 / 10-WAY U.T.A. FUSEBOX / GREEN BT13 / 10-WAY U.T.A. FUSEBOX / 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 / BL ACK	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
INTERCOOLER PUMP	EM75 / 2-WAY AUGAT 1.6 / BLACK	ENGINE COMPARTMENT / BELOW AIR CLEANER
RADIATOR FAN CONTROL RELAY MODULE	LF9 / 8-WAY TRW / BLACK	ADJACENT TO LEFT HAND HORN
RADIATOR FAN – LH	LF13 / 2-WAY REINSHAGEN METRI 630 / BLACK	ENGINE COMPARTMENT / FRONT
RADIATOR FAN – RH	LF12 / 2-WAY REINSHAGEN METRI 630 / BLACK	ENGINE COMPARTMENT / FRONT
REFRIGERANT 4-WAY PRESSURE SWITCH	LF57 / 6-WAY ECONOSEAL III LC / BLACK	ENGINE COMPARTMENT / REARWARD OF RADIATOR

RELAYS

Relay	Color / Stripe	Connector / Color	Location / Access
AIR CONDITIONING COMPRESSOR CLUTCH RELAY	BROWN	EM17	LH ENCLOSURE RELAYS
FUEL INJECTION RELAY	BROWN	EM5 / BROWN	CONTROL MODULE ENCLOSURE RELAYS
FUEL PUMP 1 RELAY (#4)	BROWN	BUS	TRUNK FUSE BOX
FUEL PUMP 2 RELAY	BROWN	BT51 / BROWN	TRUNK RELAYS
IGNITION COIL RELAY	BROWN	EM26 / BROWN	CONTROL MODULE ENCLOSURE RELAYS
INTERCOOLER PUMP RELAY	BROWN	EM31 / BROWN	LHD: CONTROL MODULE ENCLOSURE RELAYS RHD: RH ENCLOSURE RELAYS

HARNESS-TO-HARNESS CONNECTORS

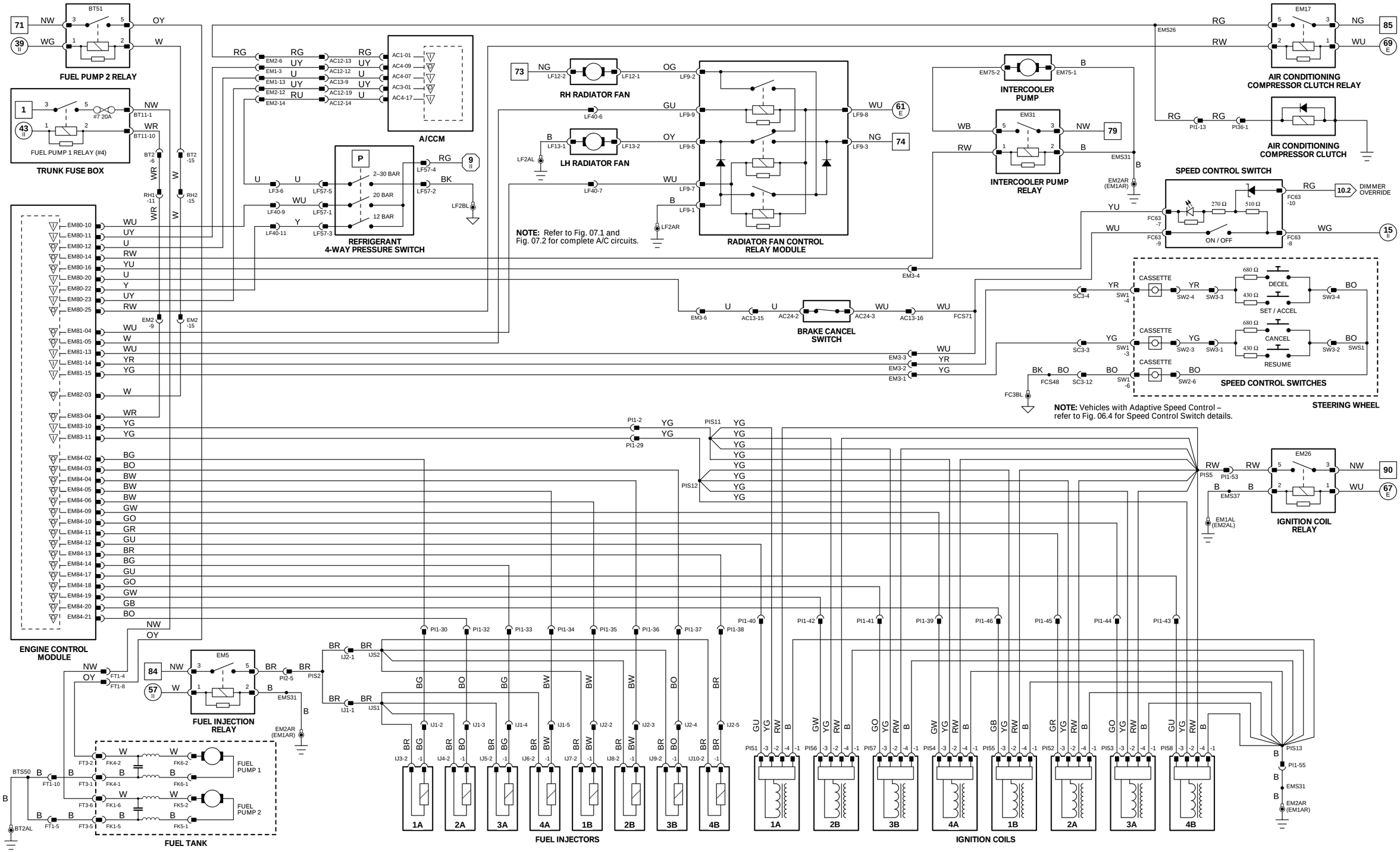
Connector	Type / Color	Location / Access
AC12	20-WAY MULTILOCK 070 / WHITE	FASCIA TOP CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
AC13	20-WAY MULTILOCK 070 / YELLOW	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
BT2	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
EM1	20-WAY MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
EM2	18-WAY MULTILOCK 070 / YELLOW	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
EM3	14-WAY MULTILOCK 070 / GREY	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
FT1	10-WAY MULTILOCK 070 / WHITE	FUEL TANK / REAR
LF3	13-WAY ECONOSEAL III LC / WHITE	LHD: ENGINE COMPARTMENT / ADJACENT TO BRAKE SERVO RHD: ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
LF40	13-WAY ECONOSEAL III LC / BLACK	LHD: ENGINE COMPARTMENT / FORWARD OF BRAKE FLUID RESERVOIR RHD: ENGINE COMPARTMENT / BELOW CONTROL MODULE ENCLOSURE
PI1	57-WAY SUMITOMO TS090 / BLACK	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
PI2	13-WAY ECONOSEAL III LC / BLACK	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
RH1	20-WAY MULTILOCK 070 / GREY	BEHIND GLOVE BOX
RH2	20-WAY MULTILOCK 070 / WHITE	REAR OF CENTER CONSOLE ASSEMBLY
SC3	12-WAY MULTILOCK 070 / GREY	RIGHT HAND SIDE OF STEERING COLUMN
SW1	12-WAY MULTILOCK 040 / BLACK	INSIDE STEERING COLUMN COWL
SW2	6-WAY JST / WHITE	CENTER OF STEERING WHEEL

GROUNDS

Ground	Location / Type
BT2AL	EYELET (PAIR) – LEFT HAND LEG / TRUNK, RIGHT REAR
EM1AL	EYELET (PAIR) – LEFT HAND LEG / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM1AR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM2AL	EYELET (PAIR) – LEFT HAND LEG / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE
EM2AR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE
FC3BL	EYELET (PAIR) – LEFT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
LF2AL	EYELET (PAIR) – LEFT HAND LEG / ENGINE COMPARTMENT, FORWARD OF LEFT HAND HOOD CATCH
LF2AR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, FORWARD OF LEFT HAND HOOD CATCH
LF2BL	EYELET (PAIR) – LEFT HAND LEG / ENGINE COMPARTMENT, FORWARD OF LEFT HAND HOOD CATCH

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

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



1 → 7 Fig. 01.1	(1 II) → (5 E) Fig. 01.1	8 → 50 Fig. 01.2	51 → 90 Fig. 01.3	(6 II) → (58 II) Fig. 01.4	(59 E) → (73 E) Fig. 01.5
(1) → (18 I) Fig. 02.1					

I Input · O Output · + Sensor Supply V · − Sensor Ground · A ACP · C CAN · S SCP · D Serial and Encoded Data

VARIANT: AJ27 SC Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

GEAR SELECTOR ILLUMINATION MODULE

▽	Pin	Description	Active	Inactive
I	FC88-1	IGNITION SWITCHED POWER SUPPLY	B+	GROUND
C	FC88-3	CAN NETWORK	15 – 1500 Hz @ 2.5 V	
C	FC88-4	CAN NETWORK	15 – 1500 Hz @ 2.5 V	
I	FC88-6	GROUND	GROUND	GROUND
C	FC88-8	CAN NETWORK	15 – 1500 Hz @ 2.5 V	
C	FC88-9	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+
SG	EM7-14	TURBINE SPEED SENSOR SIGNAL GROUND	GROUND	GROUND
SG	EM7-15	OUTPUT SPEED SENSOR SHIELD	GROUND	GROUND
SG	EM7-16	OUTPUT SPEED SENSOR SIGNAL GROUND	GROUND	GROUND
SG	EM7-21	FLUID TEMPERATURE SENSOR SIGNAL GROUND	1.31 V	
I	EM7-22	FLUID TEMPERATURE SENSOR SIGNAL	1.15 V @ 90°C	
SG	EM7-23	TURBINE SPEED SENSOR SHIELD	GROUND	GROUND
I	EM7-26	BATTERY POWER SUPPLY	B+	B+
SG	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 SIGNAL	1.51 V @ 10 MPH (16 KM/H) = 250 Hz, 20 MPH (32 KM/H) = 500 Hz	
I	EM7-44	OUTPUT SPEED SENSOR SIGNAL	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	PRESSURE REGULATORS / SOLENOID VALVES POWER SUPPLY	B+	B+
O	EM7-53	PRESSURE REGULATORS / SOLENOID VALVES POWER 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 abbreviations are used to represent values for Control Module Pin-Out data

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

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

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

Fig. 05.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
D – 4 SWITCH	FC83 / 3-WAY MULTILOCK 070 / YELLOW	GEAR SELECTOR ASSEMBLY, REAR
GEAR SELECTOR ILLUMINATION MODULE	FC88 / 10-WAY MULTILOCK 070 / WHITE	FRONT OF GEAR SELECTOR ASSEMBLY
MODE SWITCH (TRANSMISSION)	FC35 / 10-WAY AMP MQL / BLACK	REARWARD OF GEAR SELECTOR
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 / BLACK	TRANSMISSION / LEFT HAND SIDE
TRANSMISSION ROTARY SWITCH	EM47 / 10-WAY METRI-PACK 150 / BLACK	TRANSMISSION / RIGHT HAND SIDE

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
AC12	20-WAY MULTILOCK 070 / WHITE	FASCIA TOP CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
EM1	20-WAY MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
EM3	14-WAY MULTILOCK 070 / GREY	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE

GROUNDS

Ground	Location / Type
EM1AL	EYELET (PAIR) – LEFT HAND LEG / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM1BR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM1BS	EYELET (SINGLE) / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM2AL	EYELET (PAIR) – LEFT HAND LEG / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE
EM2BR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE
EM2BS	EYELET (SINGLE) / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE
FC3BR	EYELET (PAIR) – RIGHT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE

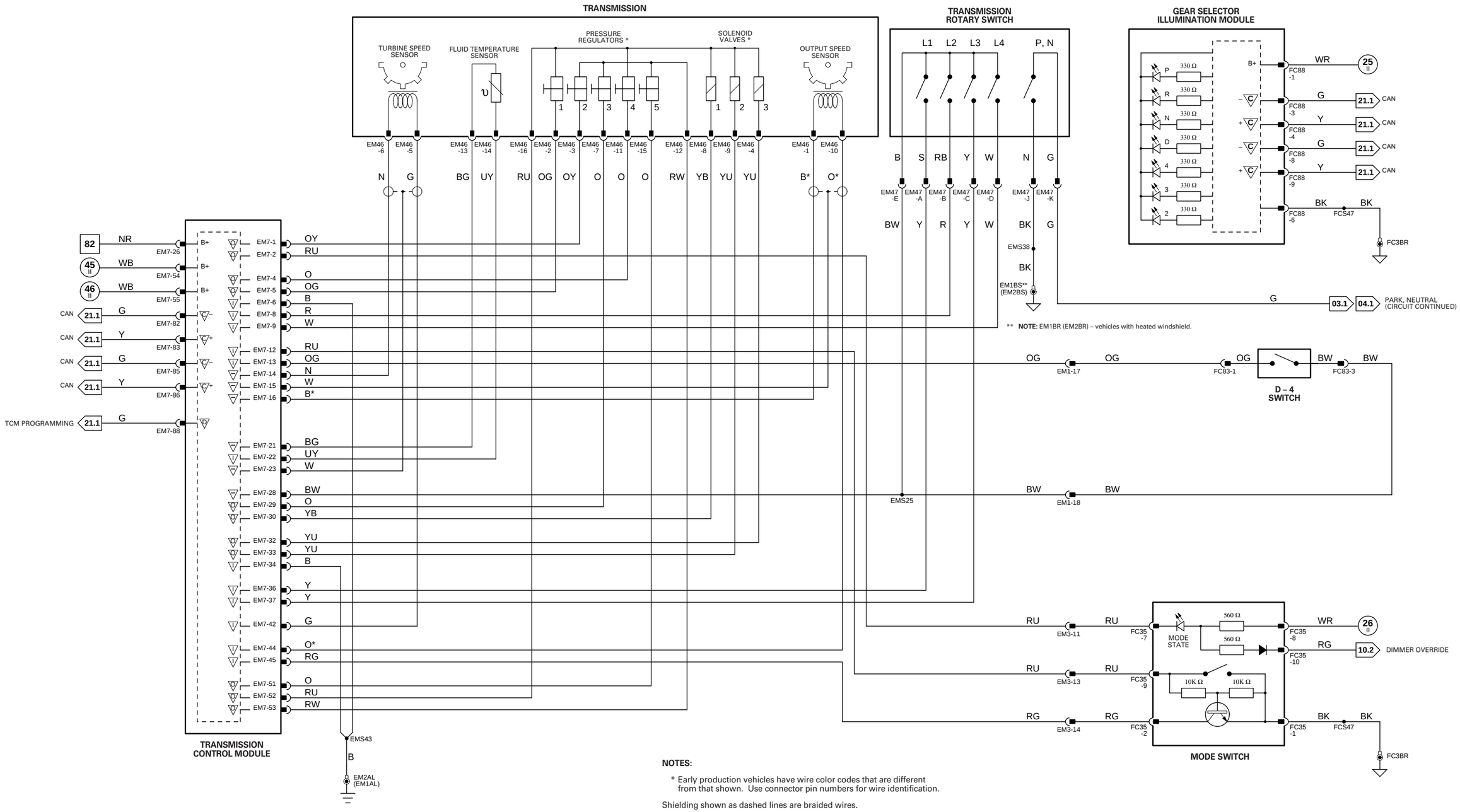
FOR CONTROL MODULE PIN OUT INFORMATION, UNFOLD PAGE TO LEFT.

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

DATE OF ISSUE: September 2000

*** NOTE:** Transmission internal wiring revised at Transmission Serial Number 191393. This revision was made after the original Electrical Guide was published; original printed copies do not include this revision.

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



** **NOTE:** EM1BR (EM2BR) – vehicles with heated windshield.

NOTES:

* Early production vehicles have wire color codes that are different from that shown. Use connector pin numbers for wire identification.

Shielding shown as dashed lines are braided wires.

_ _ _ BRD _ _ _

1 → 7 Fig. 01.1 (1 II → 5 E) Fig. 01.1 8 → 50 Fig. 01.2 51 → 90 Fig. 01.3 (6 II → 58 II) Fig. 01.4 (59 E → 73 E) Fig. 01.5 1 → 18 I Fig. 02.1

I Input
O Output
+ Sensor Supply V
– Sensor Ground
A ACP
C CAN
S SCP
D Serial and Encoded Data

VARIANT: AJ27 N/A Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

GEAR SELECTOR ILLUMINATION MODULE

▽	Pin	Description	Active	Inactive
I	FC88-1	IGNITION SWITCHED POWER SUPPLY	B+	GROUND
C	FC88-3	CAN NETWORK	15 – 1500 Hz @ 2.5 V	
C	FC88-4	CAN NETWORK	15 – 1500 Hz @ 2.5 V	
I	FC88-6	GROUND	GROUND	GROUND
C	FC88-8	CAN NETWORK	15 – 1500 Hz @ 2.5 V	
C	FC88-9	CAN NETWORK	15 – 1500 Hz @ 2.5 V	

TRANSMISSION CONTROL MODULE: AJ27 SC

▽	Pin	Description	Active	Inactive
C	EM72-L	CAN NETWORK	5 – 1500 Hz	
C	EM72-H	CAN NETWORK	5 – 1500 Hz	
I	EM72-12	n2 SPEED SENSOR SIGNAL	6V = 900 Hz @ 10 MPH (16 KPH); 1800 HZ @ 20 MPH (32 KH) ('2' SELECTED – '1' ENGAGED)	
SS	EM72-13	SPEED SENSOR COMMON VOLTAGE SUPPLY	5V	
O	EM72-14	'1-2 / 4-5' SOLENOID ACTIVATE	GROUND	B+
O	EM72-15	'3-4' SOLENOID ACTIVATE	GROUND	B+
O	EM72-16	'2-3' SOLENOID ACTIVATE	GROUND	B+
O	EM72-17	TCC SOLENOID ACTIVATE	GROUND = LOCKED	B+ = UNLOCKED
SG	EM72-33	SPEED SENSOR / FLUID TEMP. SENSOR COMMON GROUND	GROUND	GROUND
I	EM72-34	FLUID TEMP. SENSOR SIGNAL	1.75 V @ 90° C = R, D, 4, 3, 2	5 V = P, N
I	EM72-35	n3 SPEED SENSOR SIGNAL	6 V = 85 Hz @ 10 MPH (16 KPH); 170 Hz @ 20 MPH (32 KPH) ('2' SELECTED – '2' ENGAGED)	
O	EM72-36	MODULATION PRESSURE REGULATOR ACTIVATE	GROUND (42% PWM @ IDLE)	B+
O	EM72-37	SHIFT PRESSURE REGULATOR ACTIVATE	GROUND (39% PWM @ IDLE)	B+
O	EM72-38	SOLENOID VALVE / PRESSURE REGULATOR COMMON VOLTAGE SUPPLY	B+	GROUND
I	EM73-2	KICKDOWN SWITCH	GROUND (= WOT)	B+ (< WOT)
I	EM73-3	SPORT MODE SWITCH	0 V = SPORT; 0 V = NORMAL	
I	EM73-25	DUAL LINEAR SWITCH VOLTAGE ENCODED GEAR RECOGNITION	GROUND = R, D, 4, 3	B+ = P, N, 2
I	EM73-26	DUAL LINEAR SWITCH VOLTAGE ENCODED GEAR RECOGNITION	GROUND = N, D, 4, 2	B+ = P, R, 3
I	EM73-27	DUAL LINEAR SWITCH VOLTAGE ENCODED GEAR RECOGNITION	GROUND = N, 4, 3, 2 8 V = R, D	B+ = P
I	EM73-28	DUAL LINEAR SWITCH VOLTAGE ENCODED GEAR RECOGNITION	GROUND = P, D, 3, 2	B+ = R, N, 4
I	EM73-29	IGNITION SUPPLIED VOLTAGE	B+	GROUND
I	EM73-30	TCM / DUAL LINEAR SWITCH COMMON GROUND SUPPLY	GROUND	GROUND

NOTE: Refer to the Appendix at the rear of this book for CAN and SCP Network Messages.

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

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

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

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

Fig. 05.2

COMPONENTS

Component	Connector / Type / Color	Location / Access
DUAL LINEAR SWITCH	FC100 / 12-WAY / MULTILOCK 070 / GREY	LEFT HAND SIDE OF GEAR SELECTOR / CENTER CONSOLE
GEAR SELECTOR ILLUMINATION MODULE	FC88 / 10-WAY MULTILOCK 070 / WHITE	FRONT OF GEAR SELECTOR ASSEMBLY
KICKDOWN SWITCH	AC27 / 1-WAY LUCAR RIGHT ANGLE / CLEAR AC28 / 1-WAY LUCAR RIGHT ANGLE / CLEAR	UNDER ACCELERATOR PEDAL
MODE SWITCH (TRANSMISSION)	FC35 / 10-WAY AMP MQL / BLACK	REARWARD OF GEAR SELECTOR
TRANSMISSION CONTROL MODULE: AJ27 SC	EM72 / 14-WAY AMP JUNIOR POWER TIMER / BLACK EM73 / 18-WAY AMP JUNIOR POWER TIMER / BLACK	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
TRANSMISSION ELECTRICAL CONNECTOR: AJ27 SC	GB1 / 13-WAY KOSTAL 1.5 / BLACK	TRANSMISSION

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
AC12	20-WAY MULTILOCK 070 / WHITE	FASCIA TOP CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
EM1	20-WAY MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
EM2	18-WAY MULTILOCK 070 / YELLOW	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
EM3	14-WAY MULTILOCK 070 / GREY	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
GB2	12-WAY AUGAT 1.6 / BLACK	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION

GROUNDS

Ground	Location / Type
EM1AL	EYELET (PAIR) – LEFT HAND LEG / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM2AL	EYELET (PAIR) – LEFT HAND LEG / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE
FC3BL	EYELET (PAIR) – LEFT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
FC3BR	EYELET (PAIR) – RIGHT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE

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

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

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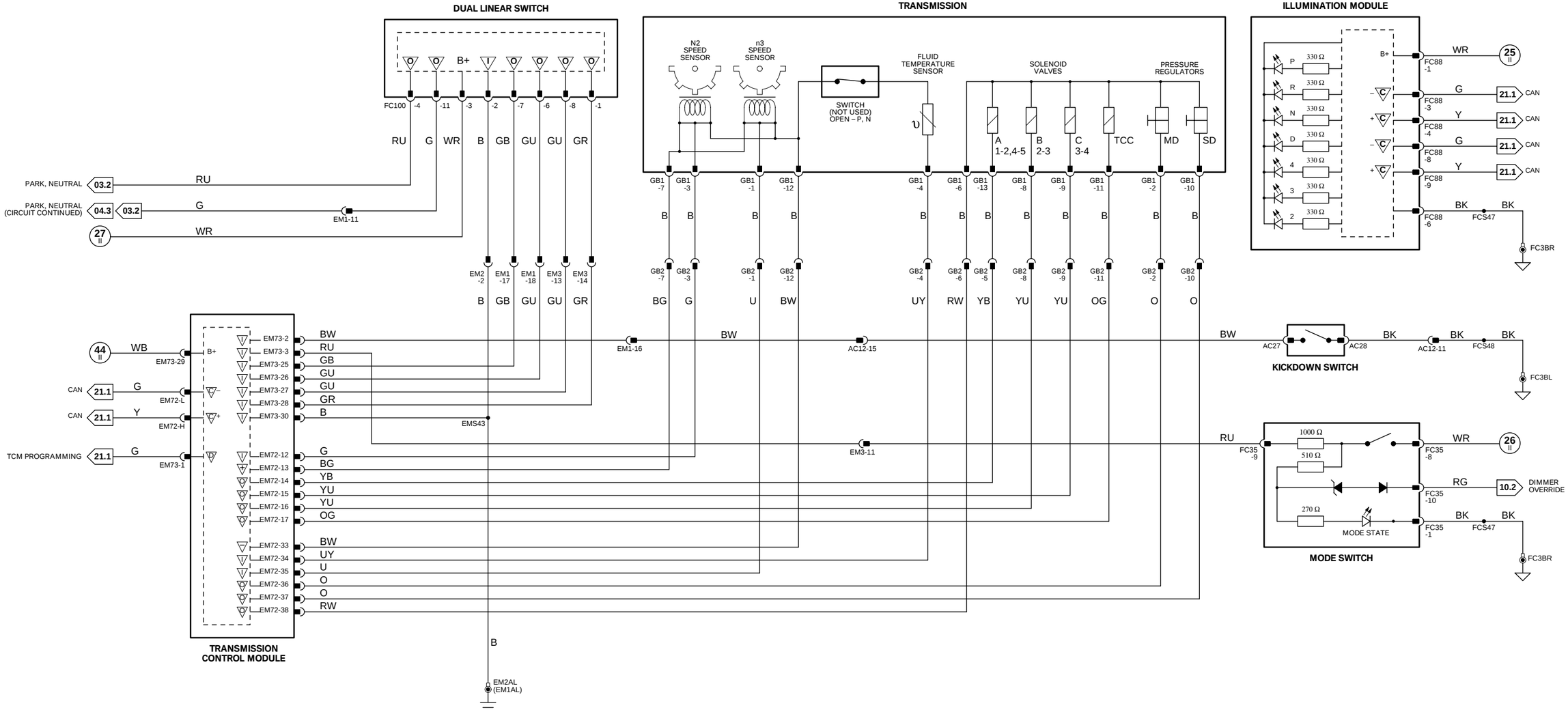
NOTE: n2 and n3 are internal gear ratio speed sensors.

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

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



1 → 7 Fig. 01.1 | 1 II → 5 E Fig. 01.1 | 8 → 50 Fig. 02.2 | 51 → 90 Fig. 01.3 | 6 II → 58 II Fig. 01.4 | 59 E → 73 E Fig. 01.5 | 1 → 18 I Fig. 02.1

I Input | O Output | + Sensor Supply V | – Sensor Ground | A ACP | C CAN | S SCP | D Serial and Encoded Data

VARIANT: AJ27 SC Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT IN FORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC14-15	IGNITION SWITCHED GROUND SUPPLY	GROUND	
I	FC14-32	IGNITION SWITCHED GROUND SUPPLY	GROUND	GROUND
O	FC14-48	GEARSHIFT INTERLOCK SOLENOID SUPPLY	B+ (GEARSHIFT FREE)	GROUND (GEARSHIFT LOCKED)
O	FC14-51	KEY LOCK SOLENOID SUPPLY	B+ (KEY CAPTIVE)	GROUND (KEY RELEASED)
I	FC14-58	NOT-IN-PARK	GROUND (R,N,D,4,3,2)	B+ (PARK)
I	FC14-80	BATTERY POWER SUPPLY (LOGIC)	B+	B+
S	FC14-84	SCP NETWORK	2 – 1600 Hz	
S	FC14-85	SCP NETWORK	2 – 1600 Hz	
I	FC14-104	LIGHTING / MOTORS BATTERY POWER SUPPLY	B+	B+

ENGINE CONTROL MODULE

▽	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	FC88-4	CAN NETWORK	15 – 1500 Hz @ 2.5 V	
C	FC88-3	CAN NETWORK	15 – 1500 Hz @ 2.5 V	
C	FC88-8	CAN NETWORK	15 – 1500 Hz @ 2.5 V	
C	FC88-9	CAN NETWORK	15 – 1500 Hz @ 2.5 V	

MAJOR INSTRUMENT PACK

▽	Pin	Description	Active	Inactive
C	FC25-11	CAN NETWORK	15 – 1500 Hz	
S	FC25-13	SCP NETWORK	2 – 1600 Hz	
S	FC25-14	SCP NETWORK	2 – 1600 Hz	
C	FC25-23	CAN NETWORK	15 – 1500 Hz	

NOTE: Refer to the Appendix at the rear of this book for CAN and SCP Network Messages.

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

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

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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	FC14 / 104-WAY AMP EEEC / GREY	PASSENGER SIDE FASCIA / AIRBAG BRACKET
BRAKE SWITCH	AC24 / 4-WAY MULTILOCK 070 / WHITE	TOP OF BRAKE PEDAL
ENGINE CONTROL MODULE	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 MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
GEAR SELECTOR ILLUMINATION MODULE	FC88 / 10-WAY MULTILOCK 070 / WHITE	FRONT OF GEAR SELECTOR ASSEMBLY
GEARSHIFT INTERLOCK SOLENOID	FC86 / 2-WAY MULTILOCK 070 / WHITE	GEAR SELECTOR ASSEMBLY
KEYLOCK SOLENOID (COLUMN SWITCHGEAR)	SC1 / 12-WAY MULTILOCK 070 / WHITE	STEERING COLUMN
MAJOR INSTRUMENT PACK	FC25 / 26-WAY AMP MICRO QUAD LOCK / BLACK FC26 / 26-WAY AMP MICRO QUAD LOCK / YELLOW	FASCIA
NOT-IN-PARK MICROSWITCH	FC87 / 3-WAY MULTILOCK 070 / WHITE	GEAR SELECTOR ASSEMBLY

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
AC13	20-WAY MULTILOCK 070 / YELLOW	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
EM1	20-WAY MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE

GROUNDS

Ground	Location / Type
FC2BR	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND 'A' POST
FC3BR	EYELET (PAIR) – RIGHT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
FC4BR	EYELET (PAIR) – RIGHT HAND LEG / LEFT HAND 'A' POST

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

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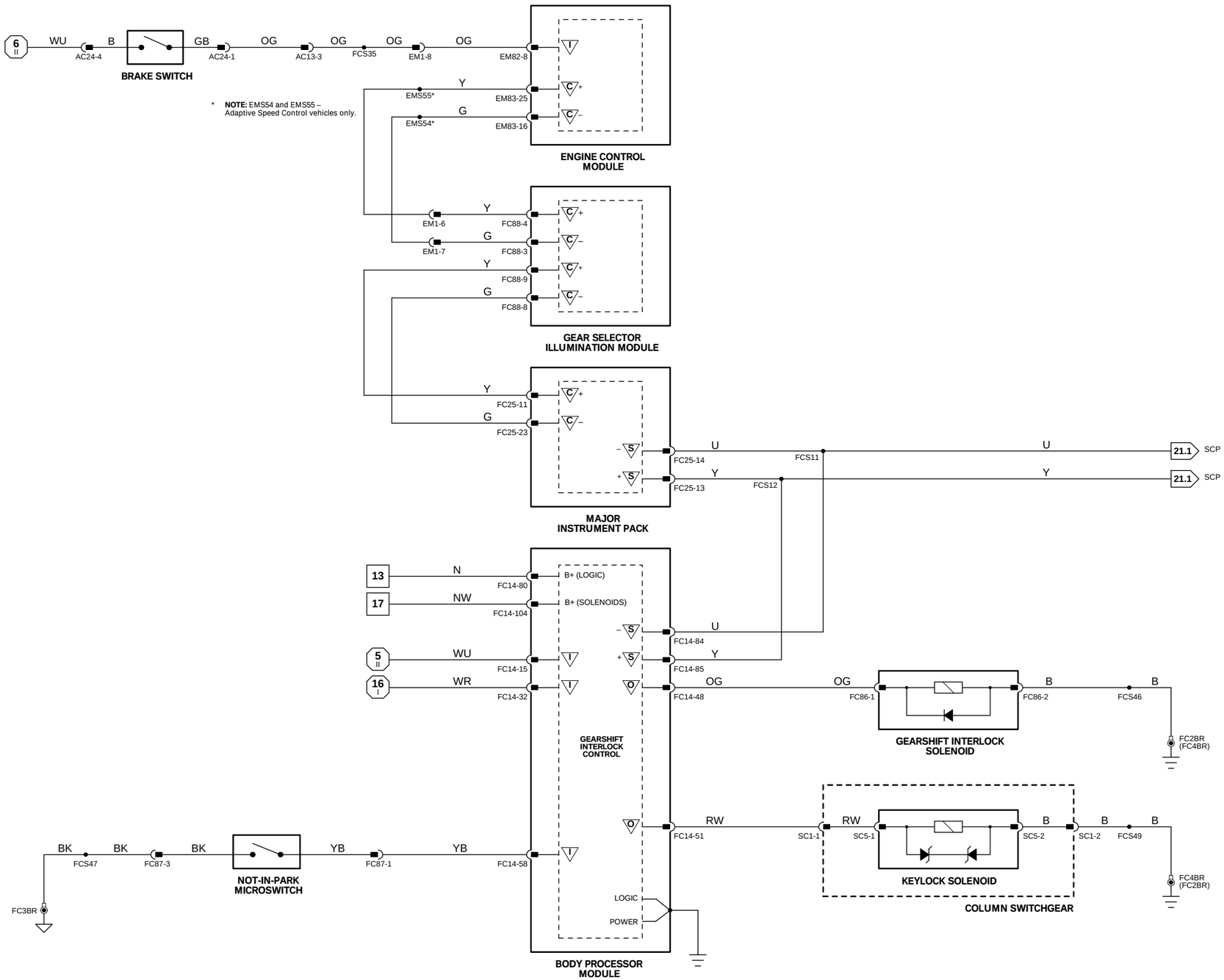

1 → 7 Fig. 01.1 | 1 II → 5 E Fig. 01.1 | 8 → 50 Fig. 01.2 | 51 → 90 Fig. 01.3 | 6 II → 58 II Fig. 01.4 | 59 E → 73 E Fig. 01.5 | 1 → 18 I Fig. 02.1

I Input
O Output
+ Sensor Supply V
– Sensor Ground
A ACP
C CAN
S SCP
D Serial and Encoded Data

VARIANT: All Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

ABS / TRACTION CONTROL CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	LF37-1	BRAKE FLUID RESERVOIR LEVEL SWITCH REFERENCE	B+	B+
I	LF37-2	BRAKE SWITCH	GROUND	B+
I	LF37-3	RH FRONT WHEEL SPEED SENSOR SIGNAL	2.5 V @ 10 MPH (16 KM/H) = 100 Hz; 20 MPH (32 KM/H) = 200 Hz	
SG	LF37-4	RH FRONT WHEEL SPEED SENSOR SIGNAL GROUND	2.5 V @ REST	
C	LF37-5	CAN NETWORK	15 – 1500 Hz	
SG	LF37-6	RH REAR WHEEL SPEED SENSOR SIGNAL GROUND	2.5 V @ REST	
I	LF37-7	RH REAR WHEEL SPEED SENSOR SIGNAL	2.5 V @ 10 MPH (16 KM/H) = 100 Hz; 20 MPH (32 KM/H) = 200 Hz	
I	LF37-8	GROUND	GROUND	GROUND
I	LF37-9	BATTERY POWER SUPPLY	B+	B+
	LF37-10	NOT USED		
	LF37-11	NOT USED		
I	LF37-13	BRAKE FLUID RESERVOIR LEVEL SWITCH	GROUND	B+
I	LF37-14	STABILITY / TRACTION CONTROL SWITCH	GROUND (MOMENTARY)	B+
C	LF37-15	CAN NETWORK	15 – 1500 Hz	
O	LF37-16	STABILITY / TRACTION CONTROL SWITCH STATE LED	GROUND	B+
I	LF37-17	LH FRONT WHEEL SPEED SENSOR SIGNAL	2.5 V @ 10 MPH (16 KM/H) = 100 Hz; 20 MPH (32 KM/H) = 200 Hz	
SG	LF37-18	LH FRONT WHEEL SPEED SENSOR SIGNAL GROUND	2.5 V @ REST	
	LF37-19	NOT USED		
I	LF37-20	IGNITION SWITCHED SUPPLY	B+	GROUND
I	LF37-21	LH REAR WHEEL SPEED SENSOR SIGNAL	2.5 V @ 10 MPH (16 KM/H) = 100 Hz; 20 MPH (32 KM/H) = 200 Hz	
SG	LF37-22	LH REAR WHEEL SPEED SENSOR SIGNAL GROUND	2.5 V @ REST	
I	LF37-24	GROUND	GROUND	GROUND
I	LF37-25	BATTERY POWER SUPPLY	B+	B+

NOTE: Refer to the Appendix at the rear of this book for CAN and SCP Network Messages.

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

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

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

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

Fig. 06.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
ABS / TRACTION CONTROL CONTROL MODULE	LF37 / 25-WAY AMP HYBRID / BLACK	ENGINE COMPARTMENT / FRONT LEFT
BRAKE FLUID RESERVOIR	EM37 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	ENGINE COMPARTMENT / BRAKE BOOSTER ENCLOSURE
BRAKE SWITCH	AC24 / 4-WAY MULTILOCK 070 / WHITE	TOP OF BRAKE PEDAL
STABILITY / TRACTION CONTROL SWITCH (CENTER CONSOLE SWITCH PACK)	FC55 / 20-WAY FORD IDC / BLACK	CENTER CONSOLE SWITCH PACK
WHEEL SPEED SENSOR – LH FRONT	FL1 / 2-WAY REINSHAGEN METRI 630 / BLACK	WHEEL HUB
WHEEL SPEED SENSOR – LH REAR	RL1 / 2-WAY REINSHAGEN METRI 630 / BLACK	WHEEL HUB
WHEEL SPEED SENSOR – RH FRONT	FR1 / 2-WAY REINSHAGEN METRI 630 / BLACK	WHEEL HUB
WHEEL SPEED SENSOR – RH REAR	RR1 / 2-WAY REINSHAGEN METRI 630 / BLACK	WHEEL HUB

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
AC13	20-WAY MULTILOCK 070 / YELLOW	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
BT2	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
BT72	4-WAY ECONOSEAL III LC / BLACK	REAR OF REAR HUB ASSEMBLY / LEFT HAND SIDE
BT73	4-WAY ECONOSEAL III LC / BLACK	REAR OF REAR HUB ASSEMBLY / RIGHT HAND SIDE
LF40	13-WAY ECONOSEAL III LC / BLACK	LHD: ENGINE COMPARTMENT / FORWARD OF BRAKE FLUID RESERVOIR RHD: ENGINE COMPARTMENT / BELOW CONTROL MODULE ENCLOSURE
LF41	2-WAY ECONOSEAL III LC / BLACK	ENGINE COMPARTMENT / ADJACENT TO ENGINE COMPARTMENT FUSE BOX
LF42	2-WAY ECONOSEAL III LC / BLACK	ENGINE COMPARTMENT / ADJACENT TO AIR CLEANER
LF60	20-WAY MULTILOCK 070 / WHITE	LEFT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
RH1	20-WAY MULTILOCK 070 / GREY	BEHIND GLOVE BOX

GROUNDS

Ground	Location / Type
FC2BR	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND 'A' POST
FC4BR	EYELET (PAIR) – RIGHT HAND LEG / LEFT HAND 'A' POST
LF3AS	EYELET (SINGLE) / ENGINE COMPARTMENT, FORWARD OF LEFT HAND HOOD CATCH

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

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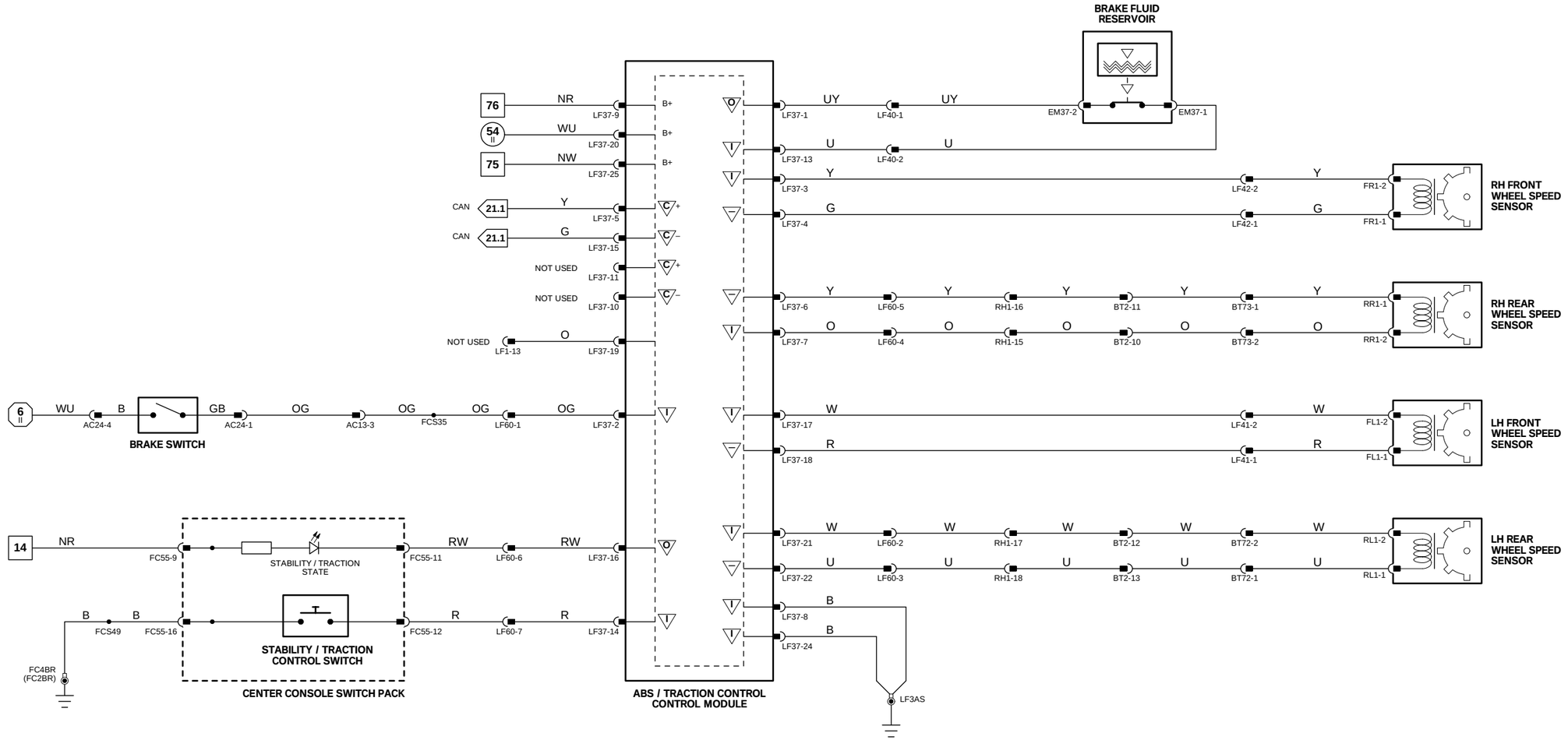

1 → 7 Fig. 01.1 | 1 II → 5 E Fig. 01.1 | 8 → 50 Fig. 01.2 | 51 → 90 Fig. 01.3 | 6 II → 58 H Fig. 01.4 | 59 E → 73 E Fig. 01.5 | 1 → 18 I Fig. 02.1

I Input
O Output
+ Sensor Supply V
– Sensor Ground
A ACP
C CAN
S SCP
D Serial and Encoded Data

VARIANT: All Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

POWER ASSISTED STEERING CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	FC16-2	TRANSDUCER NEGATIVE	2 V @ IDLE DECREASING WITH VEHICLE SPEED	
I	FC16-4	VEHICLE SPEED	B+ @ 10 MPH (16 KM/H) = 20 Hz, 20 MPH (32 KM/H) = 40 Hz	
O	FC16-5	TRANSDUCER POSITIVE	9 V @ IDLE INCREASING WITH VEHICLE SPEED	
I	FC16-6	IGNITION SWITCHED POWER SUPPLY	B+	0 V
I	FC16-8	GROUND	0 V	0 V

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

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

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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. 06.2

COMPONENTS

Component	Connector / Type / Color	Location / Access
POWER ASSISTED STEERING CONTROL MODULE	FC16 / 9-WAY RISTS RELAY / BLACK AND RED	FASCIA / ADJACENT TO RH SIDE FUSE BOX
VARIABLE STEERING CONVERTER – LHD	LL2 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	STEERING RACK / CONTROL VALVE
VARIABLE STEERING CONVERTER – RHD	EM18 / 2-WAY AMP JUNIOR POWER TIMER / NATURAL	STEERING RACK / CONTROL VALVE

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
EM2	18-WAY MULTILOCK 070 / YELLOW	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
LL1	2-WAY ECONOSEAL III LC / BLACK	ENGINE COMPARTMENT / ADJACENT TO STARTER MOTOR

GROUNDS

Ground	Location / Type
FC2BR	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND 'A' POST
FC4BR	EYELET (PAIR) – RIGHT HAND LEG / LEFT HAND 'A' POST

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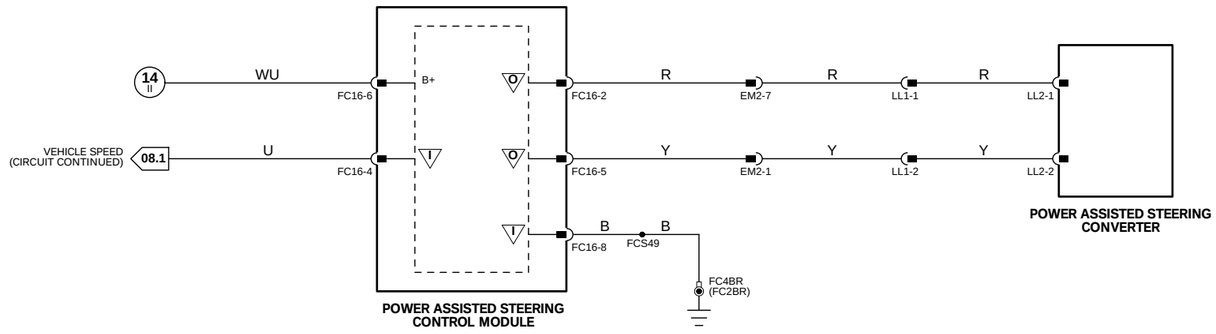
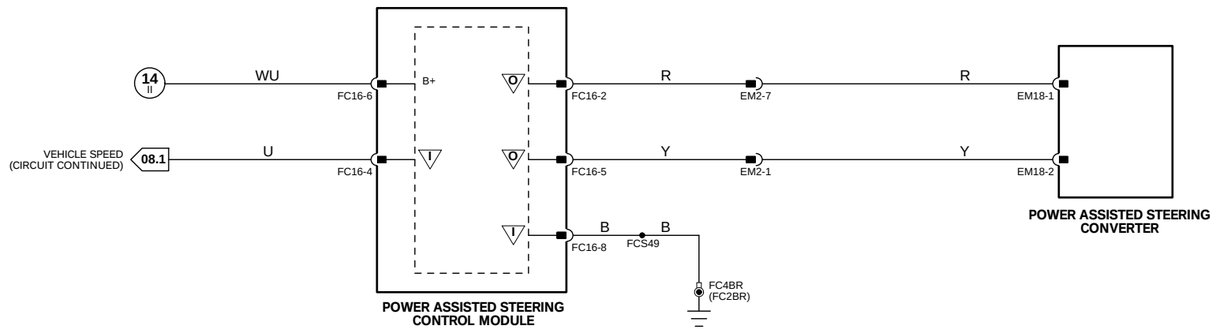
Refer to the front of this book for detailed information and illustrations regarding the location and identification of harnesses, relays, grounds, control modules and control module pins.

DATE OF ISSUE: September 2000



LHD



RHD

1 → 7 Fig. 01.1 (1 II → 5 E) Fig. 01.1 8 → 50 Fig. 01.2 51 → 90 Fig. 01.3 (6 II → 58 II) Fig. 01.4 (59 E → 73 E) Fig. 01.5 1 → (18 I) Fig. 02.1

I Input O Output + Sensor Supply V − Sensor Ground A ACP C CAN S SCP D Serial and Encoded Data

VARIANT: All Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

ADAPTIVE DAMPING CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	BT69-1	MAJOR INSTRUMENT PACK ADAPTIVE DAMPING MIL	GROUND	B+
O	BT69-3	ACCELEROMETER COMMON GROUND SUPPLY	GROUND	GROUND
D	BT69-10	SERIAL COMMUNICATIONS		
I	BT69-11	IGNITION SWITCHED POWER SUPPLY	B+	GROUND
O	BT69-13	LH REAR DAMPER BATTERY POWER SUPPLY	B+	B+
O	BT69-14	RH FRONT DAMPER BATTERY POWER SUPPLY	B+	B+
O	BT69-15	RH REAR DAMPER BATTERY POWER SUPPLY	B+	B+
I	BT69-18	GROUND	GROUND	GROUND
I	BT69-20	FRONT LATERAL ACCELEROMETER FEEDBACK	< 0.2 V OR > 4.8 V	2.3 – 2.7 V = HARD
I	BT69-21	FRONT VERTICAL ACCELEROMETER FEEDBACK	< 0.2 V OR > 4.8 V	2.3 – 2.7 V = HARD
I	BT69-22	REAR VERTICAL ACCELEROMETER FEEDBACK	< 0.2 V OR > 4.8 V	2.3 – 2.7 V = HARD
I	BT69-24	VEHICLE SPEED SIGNAL	22 Hz @ 10 MPH (16 KM/H); 44 Hz @ 20 MPH (32 KM/H) @ B+	
O	BT69-25	ACCELEROMETER COMMON VOLTAGE SUPPLY	5 V	5 V
I	BT69-26	BRAKE SWITCH	GROUND	B+
I	BT69-27	BATTERY POWER SUPPLY	B+	B+
D	BT69-28	SERIAL COMMUNICATIONS		
O	BT69-30	LH FRONT DAMPER BATTERY POWER SUPPLY	B+	B+
O	BT69-31	LH FRONT DAMPER	GROUND	B+
O	BT69-32	LH REAR DAMPER	GROUND	B+
O	BT69-33	RH FRONT DAMPER	GROUND	B+
O	BT69-34	RH REAR DAMPER	GROUND	B+

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

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

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

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Fig. 06.3

COMPONENTS

Component	Connector / Type / Color	Location / Access
ACCELEROMETER – FRONT LATERAL	EM59 / 3-WAY AMP MQL / BLACK	ENGINE COMPARTMENT / ADJACENT TO ECM
ACCELEROMETER – REAR VERTICAL	BT52 / 3-WAY AMP MQL / BLACK	TRUNK / BELOW FUEL TANK
ACCELEROMETER – FRONT VERTICAL	FC7 / 3-WAY AMP MQL / BLACK	CENTER CONSOLE / BEHIND ICE HEAD UNIT
ADAPTIVE DAMPING CONTROL MODULE	BT69 / 35-WAY AMP / BLACK	TRUNK / ADJACENT TO ELECTRICAL CARRIER
BRAKE SWITCH	AC24 / 4-WAY MULTILOCK 070 / WHITE	TOP OF BRAKE PEDAL
DAMPER SOLENOID – LH FRONT	LF43 / 2-WAY DELPHI/REINSHAGEN / BLACK	TOP OF LEFT HAND FRONT DAMPER
DAMPER SOLENOID – LH REAR	DL2 / 2-WAY DELPHI/REINSHAGEN / BLACK	TOP OF LEFT HAND REAR DAMPER
DAMPER SOLENOID – RH FRONT	LF44 / 2-WAY DELPHI/REINSHAGEN / BLACK	TOP OF RIGHT HAND FRONT DAMPER
DAMPER SOLENOID – RH REAR	DR2 / 2-WAY DELPHI/REINSHAGEN / BLACK	TOP OF RIGHT HAND REAR DAMPER

HARNESS-TO-HARNESS CONNECTORS

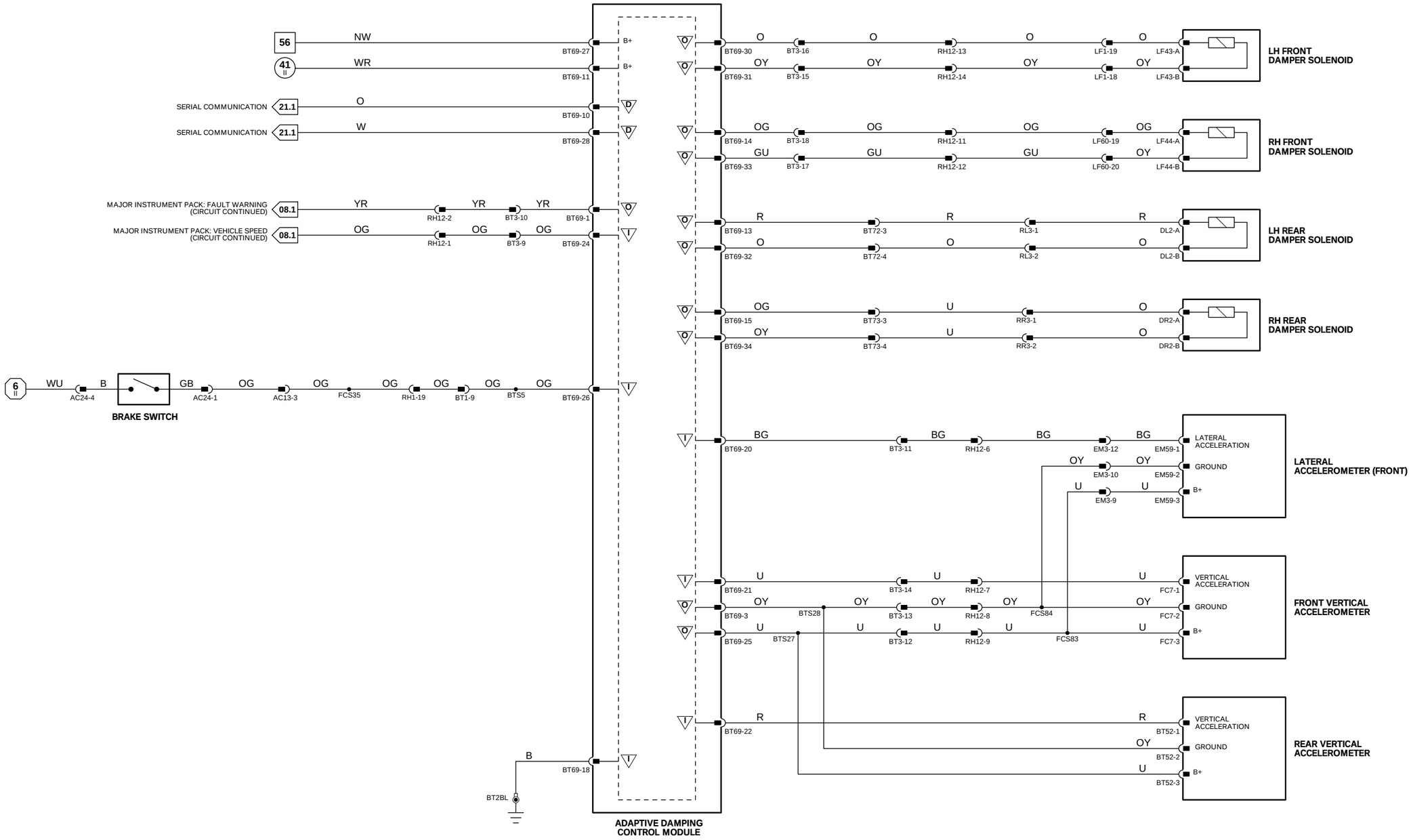
Connector	Type / Color	Location / Access
AC13	20-WAY MULTILOCK 070 / YELLOW	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
BT1	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
BT3	18-WAY MULTILOCK 070 / YELLOW	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
BT72	4-WAY ECONOSEAL III LC / BLACK	TRUNK / BELOW FUEL TANK
BT73	4-WAY ECONOSEAL III LC / BLACK	TRUNK / BELOW FUEL TANK
EM3	14-WAY MULTILOCK 070 / GREY	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
LF1	20-WAY MULTILOCK 070 / GREY	LEFT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
LF60	20-WAY MULTILOCK 070 / WHITE	LEFT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
RH1	20-WAY MULTILOCK 070 / GREY	BEHIND GLOVE BOX
RH12	18-WAY MULTILOCK 070 / YELLOW	REAR OF CENTER CONSOLE ASSEMBLY
RL3	2-WAY AUGAT 1.6 / BLACK	REAR OF REAR HUB ASSEMBLY / LEFT HAND SIDE
RR3	2-WAY AUGAT 1.6 / BLACK	REAR OF REAR HUB ASSEMBLY / RIGHT HAND SIDE

GROUNDS

Ground	Location / Type
BT2BL	EYELET (PAIR) – LEFT HAND LEG / TRUNK, RIGHT REAR

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

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



1 → 7 Fig. 01.1 (1 II → 5 E) Fig. 01.1 8 → 50 Fig. 01.2 51 → 90 Fig. 01.3 (6 II → 58 II) Fig. 01.4 (59 E → 73 E) Fig. 01.5 1 → (18 I) Fig. 02.1

I Input
O Output
+ Sensor Supply V
− Sensor Ground
A ACP
C CAN
S SCP
D Serial and Encoded Data

VARIANT: Adaptive Damping Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

ADAPTIVE SPEED CONTROL BOOSTER CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	AL4-01	AIR CONTROL VALVE SOLENOID DRIVE	PWM (-VE)	
SS	AL4-02	RELEASE SWITCH REFERENCE VOLTAGE	5 V	5 V
SS	AL4-04	BRAKE BOOSTER PRESSURE SENSOR 2 REFERENCE VOLTAGE	5 V	5 V
SG	AL4-05	BRAKE BOOSTER PRESSURE SENSOR 2 SIGNAL GROUND	GROUND	GROUND
SG	AL4-07	BRAKE BOOSTER PRESSURE SENSOR 1 SIGNAL GROUND	GROUND	GROUND
SS	AL4-08	BRAKE BOOSTER PRESSURE SENSOR 1 REFERENCE VOLTAGE	5 V	5 V
O	AL4-09	AIR CONTROL VALVE SOLENOID POWER SUPPLY	5 V	5 V
I	AL4-10	RELEASE SWITCH NORMALLY OPEN	GROUND	5 V
I	AL4-11	RELEASE SWITCH NORMALLY CLOSED	5 V	GROUND
I	AL4-13	BRAKE BOOSTER PRESSURE SENSOR 2 FEEDBACK	0 – 5 V	
I	AL4-16	BRAKE BOOSTER PRESSURE SENSOR 1 FEEDBACK	0 – 5 V	
I	EM87-02	IGNITION SWITCHED SUPPLY	B+	B+
C	EM87-03	CAN NETWORK	15 – 1500 Hz	
I	EM87-06	BATTERY POWER SUPPLY	B+	B+
C	EM87-07	CAN NETWORK	15 – 1500 Hz	
I	EM87-10	POWER GROUND	GROUND	GROUND

ADAPTIVE SPEED CONTROL CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	LF61-01	BATTERY POWER SUPPLY	B+	B+
I	LF61-02	POWER GROUND	GROUND	GROUND
I	LF61-07	IGNITION SWITCHED POWER SUPPLY	B+	B+
C	LF61-04	CAN NETWORK	15 – 1500 Hz	
C	LF61-05	CAN NETWORK	15 – 1500 Hz	
C	LF61-10	CAN NETWORK	15 – 1500 Hz	
C	LF61-11	CAN NETWORK	15 – 1500 Hz	

ENGINE CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	EM80-16	SPEED CONTROL ON STATUS LED	GROUND	B+
I	EM80-20	SPEED CONTROL BRAKE CANCEL REQUEST	GROUND	B+
I	EM81-13	SPEED CONTROL ON REQUEST	B+	GROUND
I	EM81-14	SPEED CONTROL SET +/-	7.3 V = (+), 8.8 V = (–)B+	
I	EM81-15	SPEED CONTROL CANCEL / RESUME	7.3 V = RESUME, 8.8 V = CANCEL B+	
C	EM83-15	CAN NETWORK	15 – 1500 Hz	
C	EM83-16	CAN NETWORK	15 – 1500 Hz	
C	EM83-24	CAN NETWORK	15 – 1500 Hz	
C	EM83-25	CAN NETWORK	15 – 1500 Hz	

TRANSMISSION CONTROL MODULE: AJ27 N/A

▽	Pin	Description	Active	Inactive
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 abbreviations are used to represent values for Control Module Pin-Out data

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

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

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

Fig. 06.4

COMPONENTS

Component	Connector / Type / Color	Location / Access
ADAPTIVE SPEED CONTROL BOOSTER CONTROL MODULE	AL4 / 16-WAY / BLACK EM87 / 10-WAY AMP JUNIOR POWER TIMER / BLACK	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
ADAPTIVE SPEED CONTROL BRAKE BOOSTER	AL1 / 6-WAY / BLACK	ADJACENT TO BRAKE FLUID RESERVOIR
ADAPTIVE SPEED CONTROL CONTROL MODULE	LF61 / 12-WAY ECONOSEAL III LC / BLACK	ENGINE COMPARTMENT / FORWARD OF RADIATOR
ADAPTIVE SPEED CONTROL MASTER SWITCH	FC63 / 10-WAY AMP MQL / NATURAL	REARWARD OF GEAR SELECTOR
BRAKE BOOSTER PRESSURE SENSOR 1	AL2 / 3-WAY / BLACK	ADJACENT TO BRAKE FLUID RESERVOIR
BRAKE BOOSTER PRESSURE SENSOR 2	AL3 / 3-WAY / BLACK	ADJACENT TO BRAKE FLUID RESERVOIR
BRAKE CANCEL SWITCH	AC24 / 4-WAY MULTILOCK 070 / WHITE	TOP OF BRAKE PEDAL
ENGINE CONTROL MODULE	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 MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
SPEED CONTROL SWITCHES (STEERING WHEEL)	SW3 / 3-WAY EPC / BLACK	CENTER OF STEERING WHEEL

HARNESS-TO-HARNESS CONNECTORS

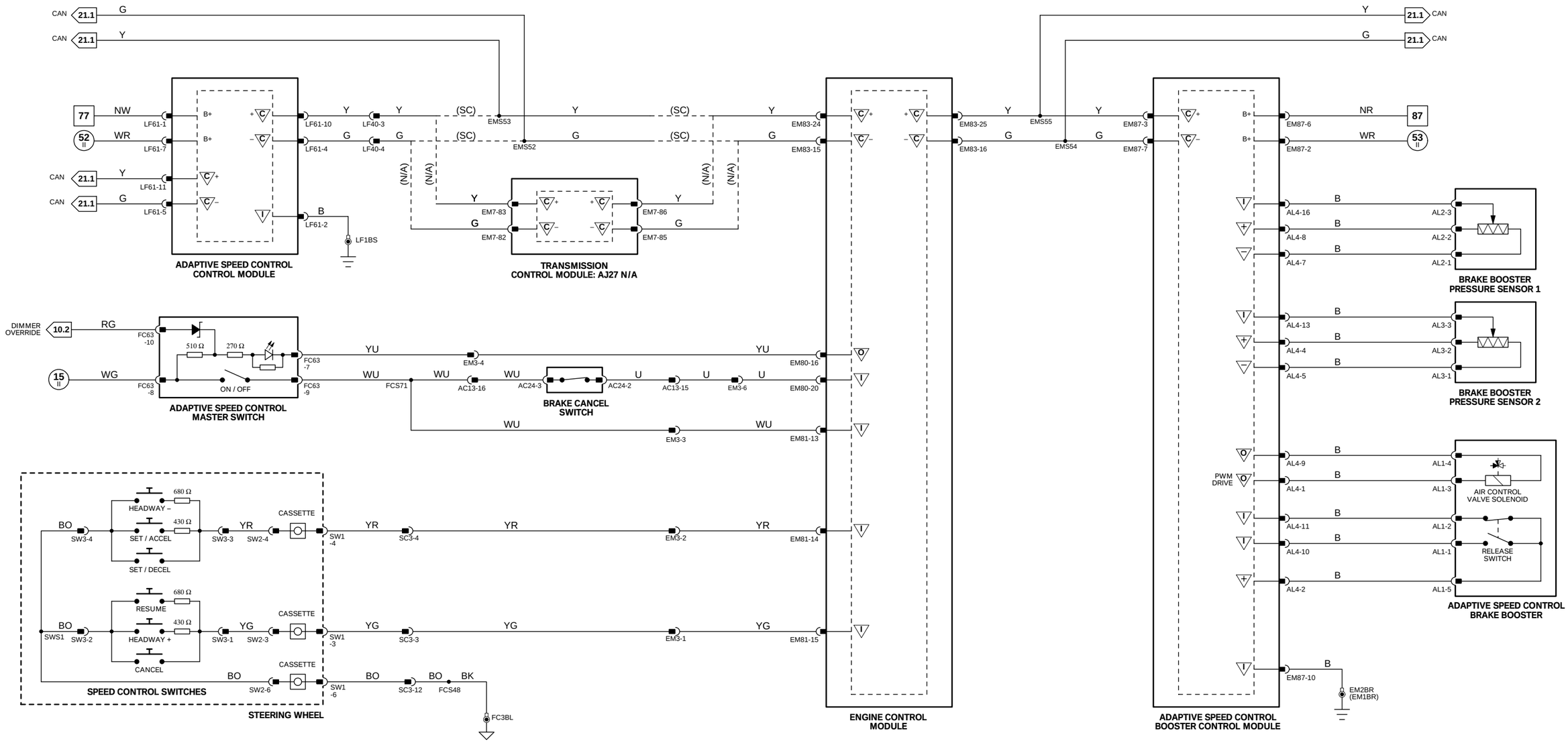
Connector	Type / Color	Location / Access
AC13	20-WAY MULTILOCK 070 / YELLOW	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
EM3	14-WAY MULTILOCK 070 / GREY	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
LF40	13-WAY ECONOSEAL III LC / BLACK	LHD: ENGINE COMPARTMENT / FORWARD OF BRAKE FLUID RESERVOIR RHD: ENGINE COMPARTMENT / BELOW CONTROL MODULE ENCLOSURE
SC3	12-WAY MULTILOCK 070 / GREY	RIGHT HAND SIDE OF STEERING COLUMN

GROUNDS

Ground	Location / Type
EM1BR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM2BR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE
FC3BL	EYELET (PAIR) – LEFT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
LF1BS	EYELET (SINGLE) / RIGHT HAND HEADLAMP

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

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



NOTE: ECM power supplies and grounds shown on Figs. 04.1, 04.3.

NOTE: Refer to Figs. 04.1 and 04.3 for the Throttle Control portion of Engine Management.

1 → 7 Fig. 01.1 (1 II → 5 E) Fig. 01.1 8 → 50 Fig. 02.2 51 → 90 Fig. 01.3 (6 II → 58 H) Fig. 01.4 (59 E → 73 E) Fig. 01.5 1 → (18 I) Fig. 02.1

I Input
O Output
+ Sensor Supply V
– Sensor Ground
A ACP
C CAN
S SCP
D Serial and Encoded Data

VARIANT: Adaptive Speed Control Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

AIR CONDITIONING CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	AC1-6	DEFROST VENT SERVO MOTOR	B+	0 V
O	AC1-7	CENTER VENT SERVO MOTOR	B+	0 V
O	AC1-8	LH FRESH / RECIRCULATION VENT MOTOR	B+	0 V
O	AC1-9	RH FRESH / RECIRCULATION VENT MOTOR	B+	0 V
O	AC1-12	FOOTWELL VENT SERVO MOTOR	B+	0 V
O	AC1-13	COOL AIR BYPASS VENT SERVO MOTOR	B+	0 V
O	AC1-19	DEFROST VENT SERVO MOTOR	B+	0 V
O	AC1-20	CENTER VENT SERVO MOTOR	B+	0 V
O	AC1-21	LH FRESH / RECIRCULATION VENT SERVO MOTOR	B+	0 V
O	AC1-22	RH FRESH / RECIRCULATION VENT SERVO MOTOR	B+	0 V
O	AC1-25	FOOTWELL SERVO MOTOR	B+	0 V
O	AC1-26	COOL AIR BYPASS SERVO MOTOR	B+	0 V
I	AC2-1	SOLAR SENSOR FEEDBACK	0.75 V – 4.75 V; INCREASING WITH SOLAR LOAD	
I	AC2-2	CENTER VENT POTENTIOMETER FEEDBACK	> 3.5 V = OPEN	< 1 V = CLOSED
I	AC2-3	RH FRESH / RECIRCULATION VENT POTENTIOMETER FEEDBACK	> 3.5 V = OPEN	< 1 V = CLOSED
I	AC2-5	COOL AIR BYPASS VENT POTENTIOMETER FEEDBACK	> 3.5 V = OPEN	< 1 V = CLOSED
I	AC2-6	ENGINE COOLANT TEMPERATURE	2.5 V @ 90˚ C; DECREASING WITH TEMPERATURE	
I	AC2-10	DEFROST VENT POTENTIOMETER FEEDBACK	> 3.5 V = OPEN	< 1 V = CLOSED
I	AC2-11	LH FRESH / RECIRCULATION VENT POTENTIOMETER FEEDBACK	> 3.5 V = OPEN	< 1 V = CLOSED
I	AC2-13	FOOTWELL VENT POTENTIOMETER FEEDBACK	> 3.5 V = OPEN	< 1 V = CLOSED
O	AC3-2	CLOCK	B+ (1.45 Hz)	
D	AC3-3	SERIAL DATA OUTPUT TO CONTROL PANEL		
I	AC3-5	AMBIENT TEMPERATURE SENSOR FEEDBACK	2.18 V @ 25˚ C; DECREASING WITH TEMPERATURE	
I	AC3-6	HEATER MATRIX TEMPERATURE SENSOR FEEDBACK	2.25 V @ 20˚ C; DECREASING WITH TEMPERATURE	
D	AC3-7	SERIAL DATA INPUT FROM CONTROL PANEL		
O	AC3-8	START	B+ (MOMENTARY)	0 V
I	AC3-11	IN CAR TEMPERATURE SENSOR FEEDBACK	3.25 V @ 0˚ C; DECREASING WITH TEMPERATURE	
I	AC3-12	EVAPORATOR TEMPERATURE SENSOR FEEDBACK	3.25 V @ 0˚ C; DECREASING WITH TEMPERATURE	
I	AC4-1	IGNITION SWITCHED POWER SUPPLY	B+	0 V
I	AC4-2	ISOLATE RELAY CONTROLLED BATTERY POWER SUPPLY	B+	0 V
I	AC4-3	IGNITION SWITCHED GROUND	0 V	B+
O	AC4-4	CONTROL PANEL BATTERY POWER SUPPLY	B+	0 V
I	AC4-5	BATTERY POWER SUPPLY	B+	B+
I	AC4-6	ENGINE SPEED SIGNAL	5 V @ 1000 RPM = 45 Hz; 2000 RPM = 90 Hz	
SS	AC4-8	POTENTIOMETER COMMON REFERENCE VOLTAGE	5 V	5 V
D	AC4-10	SERIAL COMMUNICATIONS INPUT		
O	AC4-12	CONTROL PANEL BATTERY POWER SUPPLY	B+	B+
I	AC4-13	GROUND	0 V	0 V
O	AC4-14	CONTROL PANEL GROUND SUPPLY	0 V	0 V
O	AC4-15	ISOLATE RELAY ACTIVE	B+	0 V
I	AC4-16	VEHICLE SPEED SIGNAL	22 Hz @ 10 MPH (16 KM/H); 44 Hz @ 20 MPH (32 KM/H) @ B+	
O	AC4-18	ASPIRATOR MOTOR POWER SUPPLY	B+	0 V
SG	AC4-19	POTENTIOMETER COMMON REFERENCE GROUND	0 V	0 V
I	AC4-20	GROUND	0 V	0 V
D	AC4-21	SERIAL COMMUNICATIONS OUTPUT		

Fig. 07.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
AIR CONDITIONING CONTROL MODULE	AC1 / 26-WAY MULTILOCK 47 / GREY AC2 / 16-WAY MULTILOCK 47 / GREY AC3 / 12-WAY MULTILOCK 47 / GREY AC4 / 22-WAY MULTILOCK 47 / GREY	A/C UNIT / RIGHT HAND SIDE
AIR CONDITIONING CONTROL PANEL	FC43 / 12-WAY MULTILOCK 040 / BLUE	CENTER CONSOLE
AIR INTAKE – LH BLOWER	AC5 / 15-WAY SUMITOMO 090 HYBRID / GREEN	A/C UNIT / LEFT HAND SIDE
AIR INTAKE – RH BLOWER	AC6 / 15-WAY SUMITOMO 090 HYBRID / GREEN	A/C UNIT / RIGHT HAND SIDE
AMBIENT TEMPERATURE SENSOR	LF29 / 2-WAY YAZAKI 0902 / BLACK	ADJACENT TO RIGHT HAND HORN
ASPIRATOR ASSEMBLY	FC12 / 4-WAY MULTILOCK 070 / WHITE	DRIVER KNEE BOLSTER
EVAPORATOR / HEATER MATRIX ASSEMBLY	AC7 / 12-WAY MULTILOCK 040 / BLACK	A/C UNIT / LEFT HAND SIDE
SOLAR SENSOR	FC52 / 2-WAY MULTILOCK 070 / GREY	DRIVER SIDE FASCIA / ADJACENT TO DEFROST VENT
VENT ASSEMBLY	FC44 / 12-WAY MULTILOCK 040 / BLACK	A/C UNIT / TOP

RELAYS

Relay	Color / Stripe	Connector / Color	Location / Access
AIR CONDITIONING ISOLATE RELAY	BLACK	FC24 / BLACK	RH FASCIA RELAYS

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
AC12	20-WAY MULTILOCK 070 / WHITE	FASCIA TOP CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
AC13	20-WAY MULTILOCK 070 / YELLOW	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
AC15	20-WAY MULTILOCK 070 / GREY	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
AC15	20-WAY MULTILOCK 070 / GREY	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
LF60	20-WAY MULTILOCK 070 / WHITE	LEFT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM

GROUNDS

Ground	Location / Type
FC2BR	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND 'A' POST
FC3CS	EYELET (SINGLE) / TRANSMISSION TUNNEL, LEFT HAND SIDE
FC4BR	EYELET (PAIR) – RIGHT HAND LEG / LEFT HAND 'A' POST

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

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

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

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

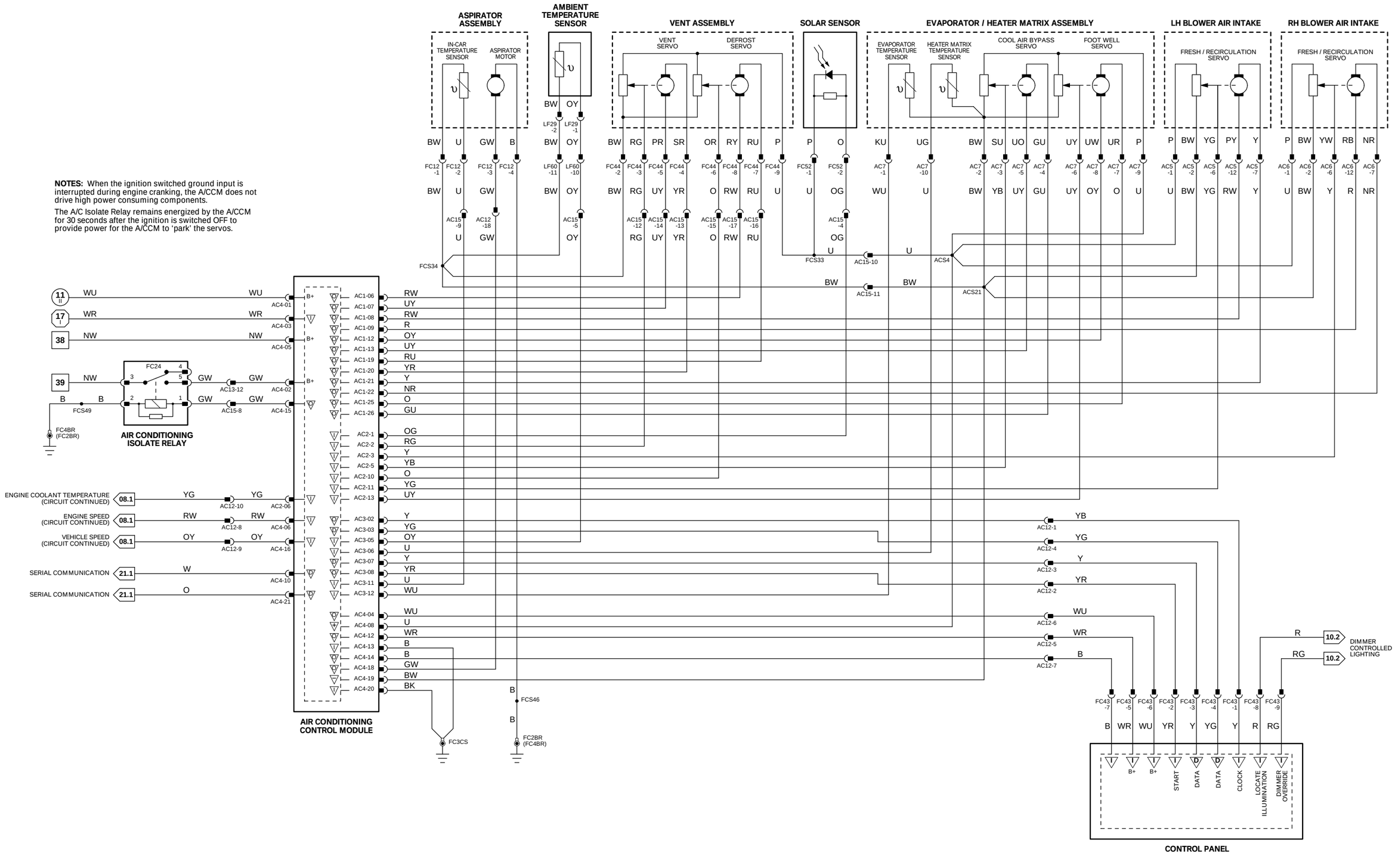
NOTE: The values listed are approximately those that can be expected at the control module connector pins with all circuit connections made and all components connected and fitted. "Active" means a load is applied or a switch is ON; "Inactive" means a load is not applied or a switch is OFF.

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

DATE OF ISSUE: September 2000

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

The A/C Isolate Relay remains energized by the A/CCM for 30 seconds after the ignition is switched OFF to provide power for the A/CCM to 'park' the servos.



1 → 7 Fig. 01.1	(1 II) → (5 E) Fig. 01.1	8 → 50 Fig. 01.2	51 → 90 Fig. 01.3	(6 II) → (58 II) Fig. 01.4	(59 E) → (73 E) Fig. 01.5
1 → (18 I) Fig. 02.1					

I Input	+ Sensor Supply V	A ACP	S SCP
O Output	− Sensor Ground	C CAN	D Serial and Encoded Data

VARIANT: All Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

AIR CONDITIONING CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	AC1-1	COMPRESSOR CLUTCH STATUS	B+ (ON)	0 V
O	AC1-2	HEATER VALVE ACTIVE	B+	0 V
O	AC1-3	RH BLOWER MOTOR RELAY ACTIVE	0 V	B+
O	AC1-4	LH / RH WINDSHIELD HEATER RELAYS ACTIVATE	0 V	B+
O	AC1-5	DOOR MIRROR HEATER RELAY ACTIVATE	0 V	B+
O	AC1-16	LH BLOWER MOTOR RELAY ACTIVATE	B+	0 V
O	AC1-17	HEATER PUMP RELAY ACTIVATE	0 V	B+
O	AC1-18	HEATED BACKLIGHT RELAY ACTIVATE	0 V	B+
I	AC2-7	RH BLOWER SPEED FEEDBACK	7.6 V = LOW SPEED	0.83 V = HIGH SPEED
O	AC2-8	RH BLOWER SPEED CONTROL DRIVE SIGNAL	1.3 V = LOW SPEED	0 V = HIGH SPEED
I	AC2-15	LH BLOWER SPEED FEEDBACK	7.6 V = LOW SPEED	0.83 V = HIGH SPEED
O	AC2-16	LH BLOWER SPEED CONTROL DRIVE SIGNAL	1.3 V = LOW SPEED	0 V = HIGH SPEED
O	AC3-1	AIR CONDITIONING ELECTRICAL LOAD SIGNAL	B+	0 V
I	AC4-7	LOAD INHIBIT	0 V	B+
O	AC4-9	COMPRESSOR CLUTCH ON REQUEST	B+	0 V
I	AC4-17	REFRIGERANT 4-WAY PRESSURE SWITCH	0 V (2 – 30 BAR)	B+ (OUT OF ACTIVE RANGE)

ENGINE CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	EM80-10	REFRIGERANT 4-WAY PRESSURE SWITCH HIGH PRESSURE	GROUND @ 20 BAR (290 PSI)	
I	EM80-11	A/CCM COMPRESSOR CLUTCH REQUEST	B+	GROUND
O	EM80-12	ELECTRICAL LOAD INHIBIT	GROUND	B+
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 abbreviations are used to represent values for Control Module Pin-Out data

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

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

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

Fig. 07.2

COMPONENTS

Component	Connector / Type / Color	Location / Access
AIR CONDITIONING COMPRESSOR CLUTCH	PI36 / 1-WAY SUMITOMO 090 A-TYPE / BLACK	ENGINE COMPARTMENT / A/C COMPRESSOR
AIR CONDITIONING CONTROL MODULE	AC1 / 26-WAY MULTILOCK 47 / GREY AC2 / 16-WAY MULTILOCK 47 / GREY AC3 / 12-WAY MULTILOCK 47 / GREY AC4 / 22-WAY MULTILOCK 47 / GREY	A/C UNIT / RIGHT HAND SIDE
BLOWER MOTOR – LH	AC5 / 15-WAY SUMITOMO 090 HYBRID / GREEN	A/C UNIT / LEFT HAND SIDE
BLOWER MOTOR – RH	AC6 / 15-WAY SUMITOMO 090 HYBRID / GREEN	A/C UNIT / RIGHT HAND SIDE
ENGINE CONTROL MODULE	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 MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
FUSE BOX – ENGINE COMPARTMENT	LF5 / 10-WAY U.T.A. FUSEBOX / NATURAL LF6 / 10-WAY U.T.A. FUSEBOX / BLACK LF7 / 10-WAY U.T.A. FUSEBOX / GREEN LF8 / 10-WAY U.T.A. FUSEBOX / BLUE LF70 / EYELET	ENGINE COMPARTMENT / LEFT FRONT
FUSE BOX – TRUNK	BT10 / 10-WAY U.T.A. FUSEBOX / NATURAL BT11 / 10-WAY U.T.A. FUSEBOX / BLACK BT12 / 10-WAY U.T.A. FUSEBOX / GREEN BT13 / 10-WAY U.T.A. FUSEBOX / BLUE BT64 / EYELET	TRUNK / ELECTRICAL CARRIER
HEATED BACKLIGHT	RH17 / 1-WAY LUCAR POSILOCK / BLACK RH18 / 1-WAY LUCAR POSILOCK / BLACK	BACKLIGHT / RIGHT HAND SIDE
HEATER PUMP	EM41 / 2-WAY ECONOSEAL III LC / BLACK	ENGINE COMPARTMENT / BULKHEAD, LEFT HAND SIDE
HEATER VALVE	EM43 / 2-WAY ECONOSEAL III LC / WHITE	ENGINE COMPARTMENT / BULKHEAD, LEFT HAND SIDE
MIRROR – DRIVER	DD8 / 12-WAY MULTILOCK 040 / BLACK	DRIVER DOOR
MIRROR – PASSENGER	DP8 / 12-WAY MULTILOCK 040 / BLACK	PASSENGER DOOR
RADIATOR FAN CONTROL RELAY MODULE	LF9 / 8-WAY TRW / BLACK	ADJACENT TO LEFT HAND HORN
RADIATOR FAN – LH	LF13 / 2-WAY REINSHAGEN METRI 630 / BLACK	ENGINE COMPARTMENT / FRONT
RADIATOR FAN – RH	LF12 / 2-WAY REINSHAGEN METRI 630 / BLACK	ENGINE COMPARTMENT / FRONT
REFRIGERANT 4-WAY PRESSURE SWITCH	LF57 / 6-WAY ECONOSEAL III LC / BLACK	ENGINE COMPARTMENT / REARWARD OF RADIATOR
WINDSHIELD HEATER – LH	EM49 / 2-WAY AMP SERIES 187C / GREY	ENGINE COMPARTMENT
WINDSHIELD HEATER – RH	EM48 / 2-WAY AMP SERIES 187C / GREY	ENGINE COMPARTMENT

RELAYS

Relay	Color / Stripe	Connector / Color	Location / Access
AIR CONDITIONING COMPRESSOR CLUTCH RELAY	BROWN	BUS	LH ENCLOSURE RELAYS
BLOWER MOTOR RELAY – LH	BLACK	AC20 / BLACK	DRIVESHAFT TUNNEL RELAYS
BLOWER MOTOR RELAY – RH	BLACK	AC20 / BLACK	DRIVESHAFT TUNNEL RELAYS
DOOR MIRROR HEATER RELAY	BLACK	FC28 / BLACK	LH FASCIA RELAYS
HEATED BACKLIGHT RELAY (#2)	BROWN	BUS	TRUNK RELAYS
HEATER PUMP RELAY (#1)	BROWN	BUS	ENGINE COMPARTMENT FUSE BOX RELAYS
WINDSHIELD HEATER RELAY – LH	BROWN	EM44 / BROWN	RH ENCLOSURE RELAYS
WINDSHIELD HEATER RELAY – RH	BROWN	EM45 / BROWN	RH ENCLOSURE RELAYS

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
AC12	20-WAY MULTILOCK 070 / WHITE	FASCIA TOP CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
AC13	20-WAY MULTILOCK 070 / YELLOW	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
AC15	20-WAY MULTILOCK 070 / GREY	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
BT2	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
BT58	4-WAY ECONOSEAL III HC / BLACK	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
DD1	23-WAY AMP – FORD / BLACK	DRIVER SIDE 'A' POST MOUNTING BRACKET/ 'A' POST TRIM
DP1	23-WAY AMP – FORD / BLACK	PASSENGER SIDE 'A' POST / 'A' POST TRIM
EM1	20-WAY MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
EM2	18-WAY MULTILOCK 070 / YELLOW	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
LF3	13-WAY ECONOSEAL III LC / WHITE	LHD: ENGINE COMPARTMENT / ADJACENT TO BRAKE SERVO RHD: ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
LF40	13-WAY ECONOSEAL III LC / BLACK	LHD: ENGINE COMPARTMENT / FORWARD OF BRAKE FLUID RESERVOIR RHD: ENGINE COMPARTMENT / BELOW CONTROL MODULE ENCLOSURE
LF60	20-WAY MULTILOCK 070 / WHITE	LEFT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
PI1	57-WAY SUMITOMO TS090 / BLACK	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
RH2	20-WAY MULTILOCK 070 / WHITE	REAR OF CENTER CONSOLE ASSEMBLY

GROUNDS

Ground	Location / Type
EM1AR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM1BL	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM1BS	EYELET (SINGLE) / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM2AR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE
EM2BL	EYELET (PAIR) – LEFT HAND LEG / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE
EM2BS	EYELET (SINGLE) / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE
FC2AL	EYELET (PAIR) – LEFT HAND LEG / RIGHT HAND 'A' POST
FC4AL	EYELET (PAIR) – LEFT HAND LEG / LEFT HAND 'A' POST
LF2AL	EYELET (PAIR) – LEFT HAND LEG / ENGINE COMPARTMENT, FORWARD OF LEFT HAND HOOD CATCH
LF2AR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, FORWARD OF LEFT HAND HOOD CATCH
LF2BL	EYELET (PAIR) – LEFT HAND LEG / ENGINE COMPARTMENT, FORWARD OF LEFT HAND HOOD CATCH
RH2S	EYELET (SINGLE) / LEFT HAND REAR QUARTER

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

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

DATE OF ISSUE: September 2000

NOTE: Radiator cooling and Air Conditioning Compressor circuits are duplicated here for clarity. Refer to Fig. 04.2 and Fig. 04.4.

NOTE: A/CCM power supplies and grounds shown on Fig. 07.1.

1 → 7 Fig. 01.1 (1 II → 5 E) Fig. 01.1 8 → 50 Fig. 01.2 51 → 90 Fig. 01.3 (6 II → 58 II) Fig. 01.4 (59 E → 73 E) Fig. 01.5 (1 → 18 I) Fig. 02.1

I Input O Output + Sensor Supply V − Sensor Ground A ACP C CAN S SCP D Serial and Encoded Data

VARIANT: All Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

MAJOR INSTRUMENT PACK

▽	Pin	Description	Active	Inactive
I	FC25-01	IGNITION SWITCHED POWER SUPPLY	B+	GROUND
O	FC25-02	MINOR INSTRUMENT PACK BATTERY POWER SUPPLY	B+	B+
I	FC25-03	ADAPTIVE DAMPING WARNING	GROUND	B+
I	FC25-04	GROUND	GROUND	GROUND
I	FC25-06	ILLUMINATION SUPPLY	B+	GROUND
I	FC25-07	TRIP CYCLE	GROUND (MOMENTARY)	
I	FC25-08	'A/B' TRIP SELECT	GROUND (MOMENTARY)	
I	FC25-09	'ML/KM' SELECT	GROUND (MOMENTARY)	
C	FC25-10	CAN NETWORK	15 – 1500 Hz	
C	FC25-11	CAN NETWORK	15 – 1500 Hz	
S	FC25-13	SCP NETWORK	2 – 1600 Hz	
S	FC25-14	SCP NETWORK	2 – 1600 Hz	
I	FC25-15	BATTERY POWER SUPPLY	B+	B+
I	FC25-16	GROUND	GROUND	GROUND
O	FC25-17	MINOR INSTRUMENT PACK ILLUMINATION SUPPLY	B+	GROUND
I	FC25-18	'CLEAR' SELECT	GROUND (MOMENTARY)	
I	FC25-19	'000' SELECT	GROUND (MOMENTARY)	
C	FC25-23	CAN NETWORK	15 – 1500 Hz	
C	FC25-24	CAN NETWORK	15 – 1500 Hz	
O	FC25-25	GROUND REFERENCE	GROUND	GROUND
O	FC26-1	BATTERY CHARGE WARNING	< 3 V	B+
O	FC26-2	OIL PRESSURE WARNING	< 3 V = < 3 PSI	B+
O	FC26-3	ENGINE SPEED	5 V @ 1000 RPM = 45 Hz; 2000 RPM = 90 Hz	
O	FC26-4	ENGINE COOLANT TEMPERATURE	6 V = 90˚ C	
O	FC26-5	VEHICLE SPEED – A/CCM	22 Hz @ 10 MPH (16 KM/H); 44 Hz @ 20 MPH (32 KM/H) @ B+	
O	FC26-6	VEHICLE SPEED – PAS	22 Hz @ 10 MPH (16 KM/H); 44 Hz @ 20 MPH (32 KM/H) @ B+	
O	FC26-7	VEHICLE SPEED – ADAPTIVE DAMPING CONTROL MODULE	22 Hz @ 10 MPH (16 KM/H); 44 Hz @ 20 MPH (32 KM/H) @ B+	
O	FC26-8	BATTERY VOLTAGE GAUGE POSITION FEEDBACK	5 V (MIDPOINT)	
O	FC26-9	BATTERY VOLTAGE GAUGE POSITION FEEDBACK	5 V (MIDPOINT)	
O	FC26-10	OIL PRESSURE GAUGE POSITION FEEDBACK	5 V = 0 PSI; 3.3 V = NORMAL (MIDPOINT)	
O	FC26-11	BATTERY VOLTAGE GAUGE MOVEMENT	3.7 – 5 V (PULSE)	
O	FC26-12	BATTERY VOLTAGE GAUGE MOVEMENT	3.7 – 5 V (PULSE)	
I	FC26-13	FUEL LEVEL GAUGE FEEDBACK	B+ = EMPTY	0 V = FULL
O	FC26-14	FUEL LEVEL GAUGE REFERENCE GROUND	GROUND	GROUND
O	FC26-15	OIL PRESSURE GAUGE POSITION FEEDBACK	5 V = 0 PSI; 3.3 V = NORMAL (MIDPOINT)	
I	FC26-16	AIR BAG MIL	GROUND (ON)	B+
O	FC26-17	OIL PRESSURE GAUGE MOVEMENT	3.7 – 5 V (PULSE)	
O	FC26-18	OIL PRESSURE GAUGE MOVEMENT	3.7 – 5 V (PULSE)	
I	FC26-19	LOW OIL PRESSURE WARNING	> 3 V = > 3 PSI	B+
O	FC26-20	VEHICLE SPEED	22 Hz @ 10 MPH (16 KM/H); 44 Hz @ 20 MPH (32 KM/H) @ B+	
I	FC26-21	DIMMER OVERRIDE	GROUND	B+
I	FC26-22	CHARGE WARNING	B+	GROUND
I	FC26-23	LOW COOLANT WARNING	GROUND	B+

MINOR INSTRUMENT PACK

▽	Pin	Description	Active	Inactive
I	FC79-8	MINOR INSTRUMENT PACK ILLUMINATION SUPPLY	B+	B+
I	FC79-9	OIL PRESSURE GAUGE MOVEMENT	3.7 – 5 V (PULSE)	
I	FC79-10	OIL PRESSURE GAUGE MOVEMENT	3.7 – 5 V (PULSE)	
I	FC79-11	CHARGE WARNING	< 3 V	B+
I	FC79-12	BATTERY VOLTAGE GAUGE POSITION FEEDBACK	5 V (MIDPOINT)	
I	FC79-13	BATTERY VOLTAGE GAUGE POSITION FEEDBACK	5 V (MIDPOINT)	
I	FC79-14	BATTERY VOLTAGE GAUGE MOVEMENT	3.7 – 5 V (PULSE)	
I	FC79-15	BATTERY VOLTAGE GAUGE MOVEMENT	3.7 – 5 V (PULSE)	
I	FC79-16	GROUND	GROUND	GROUND
I	FC79-17	BATTERY POWER SUPPLY	B+	B+
I	FC79-18	LOW OIL PRESSURE WARNING	GROUND (< 3 PSI)	B+
I	FC79-19	OIL PRESSURE GAUGE POSITION FEEDBACK	5 V = 0 PSI; 3.3 V = NORMAL (MIDPOINT)	
I	FC79-20	OIL PRESSURE GAUGE POSITION FEEDBACK	5 V = 0 PSI; 3.3 V = NORMAL (MIDPOINT)	

NOTE: Refer to the Appendix at the rear of this book for CAN and SCP Network Messages.

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

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

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

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

Fig. 08.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
COOLANT LEVEL SWITCH	EM55 / 2-WAY AMP JUNIOR POWER TIMER / BROWN	ENGINE COMPARTMENT / COOLANT RESERVOIR
FUEL LEVEL SENSOR	FT3 / 6-WAY SUMITOMO DL090 / NATURAL	FUEL TANK EVAPORATIVE FLANGE
MAJOR INSTRUMENT PACK	FC25 / 26-WAY AMP MICRO QUAD LOCK / BLACK FC26 / 26-WAY AMP MICRO QUAD LOCK / YELLOW	FASCIA
MINOR INSTRUMENT PACK	FC79 / 20-WAY MULTILOCK 040 / BLACK	FASCIA
OIL PRESSURE SWITCH	PI40 / 1-WAY ECONOSEAL ECJ2 / BLACK	ENGINE BLOCK / RIGHT HAND SIDE
TRIP COMPUTER SWITCH PACK	FC27 / 10-WAY AMP MQL / BLACK	FASCIA / DRIVER SIDE
TRIP CYCLE SWITCH (COLUMN SWITCHGEAR)	SC2 / 10-WAY MULTILOCK 070 / YELLOW	STEERING COLUMN

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT2	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
EM1	20-WAY MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
EM2	18-WAY MULTILOCK 070 / YELLOW	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
FT1	10-WAY MULTILOCK 070 / WHITE	FUEL TANK / REAR
PI1	57-WAY SUMITOMO TS090 / BLACK	ENGINE COMPARTMENT / BRACKET ON TOP OF TRANSMISSION
RH1	20-WAY MULTILOCK 070 / GREY	BEHIND GLOVE BOX

GROUNDS

Ground	Location / Type
EM1BR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM2BR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE
FC2BR	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND 'A' POST
FC3BL	EYELET (PAIR) – LEFT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
FC4BR	EYELET (PAIR) – RIGHT HAND LEG / LEFT HAND 'A' POST

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

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

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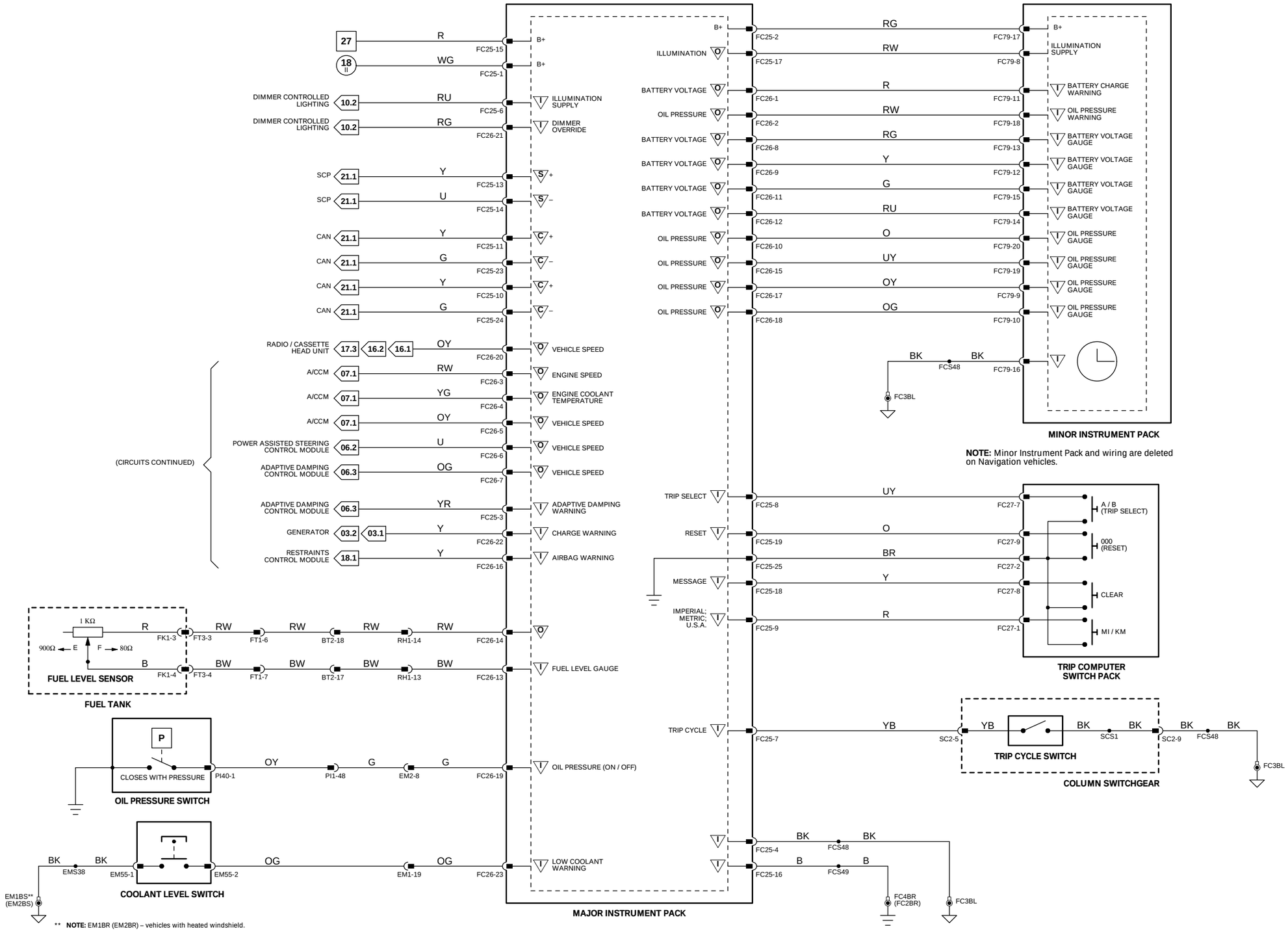


1 → 7 Fig. 01.1 (1 II → 5 E) Fig. 01.1 8 → 50 Fig. 02.1 51 → 90 Fig. 01.3 (6 II → 58 H) Fig. 01.4 (59 E → 73 E) Fig. 01.5 1 → 18 I Fig. 02.1

I Input O Output + Sensor Supply V – Sensor Ground A ACP C CAN S SCP D Serial and Encoded Data

VARIANT: All Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC14-8	AIRBAG WARNING	GROUND	B+
I	FC14-15	IGNITION SWITCHED GROUND SUPPLY	GROUND	
I	FC14-32	IGNITION SWITCHED GROUND SUPPLY	GROUND	GROUND
I	FC14-41	IGNITION SWITCHED GROUND SUPPLY	GROUND	
I	FC14-80	BATTERY POWER SUPPLY (LOGIC)	B+	B+
O	FC14-82	AUDIBLE WARNING SPEAKER OUTPUT	AUDIO OUTPUT	
O	FC14-83	AUDIBLE WARNING SPEAKER OUTPUT	AUDIO OUTPUT	
S	FC14-84	SCP NETWORK	2 – 1600 Hz	
S	FC14-85	SCP NETWORK	2 – 1600 Hz	
I	FC14-104	BATTERY POWER SUPPLY	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	RIGHT HAND SIDE OF STEERING COLUMN
BODY PROCESSOR MODULE	FC14 / 104-WAY AMP EEEC / GREY	PASSENGER SIDE FASCIA / AIRBAG BRACKET

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

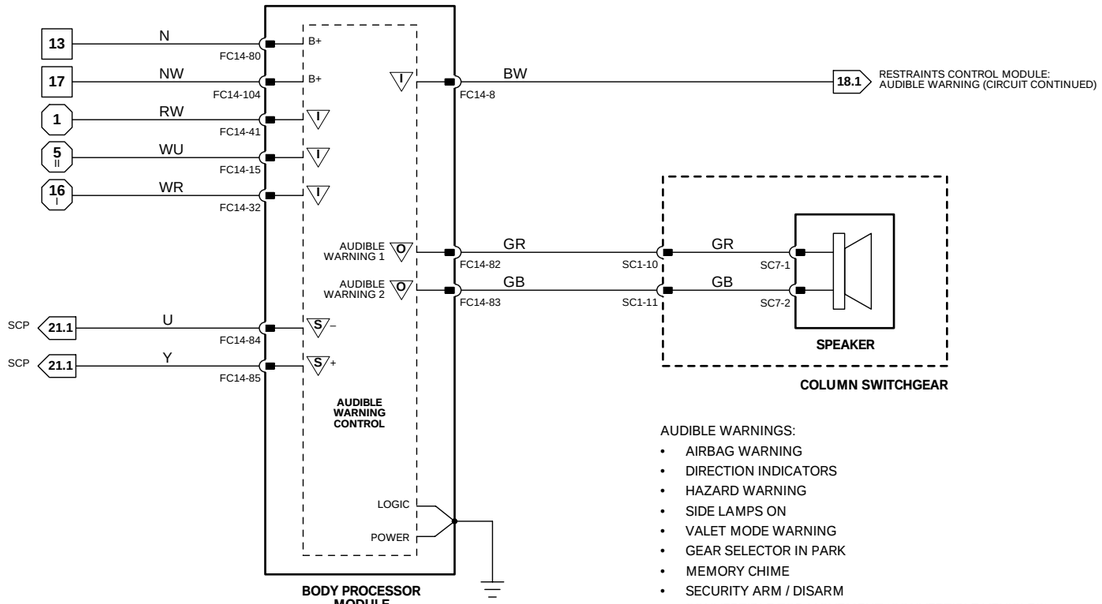
The following abbreviations are used to represent values for Control Module Pin-Out data

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

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

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

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



SCP SOURCES:

- DIRECTION INDICATORS; HAZARD WARNING; SIDE LAMPS – Fig. 09.1, Fig. 09.2
- VALET SWITCH; TRUNK RELEASE – Fig. 13.1
- MEMORY – Fig. 11.1, Fig. 11.2, Fig. 12.1
- CONVERTIBLE TOP MOVEMENT – Fig. 15.2
- KEY-IN-IGNITION SWITCH / DRIVER DOOR SWITCH – Fig. 13.1
- NOT-IN-PARK MICROSWITCH – Fig. 05.3
- SEAT BELT SWITCH – Fig. 12.1, Fig. 12.2

AUDIBLE WARNINGS:

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

1 → 7 Fig. 01.1 | 1 II → 5 E Fig. 01.1 | 8 → 50 Fig. 01.2 | 51 → 90 Fig. 01.3 | 6 II → 58 II Fig. 01.4 | 59 E → 73 E Fig. 01.5 | 1 → 18 I Fig. 02.1

I Input
O Output
+ Sensor Supply V
− Sensor Ground
A ACP
C CAN
S SCP
D Serial and Encoded Data

VARIANT: All Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
O	FC14-1	RH FRONT SIDE LAMP BULB SUPPLY	B+	GROUND
O	FC14-2	LH FRONT DI BULB SUPPLY	B+ (PULSED)	GROUND
O	FC14-3	RH FRONT DI BULB SUPPLY	B+ (PULSED)	GROUND
I	FC14-14	HEADLAMP MAIN BEAM REQUEST	GROUND	B+
I	FC14-15	IGNITION SWITCHED GROUND SUPPLY	GROUND	
I	FC14-16	SIDE LAMP REQUEST	GROUND	B+
O	FC14-20	FRONT FOG LAMP RELAY ACTIVATE / STATUS LED	GROUND (LIGHTS ON / LED ON)	B+
O	FC14-27	LH SIDE DI REPEATER SUPPLY (ROW ONLY)	B+	GROUND
O	FC14-28	RH SIDE DI REPEATER SUPPLY (ROW ONLY)	B+	GROUND
I	FC14-30	HEADLAMP FLASH REQUEST	GROUND (MOMENTARY)	B+
I	FC14-38	FRONT FOG LAMP SWITCH	GROUND (MOMENTARY)	B+
I	FC14-41	IGNITION GROUND SUPPLY	GROUND	
I	FC14-42	DIPPED BEAM REQUEST	GROUND	B+
O	FC14-45	MAIN BEAM RELAY ACTIVATE	GROUND	B+
O	FC14-53	LH FRONT SIDE LAMP SUPPLY	B+ (LIGHT ON)	GROUND
O	FC14-54	LH SIDE MARKER SUPPLY (NAS ONLY)	B+ (LIGHT ON)	GROUND
I	FC14-59	HAZARD LAMP REQUEST	GROUND (MOMENTARY)	B+
I	FC14-61	RH DI REQUEST	GROUND	B+
O	FC14-68	DIP BEAM RELAY ACTIVATE	GROUND (LIGHTS ON)	B+
I	FC14-79	BATTERY POWER SUPPLY	B+	B+
I	FC14-80	BATTERY POWER SUPPLY (LOGIC)	B+	B+
O	FC14-81	RH SIDE DI REPEATER SUPPLY (ROW ONLY)	B+ (LIGHTS ON)	GROUND
S	FC14-84	SCP NETWORK	2 – 1600 Hz	
S	FC14-85	SCP NETWORK	2 – 1600 Hz	
I	FC14-88	LH DI REQUEST	GROUND	B+
O	FC14-96	HAZARD STATUS INDICATOR	B+ (PULSED)	GROUND

MAJOR INSTRUMENT PACK

▽	Pin	Description	Active	Inactive
S	FC25-13	SCP NETWORK	2 – 1600 Hz	
S	FC25-14	SCP NETWORK	2 – 1600 Hz	

NOTE: Refer to the Appendix at the rear of this book for CAN and SCP Network Messages.

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

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

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

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

Fig. 09.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC14 / 104-WAY AMP EEEC / GREY	PASSENGER SIDE FASCIA / AIRBAG BRACKET
CENTER CONSOLE SWITCH PACK	FC55 / 20-WAY FORD IDC / BLACK	CENTER CONSOLE
FRONT FOG LAMP – LH	LF32 / 2-WAY REINSHAGEN METRI 630 / BLACK	FRONT BUMPER / WHEEL ARCH LINER PANEL
FRONT FOG LAMP – RH	LF22 / 2-WAY REINSHAGEN METRI 630 / BLACK	FRONT BUMPER / WHEEL ARCH LINER PANEL
FRONT LAMP UNIT – LH	LF31 / 6-WAY ECONOSEAL III LC / BLACK	LEFT HAND HEADLAMP ASSEMBLY
FRONT LAMP UNIT – RH	LF21 / 6-WAY ECONOSEAL III LC / BLACK	RIGHT HAND HEADLAMP ASSEMBLY
FUSE BOX – ENGINE COMPARTMENT	LF5 / 10-WAY U.T.A. FUSEBOX / NATURAL LF6 / 10-WAY U.T.A. FUSEBOX / BLACK LF7 / 10-WAY U.T.A. FUSEBOX / GREEN LF8 / 10-WAY U.T.A. FUSEBOX / BLUE LF70 / EYELET	ENGINE COMPARTMENT / LEFT FRONT
LIGHTING STALK (COLUMN SWITCHGEAR)	SC2 / 10-WAY MULTILOCK 070 / YELLOW	STEERING COLUMN
MAJOR INSTRUMENT PACK	FC25 / 26-WAY AMP MICRO QUAD LOCK / BLACK FC26 / 26-WAY AMP MICRO QUAD LOCK / YELLOW	FASCIA
SIDE DI REPEATER – LH (ROW)	LF4 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	BEHIND WHEEL ARCH LINER
SIDE DI REPEATER – RH (ROW)	EL5 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	BEHIND WHEEL ARCH LINER
FRONT SIDE MARKER – LH (NAS ONLY)	LF11 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	BEHIND WHEEL ARCH LINER
FRONT SIDE MARKER – RH (NAS ONLY)	LF10 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	BEHIND WHEEL ARCH LINER

RELAYS

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

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
EL6	2-WAY ECONOSEAL III LC / BLACK	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
EM2	18-WAY MULTILOCK 070 / YELLOW	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
LF1	20-WAY MULTILOCK 070 / GREY	LEFT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM

GROUNDS

Ground	Location / Type
EM1AR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM2AR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE
FC2BR	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND 'A' POST
FC3BL	EYELET (PAIR) – LEFT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
FC3BR	EYELET (PAIR) – RIGHT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
FC4BR	EYELET (PAIR) – RIGHT HAND LEG / LEFT HAND 'A' POST
LF1AL	EYELET (PAIR) – LEFT HAND LEG / RIGHT HAND HEADLAMP
LF2BR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, FORWARD OF LEFT HAND HOOD CATCH

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

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

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NOTE: 'Crank' input used with Daytime Running Lamps.

SCP 21.1 U

SCP 21.1 Y

LIGHTING INDICATORS

MAJOR INSTRUMENT PACK

FC25-14 U FCS11

FC25-13 Y FCS12

13 N FC14-80 B+ (LOGIC)

48 NG FC14-79 B+ (LIGHTING)

1 RW FC14-41

5 II WU FC14-15

U FC14-84

Y FC14-85

14 NR FCS55-9

FRONT FOG STATE

REAR FOG STATE

FRONT FOG

REAR FOG

HAZARD

HAZARD STATE

FCS55-18 OG

FCS55-20

FCS55-17 RU

FCS55-19

FCS55-1 Y

FCS55-3 N

FCS55-4 R

B FCS49 B FCS55-16

FC4BR (FC2BR)

CENTER CONSOLE SWITCH PACK

DIMMER MODULE: HAZARD SWITCH LOCATE ILLUMINATION 10.2 R

RU FC14-38

Y FC14-59

N FC14-96

LIGHTING CONTROL

HEADLAMP FLASH

HEADLAMP MAIN BEAM

DIRECTION INDICATOR

DIP

SIDE

DIP

AUTO

SIDE

LIGHTING STALK

COLUMN SWITCHGEAR

U SC2-2 U U FC14-30

O SC2-6 O O FC14-14

L YG SC2-7 YG YG FC14-88

R WG SC2-8 WG WG FC14-61

UY SC2-4 UY UY FC14-42

REAR VIEW MIRRORS: AUTO HEADLAMPS / MIRROR TINT 11.3 YU SC2-1 YU

BK FCS48 BK SC2-9 BK SCS1 BK

RW SCS2 RW SC2-3 RW FCS9 RW FC14-16

FC3BL

DIMMER MODULE: SIDE LAMPS ON 10.2 RW

LOGIC

POWER

BODY PROCESSOR MODULE

NOTE: DI bulb failure – BPM internal function.
Daytime Running Lamps – BPM programmed function.

OG FC14-20 FCS37 OG LF1-7

OG FC14-68 LF1-5

U FC14-45 LF1-6

R FC14-53 LF1-10

GW FC14-2 LF1-2

G FC14-54 LF1-9

GO FC14-27 LF1-3

BG FC14-1 LF1-11

W FC14-3 LF1-1

RW FC14-28 LF1-8

GR FC14-81 EM2-16 GR EL6-1

ENGINE COMPARTMENT FUSE BOX

#21 10A U LF5-4

#19 10A OY LF7-10

MAIN BEAM RELAY (#3) U LF5-7

#8 10A UY LF6-8

#6 10A U LF6-4

DIP BEAM RELAY (#5) RG LF6-9

O LF8-3

#17 15A N LF8-10

FRONT FOG RELAY (#2) OG LF5-8

LH FRONT FOG LAMP

O LF32-1 B LF32-2

LH FRONT LAMP UNIT

U LF31-3 MAIN

UY LF31-2 DIP B LF31-4

R LF31-1 SIDE LAMP

GW LF31-5 DI B LF31-6

LH SIDE MARKER (NAS ONLY)

G LF11-1 B LF11-2

LH SIDE DI REPEATER (ROW)

GO LF4-1 B LF4-2

RH FRONT FOG LAMP

N LF22-1 B LF22-2

RH FRONT LAMP UNIT

OY LF21-3 MAIN

U LF21-2 DIP B LF21-4

N LF21-1 SIDE LAMP

W LF21-5 DI B LF21-6

LFS9

B LF2BR

RH SIDE MARKER (NAS ONLY)

RW LF10-1 B LF10-2

LFS8

B LF1AL

RH SIDE DI REPEATER (ROW)

GR EL5-1 B EL5-2 EL6-2 B EMS31

B EM2AR (EM1AR)

1 → 7 Fig. 01.1 | 1 II → 5 E Fig. 01.1 | 8 → 50 Fig. 01.2 | 51 → 90 Fig. 01.3 | 6 II → 58 II Fig. 01.4 | 59 E → 73 E Fig. 01.5 | 1 → 18 I Fig. 02.1

I Input | O Output | + Sensor Supply V | − Sensor Ground | A ACP | C CAN | S SCP | D Serial and Encoded Data

VARIANT: All Vehicles
VIN RANGE: A11051 ⟶
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC14-12	REAR FOG LAMP REQUEST	GROUND (MOMENTARY)	B+
I	FC14-15	IGNITION SWITCHED GROUND SUPPLY	GROUND	
I	FC14-16	SIDE LAMP REQUEST	GROUND	B+
I	FC14-41	IGNITION GROUND SUPPLY	GROUND	
I	FC14-42	DIPPED BEAM REQUEST	GROUND	B+
O	FC14-44	REAR FOG LAMP STATUS LED	GROUND (LED ON)	B+
O	FC14-50	LH REAR DI LAMP SUPPLY	B+ (LIGHT ON)	GROUND
I	FC14-61	RH DI REQUEST	GROUND	B+
O	FC14-76	RH REAR DI LAMP SUPPLY	B+ (LIGHTS ON)	GROUND
I	FC14-79	BATTERY POWER SUPPLY	B+	B+
I	FC14-80	BATTERY POWER SUPPLY (LOGIC)	B+	B+
S	FC14-84	SCP NETWORK	2 – 1600 Hz	
S	FC14-85	SCP NETWORK	2 – 1600 Hz	
I	FC14-88	LH DI REQUEST	GROUND	B+
O	FC14-95	TAIL LAMP RELAY ACTIVATE	GROUND (LIGHTS ON)	B+
I	FC14-104	LIGHTING / MOTORS BATTERY POWER SUPPLY	B+	B+

MAJOR INSTRUMENT PACK

▽	Pin	Description	Active	Inactive
C	FC25-11	CAN NETWORK	15 – 1500 Hz	
S	FC25-13	SCP NETWORK	2 – 1600 Hz	
S	FC25-14	SCP NETWORK	2 – 1600 Hz	
C	FC25-23	CAN NETWORK	15 – 1500 Hz	

SECURITY AND LOCKING CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	BT40-5	REVERSE LAMP SUPPLY	B+	GROUND
I	BT40-6	BATTERY POWER SUPPLY	B+	B+
O	BT40-7	REAR FOG LAMP RELAY ACTIVATE	GROUND	B+
S	BT40-8	SCP NETWORK	2 – 1600 Hz	
I	BT40-13	GROUND	GROUND	GROUND
I	BT40-14	GROUND	GROUND	GROUND
S	BT40-16	SCP NETWORK	2 – 1600 Hz	
O	BT41-12	SIDE MARKER LAMP SUPPLY	B+	GROUND
I	BT41-13	SIDE MARKER LAMP SUPPLY	B+	GROUND
O	BT42-1	RH STOP LAMP SUPPLY	B+	GROUND
O	BT42-2	LH STOP LAMP SUPPLY	B+	GROUND
O	BT42-3	RH TAIL LAMP SUPPLY	B+	GROUND
O	BT42-4	LH TAIL LAMP SUPPLY	B+	GROUND
O	BT42-5	NUMBER PLATE LAMP SUPPLY	B+	GROUND
I	BT42-6	RH STOP LAMP SUPPLY	B+	GROUND
I	BT42-7	LH STOP LAMP SUPPLY	B+	GROUND
I	BT42-8	RH TAIL LAMP SUPPLY	B+	GROUND
I	BT42-9	LH TAIL LAMP SUPPLY	B+	GROUND
I	BT42-10	NUMBER PLATE LAMP SUPPLY	B+	GROUND

NOTE: Refer to the Appendix at the rear of this book for CAN and SCP Network Messages.

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

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

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

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

Fig. 09.2

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC14 / 104-WAY AMP EEEC / GREY	PASSENGER SIDE FASCIA / AIRBAG BRACKET
BRAKE SWITCH	AC24 / 4-WAY MULTILOCK 070 / WHITE	TOP OF BRAKE PEDAL
CENTER CONSOLE SWITCH PACK	FC55 / 20-WAY FORD IDC / BLACK	CENTER CONSOLE
FUSE BOX – TRUNK	BT10 / 10-WAY U.T.A. FUSEBOX / NATURAL BT11 / 10-WAY U.T.A. FUSEBOX / BLACK BT12 / 10-WAY U.T.A. FUSEBOX / GREEN BT13 / 10-WAY U.T.A. FUSEBOX / BLUE BT64 / EYELET	TRUNK / ELECTRICAL CARRIER
HIGH MOUNT STOP LAMP (CONV.)	BL8 / 2-WAY MULTILOCK 070 / WHITE	TRUNK / UNDERSIDE OF LID
HIGH MOUNT STOP LAMP (COUPE)	RH8 / 2-WAY MULTILOCK 070 / WHITE	TRUNK / REARWARD OF SUB WOOFER SPEAKER
LAMP CONTROL MODULE	BT18 / 26-WAY AMP MQS / YELLOW	TRUNK / ELECTRICAL CARRIER
LIGHTING STALK (COLUMN SWITCHGEAR)	SC2 / 10-WAY MULTILOCK 070 / YELLOW	STEERING COLUMN
MAJOR INSTRUMENT PACK	FC25 / 26-WAY AMP MICRO QUAD LOCK / BLACK FC26 / 26-WAY AMP MICRO QUAD LOCK / YELLOW	FASCIA
NUMBER PLATE LAMP – LH	BL4 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	TRUNK LID / LINER
NUMBER PLATE LAMP – RH	BL5 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	TRUNK LID / LINER
SECURITY AND LOCKING CONTROL MODULE	BT40 / 16-WAY FORD 2.8 TIMER / BLACK BT41 / 26-WAY FORD IDC / BLACK BT42 / 10-WAY FORD 2.8 TIMER / BLACK RH20 / COAXIAL CONNECTOR	TRUNK / ELECTRICAL CARRIER
REAR SIDE MARKER – LH (NAS ONLY)	BT27 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	TRUNK / LEFT HAND SIDE
REAR SIDE MARKER – RH (NAS ONLY)	BT26 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	TRUNK / RIGHT HAND SIDE
TAIL LAMP UNIT – LH	BT31 / 7-WAY FORD 2.8 TIMER / BLACK	TRUNK / LEFT HAND SIDE
TAIL LAMP UNIT – RH	BT30 / 7-WAY FORD 2.8 TIMER / BLACK	TRUNK / RIGHT HAND SIDE

RELAYS

Relay	Color / Stripe	Connector / Color	Location / Access
REAR FOG RELAY (#1)	BROWN	BUS	TRUNK FUSE BOX
STOP LAMP RELAY (#5)	BROWN	BUS	TRUNK FUSE BOX
TAIL LAMP RELAY (#3)	BROWN	BUS	TRUNK FUSE BOX

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
AC13	20-WAY MULTILOCK 070 / YELLOW	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
BB1	4-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
BL1	4-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
BT1	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
BT2	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
RH1	20-WAY MULTILOCK 070 / GREY	BEHIND GLOVE BOX
RH2	20-WAY MULTILOCK 070 / WHITE	REAR OF CENTER CONSOLE ASSEMBLY

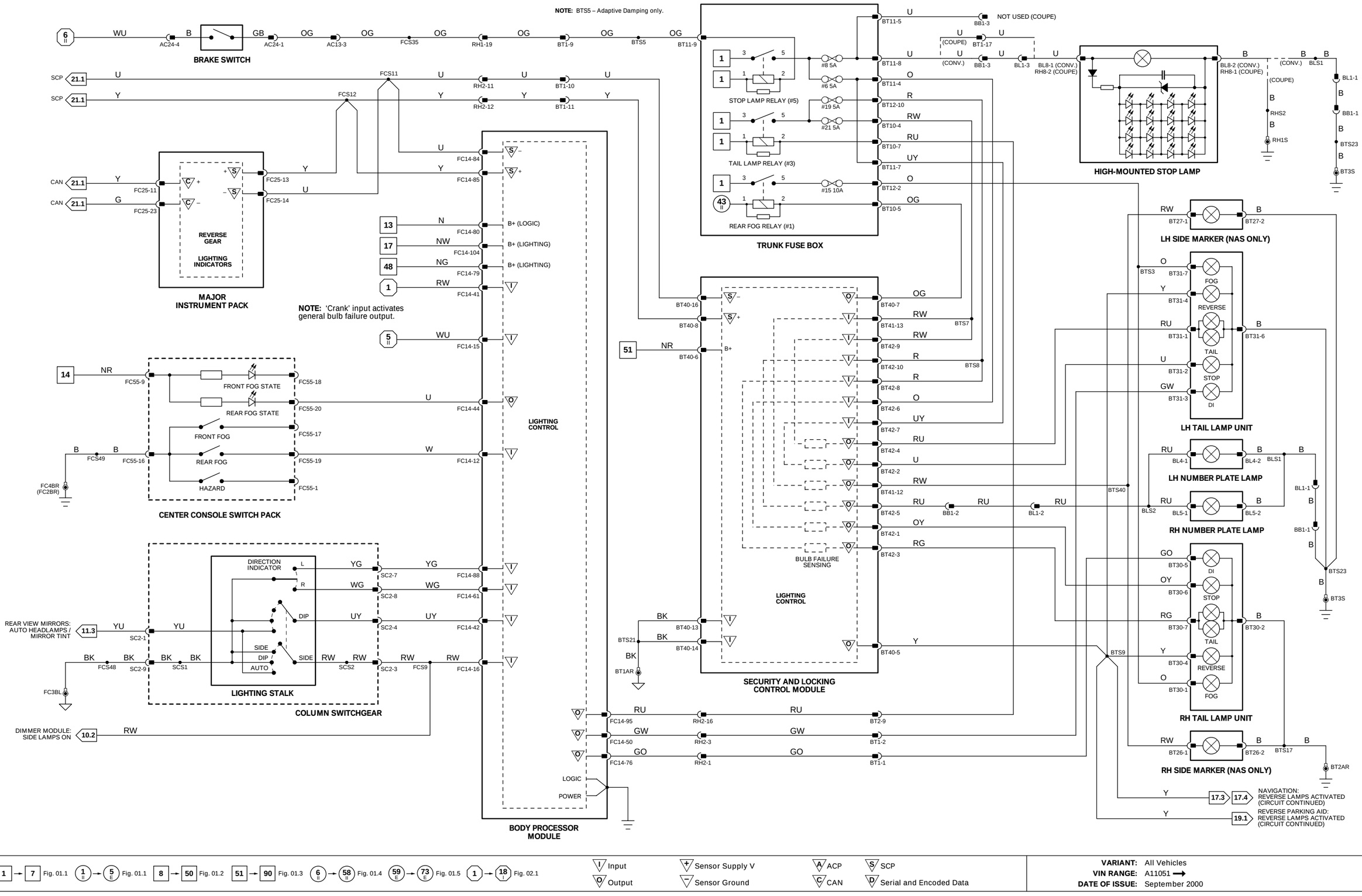
GROUNDS

Ground	Location / Type
BT1AR	EYELET (PAIR) – RIGHT HAND LEG / ADJACENT TO BATTERY
BT2AR	EYELET (PAIR) – RIGHT HAND LEG / TRUNK, RIGHT REAR
BT3S	EYELET (SINGLE) / TRUNK, LEFT REAR
FC1BL	EYELET (PAIR) – LEFT HAND LEG / TRANSMISSION TUNNEL, RIGHT HAND SIDE
FC2BR	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND 'A' POST
FC3BL	EYELET (PAIR) – LEFT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
FC4BR	EYELET (PAIR) – RIGHT HAND LEG / LEFT HAND 'A' POST
RH1S	EYELET (SINGLE) / RIGHT HAND REAR QUARTER

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

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

DATE OF ISSUE: September 2000



1 → 7 Fig. 01.1	(1 II) → (5 E) Fig. 01.1	8 → 50 Fig. 01.2	51 → 90 Fig. 01.3	(6 II) → (58 H) Fig. 01.4	(59 E) → (73 E) Fig. 01.5	1 → (18 I) Fig. 02.1

I Input	+ Sensor Supply V	A ACP	S SCP	
O Output	− Sensor Ground	C CAN	D Serial and Encoded Data	

VARIANT: All Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

Fig. 09.3

COMPONENTS

Component	Connector / Type / Color	Location / Access
HEADLAMP LEVELING ACTUATOR – LH	LF34 / 3-WAY REINSHAGEN / BLACK	HEADLAMP ASSEMBLY / REAR
HEADLAMP LEVELING ACTUATOR – RH	LF24 / 3-WAY REINSHAGEN / BLACK	HEADLAMP ASSEMBLY / REAR
LEVELING SWITCH (CENTER CONSOLE SWITCH PACK)	FC55 / 20-WAY FORD IDC / BLACK	CENTER CONSOLE SWITCH PACK

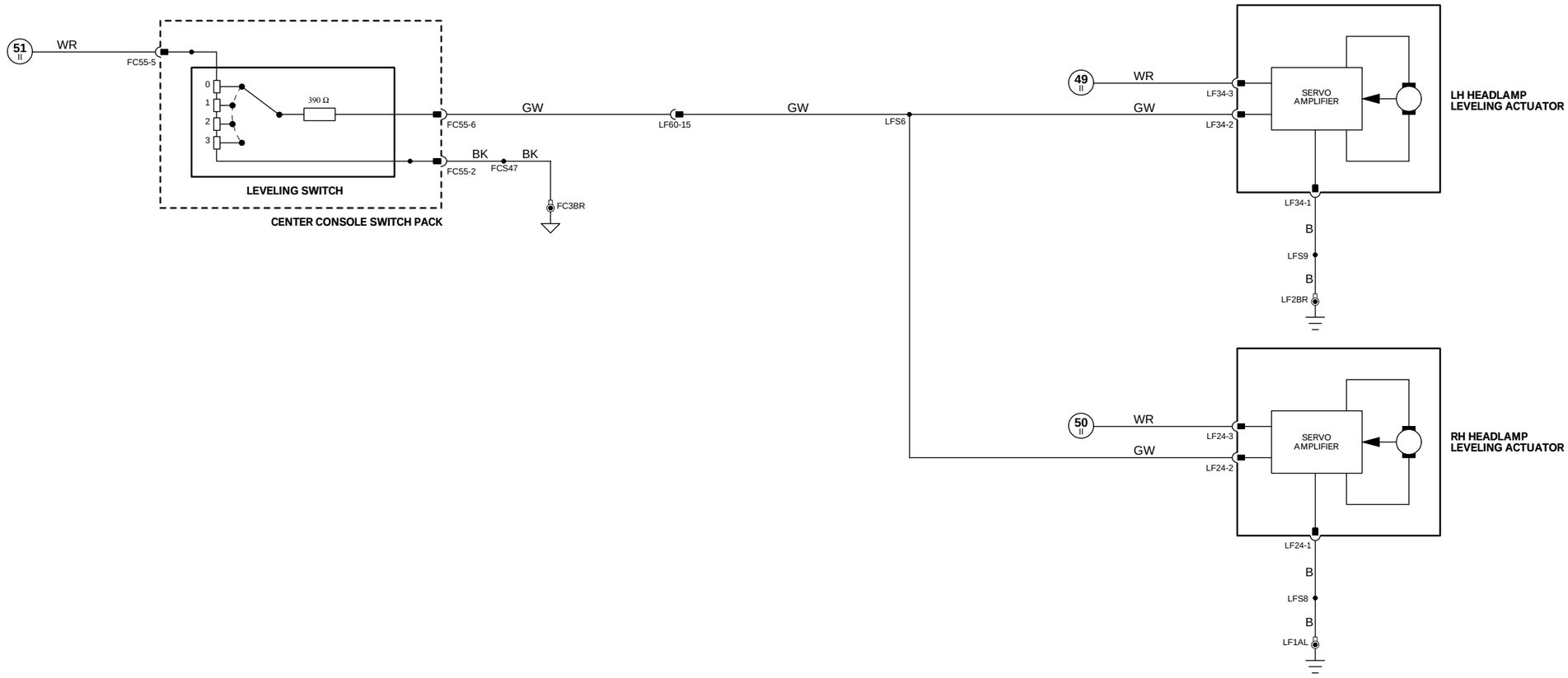
HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
LF60	20-WAY MULTILOCK 070 / WHITE	LEFT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM

GROUNDS

Ground	Location / Type
FC3BR	EYELET (PAIR) – RIGHT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
LF1AL	EYELET (PAIR) – LEFT HAND LEG / RIGHT HAND HEADLAMP
LF2BR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, FORWARD OF LEFT HAND HOOD CATCH

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



1 → 7 Fig. 01.1 (1 II) → (5 E) Fig. 01.1 8 → 50 Fig. 01.2 51 → 90 Fig. 01.3 (6 II) → (58 II) Fig. 01.4 (59 E) → (73 E) Fig. 01.5 1 → (18 I) Fig. 02.1

I Input
O Output
+ Sensor Supply V
− Sensor Ground
A ACP
C CAN
S SCP
D Serial and Encoded Data

VARIANT: Headlamp Leveling Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

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+

PASSENGER DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	DP10-1	BATTERY POWER SUPPLY	B+	B+
I	DP10-8	LOGIC GROUND	GROUND	GROUND
S	DP10-9	SCP NETWORK	2 – 1600 Hz	
O	DP10-14	PASSENGER DOOR PUDDLE LAMP SUPPLY	B+ (LIGHT ON)	GROUND
S	DP10-16	SCP NETWORK	2 – 1600 Hz	
I	DP10-17	POWER GROUND	GROUND	GROUND
I	DP11-20	PASSENGER DOOR SWITCH	GROUND (DOOR OPEN)	B+

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC14-15	IGNITION SWITCHED GROUND SUPPLY	GROUND	
O	FC14-24	FOOTWELL / INTERIOR LAMP SUPPLY	B+	GROUND
I	FC14-32	IGNITION SWITCHED GROUND SUPPLY	GROUND	GROUND
I	FC14-41	IGNITION GROUND SUPPLY	GROUND	
I	FC14-67	KEY IN IGNITION	GROUND (KEY IN)	B+
O	FC14-74	INTERIOR LAMP FADE 2 OUTPUT	B+ (FADES TO 0 V)	
I	FC14-80	BATTERY POWER SUPPLY (LOGIC)	B+	B+
S	FC14-84	SCP NETWORK	2 – 1600 Hz	
S	FC14-85	SCP NETWORK	2 – 1600 Hz	
O	FC14-101	TRUNK / GLOVE BOX / VANITY LAMP POWER SUPPLY	B+	GROUND
I	FC14-104	LIGHTING / MOTORS BATTERY POWER SUPPLY	B+	B+

NOTE: Refer to the Appendix at the rear of this book for CAN and SCP Network Messages.

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

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

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

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

Fig. 10.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC14 / 104-WAY AMP EEEC / GREY	PASSENGER SIDE FASCIA / AIRBAG BRACKET
DIODE (BT29) – TRUNK SWITCH	BT29 / DIODE	TRUNK,/ ADJACENT TO BATTERY
DOOR CONTROL MODULE – DRIVER	DD10 / 22-WAY FORD 2.8 TIMER / BLUE DD11 / 22-WAY FORD 2.8 TIMER / BLACK	DRIVER DOOR / DOOR CASING
DOOR CONTROL MODULE – PASSENGER	DP10 / 22-WAY FORD 2.8 TIMER / BLUE DP11 / 22-WAY FORD 2.8 TIMER / BLACK	PASSENGER DOOR / DOOR CASING
DOOR LOCK SWITCHES – DRIVER	DD3 / 13-WAY ECONOSEAL III LC / BLACK	DRIVER DOOR / DOOR CASING
DOOR SWITCH – DRIVER	DD3 / 13-WAY ECONOSEAL III LC / BLACK	DRIVER DOOR / DOOR CASING
DOOR SWITCH – PASSENGER	DP3 / 13-WAY ECONOSEAL III LC / BLACK	PASSENGER DOOR / DOOR CASING
FOOTWELL LAMP – DRIVER	FC31 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	LEFT HAND FOOTWELL
FOOTWELL LAMP – PASSENGER	FC32 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	RIGHT HAND FOOTWELL
GLOVE BOX LAMP	FC33 / 1-WAY LUCAR STRAIGHT / CLEAR FC34 / 1-WAY LUCAR STRAIGHT / CLEAR	GLOVE BOX
IGNITION SWITCH (KEY-IN SWITCH)	FC4 / 8-WAY MULTILOCK 070 / WHITE	STEERING COLUMN
PUDDLE LAMP – DRIVER DOOR	DD14 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	DRIVER DOOR
PUDDLE LAMP – PASSENGER DOOR	DP14 / 2-WAY AMP JUNIOR POWER TIMER / BLACK	PASSENGER DOOR
REAR INTERIOR LAMP (COUPE ONLY)	RH3 / 2-WAY AMP JUNIOR POWER TIMER / WHITE	REAR CENTER OF HEAD LINING
ROOF CONSOLE	RF10 / 6-WAY MULTILOCK 070 / GREY	INTERIOR ROOF
TRUNK LAMP – LH	BT56 / 2-WAY AMP JUNIOR POWER TIMER / WHITE	TRUNK / LEFT HAND SIDE
TRUNK LAMP – RH	BT59 / 2-WAY AMP JUNIOR POWER TIMER / WHITE	TRUNK / RIGHT HAND SIDE
TRUNK SWITCH	BT46 / 2-WAY AUGAT 1.6 / BLACK	TRUNK
VANITY LAMP – LH	RF8 / 3-WAY MULTILOCK 070 / YELLOW	SUN VISOR
VANITY LAMP – RH	RF7 / 3-WAY MULTILOCK 070 / YELLOW	SUN VISOR

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT1	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
DD1	23-WAY AMP – FORD / BLACK	DRIVER SIDE 'A' POST MOUNTING BRACKET/ 'A' POST TRIM
DP1	23-WAY AMP – FORD / BLACK	PASSENGER SIDE 'A' POST / 'A' POST TRIM
RF1	24-WAY CONNECTOR / BLACK	RIGHT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
RF5	8-WAY MULTILOCK 070 / WHITE	LOWER RH 'A' POST / 'A' POST TRIM
RH2	20-WAY MULTILOCK 070 / WHITE	REAR OF CENTER CONSOLE ASSEMBLY

GROUNDS

Ground	Location / Type
BT1AR	EYELET (PAIR) – RIGHT HAND LEG / ADJACENT TO BATTERY
FC2AL	EYELET (PAIR) – LEFT HAND LEG / RIGHT HAND 'A' POST
FC2AR	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND 'A' POST
FC2BL	EYELET (PAIR) – LEFT HAND LEG / RIGHT HAND 'A' POST
FC2BR	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND 'A' POST
FC3BL	EYELET (PAIR) – LEFT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
FC3BR	EYELET (PAIR) – RIGHT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
FC4AL	EYELET (PAIR) – LEFT HAND LEG / LEFT HAND 'A' POST
FC4AR	EYELET (PAIR) – RIGHT HAND LEG / LEFT HAND 'A' POST
FC4BL	EYELET (PAIR) – LEFT HAND LEG / LEFT HAND 'A' POST
FC4BR	EYELET (PAIR) – RIGHT HAND LEG / LEFT HAND 'A' POST
RH1S	EYELET (SINGLE) / RIGHT HAND REAR QUARTER

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

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

DATE OF ISSUE: September 2000

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

13 N FC14-80 B+ (LOGIC)
17 NW FC14-104 B+ (LIGHTING)
1 RW FC14-41
5 II WU FC14-15
16 I WR FC14-32
O FC14-67

BK FCS48 BK FC4-5 FC4-4 — IGNITION SWITCH (KEY-IN SWITCH) — FC3BL

SCP 21.1 U FCS11 U FC14-84 S−
SCP 21.1 Y FCS12 Y FC14-85 S+

FADE 1 O FC14-24 NW FCS1

ILLUMINATION ENABLE O FC14-101 RW FCS36

INTERIOR LIGHTING CONTROL

BODY PROCESSOR MODULE

FADE 2 O FC14-74 RW RF1-12 RW RF10-4

LOGIC
POWER

NW FC31-2 FC31-1 B FCS50 B — DRIVER FOOT WELL LAMP — FC4BL (FC2BL)

NW FC32-2 FC32-1 B FCS46 B — PASSENGER FOOT WELL LAMP — FC2BR (FC4BR)

NW RH2-5 NW RH3-2 RH3-1 B RHS2 B — REAR INTERIOR LAMP (COUPE ONLY) — RH1S

RW BT56-2 BT56-1 RW — LH TRUNK LAMP

RW RH2-6 RW BT1-5 RW BTS25 RW BT59-2 BT59-1 RW BTS26 RW BT29-1 BT29 BT29-2 RW BTS6 RW BT46-2 BT46-1 BK BTS21 BK — RH TRUNK LAMP — TRUNK SWITCH — BT1AR

RW FC33 RW FC34 B FCS46 B — GLOVE BOX LAMP — FC2BR (FC4BR)

RW RF5-5 RW RFS2 RW RF8-1 RF8-3 BK — LH VANITY LAMP

RW RF7-1 RF7-3 BK — RH VANITY LAMP

RW RF10-5 — ROOF CONSOLE

LH MAP LAMP SWITCH
LH MAP LAMP
RH MAP LAMP
RH MAP LAMP SWITCH
PRINTED CIRCUIT BOARD

RF10-1 BK RFS1 BK RF5-6 BK FC3BR

GW DD14-2 DD14-1 B DDS1 B DD1-1 B FC4AL (FC2AL) — DRIVER DOOR PUDDLE LAMP

GW DP14-2 DP14-1 B DPS1 B DP1-1 B FC2AL (FC4AL) — PASSENGER DOOR PUDDLE LAMP

23 N DD10-1 B+

AC14-9 Y AC14-8 U

36 NW DD3-12 LOCK OY DD3-10 DD11-12 UNLOCK NG DD3-11 DD11-4 — KEY BARREL — DRIVER DOOR LOCK SWITCHES

− S DD10-9 U DD1-8 U ACS5
+ S DD10-16 Y DD1-3 Y ACS6

BK DD3-7 DD3-6 GW DD11-20 — DRIVER DOOR SWITCH

DOOR LAMP CONTROL
LOGIC
POWER

BK DD1-2 BK DDS7 BK DD10-8
B DD1-21 B DD10-17

FC4AR (FC2AR)

GW DD10-14

DRIVER DOOR CONTROL MODULE

46 N DP10-1 B+

− S DP10-9 U DP1-8 U
+ S DP10-16 Y DP1-3 Y

BK DP3-7 DP3-6 GW DP11-20 — PASSENGER DOOR SWITCH

DOOR LAMP CONTROL
LOGIC
POWER

BK DP1-2 BK DPS7 BK DP10-8
B DP1-21 B DP10-17

FC2AR (FC4AR)

GW DP10-14

PASSENGER DOOR CONTROL MODULE

1 → 7 Fig. 01.1 — 1 II → 5 E Fig. 01.1 — 8 → 50 Fig. 02.1 — 51 → 90 Fig. 01.3 — 6 II → 58 H Fig. 01.4 — 59 E → 73 E Fig. 01.5 — 1 → 18 I Fig. 02.1

I Input — O Output — + Sensor Supply V — − Sensor Ground — A ACP — C CAN — S SCP — D Serial and Encoded Data

VARIANT: All Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

DIMMER MODULE

▽	Pin	Description	Active	Inactive
O	FC23-1	MAJOR INSTRUMENT PACK ILLUMINATION BULB SUPPLY	B+ (LIGHTS ON)	GROUND
O	FC23-2	MAJOR 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

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

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

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

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

Fig. 10.2

COMPONENTS

Component	Connector / Type / Color	Location / Access
AIR CONDITIONING CONTROL PANEL	FC43 / 12-WAY MULTILOCK 040 / BLUE	CENTER CONSOLE
CENTER CONSOLE SWITCH PACK	FC55 / 20-WAY FORD IDC / BLACK	CENTER CONSOLE
CIGAR LIGHTER	FC42 / 2-WAY AMP / METALLIC FC59 / LUCAR POSILOCK / BLACK	FORWARD OF GEAR SELECTOR
CONVERTIBLE TOP SWITCH	FC62 / 10-WAY AMP MQL / BLACK	FORWARD OF GEAR SELECTOR
SPEED CONTROL ON / OFF SWITCH	FC63 / 10-WAY AMP MQL / NATURAL	REARWARD OF GEAR SELECTOR
DIMMER CONTROL (COLUMN SWITCHGEAR)	SC11 / 6-WAY MULTILOCK 070 / WHITE	STEERING COLUMN COWL
DIMMER MODULE	FC23 / 12-WAY MULTILOCK 040 / BLACK	ADJACENT TO RIGHT HAND FASCIA FUSE BOX
GEAR SELECTOR ILLUMINATION MODULE	FC88 / 10-WAY MULTILOCK 070 / WHITE	FRONT OF GEAR SELECTOR ASSEMBLY
LIGHTING STALK (COLUMN SWITCHGEAR)	SC2 / 10-WAY MULTILOCK 070 / YELLOW	STEERING COLUMN
MAJOR INSTRUMENT PACK	FC25 / 26-WAY AMP MICRO QUAD LOCK / BLACK FC26 / 26-WAY AMP MICRO QUAD LOCK / YELLOW	FASCIA
MINOR INSTRUMENT PACK	FC79 / 20-WAY MULTILOCK 040 / BLACK	FASCIA
MODE SWITCH (TRANSMISSION)	FC35 / 10-WAY AMP MQL / BLACK	REARWARD OF GEAR SELECTOR
NAVIGATION CONTROL MODULE	IC7 / 8-WAY ALPINE / BLACK IC22 / 16-WAY AMP ML42 / BLACK IC23 / 24-WAY AMP ML42 / BLACK	TRUNK / RIGHT HAND SIDE
NAVIGATION DISPLAY	FC97 / 12-WAY AMP ML42 / BLACK FC98 / 16-WAY AMP ML42 / BLACK	BEHIND NAVIGATION DISPLAY
RADIO / CASSETTE HEAD UNIT	IC8 / 8-WAY ALPINE / BLACK IC19 / 12-WAY MULTILOCK 070 / WHITE IC20 / 26-WAY MQS / YELLOW	CENTER CONSOLE
ROOF CONSOLE	RF10 / 6-WAY MULTILOCK 070 / GREY	INTERIOR ROOF
SWITCH PACK – DRIVER DOOR	DD17 / 20-WAY MULTILOCK 040 / BLACK	DRIVER DOOR
SWITCH PACK – DRIVER DOOR MEMORY	DD5 / 10-WAY AMP MQL / BLACK	DRIVER DOOR
SWITCH PACK – PASSENGER DOOR	DP17 / 8-WAY MULTILOCK 040 / BLACK	PASSENGER DOOR
TRIP COMPUTER SWITCH PACK	FC27 / 10-WAY AMP MQL / BLACK	FASCIA / DRIVER SIDE
TRUNK AND FUEL FILL RELEASE SWITCH	FC41 / 10-WAY AMP MQL / NATURAL	FASCIA / DRIVER SIDE
VALET SWITCH	FC67 / 10-WAY AMP MQL / BLACK	DRIVER KNEE BOLSTER

HARNESS-TO-HARNESS CONNECTORS

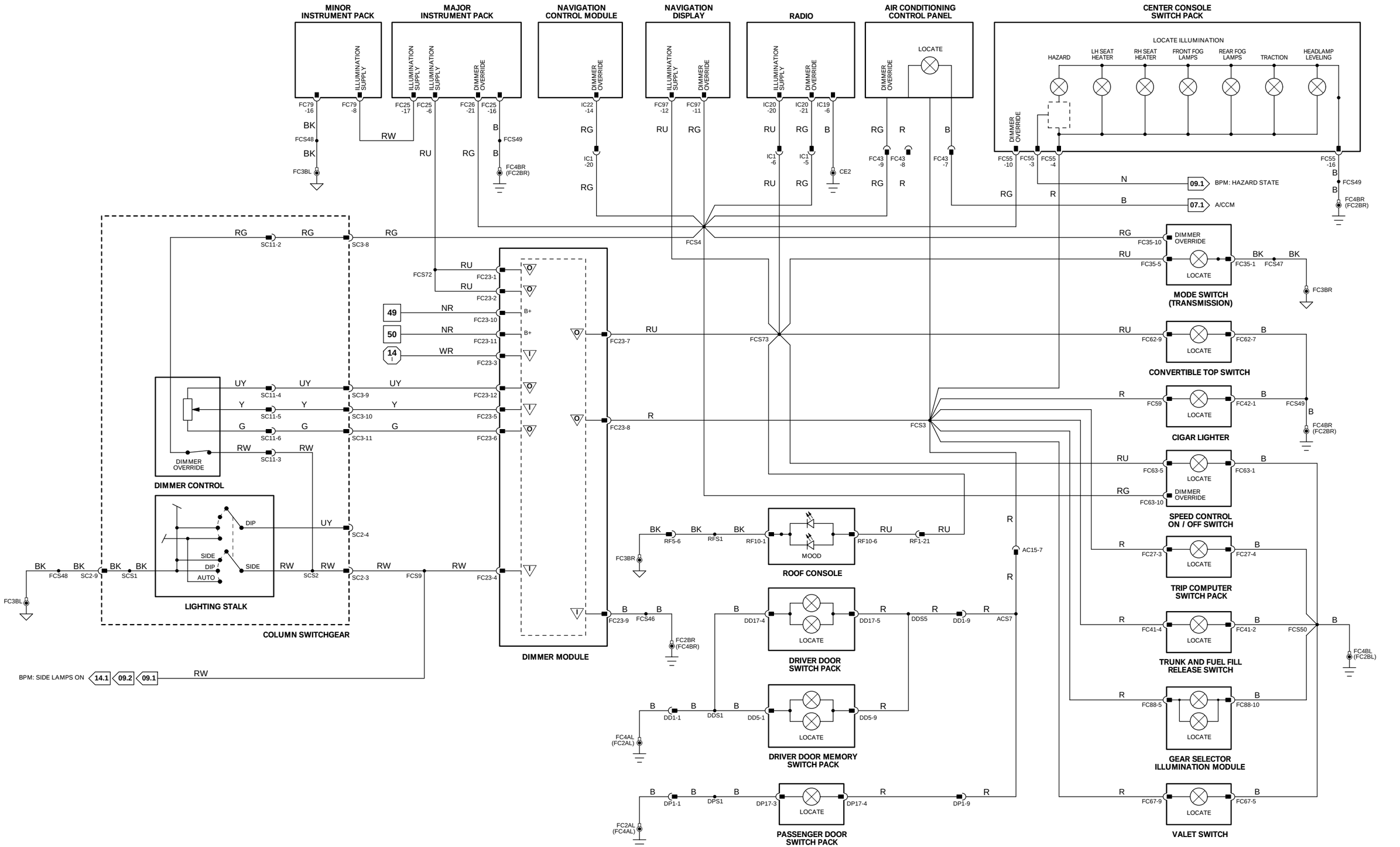
Connector	Type / Color	Location / Access
AC15	20-WAY MULTILOCK 070 / GREY	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
DD1	23-WAY AMP – FORD / BLACK	DRIVER SIDE 'A' POST MOUNTING BRACKET/ 'A' POST TRIM
DP1	23-WAY AMP – FORD / BLACK	PASSENGER SIDE 'A' POST / 'A' POST TRIM
IC1	20-WAY MULTILOCK 070 / YELLOW	BELOW CENTER CONSOLE GLOVE BOX
RF1	24-WAY CONNECTOR / BLACK	RIGHT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
SC3	12-WAY MULTILOCK 070 / GREY	RIGHT HAND SIDE OF STEERING COLUMN

GROUNDS

Ground	Location / Type
CE2	EYELET (SINGLE) / ABOVE RIGHT HAND SIDE OF TRANSMISSION TUNNEL
FC2AL	EYELET (PAIR) – LEFT HAND LEG / RIGHT HAND 'A' POST
FC2BL	EYELET (PAIR) – LEFT HAND LEG / RIGHT HAND 'A' POST
FC2BR	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND 'A' POST
FC3BL	EYELET (PAIR) – LEFT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
FC3BR	EYELET (PAIR) – RIGHT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
FC4AL	EYELET (PAIR) – LEFT HAND LEG / LEFT HAND 'A' POST
FC4BL	EYELET (PAIR) – LEFT HAND LEG / LEFT HAND 'A' POST
FC4BR	EYELET (PAIR) – RIGHT HAND LEG / LEFT HAND 'A' POST

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

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



1 → 7 Fig. 01.1 | 1 II → 5 E Fig. 01.1 | 8 → 50 Fig. 02.2 | 51 → 90 Fig. 01.3 | 6 II → 58 II Fig. 01.4 | 59 E → 73 E Fig. 01.5 | 1 → 18 I Fig. 02.1

Input / Output | Sensor Supply V / Sensor Ground | ACP / CAN | SCP / Serial and Encoded Data

VARIANT: All Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC14-11	AUTO TILT REQUEST	GROUND	B+
I	FC14-15	IGNITION SWITCHED GROUND SUPPLY	GROUND	
I	FC14-25	COLUMN MOTOR GROUND SUPPLY	GROUND	GROUND
I	FC14-32	IGNITION SWITCHED GROUND SUPPLY	GROUND	GROUND
O	FC14-40	COLUMN MOTOR POTENTIOMETER REFERENCE VOLTAGE	5 V	
I	FC14-41	IGNITION GROUND SUPPLY	GROUND	
O	FC14-52	COLUMN REACH MOTOR SUPPLY	B+	GROUND
I	FC14-58	NOT-IN-PARK	GROUND (R,N,D,4,3,2)	B+ (PARK)
I	FC14-66	COLUMN REACH MOTOR POTENTIOMETER FEEDBACK	0.5 V (OUT); 4 V (IN)	
I	FC14-67	KEY IN IGNITION	GROUND (KEY IN)	B+
O	FC14-78	COLUMN REACH MOTOR SUPPLY	B+	GROUND
I	FC14-80	BATTERY POWER SUPPLY (LOGIC)	B+	B+
S	FC14-84	SCP NETWORK	2 – 1600 Hz	
S	FC14-85	SCP NETWORK	2 – 1600 Hz	
I	FC14-87	COLUMN MOVEMENT REQUEST	UP = 10.1 V, DOWN = 12.1 V, RETRACT = 8.5 V, EXTEND = 6.8 V	
O	FC14-90	COLUMN TILT MOTOR POTENTIOMETER REFERENCE GROUND	GROUND	GROUND
O	FC14-91	COLUMN REACH MOTOR POTENTIOMETER REFERENCE GROUND	GROUND	GROUND
I	FC14-93	COLUMN TILT MOTOR POTENTIOMETER FEEDBACK	UP = 4 V, DOWN = 0.5 V	
O	FC14-99	COLUMN TILT MOTOR SUPPLY	B+	GROUND
O	FC14-100	COLUMN TILT MOTOR SUPPLY	B+	GROUND
I	FC14-102	COLUMN MOVEMENT MOTORS BATTERY POWER SUPPLY	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
O	DD11-2	SEAT MEMORY STATUS LED	GROUND (LED ON)	B+
I	DD11-6	MEMORY SET REQUEST	B+	
I	DD11-20	DRIVER DOOR SWITCH	GROUND (DOOR OPEN)	B+
I	DD11-21	MEMORY 1 RECALL REQUEST	B+ (MOMENTARY)	GROUND
I	DD11-22	MEMORY 2 RECALL REQUEST	B+ (MOMENTARY)	GROUND

NOTE: Refer to the Appendix at the rear of this book for CAN and SCP Network Messages.

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

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

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

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

Fig. 11.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
AUTO TILT SWITCH (COLUMN SWITCHGEAR)	SC9 / 8-WAY GROTE AND HARTMAN MDK / BLACK	STEERING COLUMN / LEFT HAND SIDE
BODY PROCESSOR MODULE	FC14 / 104-WAY AMP EEEC / GREY	PASSENGER SIDE FASCIA / AIRBAG BRACKET
COLUMN JOY STICK (COLUMN SWITCHGEAR)	SC9 / 8-WAY GROTE AND HARTMAN MDK / BLACK	STEERING COLUMN / LEFT HAND SIDE
DOOR CONTROL MODULE – DRIVER	DD10 / 22-WAY FORD 2.8 TIMER / BLUE DD11 / 22-WAY FORD 2.8 TIMER / BLACK	DRIVER DOOR / DOOR CASING
DOOR SWITCH – DRIVER	DD3 / 13-WAY ECONOSEAL III LC / BLACK	DRIVER DOOR / DOOR CASING
IGNITION SWITCH (KEY-IN SWITCH)	FC4 / 8-WAY MULTILOCK 070 / WHITE	STEERING COLUMN
NOT-IN-PARK MICROSWITCH	FC87 / 3-WAY MULTILOCK 070 / WHITE	GEAR SELECTOR ASSEMBLY
STEERING COLUMN MOTORS	FC60 / 6-WAY MULTILOCK 070 / WHITE FC61 / 8-WAY MULTILOCK 070 / YELLOW	STEERING COLUMN
SWITCH PACK – DRIVER DOOR MEMORY	DD5 / 10-WAY AMP MQL / BLACK	DRIVER DOOR

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
AC14	14-WAY MULTILOCK 070 / GREY	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
DD1	23-WAY AMP – FORD / BLACK	DRIVER SIDE 'A' POST MOUNTING BRACKET/ 'A' POST TRIM
SC2	10-WAY MULTILOCK 070 / YELLOW	ADJACENT TO STEERING COLUMN MOTOR
SC3	12-WAY MULTILOCK 070 / GREY	RIGHT HAND SIDE OF STEERING COLUMN

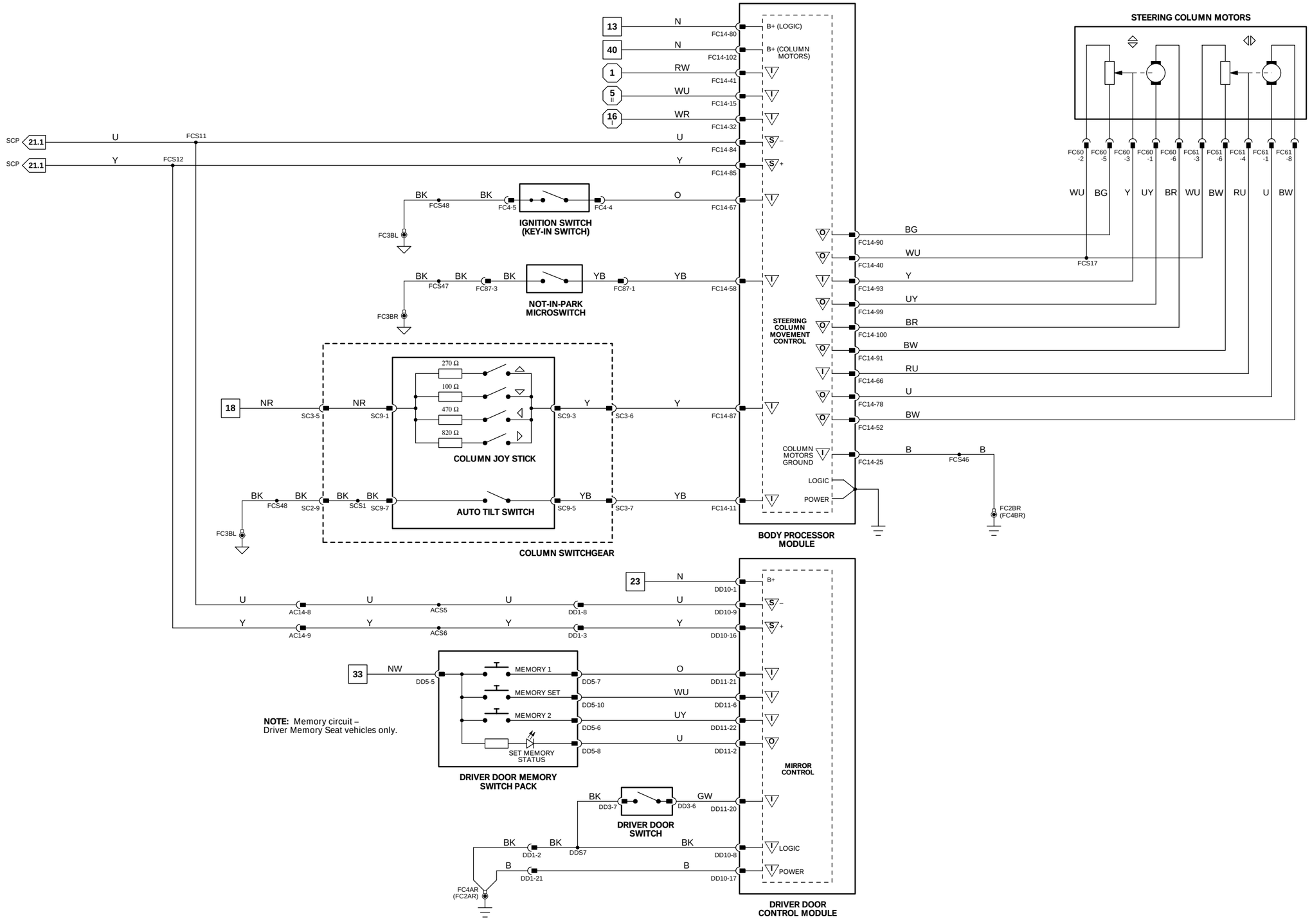
GROUNDS

Ground	Location / Type
FC2AR	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND 'A' POST
FC2BR	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND 'A' POST
FC3BL	EYELET (PAIR) – LEFT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
FC3BR	EYELET (PAIR) – RIGHT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
FC4AR	EYELET (PAIR) – RIGHT HAND LEG / LEFT HAND 'A' POST
FC4BR	EYELET (PAIR) – RIGHT HAND LEG / LEFT HAND 'A' POST

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

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

DATE OF ISSUE: September 2000



1 → 7 Fig. 01.1 (1 II → 5 E) Fig. 01.1 8 → 50 Fig. 02.1 51 → 90 Fig. 01.3 (6 II → 58 II) Fig. 01.4 (59 E → 73 E) Fig. 01.5 1 → 18 I Fig. 02.1

I Input
O Output
+ Sensor Supply V
– Sensor Ground
A ACP
C CAN
S SCP
D Serial and Encoded Data

VARIANT: All Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC14-15	IGNITION SWITCHED GROUND SUPPLY	GROUND	
I	FC14-32	IGNITION SWITCHED GROUND SUPPLY	GROUND	GROUND
I	FC14-41	IGNITION GROUND SUPPLY	GROUND	
I	FC14-58	NOT-IN-PARK	GROUND (R,N,D,4,3,2)	B+ (PARK)
I	FC14-80	BATTERY POWER SUPPLY (LOGIC)	B+	B+
S	FC14-84	SCP NETWORK	2 – 1600 Hz	
S	FC14-85	SCP NETWORK	2 – 1600 Hz	

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 SELECT	B+ = UP / RIGHT	GROUND = DOWN / LEFT
O	DD11-2	SEAT MEMORY STATUS LED	GROUND (LED ON)	B+
I	DD11-3	RH VERTICAL MOVEMENT REQUEST	B+ = DOWN	GROUND = UP
I	DD11-6	MEMORY SET REQUEST	B+	
I	DD11-9	RH HORIZONTAL MOVEMENT REQUEST	B+ = LEFT	GROUND = RIGHT
I	DD11-10	LH HORIZONTAL MOVEMENT REQUEST	B+ = LEFT	GROUND = RIGHT
I	DD11-17	LH VERTICAL MOVEMENT REQUEST	B+ = DOWN	GROUND = UP
I	DD11-20	DRIVER DOOR SWITCH	GROUND (DOOR OPEN)	B+
I	DD11-21	MEMORY 1 RECALL REQUEST	B+ (MOMENTARY)	GROUND
I	DD11-22	MEMORY 2 RECALL REQUEST	B+ (MOMENTARY)	GROUND

MAJOR INSTRUMENT PACK

▽	Pin	Description	Active	Inactive
C	FC25-11	CAN NETWORK	15 – 1500 Hz	
S	FC25-13	SCP NETWORK	2 – 1600 Hz	
S	FC25-14	SCP NETWORK	2 – 1600 Hz	
C	FC25-23	CAN NETWORK	15 – 1500 Hz	

PASSENGER DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	DP10-1	BATTERY POWER SUPPLY	B+	B+
O	DP10-2	PASSENGER DOOR MIRROR VERTICAL / HORIZONTAL MOVEMENT MOTORS COMMON	B+ = LEFT / DOWN	GROUND = RIGHT / UP
O	DP10-3	PASSENGER DOOR MIRROR HORIZONTAL MOVEMENT MOTOR	B+ = RIGHT	GROUND
O	DP10-4	PASSENGER DOOR MIRROR VERTICAL MOVEMENT MOTOR	B+ = UP	GROUND
I	DP10-8	LOGIC GROUND	GROUND	GROUND
S	DP10-9	SCP NETWORK	2 – 1600 Hz	
S	DP10-16	SCP NETWORK	2 – 1600 Hz	
I	DP10-17	POWER GROUND	GROUND	GROUND
O	DP10-20	PASSENGER DOOR MIRROR POTENTIOMETER COMMON REFERENCE VOLTAGE	B+	B+
I	DP10-21	PASSENGER DOOR MIRROR POTENTIOMETER HORIZONTAL POSITION FEEDBACK VOLTAGE	1 V = LEFT; 8 V = RIGHT	
I	DP10-22	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 abbreviations are used to represent values for Control Module Pin-Out data

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

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

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

Fig. 11.2

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC14 / 104-WAY AMP EEEC / GREY	PASSENGER SIDE FASCIA / AIRBAG BRACKET
DOOR CONTROL MODULE – DRIVER	DD10 / 22-WAY FORD 2.8 TIMER / BLUE DD11 / 22-WAY FORD 2.8 TIMER / BLACK	DRIVER DOOR / DOOR CASING
DOOR CONTROL MODULE – PASSENGER	DP10 / 22-WAY FORD 2.8 TIMER / BLUE DP11 / 22-WAY FORD 2.8 TIMER / BLACK	PASSENGER DOOR / DOOR CASING
DOOR MIRROR MOTORS – DRIVER	MD1 / 8-WAY CONNECTOR / BLUE	BEHIND MIRROR
DOOR MIRROR MOTORS – PASSENGER	MP1 / 8-WAY CONNECTOR / BLUE	BEHIND MIRROR
DOOR SWITCH – DRIVER	DD3 / 13-WAY ECONOSEAL III LC / BLACK	DRIVER DOOR / DOOR CASING
MAJOR INSTRUMENT PACK	FC25 / 26-WAY AMP MICRO QUAD LOCK / BLACK FC26 / 26-WAY AMP MICRO QUAD LOCK / YELLOW	FASCIA
MIRROR JOYSTICK (DRIVER DOOR SWITCH PACK)	DD17 / 20-WAY MULTILOCK 040 / BLACK	DRIVER DOOR SWITCH PACK
NOT-IN-PARK MICROSWITCH	FC87 / 3-WAY MULTILOCK 070 / WHITE	GEAR SELECTOR ASSEMBLY
SWITCH PACK – DRIVER DOOR MEMORY	DD5 / 10-WAY AMP MQL / BLACK	DRIVER DOOR

HARNESS-TO-HARNESS CONNECTORS

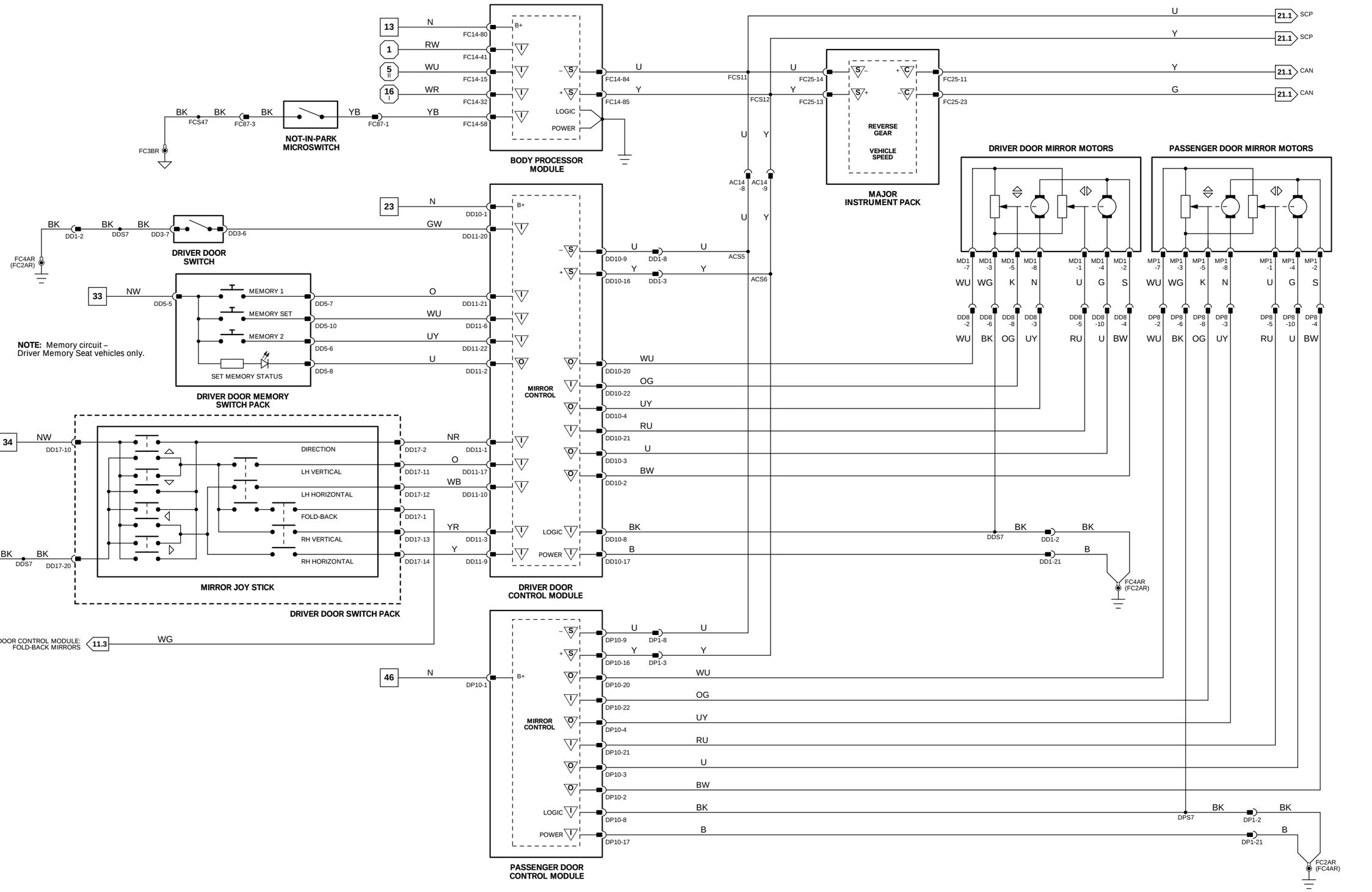
Connector	Type / Color	Location / Access
AC14	14-WAY MULTILOCK 070 / GREY	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
DD1	23-WAY AMP – FORD / BLACK	DRIVER SIDE 'A' POST MOUNTING BRACKET/ 'A' POST TRIM
DD8	12-WAY MULTILOCK 040 / BLUE	DRIVER DOOR / DOOR CASING
DP1	23-WAY AMP – FORD / BLACK	PASSENGER SIDE 'A' POST / 'A' POST TRIM
DP8	12-WAY MULTILOCK 040 / BLUE	PASSENGER DOOR / DOOR CASING

GROUNDS

Ground	Location / Type
FC2AR	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND 'A' POST
FC3AS	EYELET (SINGLE) / TRANSMISSION TUNNEL, LEFT HAND SIDE
FC3BR	EYELET (PAIR) – RIGHT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
FC4AR	EYELET (PAIR) – RIGHT HAND LEG / LEFT HAND 'A' POST

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

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



1 → 7 Fig. 01.1 (1 II → 5 E) Fig. 01.1 8 → 50 Fig. 02.1 51 → 90 Fig. 01.3 (6 II → 58 II) Fig. 01.4 (59 E → 73 E) Fig. 01.5 1 → 18 I Fig. 02.1

I Input
O Output
+ Sensor Supply V
− Sensor Ground
A ACP
C CAN
S SCP
D Serial and Encoded Data

VARIANT: All Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC14-15	IGNITION SWITCHED GROUND SUPPLY	GROUND	
I	FC14-16	SIDE LAMP REQUEST	GROUND	B+
I	FC14-42	DIPPED BEAM REQUEST	GROUND	B+
I	FC14-79	BATTERY POWER SUPPLY	B+	B+
I	FC14-80	BATTERY POWER SUPPLY (LOGIC)	B+	B+
S	FC14-84	SCP NETWORK	2 – 1600 Hz	
S	FC14-85	SCP NETWORK	2 – 1600 Hz	

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	DD11-15	DOOR MIRROR POWER FOLD BACK REQUEST	B+	GROUND

DRIVER SEAT CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	SD3-4	DOOR MIRROR FOLD BACK ACTIVATE	GROUND	B+
I	SD5-2	POWER GROUND	GROUND	GROUND
I	SD5-5	BATTERY POWER SUPPLY	B+	B+
S	SD5-9	SCP NETWORK	2 – 1600 Hz	
S	SD5-10	SCP NETWORK	2 – 1600 Hz	

MAJOR INSTRUMENT PACK

▽	Pin	Description	Active	Inactive
C	FC25-11	CAN NETWORK	15 – 1500 Hz	
S	FC25-13	SCP NETWORK	2 – 1600 Hz	
S	FC25-14	SCP NETWORK	2 – 1600 Hz	
C	FC25-23	CAN NETWORK	15 – 1500 Hz	

PASSENGER SEAT CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	SP3-4	DOOR MIRROR FOLD OUT ACTIVATE	GROUND	B+
I	SP5-2	POWER GROUND	GROUND	GROUND
I	SP5-5	BATTERY POWER SUPPLY	B+	B+
S	SP5-9	SCP NETWORK	2 – 1600 Hz	
S	SP5-10	SCP NETWORK	2 – 1600 Hz	

SECURITY AND LOCKING CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	BT40-5	REVERSE LAMP SUPPLY	B+	GROUND
I	BT40-6	BATTERY POWER SUPPLY	B+	B+
S	BT40-8	SCP NETWORK	2 – 1600 Hz	
I	BT40-13	GROUND	GROUND	GROUND
I	BT40-14	GROUND	GROUND	GROUND
S	BT40-16	SCP NETWORK	2 – 1600 Hz	

NOTE: Refer to the Appendix at the rear of this book for CAN and SCP Network Messages.

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

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

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

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

Fig. 11.3

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC14 / 104-WAY AMP EEEC / GREY	PASSENGER SIDE FASCIA / AIRBAG BRACKET
DOOR CONTROL MODULE – DRIVER	DD10 / 22-WAY FORD 2.8 TIMER / BLUE DD11 / 22-WAY FORD 2.8 TIMER / BLACK	DRIVER DOOR / DOOR CASING
DOOR MIRROR – DRIVER	DD8 / 12-WAY MULTILOCK 040 / BLACK	DRIVER DOOR
DOOR MIRROR – PASSENGER	DP8 / 12-WAY MULTILOCK 040 / BLACK	PASSENGER DOOR
INTERIOR REAR VIEW MIRROR	RF2 / 6-WAY MULTILOCK 070 / YELLOW	WINDSHIELD / FORWARD OF ROOF CONSOLE
LIGHTING STALK (COLUMN SWITCHGEAR)	SC2 / 10-WAY MULTILOCK 070 / YELLOW	STEERING COLUMN
MAJOR INSTRUMENT PACK	FC25 / 26-WAY AMP MICRO QUAD LOCK / BLACK FC26 / 26-WAY AMP MICRO QUAD LOCK / YELLOW	FASCIA
MIRROR JOY STICK (DRIVER DOOR SWITCH PACK)	DD17 / 20-WAY MULTILOCK 040 / BLACK	DRIVER DOOR SWITCH PACK
SEAT CONTROL MODULE – DRIVER	SD3 / 16-WAY FORD 2.8 TIMER / BLACK SD4 / 26-WAY FORD IDC / BLACK SD5 / 10-WAY FORD 2.8 TIMER / BLACK	BELOW SEAT CUSHION
SEAT CONTROL MODULE – PASSENGER	SP3 / 16-WAY FORD 2.8 TIMER / BLACK SP5 / 10-WAY FORD 2.8 TIMER / BLACK	BELOW SEAT CUSHION
SECURITY AND LOCKING CONTROL MODULE	BT40 / 16-WAY FORD 2.8 TIMER / BLACK BT41 / 26-WAY FORD IDC / BLACK BT42 / 10-WAY FORD 2.8 TIMER / BLACK RH20 / COAXIAL CONNECTOR	TRUNK / ELECTRICAL CARRIER

HARNESS-TO-HARNESS CONNECTORS

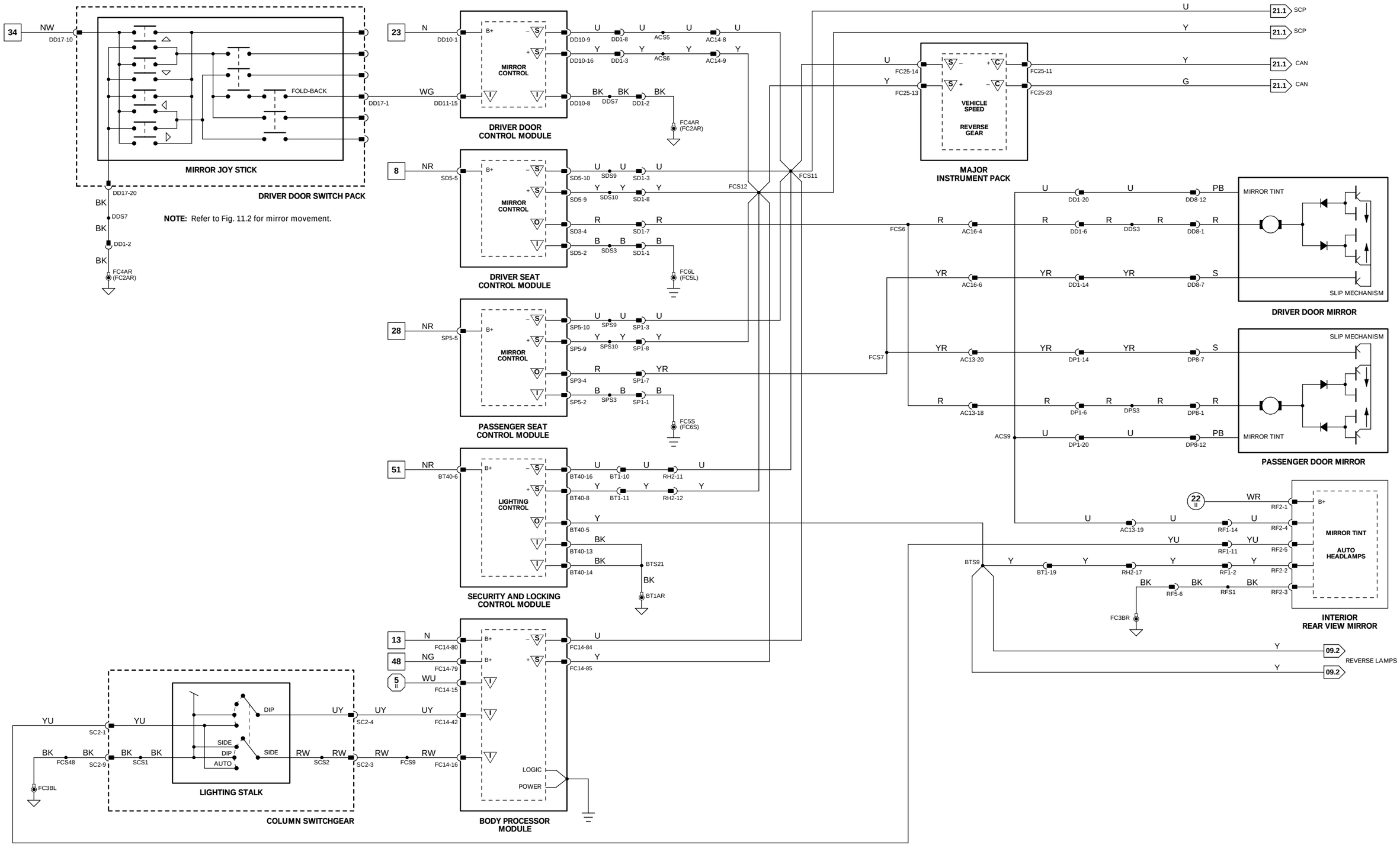
Connector	Type / Color	Location / Access
AC13	20-WAY MULTILOCK 070 / YELLOW	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
AC14	14-WAY MULTILOCK 070 / GREY	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
AC16	6-WAY MULTILOCK 070 / YELLOW	LEFT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
BT1	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
DD1	23-WAY AMP – FORD / BLACK	DRIVER SIDE 'A' POST MOUNTING BRACKET/ 'A' POST TRIM
DP1	23-WAY AMP – FORD / BLACK	PASSENGER SIDE 'A' POST / 'A' POST TRIM
RF1	24-WAY CONNECTOR / BLACK	RIGHT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
RF5	8-WAY MULTILOCK 070 / WHITE	LOWER RH 'A' POST / 'A' POST TRIM
RH2	20-WAY MULTILOCK 070 / WHITE	REAR OF CENTER CONSOLE ASSEMBLY
RH12	18-WAY MULTILOCK 070 / YELLOW	REAR OF CENTER CONSOLE ASSEMBLY
SD1	14-WAY MULTILOCK 070 / YELLOW	BELOW DRIVER SEAT
SP1	14-WAY MULTILOCK 070 / YELLOW	BELOW PASSENGER SEAT

GROUNDS

Ground	Location / Type
BT1AR	EYELET (PAIR) – RIGHT HAND LEG / ADJACENT TO BATTERY
FC2AR	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND 'A' POST
FC3BL	EYELET (PAIR) – LEFT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
FC3BR	EYELET (PAIR) – RIGHT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
FC4AR	EYELET (PAIR) – RIGHT HAND LEG / LEFT HAND 'A' POST
FC5L	EYELET (PAIR) – LEFT HAND LEG / RIGHT HAND SEAT
FC5S	EYELET (SINGLE) / RIGHT HAND SEAT
FC6L	EYELET (PAIR) – LEFT HAND LEG / LEFT HAND SEAT
FC6S	EYELET (SINGLE) / LEFT HAND SEAT

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

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



1 → 7 Fig. 01.1 | 1 II → 5 E Fig. 01.1 | 8 → 50 Fig. 02.2 | 51 → 90 Fig. 01.3 | 6 II → 58 II Fig. 01.4 | 59 E → 73 E Fig. 01.5 | 1 → 18 I Fig. 02.1

I Input | O Output | + Sensor Supply V | − Sensor Ground | A ACP | C CAN | S SCP | D Serial and Encoded Data

VARIANT: All Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
O	FC14-17	LHD RH (RHD LH) SEAT HEATER STATE LED	GROUND (LED ON)	B+
I	FC14-35	LHD RH (RHD LH) SEAT HEATER REQUEST	GROUND	B+
O	FC14-69	LHD LH SEAT HEATER STATUS LED (RHD = RH)	GROUND	B+
I	FC14-80	BATTERY POWER SUPPLY (LOGIC)	B+	B+
S	FC14-84	SCP NETWORK	2 – 1600 Hz	
S	FC14-85	SCP NETWORK	2 – 1600 Hz	
I	FC14-86	LHD LH (RHD RH) SEAT HEATER REQUEST	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	
I	DD10-17	POWER GROUND	GROUND	GROUND
O	DD11-2	SEAT MEMORY STATUS LED	GROUND (LED ON)	B+
I	DD11-6	MEMORY SET REQUEST	B+	
I	DD11-21	MEMORY 1 RECALL REQUEST	B+ (MOMENTARY)	GROUND
I	DD11-22	MEMORY 2 RECALL REQUEST	B+ (MOMENTARY)	GROUND

DRIVER HEAD RESTRAINT CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	SD22-1	BATTERY POWER SUPPLY	B+	B+
I	SD22-3	HEAD RESTRAINT UP REQUEST	B+ (MOMENTARY)	GROUND
O	SD22-4	HEAD RESTRAINT MOTOR	B+	GROUND
O	SD22-5	HEAD RESTRAINT MOTOR	B+	GROUND
I	SD22-6	LOGIC GROUND	GROUND	GROUND
I	SD22-7	POWER GROUND	GROUND	GROUND
I	SD22-8	DRIVER OR PASSENGER SEAT IDENTIFICATION	GROUND (DRIVER)	GROUND (PASSENGER)
I	SD22-9	HEAD RESTRAINT DOWN REQUEST	B+ (MOMENTARY)	GROUND
SG	SD22-10	HEAD RESTRAINT POTENTIOMETER GROUND	GROUND	GROUND
I	SD22-11	HEAD RESTRAINT POTENTIOMETER SIGNAL	10 V = UP; 2 V = DOWN	
SS	SD22-12	HEAD RESTRAINT POTENTIOMETER SUPPLY	B+	B+
S	SD22-13	SCP NETWORK	2 – 1600 Hz	
S	SD22-14	SCP NETWORK	2 – 1600 Hz	
I	SD22-15	SEAT BACK LATCHED	GROUND	B+
I	SD22-16	SEAT BACK TILT	GROUND	B+

DRIVER SEAT CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	SD3-1	DRIVER SEAT SQUAB MOTOR SUPPLY – FORWARD	B+	GROUND
O	SD3-2	DRIVER SEAT SQUAB MOTOR SUPPLY – REAR	B+	GROUND
O	SD3-3	DRIVER SEAT HEATER ELEMENTS SUPPLY	B+	GROUND
O	SD3-5	DRIVER SEAT REAR SEAT HEIGHT MOTOR SUPPLY	B+	GROUND
O	SD3-6	DRIVER SEAT REAR SEAT HEIGHT MOTOR SUPPLY	B+	GROUND
O	SD3-7	DRIVER SEAT FORE / AFT MOTOR SUPPLY	B+	GROUND
O	SD3-8	DRIVER SEAT FORE / AFT MOTOR SUPPLY	B+	GROUND
I	SD3-9	DRIVER SEAT FORE MOVEMENT REQUEST	B+ (MOMENTARY)	GROUND
I	SD3-10	DRIVER SEAT AFT MOVEMENT REQUEST	B+ (MOMENTARY)	GROUND
I	SD3-11	DRIVER SEAT LOWER REQUEST	B+ (MOMENTARY)	GROUND
I	SD3-12	DRIVER SEAT RAISE REQUEST	B+ (MOMENTARY)	GROUND
I	SD3-13	DRIVER SEAT REAR HEIGHT LOWER REQUEST	B+ (MOMENTARY)	GROUND
I	SD3-14	DRIVER SEAT REAR HEIGHT RAISE REQUEST	B+ (MOMENTARY)	GROUND
I	SD3-15	DRIVER SEAT SQUAB AFT RECLINE REQUEST	B+ (MOMENTARY)	GROUND
I	SD3-16	DRIVER SEAT SQUAB FORE RECLINE REQUEST	B+ (MOMENTARY)	GROUND
SG	SD4-1	DRIVER SEAT SQUAB POTENTIOMETER REFERENCE GROUND	GROUND	GROUND
SS	SD4-2	DRIVER SEAT FORE / AFT MOVEMENT POTENTIOMETER REFERENCE VOLTAGE	B+	B+
SS	SD4-5	DRIVER SEAT SQUAB POTENTIOMETER REFERENCE VOLTAGE	B+	B+
SG	SD4-6	DRIVER SEAT FORE / AFT MOVEMENT POTENTIOMETER REFERENCE GROUND	GROUND	GROUND
I	SD4-8	DRIVER SEAT REAR SEAT HEIGHT POTENTIOMETER SIGNAL	10 V = UP; 2 V = DOWN	
I	SD4-10	DRIVER SEAT RAISE / LOWER POTENTIOMETER SIGNAL	10 V = UP; 2 V = DOWN	
I	SD4-11	DRIVER SEAT SQUAB POTENTIOMETER SIGNAL	9 V = UP; 4 V = DOWN	
I	SD4-12	DRIVER SEAT FORE / AFT POTENTIOMETER SIGNAL	10 V = FORWARD; 2 V = REAR	
SS	SD4-14	DRIVER SEAT RAISE / LOWER POTENTIOMETER REFERENCE VOLTAGE	B+	
SS	SD4-15	DRIVER SEAT REAR SEAT HEIGHT POTENTIOMETER REFERENCE VOLTAGE	B+	B+
SG	SD4-18	DRIVER SEAT RAISE / LOWER POTENTIOMETER REFERENCE GROUND	GROUND	GROUND
SG	SD4-19	DRIVER SEAT REAR SEAT HEIGHT POTENTIOMETER REFERENCE GROUND	GROUND	GROUND
I	SD5-1	DRIVER OR PASSENGER SEAT IDENTIFICATION	GROUND (DRIVER)	
I	SD5-2	POWER GROUND	GROUND	GROUND
O	SD5-3	DRIVER SEAT RAISE / LOWER MOTOR SUPPLY	B+	GROUND
O	SD5-4	DRIVER SEAT RAISE / LOWER MOTOR SUPPLY	B+	GROUND
I	SD5-5	BATTERY POWER SUPPLY	B+	B+
I	SD5-8	DRIVER SEAT BELT FASTENED	B+ (FASTENED)	GROUND
S	SD5-9	SCP NETWORK	2 – 1600 Hz	
S	SD5-10	SCP NETWORK	2 – 1600 Hz	

NOTE: Refer to the Appendix at the rear of this book for CAN and SCP Network Messages.

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

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

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

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

Fig. 12.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC14 / 104-WAY AMP EEEC / GREY	PASSENGER SIDE FASCIA / AIRBAG BRACKET
DOOR CONTROL MODULE – DRIVER	DD10 / 22-WAY FORD 2.8 TIMER / BLUE DD11 / 22-WAY FORD 2.8 TIMER / BLACK	DRIVER DOOR / DOOR CASING
HEAD RESTRAINT CONTROL MODULE – DRIVER	SD22 / 16-WAY FORD IDC / BLACK	BEHIND SEAT BACK FINISHER
HEAD RESTRAINT MOTOR – DRIVER	SD23 / 6-WAY MULTILOCK 070 / YELLOW	BEHIND SEAT BACK FINISHER
SEAT BACK LATCH SWITCH	SD25 / 2-WAY CONNECTOR / BLACK	BEHIND SEAT BACK FINISHER
SEAT BACK TILT SWITCH	SD24 / 2-WAY CONNECTOR / BLACK	BEHIND SEAT BACK FINISHER
SEAT BELT COMFORT SOLENOID – DRIVER	LHD: RH35 / 3-WAY CONNECTOR / BLACK RHD: RH36 / 3-WAY CONNECTOR / BLACK	BEHIND REAR QUARTER TRIM PANEL BEHIND REAR QUARTER TRIM PANEL
SEAT BELT SWITCH – DRIVER	SD20 / 2-WAY MULTILOCK 040 / BLACK	BELOW SEAT CUSHION
SEAT CONTROL MODULE – DRIVER	SD3 / 16-WAY FORD 2.8 TIMER / BLACK SD4 / 26-WAY FORD IDC / BLACK SD5 / 10-WAY FORD 2.8 TIMER / BLACK	BELOW SEAT CUSHION
SEAT CUSHION (HEATER) – DRIVER	SD19 / 3-WAY MULTILOCK 070 / YELLOW	SEAT CUSHION
SEAT HEATER SWITCH (CENTER CONSOLE SWITCH PACK)	FC55 / 20-WAY FORD IDC / BLACK	CENTER CONSOLE SWITCH PACK
SEAT LUMBAR PUMP – DRIVER	SD14 / 3-WAY MULTILOCK 070 / YELLOW	SEAT BACK
SEAT MOTORS – DRIVER	SD7 / 6-WAY MULTILOCK 070 / WHITE SD8 / 6-WAY MULTILOCK 070 / WHITE SD9 / 6-WAY MULTILOCK 070 / GREY SD10 / 6-WAY MULTILOCK 070 / YELLOW	BELOW SEAT CUSHION
SQUAB (HEATER) – DRIVER	SD17 / 3-WAY MULTILOCK 070 / GREY	SEAT SQUAB
SWITCH PACK – DRIVER DOOR MEMORY	DD5 / 10-WAY AMP MQL / BLACK	DRIVER DOOR
SWITCH PACK – DRIVER SEAT	SD11 / 16-WAY MULTILOCK 040 / BLACK	DRIVER SEAT

HARNESS-TO-HARNESS CONNECTORS

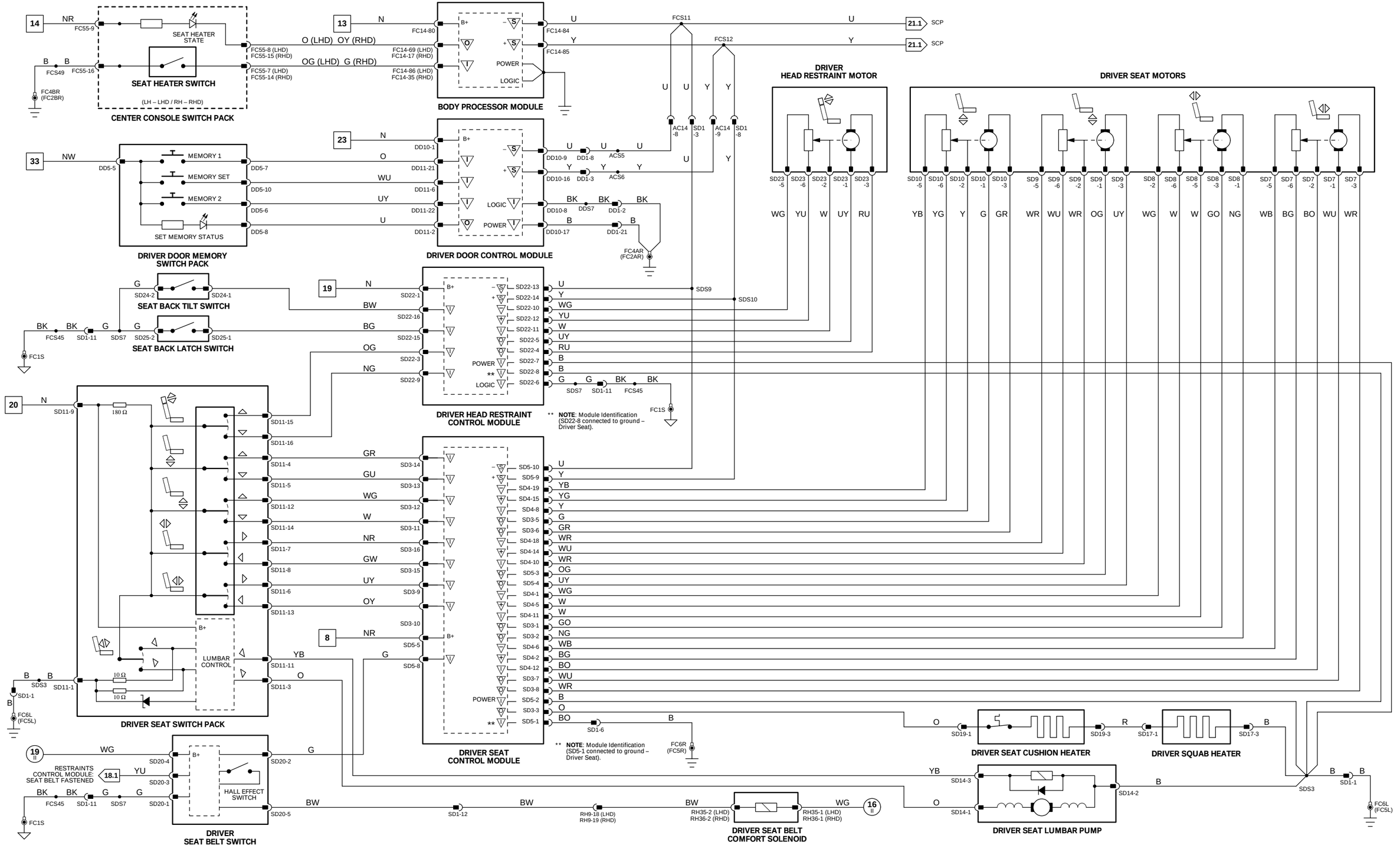
Connector	Type / Color	Location / Access
AC14	14-WAY MULTILOCK 070 / GREY	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
DD1	23-WAY AMP – FORD / BLACK	DRIVER SIDE 'A' POST MOUNTING BRACKET/ 'A' POST TRIM
RH9	20-WAY MULTILOCK 070 / YELLOW	BELOW CENTER CONSOLE
SD1	14-WAY MULTILOCK 070 / YELLOW	BELOW DRIVER SEAT

GROUNDS

Ground	Location / Type
FC1S	EYELET (SINGLE) / TRANSMISSION TUNNEL, RIGHT HAND SIDE
FC2AR	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND 'A' POST
FC2BR	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND 'A' POST
FC4AR	EYELET (PAIR) – RIGHT HAND LEG / LEFT HAND 'A' POST
FC4BR	EYELET (PAIR) – RIGHT HAND LEG / LEFT HAND 'A' POST
FC5L	EYELET (PAIR) – LEFT HAND LEG / RIGHT HAND SEAT
FC5R	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND SEAT
FC6L	EYELET (PAIR) – LEFT HAND LEG / LEFT HAND SEAT
FC6R	EYELET (PAIR) – RIGHT HAND LEG / LEFT HAND SEAT

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

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



1 → 7 Fig. 01.1	1 II → 5 E Fig. 01.1	8 → 50 Fig. 01.2	51 → 90 Fig. 01.3
6 II → 58 H Fig. 01.4	59 E → 73 E Fig. 01.5	1 → 18 I Fig. 02.1	

I Input	+ Sensor Supply V	A ACP	S SCP
O Output	– Sensor Ground	C CAN	D Serial and Encoded Data

VARIANT: Memory Seat Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
O	FC14-17	LHD RH (RHD LH) SEAT HEATER STATUS LED	GROUND (LED ON)	B+
I	FC14-35	LHD RH (RHD LH) SEAT HEATER REQUEST	GROUND	B+
O	FC14-69	LHD LH (RHD RH) SEAT HEATER STATUS LED	GROUND	B+
I	FC14-80	BATTERY POWER SUPPLY (LOGIC)	B+	B+
S	FC14-84	SCP NETWORK	2 – 1600 Hz	
S	FC14-85	SCP NETWORK	2 – 1600 Hz	
I	FC14-86	LHD LH (RHD RH) SEAT HEATER REQUEST	GROUND (MOMENTARY)	B+

DRIVER HEAD RESTRAINT CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	SD22-1	BATTERY POWER SUPPLY	B+	B+
I	SD22-3	HEAD RESTRAINT UP REQUEST	B+ (MOMENTARY)	GROUND
O	SD22-4	HEAD RESTRAINT MOTOR	B+	GROUND
O	SD22-5	HEAD RESTRAINT MOTOR	B+	GROUND
I	SD22-6	LOGIC GROUND	GROUND	GROUND
I	SD22-7	POWER GROUND	GROUND	GROUND
I	SD22-8	DRIVER OR PASSENGER SEAT IDENTIFICATION	GROUND (DRIVER)	GROUND (PASSENGER)
I	SD22-9	HEAD RESTRAINT DOWN REQUEST	B+ (MOMENTARY)	GROUND
SG	SD22-10	HEAD RESTRAINT POTENTIOMETER GROUND	GROUND	GROUND
I	SD22-11	HEAD RESTRAINT POTENTIOMETER SIGNAL	10 V = UP; 2 V = DOWN	
SS	SD22-12	HEAD RESTRAINT POTENTIOMETER SUPPLY	B+	B+
S	SD22-13	SCP NETWORK	2 – 1600 Hz	
S	SD22-14	SCP NETWORK	2 – 1600 Hz	
I	SD22-15	SEAT BACK LATCHED	GROUND	B+
I	SD22-16	SEAT BACK TILT	GROUND	B+

DRIVER SEAT CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	SD3-1	DRIVER SEAT SQUAB MOTOR SUPPLY – FORWARD	B+	GROUND
O	SD3-2	DRIVER SEAT SQUAB MOTOR SUPPLY – REAR	B+	GROUND
O	SD3-3	DRIVER SEAT HEATER ELEMENTS SUPPLY	B+	GROUND
O	SD3-5	DRIVER SEAT REAR SEAT HEIGHT MOTOR SUPPLY	B+	GROUND
O	SD3-6	DRIVER SEAT REAR SEAT HEIGHT MOTOR SUPPLY	B+	GROUND
O	SD3-7	DRIVER SEAT FORE / AFT MOTOR SUPPLY	B+	GROUND
O	SD3-8	DRIVER SEAT FORE / AFT MOTOR SUPPLY	B+	GROUND
I	SD3-9	DRIVER SEAT FORE MOVEMENT REQUEST	B+ (MOMENTARY)	GROUND
I	SD3-10	DRIVER SEAT AFT MOVEMENT REQUEST	B+ (MOMENTARY)	GROUND
I	SD3-11	DRIVER SEAT LOWER REQUEST	B+ (MOMENTARY)	GROUND
I	SD3-12	DRIVER SEAT RAISE REQUEST	B+ (MOMENTARY)	GROUND
I	SD3-13	DRIVER SEAT REAR HEIGHT LOWER REQUEST	B+ (MOMENTARY)	GROUND
I	SD3-14	DRIVER SEAT REAR HEIGHT RAISE REQUEST	B+ (MOMENTARY)	GROUND
I	SD3-15	DRIVER SEAT SQUAB AFT RECLINE REQUEST	B+ (MOMENTARY)	GROUND
I	SD3-16	DRIVER SEAT SQUAB FORE RECLINE REQUEST	B+ (MOMENTARY)	GROUND
I	SD5-1	DRIVER OR PASSENGER SEAT IDENTIFICATION	GROUND (DRIVER)	
I	SD5-2	POWER GROUND	GROUND	GROUND
O	SD5-3	DRIVER SEAT RAISE / LOWER MOTOR SUPPLY	B+	GROUND
O	SD5-4	DRIVER SEAT RAISE / LOWER MOTOR SUPPLY	B+	GROUND
I	SD5-5	BATTERY POWER SUPPLY	B+	B+
I	SD5-8	DRIVER SEAT BELT FASTENED	B+ (FASTENED)	GROUND
S	SD5-9	SCP NETWORK	2 – 1600 Hz	
S	SD5-10	SCP NETWORK	2 – 1600 Hz	

NOTE: Refer to the Appendix at the rear of this book for CAN and SCP Network Messages.

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

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

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

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

Fig. 12.2

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC14 / 104-WAY AMP EEEC / GREY	PASSENGER SIDE FASCIA / AIRBAG BRACKET
HEAD RESTRAINT CONTROL MODULE – DRIVER	SD22 / 16-WAY FORD IDC / BLACK	BEHIND SEAT BACK FINISHER
HEAD RESTRAINT MOTOR – DRIVER	SD23 / 6-WAY MULTILOCK 070 / YELLOW	BEHIND SEAT BACK FINISHER
SEAT BACK LATCH SWITCH	SD25 / 2-WAY CONNECTOR / BLACK	BEHIND SEAT BACK FINISHER
SEAT BACK TILT SWITCH	SD24 / 2-WAY CONNECTOR / BLACK	BEHIND SEAT BACK FINISHER
SEAT BELT COMFORT SOLENOID – DRIVER	LHD: RH35 / 3-WAY CONNECTOR / BLACK RHD: RH36 / 3-WAY CONNECTOR / BLACK	BEHIND REAR QUARTER TRIM PANEL
SEAT BELT SWITCH – DRIVER	SD20 / 2-WAY MULTILOCK 040 / BLACK	BELOW SEAT CUSHION
SEAT CONTROL MODULE – DRIVER	SD3 / 16-WAY FORD 2.8 TIMER / BLACK SD4 / 26-WAY FORD IDC / BLACK SD5 / 10-WAY FORD 2.8 TIMER / BLACK	BELOW SEAT CUSHION
SEAT CUSHION (HEATER) – DRIVER	SD19 / 3-WAY MULTILOCK 070 / YELLOW	SEAT CUSHION
SEAT HEATER SWITCH (CENTER CONSOLE SWITCH PACK)	FC55 / 20-WAY FORD IDC / BLACK	CENTER CONSOLE SWITCH PACK
SEAT LUMBAR PUMP – DRIVER	SD14 / 3-WAY MULTILOCK 070 / YELLOW	SEAT BACK
SEAT MOTORS – DRIVER	SD7 / 6-WAY MULTILOCK 070 / WHITE SD8 / 6-WAY MULTILOCK 070 / WHITE SD9 / 6-WAY MULTILOCK 070 / GREY SD10 / 6-WAY MULTILOCK 070 / YELLOW	BELOW SEAT CUSHION
SQUAB (HEATER) – DRIVER	SD17 / 3-WAY MULTILOCK 070 / GREY	SEAT SQUAB
SWITCH PACK – DRIVER SEAT	SD11 / 16-WAY MULTILOCK 040 / BLACK	DRIVER SEAT

HARNESS-TO-HARNESS CONNECTORS

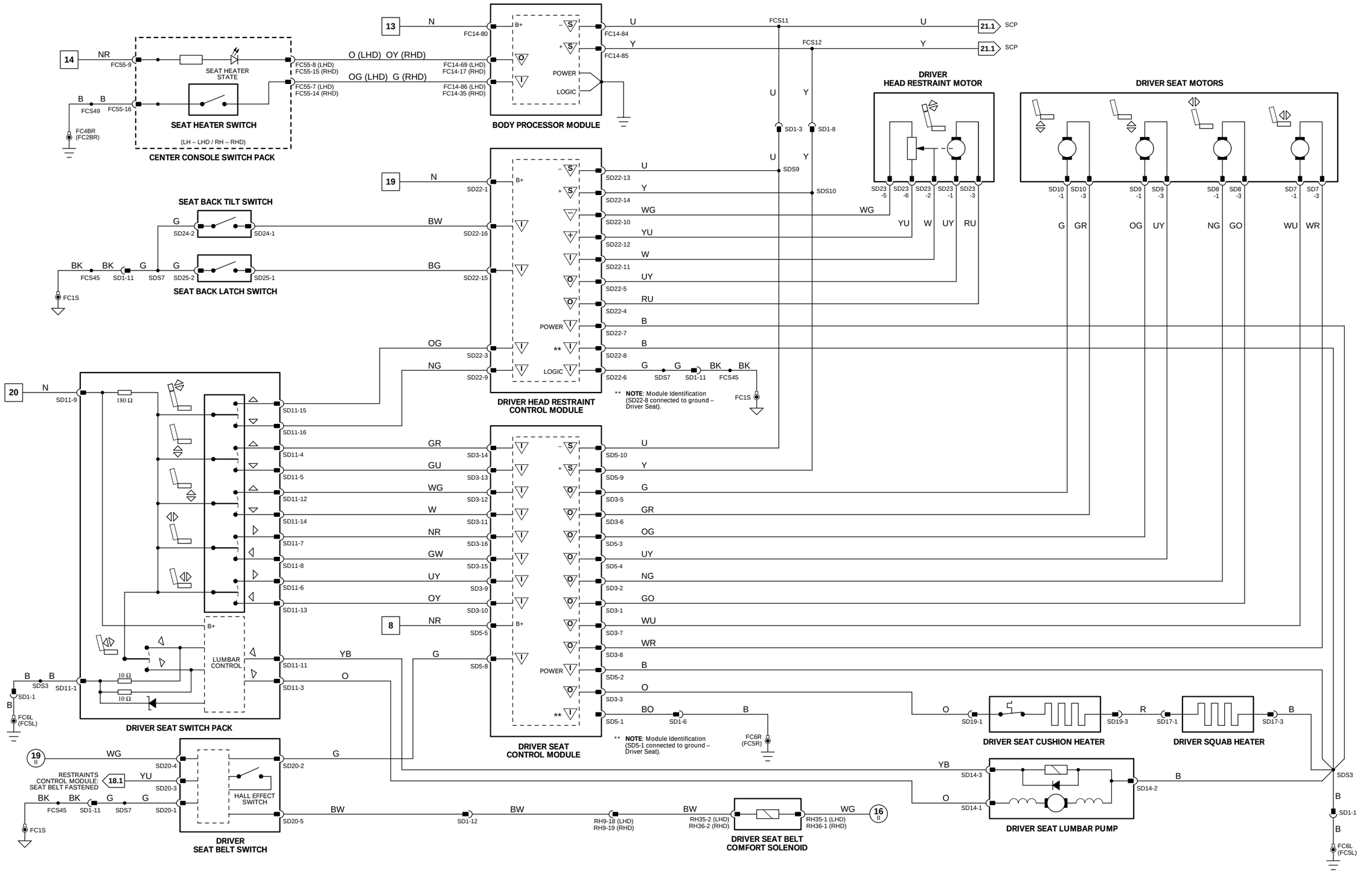
Connector	Type / Color	Location / Access
RH9	20-WAY MULTILOCK 070 / YELLOW	BELOW CENTER CONSOLE
SD1	14-WAY MULTILOCK 070 / YELLOW	BELOW DRIVER SEAT

GROUNDS

Ground	Location / Type
FC1S	EYELET (SINGLE) / TRANSMISSION TUNNEL, RIGHT HAND SIDE
FC2BR	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND 'A' POST
FC4BR	EYELET (PAIR) – RIGHT HAND LEG / LEFT HAND 'A' POST
FC5L	EYELET (PAIR) – LEFT HAND LEG / RIGHT HAND SEAT
FC5R	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND SEAT
FC6L	EYELET (PAIR) – LEFT HAND LEG / LEFT HAND SEAT
FC6R	EYELET (PAIR) – RIGHT HAND LEG / LEFT HAND SEAT

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

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



1 → 7 Fig. 01.1	1 II → 5 E Fig. 01.1	8 → 50 Fig. 02.2	51 → 90 Fig. 01.3	6 II → 58 II Fig. 01.4	59 E → 73 E Fig. 01.5
1 → 18 I Fig. 02.1	I Input	O Output	+ Sensor Supply V	– Sensor Ground	A ACP
C CAN	S SCP	D Serial and Encoded Data			

VARIANT: Non Memory Seat Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
O	FC14-17	LHD RH (RHD LH) SEAT HEATER STATUS LED	GROUND (LED ON)	B+
I	FC14-35	LHD RH (RHD LH) SEAT HEATER REQUEST	GROUND	B+
O	FC14-69	LHD LH (RHD RH)SEAT HEATER STATUS LED	GROUND	B+
I	FC14-80	BATTERY POWER SUPPLY (LOGIC)	B+	B+
S	FC14-84	SCP NETWORK	2 – 1600 Hz	
S	FC14-85	SCP NETWORK	2 – 1600 Hz	
I	FC14-86	LHD LH (RHD RH) SEAT HEATER REQUEST	GROUND (MOMENTARY)	B+

PASSENGER HEAD RESTRAINT CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	SP22-1	BATTERY POWER SUPPLY	B+	B+
I	SP22-3	HEAD RESTRAINT UP REQUEST	B+ (MOMENTARY)	GROUND
O	SP22-4	HEAD RESTRAINT MOTOR	B+	GROUND
O	SP22-5	HEAD RESTRAINT MOTOR	B+	GROUND
I	SP22-6	LOGIC GROUND	GROUND	GROUND
I	SP22-7	POWER GROUND	GROUND	GROUND
I	SP22-8	DRIVER OR PASSENGER SEAT IDENTIFICATION	GROUND (DRIVER)	GROUND (PASSENGER)
I	SP22-9	HEAD RESTRAINT DOWN REQUEST	B+ (MOMENTARY)	GROUND
SG	SP22-10	HEAD RESTRAINT POTENTIOMETER GROUND	GROUND	GROUND
I	SP22-11	HEAD RESTRAINT POTENTIOMETER SIGNAL	10 V = UP; 2 V = DOWN	
SS	SP22-12	HEAD RESTRAINT POTENTIOMETER SUPPLY	B+	B+
S	SP22-13	SCP NETWORK	2 – 1600 Hz	
S	SP22-14	SCP NETWORK	2 – 1600 Hz	
I	SP22-15	SEAT BACK LATCHED	GROUND	B+
I	SP22-16	SEAT BACK TILT	GROUND	B+

PASSENGER SEAT CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	SP3-1	PASSENGER SEAT SQUAB MOTOR SUPPLY – FORWARD	B+	GROUND
O	SP3-2	PASSENGER SEAT SQUAB MOTOR SUPPLY – REAR	B+	GROUND
O	SP3-3	PASSENGER SEAT HEATER ELEMENTS SUPPLY	B+	GROUND
O	SP3-5	PASSENGER SEAT REAR SEAT HEIGHT MOTOR SUPPLY	B+	GROUND
O	SP3-6	PASSENGER SEAT REAR SEAT HEIGHT MOTOR SUPPLY	B+	GROUND
O	SP3-7	PASSENGER SEAT FORE / AFT MOTOR SUPPLY	B+	GROUND
O	SP3-8	PASSENGER SEAT FORE / AFT MOTOR SUPPLY	B+	GROUND
I	SP3-9	PASSENGER SEAT FORE MOVEMENT REQUEST	B+ (MOMENTARY)	GROUND
I	SP3-10	PASSENGER SEAT AFT MOVEMENT REQUEST	B+ (MOMENTARY)	GROUND
I	SP3-11	PASSENGER SEAT LOWER REQUEST	B+ (MOMENTARY)	GROUND
I	SP3-12	PASSENGER SEAT RAISE REQUEST	B+ (MOMENTARY)	GROUND
I	SP3-13	PASSENGER SEAT REAR HEIGHT LOWER REQUEST	B+ (MOMENTARY)	GROUND
I	SP3-14	PASSENGER SEAT REAR HEIGHT RAISE REQUEST	B+ (MOMENTARY)	GROUND
I	SP3-15	PASSENGER SEAT SQUAB AFT RECLINE REQUEST	B+ (MOMENTARY)	GROUND
I	SP3-16	PASSENGER SEAT SQUAB FORE RECLINE REQUEST	B+ (MOMENTARY)	GROUND
I	SP5-1	PASSENGER OR PASSENGER SEAT IDENTIFICATION	GROUND (DRIVER)	GROUND (PASSENGER)
I	SP5-2	POWER GROUND	GROUND	GROUND
O	SP5-3	PASSENGER SEAT RAISE / LOWER MOTOR SUPPLY	B+	GROUND
O	SP5-4	PASSENGER SEAT RAISE / LOWER MOTOR SUPPLY	B+	GROUND
I	SP5-5	BATTERY POWER SUPPLY	B+	B+
S	SP5-9	SCP NETWORK	2 – 1600 Hz	
S	SP5-10	SCP NETWORK	2 – 1600 Hz	

NOTE: Refer to the Appendix at the rear of this book for CAN and SCP Network Messages.

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

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

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

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

Fig. 12.3

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC14 / 104-WAY AMP EEEC / GREY	PASSENGER SIDE FASCIA / AIRBAG BRACKET
HEAD RESTRAINT CONTROL MODULE – PASSENGER	SP22 / 16-WAY FORD IDC / BLACK	BEHIND SEAT BACK FINISHER
HEAD RESTRAINT MOTOR – PASSENGER	SP23 / 6-WAY MULTILOCK 070 / YELLOW	BEHIND SEAT BACK FINISHER
SEAT BACK LATCH SWITCH	SP25 / 2-WAY CONNECTOR / BLACK	BEHIND SEAT BACK FINISHER
SEAT BACK TILT SWITCH	SP24 / 2-WAY CONNECTOR / BLACK	BEHIND SEAT BACK FINISHER
SEAT BELT COMFORT SOLENOID – PASSENGER	RHD: RH35 / 3-WAY CONNECTOR / BLACK LHD: RH36 / 3-WAY CONNECTOR / BLACK	BEHIND REAR QUARTER TRIM PANEL
SEAT BELT SWITCH – PASSENGER	SP20 / 2-WAY MULTILOCK 040 / BLACK	BELOW SEAT CUSHION
SEAT CONTROL MODULE – PASSENGER	SP3 / 16-WAY FORD 2.8 TIMER / BLACK SP4 / 26-WAY FORD IDC / BLACK SP5 / 10-WAY FORD 2.8 TIMER / BLACK	BELOW SEAT CUSHION
SEAT CUSHION (HEATER) – PASSENGER	SP19 / 3-WAY MULTILOCK 070 / YELLOW	SEAT CUSHION
SEAT HEATER SWITCH (CENTER CONSOLE SWITCH PACK)	FC55 / 20-WAY FORD IDC / BLACK	CENTER CONSOLE SWITCH PACK
SEAT LUMBAR PUMP – PASSENGER	SP14 / 3-WAY MULTILOCK 070 / YELLOW	SEAT BACK
SEAT MOTORS – PASSENGER	SP7 / 6-WAY MULTILOCK 070 / WHITE SP8 / 6-WAY MULTILOCK 070 / WHITE SP9 / 6-WAY MULTILOCK 070 / YELLOW SP10 / 6-WAY MULTILOCK 070 / YELLOW	BELOW SEAT CUSHION
SQUAB (HEATER) – PASSENGER	SP17 / 3-WAY MULTILOCK 070 / GREY	SEAT SQUAB
SWITCH PACK – PASSENGER SEAT	SP11 / 16-WAY MULTILOCK 040 / BLACK	PASSENGER SEAT

HARNESS-TO-HARNESS CONNECTORS

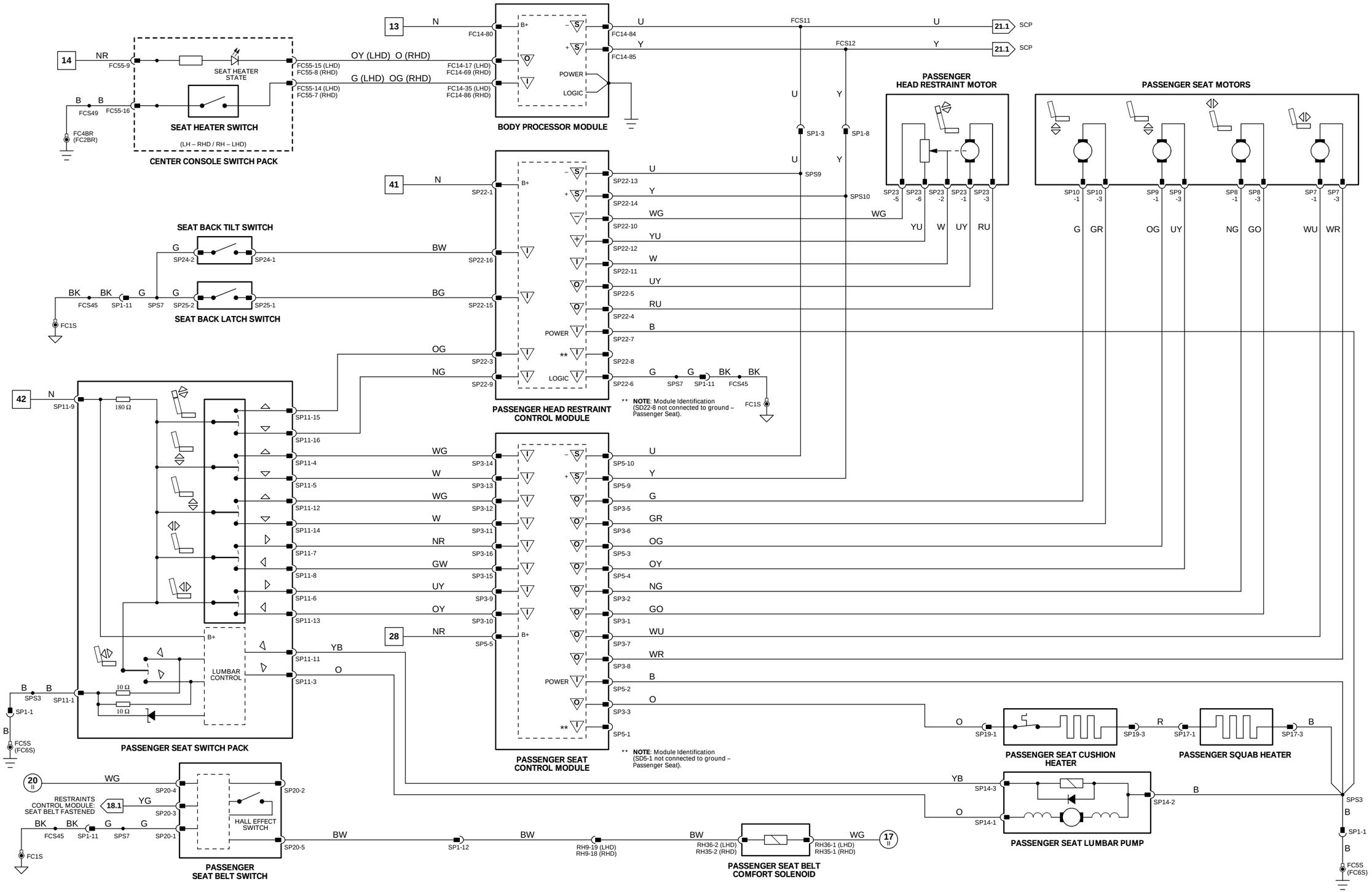
Connector	Type / Color	Location / Access
RH9	20-WAY MULTILOCK 070 / YELLOW	BELOW CENTER CONSOLE
SP1	14-WAY MULTILOCK 070 / YELLOW	BELOW PASSENGER SEAT

GROUNDS

Ground	Location / Type
FC1S	EYELET (SINGLE) / TRANSMISSION TUNNEL, RIGHT HAND SIDE
FC2BR	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND 'A' POST
FC4BR	EYELET (PAIR) – RIGHT HAND LEG / LEFT HAND 'A' POST
FC5S	EYELET (SINGLE) / RIGHT HAND SEAT
FC6S	EYELET (SINGLE) / LEFT HAND SEAT

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

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



1 → 7 Fig. 01.1 (1 II → 5 E) Fig. 01.1 8 → 50 Fig. 01.2 51 → 90 Fig. 01.3 (6 II → 58 II) Fig. 01.4 (59 E → 73 E) Fig. 01.5 1 → 18 I Fig. 02.1

I Input
O Output
+ Sensor Supply V
− Sensor Ground
A ACP
C CAN
S SCP
D Serial and Encoded Data

VARIANT: 5-Way Movement Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
O	FC14-17	LHD RH (RHD LH) SEAT HEATER STATUS LED	GROUND (LED ON)	B+
I	FC14-35	LHD RH (RHD LH) SEAT HEATER REQUEST	GROUND	B+
O	FC14-69	LHD LH (RHD RH) SEAT HEATER STATUS LED	GROUND	B+
I	FC14-80	BATTERY POWER SUPPLY (LOGIC)	B+	B+
S	FC14-84	SCP NETWORK	2 – 1600 Hz	
S	FC14-85	SCP NETWORK	2 – 1600 Hz	
I	FC14-86	LHD LH (RHD RH) SEAT HEATER REQUEST	GROUND (MOMENTARY)	B+

PASSENGER HEAD RESTRAINT CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	SP22-1	BATTERY POWER SUPPLY	B+	B+
I	SP22-3	HEAD RESTRAINT UP REQUEST	B+ (MOMENTARY)	GROUND
O	SP22-4	HEAD RESTRAINT MOTOR	B+	GROUND
O	SP22-5	HEAD RESTRAINT MOTOR	B+	GROUND
I	SP22-6	LOGIC GROUND	GROUND	GROUND
I	SP22-7	POWER GROUND	GROUND	GROUND
I	SP22-8	DRIVER OR PASSENGER SEAT IDENTIFICATION	GROUND (DRIVER)	GROUND (PASSENGER)
I	SP22-9	HEAD RESTRAINT DOWN REQUEST	B+ (MOMENTARY)	GROUND
SG	SP22-10	HEAD RESTRAINT POTENTIOMETER GROUND	GROUND	GROUND
I	SP22-11	HEAD RESTRAINT POTENTIOMETER SIGNAL	10 V = UP; 2 V = DOWN	
SS	SP22-12	HEAD RESTRAINT POTENTIOMETER SUPPLY	B+	B+
S	SP22-13	SCP NETWORK	2 – 1600 Hz	
S	SP22-14	SCP NETWORK	2 – 1600 Hz	
I	SP22-15	SEAT BACK LATCHED	GROUND	B+
I	SP22-16	SEAT BACK TILT	GROUND	B+

PASSENGER SEAT CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	SP3-1	PASSENGER SEAT SQUAB MOTOR SUPPLY – FORWARD	B+	GROUND
O	SP3-2	PASSENGER SEAT SQUAB MOTOR SUPPLY – REAR	B+	GROUND
O	SP3-3	PASSENGER SEAT HEATER ELEMENTS SUPPLY	B+	GROUND
O	SP3-7	PASSENGER SEAT FORE / AFT MOTOR SUPPLY	B+	GROUND
O	SP3-8	PASSENGER SEAT FORE / AFT MOTOR SUPPLY	B+	GROUND
I	SP3-9	PASSENGER SEAT FORE MOVEMENT REQUEST	B+ (MOMENTARY)	GROUND
I	SP3-10	PASSENGER SEAT AFT MOVEMENT REQUEST	B+ (MOMENTARY)	GROUND
I	SP3-11	PASSENGER SEAT LOWER REQUEST	B+ (MOMENTARY)	GROUND
I	SP3-12	PASSENGER SEAT RAISE REQUEST	B+ (MOMENTARY)	GROUND
I	SP3-13	PASSENGER SEAT REAR HEIGHT LOWER REQUEST	B+ (MOMENTARY)	GROUND
I	SP3-14	PASSENGER SEAT REAR HEIGHT RAISE REQUEST	B+ (MOMENTARY)	GROUND
I	SP3-15	PASSENGER SEAT SQUAB AFT RECLINE REQUEST	B+ (MOMENTARY)	GROUND
I	SP3-16	PASSENGER SEAT SQUAB FORE RECLINE REQUEST	B+ (MOMENTARY)	GROUND
I	SP5-1	PASSENGER OR PASSENGER SEAT IDENTIFICATION	GROUND (DRIVER)	GROUND (PASSENGER)
I	SP5-2	POWER GROUND	GROUND	GROUND
I	SP5-5	BATTERY POWER SUPPLY	B+	B+
S	SP5-9	SCP NETWORK	2 – 1600 Hz	
S	SP5-10	SCP NETWORK	2 – 1600 Hz	

NOTE: Refer to the Appendix at the rear of this book for CAN and SCP Network Messages.

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

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

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

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

Fig. 12.4

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC14 / 104-WAY AMP EEEC / GREY	PASSENGER SIDE FASCIA / AIRBAG BRACKET
HEAD RESTRAINT CONTROL MODULE – PASSENGER	SP22 / 16-WAY FORD IDC / BLACK	BEHIND SEAT BACK FINISHER
HEAD RESTRAINT MOTOR – PASSENGER	SP23 / 6-WAY MULTILOCK 070 / YELLOW	BEHIND SEAT BACK FINISHER
SEAT BACK LATCH SWITCH	SP25 / 2-WAY CONNECTOR / BLACK	BEHIND SEAT BACK FINISHER
SEAT BACK TILT SWITCH	SP24 / 2-WAY CONNECTOR / BLACK	BEHIND SEAT BACK FINISHER
SEAT BELT COMFORT SOLENOID – PASSENGER	RHD: RH35 / 3-WAY CONNECTOR / BLACK LHD: RH36 / 3-WAY CONNECTOR / BLACK	BEHIND REAR QUARTER TRIM PANEL
SEAT BELT SWITCH – PASSENGER	SP20 / 2-WAY MULTILOCK 040 / BLACK	BELOW SEAT CUSHION
SEAT CONTROL MODULE – PASSENGER	SP3 / 16-WAY FORD 2.8 TIMER / BLACK SP4 / 26-WAY FORD IDC / BLACK SP5 / 10-WAY FORD 2.8 TIMER / BLACK	BELOW SEAT CUSHION
SEAT CUSHION (HEATER) – PASSENGER	SP19 / 3-WAY MULTILOCK 070 / YELLOW	SEAT CUSHION
SEAT HEATER SWITCH (CENTER CONSOLE SWITCH PACK)	FC55 / 20-WAY FORD IDC / BLACK	CENTER CONSOLE SWITCH PACK
SEAT LUMBAR PUMP – PASSENGER	SP14 / 3-WAY MULTILOCK 070 / YELLOW	SEAT BACK
SEAT MOTORS – PASSENGER	SP7 / 6-WAY MULTILOCK 070 / WHITE SP8 / 6-WAY MULTILOCK 070 / WHITE SP9 / 6-WAY MULTILOCK 070 / YELLOW SP10 / 6-WAY MULTILOCK 070 / YELLOW	BELOW SEAT CUSHION
SQUAB (HEATER) – PASSENGER	SP17 / 3-WAY MULTILOCK 070 / GREY	SEAT SQUAB
SWITCH PACK – PASSENGER SEAT	SP11 / 16-WAY MULTILOCK 040 / BLACK	PASSENGER SEAT

HARNESS-TO-HARNESS CONNECTORS

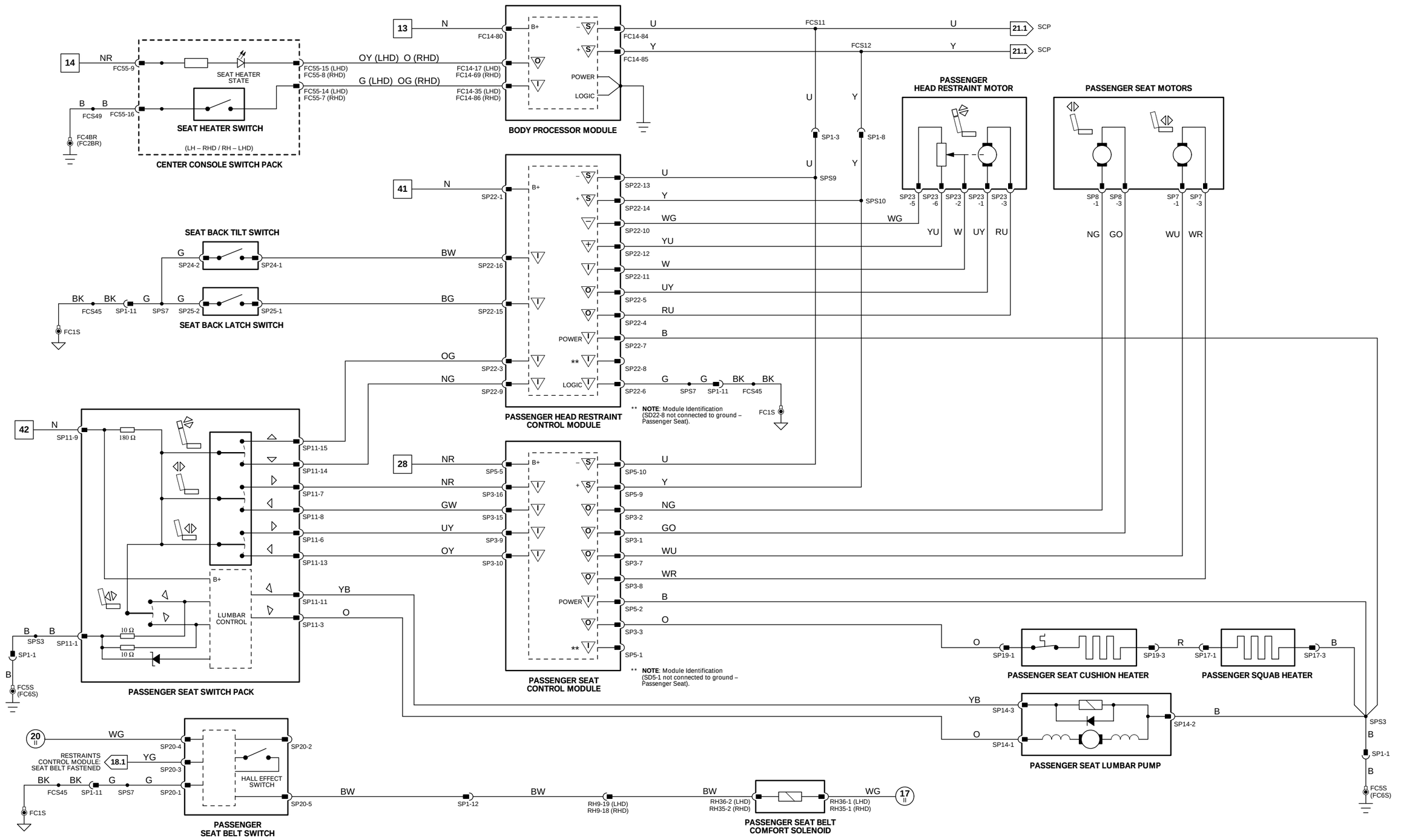
Connector	Type / Color	Location / Access
RH9	20-WAY MULTILOCK 070 / YELLOW	BELOW CENTER CONSOLE
SP1	14-WAY MULTILOCK 070 / YELLOW	BELOW PASSENGER SEAT

GROUNDS

Ground	Location / Type
FC1S	EYELET (SINGLE) / TRANSMISSION TUNNEL, RIGHT HAND SIDE
FC2BR	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND 'A' POST
FC4BR	EYELET (PAIR) – RIGHT HAND LEG / LEFT HAND 'A' POST
FC5S	EYELET (SINGLE) / RIGHT HAND SEAT
FC6S	EYELET (SINGLE) / LEFT HAND SEAT

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

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



1 → 7 Fig. 01.1 (1 II → 5 E) Fig. 01.1 8 → 50 Fig. 01.2 51 → 90 Fig. 01.3 (6 II → 58 II) Fig. 01.4 (59 E → 73 E) Fig. 01.5 1 → 18 I Fig. 02.1

I Input
O Output
+ Sensor Supply V
– Sensor Ground
A ACP
C CAN
S SCP
D Serial and Encoded Data

VARIANT: 3-Way Movement Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC14-5	TRUNK LATCH RELEASE REQUEST	GROUND (MOMENTARY)	B+
I	FC14-15	IGNITION SWITCHED GROUND SUPPLY	GROUND	
I	FC14-31	FUEL FLAP RELEASE REQUEST	GROUND (MOMENTARY)	B+
I	FC14-33	IGNITION SWITCHED GROUND SUPPLY	GROUND	GROUND
I	FC14-41	IGNITION GROUND SUPPLY	GROUND	
I	FC14-55	VALET SWITCH	GROUND (MOMENTARY)	B+
I	FC14-58	NOT-IN-PARK	GROUND (R,N,D,4,3,2)	B+ (PARK)
I	FC14-67	KEY IN IGNITION	GROUND (KEY IN)	B+
O	FC14-71	DOOR LOCK RELAY ACTIVATE	GROUND (PULSE)	B+
I	FC14-80	BATTERY POWER SUPPLY (LOGIC)	B+	B+
S	FC14-84	SCP NETWORK	2 – 1600 Hz	
S	FC14-85	SCP NETWORK	2 – 1600 Hz	

DRIVER DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	DD10-1	BATTERY POWER SUPPLY	B+	B+
O	DD10-5	DOOR LOCK ACTUATOR MOTOR UNLOCK	B+	GROUND
O	DD10-6	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	DD11-5	EXTERIOR DOOR HANDLE WINDOW DROP REQUEST	B+	
I	DD11-12	DRIVER DOOR LOCK BARREL LOCK REQUEST	B+ (MOMENTARY)	GROUND
I	DD11-20	DRIVER DOOR SWITCH	GROUND (DOOR OPEN)	B+

PASSENGER DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	DP10-1	BATTERY POWER SUPPLY	B+	B+
O	DP10-5	PASSENGER DOOR LOCK ACTUATOR MOTOR UNLOCK	B+	GROUND
O	DP10-6	PASSENGER DOOR LOCK ACTUATOR MOTOR LOCK	B+	GROUND
I	DP10-8	LOGIC GROUND	GROUND	GROUND
S	DP10-9	SCP NETWORK	2 – 1600 Hz	
S	DP10-16	SCP NETWORK	2 – 1600 Hz	
I	DP10-17	POWER GROUND	GROUND	GROUND
I	DP11-5	EXTERIOR DOOR HANDLE WINDOW DROP REQUEST	B+	GROUND
I	DP11-20	PASSENGER DOOR SWITCH	GROUND (DOOR OPEN)	B+

SECURITY AND LOCKING CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	BT40-1	TRUNK RELEASE SOLENOID	B+	GROUND
O	BT40-2	FUEL FILLER FLAP SOLENOID	B+	GROUND
S	BT40-8	SCP NETWORK	2 – 1600 Hz	
I	BT40-13	GROUND	GROUND	GROUND
I	BT40-14	GROUND	GROUND	GROUND
I	BT40-15	BATTERY POWER SUPPLY	B+	B+
S	BT40-16	SCP NETWORK	2 – 1600 Hz	
I	BT41-5	TRUNK SWITCH	GROUND	B+
I	BT41-6	EXTERNAL TRUNK RELEASE	GROUND (MOMENTARY)	B+
I	BT41-7	PASSENGER DOOR LOCK ACTUATOR LOCK STATUS	GROUND (LOCKED)	B+
I	BT41-19	DRIVER DOOR LOCK ACTUATOR LOCK STATUS	GROUND (LOCKED)	B+
I	RH20-1	KEY FOB ANTENNA		
I	RH20-2	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 abbreviations are used to represent values for Control Module Pin-Out data

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

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

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

Fig. 13.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC14 / 104-WAY AMP EEEC / GREY	PASSENGER SIDE FASCIA / AIRBAG BRACKET
DOOR CONTROL MODULE – DRIVER	DD10 / 22-WAY FORD 2.8 TIMER / BLUE DD11 / 22-WAY FORD 2.8 TIMER / BLACK	DRIVER DOOR / DOOR CASING
DOOR CONTROL MODULE – PASSENGER	DP10 / 22-WAY FORD 2.8 TIMER / BLUE DP11 / 22-WAY FORD 2.8 TIMER / BLACK	PASSENGER DOOR / DOOR CASING
DOOR LOCK ACTUATOR – DRIVER	DD3 / 13-WAY ECONOSEAL III LC / BLACK	DRIVER DOOR / DOOR CASING
DOOR LOCK ACTUATOR – PASSENGER	DP3 / 13-WAY ECONOSEAL III LC / BLACK	PASSENGER DOOR / DOOR CASING
DOOR LOCK SWITCH – PASSENGER	DP3 / 13-WAY ECONOSEAL III LC / BLACK	PASSENGER DOOR / DOOR CASING
DOOR LOCK SWITCHES – DRIVER	DD3 / 13-WAY ECONOSEAL III LC / BLACK	DRIVER DOOR / DOOR CASING
DOOR SWITCH – DRIVER	DD3 / 13-WAY ECONOSEAL III LC / BLACK	DRIVER DOOR / DOOR CASING
DOOR SWITCH – PASSENGER	DP3 / 13-WAY ECONOSEAL III LC / BLACK	PASSENGER DOOR / DOOR CASING
EXTERNAL TRUNK RELEASE SWITCH	BL2 / 2-WAY MULTILOCK 070 / WHITE	TRUNK LID / LINER
FUEL FILL FLAP SOLENOID	IC24 / 2-WAY LABINAL / NATURAL	TRUNK / FUEL FILL
IGNITION SWITCH (KEY-IN SWITCH)	FC4 / 8-WAY MULTILOCK 070 / WHITE	STEERING COLUMN
KEY FOB ANTENNA (CONVERTIBLE)	HARD WIRED	TOP OF BACKLIGHT
KEY FOB ANTENNA (COUPE)	RH7 / COAXIAL CONNECTOR	TOP OF BACKLIGHT
NOT-IN-PARK MICROSWITCH	FC87 / 3-WAY MULTILOCK 070 / WHITE	GEAR SELECTOR ASSEMBLY
SECURITY AND LOCKING CONTROL MODULE	BT40 / 16-WAY FORD 2.8 TIMER / BLACK BT41 / 26-WAY FORD IDC / BLACK BT42 / 10-WAY FORD 2.8 TIMER / BLACK RH20 / COAXIAL CONNECTOR	TRUNK / ELECTRICAL CARRIER
TRUNK AND FUEL FILL RELEASE SWITCH	FC41 / 10-WAY AMP MQL / NATURAL	FASCIA / DRIVER SIDE
TRUNK RELEASE SOLENOID	BT43 / 2-WAY LABINAL / BROWN	TRUNK / LEFT HAND SIDE
TRUNK SWITCH	BT46 / 2-WAY AUGAT 1.6 / BLACK	TRUNK
VALET SWITCH	FC67 / 10-WAY AMP MQL / BLACK	DRIVER KNEE BOLSTER

RELAYS

Relay	Color / Stripe	Connector / Color	Location / Access
DOOR LOCKING RELAY	BLACK	FC24 / BLACK	RH FASCIA RELAYS

HARNESS-TO-HARNESS CONNECTORS

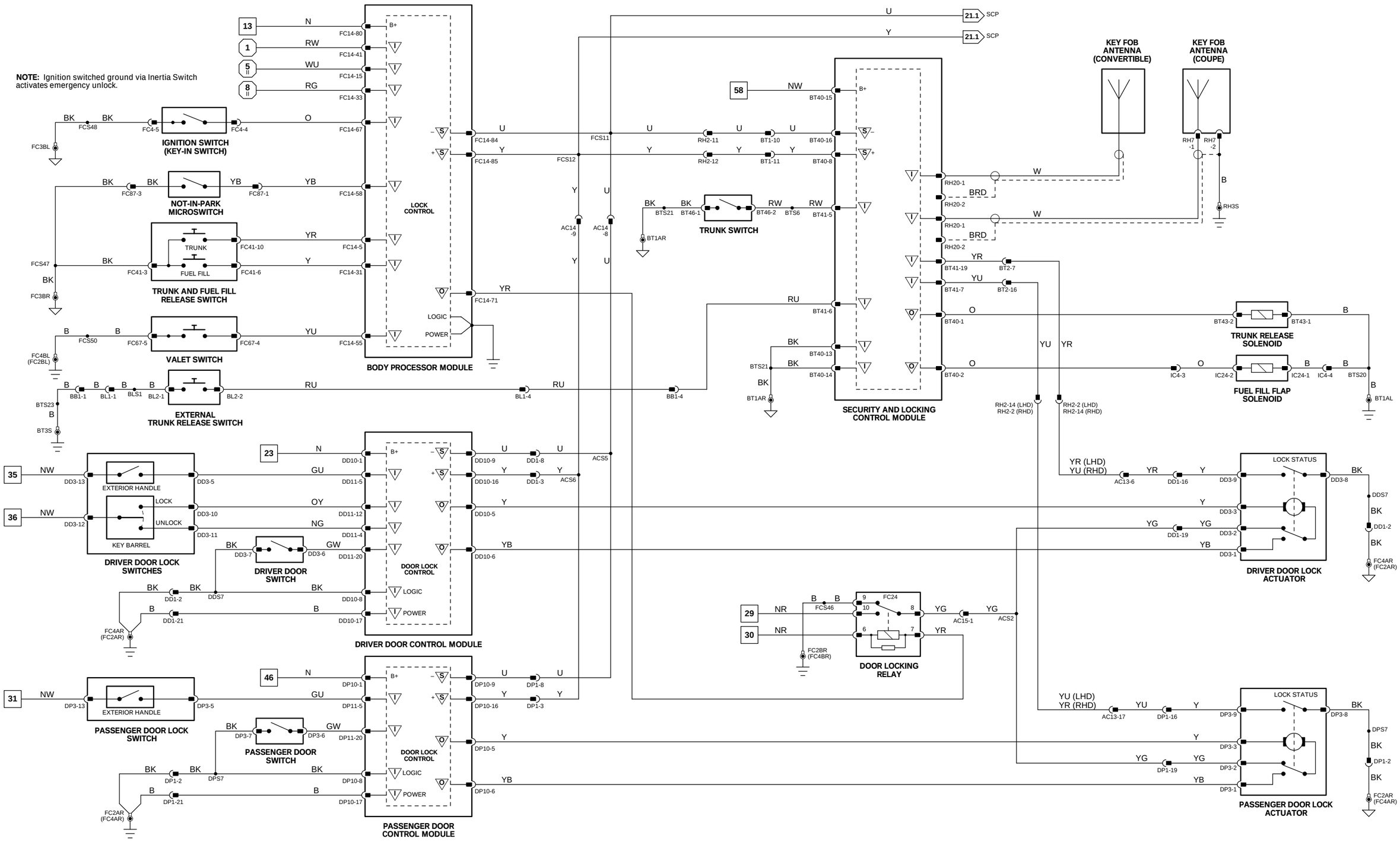
Connector	Type / Color	Location / Access
AC13	20-WAY MULTILOCK 070 / YELLOW	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
AC14	14-WAY MULTILOCK 070 / GREY	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
AC15	20-WAY MULTILOCK 070 / GREY	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
BB1	4-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
BL1	4-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
BT1	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
BT2	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
DD1	23-WAY AMP – FORD / BLACK	DRIVER SIDE ‘A’ POST MOUNTING BRACKET/ ‘A’ POST TRIM
DP1	23-WAY AMP – FORD / BLACK	PASSENGER SIDE ‘A’ POST / ‘A’ POST TRIM
IC4	4-WAY MULTILOCK 070 / WHITE	TRUNK / LEFT OF ANTENNA ASSEMBLY
RH2	20-WAY MULTILOCK 070 / WHITE	REAR OF CENTER CONSOLE ASSEMBLY

GROUNDS

Ground	Location / Type
BT1AL	EYELET (PAIR) – LEFT HAND LEG / ADJACENT TO BATTERY
BT1AR	EYELET (PAIR) – RIGHT HAND LEG / ADJACENT TO BATTERY
FC2AR	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND ‘A’ POST
FC2BL	EYELET (PAIR) – LEFT HAND LEG / RIGHT HAND ‘A’ POST
FC2BR	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND ‘A’ POST
FC3BL	EYELET (PAIR) – LEFT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
FC3BR	EYELET (PAIR) – RIGHT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
FC4AR	EYELET (PAIR) – RIGHT HAND LEG / LEFT HAND ‘A’ POST
FC4BL	EYELET (PAIR) – LEFT HAND LEG / LEFT HAND ‘A’ POST
FC4BR	EYELET (PAIR) – RIGHT HAND LEG / LEFT HAND ‘A’ POST
RH3S	EYELET (SINGLE) / ROOF, ADJACENT TO BACKLIGHT

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

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



1 → 7 Fig. 01.1	(1 II) → (5 E) Fig. 01.1	8 → 50 Fig. 01.2	51 → 90 Fig. 01.3
(6 II) → (58 H) Fig. 01.4	(59 E) → (73 E) Fig. 01.5	1 → (18 I) Fig. 02.1	

I Input	+ Sensor Supply V	A ACP	S SCP
O Output	− Sensor Ground	C CAN	D Serial and Encoded Data

VARIANT: All Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
D	FC14-13	ACTIVE SECURITY SOUNDER	ENCODED COMMUNICATIONS	
O	FC14-22	PASSIVE SECURITY SOUNDER	AUDIO OUTPUT	
O	FC14-23	PASSIVE SECURITY SOUNDER	AUDIO OUTPUT	
O	FC14-29	SECURITY STATUS LED	B+ (PULSED)	GROUND
I	FC14-32	IGNITION SWITCHED GROUND SUPPLY	GROUND	GROUND
D	FC14-39	ENCODED COMMUNICATIONS		
I	FC14-41	IGNITION GROUND SUPPLY	GROUND	
I	FC14-55	VALET SWITCH	GROUND (MOMENTARY)	B+
I	FC14-56	ENGINE COMPARTMENT SECURITY SWITCH	GROUND (HOOD OPEN)	B+
O	FC14-70	HORN RELAY ACTIVATE	GROUND (HORN SOUNDING)	B+
I	FC14-80	BATTERY POWER SUPPLY (LOGIC)	B+	B+
S	FC14-84	SCP NETWORK	2 – 1600 Hz	
S	FC14-85	SCP NETWORK	2 – 1600 Hz	
D	FC14-92	ENCODED COMMUNICATIONS		
I	FC14-104	LIGHTING / MOTORS BATTERY POWER SUPPLY	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	DD11-4	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+

ENGINE CONTROL MODULE

▽	Pin	Description	Active	Inactive
D	EM82-15	OK TO START	ENCODED COMMUNICATIONS	
D	EM82-16	SECURITY ACKNOWLEDGE	ENCODED COMMUNICATIONS	

KEY TRANSPONDER MODULE

▽	Pin	Description	Active	Inactive
I	FC22-1	GLASS BREAKAGE SENSOR	GROUND	B+
I	FC22-4	BATTERY POWER SUPPLY	B+	B+
D	FC22-6	SERIAL COMMUNICATION (ENCODED COMMUNICATION)		
D	FC22-7	READER / EXCITER COIL (ENCODED COMMUNICATION)		
D	FC22-8	READER / EXCITER COIL (ENCODED COMMUNICATION)		
D	FC22-9	GLASS BREAKAGE / OK TO START (ENCODED COMMUNICATION)		
I	FC22-12	GROUND	GROUND	GROUND
I	FC22-13	IGNITION SWITCHED GROUND	GROUND	
I	FC22-14	IGNITION SWITCHED GROUND	GROUND	
D	FC22-16	OK TO START (ENCODED COMMUNICATION)		
D	FC22-17	SECURITY ACKNOWLEDGE (ENCODED COMMUNICATION)		

MAJOR INSTRUMENT PACK

▽	Pin	Description	Active	Inactive
S	FC25-13	SCP NETWORK	2 – 1600 Hz	
S	FC25-14	SCP NETWORK	2 – 1600 Hz	

PASSENGER DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	DP10-1	BATTERY POWER SUPPLY	B+	B+
I	DP10-8	LOGIC GROUND	GROUND	GROUND
S	DP10-9	SCP NETWORK	2 – 1600 Hz	
S	DP10-16	SCP NETWORK	2 – 1600 Hz	
I	DP10-17	POWER GROUND	GROUND	GROUND
I	DP11-20	PASSENGER DOOR SWITCH	GROUND (DOOR OPEN)	B+

SECURITY AND LOCKING CONTROL MODULE

▽	Pin	Description	Active	Inactive
S	BT40-8	SCP NETWORK	2 – 1600 Hz	
I	BT40-13	GROUND	GROUND	GROUND
I	BT40-14	GROUND	GROUND	GROUND
I	BT40-15	BATTERY POWER SUPPLY	B+	B+
S	BT40-16	SCP NETWORK	2 – 1600 Hz	
I	BT41-5	TRUNK SWITCH	GROUND	B+
I	BT41-8	INCLINATION SENSOR TRIGGER	GROUND (MOMENTARY)	B+
I	BT41-10	GROUND	GROUND	GROUND
O	BT41-26	INCLINATION SENSOR SUPPLY	B+	B+
I	RH20-1	KEY FOB ANTENNA		
I	RH20-2	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 abbreviations are used to represent values for Control Module Pin-Out data

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

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

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

Fig. 13.2

COMPONENTS

Component	Connector / Type / Color	Location / Access
ACTIVE SECURITY SOUNDER	LF18 / 6-WAY ECONOSEAL III LC / BLACK	REARWARD OF RIGHT FRONT HEADLAMP
BODY PROCESSOR MODULE	FC14 / 104-WAY AMP EEEC / GREY	PASSENGER SIDE FASCIA / AIRBAG BRACKET
DOOR CONTROL MODULE – DRIVER	DD10 / 22-WAY FORD 2.8 TIMER / BLUE DD11 / 22-WAY FORD 2.8 TIMER / BLACK	DRIVER DOOR / DOOR CASING
DOOR CONTROL MODULE – PASSENGER	DP10 / 22-WAY FORD 2.8 TIMER / BLUE DP11 / 22-WAY FORD 2.8 TIMER / BLACK	PASSENGER DOOR / DOOR CASING
DOOR LOCK SWITCHES – DRIVER	DD3 / 13-WAY ECONOSEAL III LC / BLACK	DRIVER DOOR / DOOR CASING
DOOR SWITCH – DRIVER	DD3 / 13-WAY ECONOSEAL III LC / BLACK	DRIVER DOOR / DOOR CASING
DOOR SWITCH – PASSENGER	DP3 / 13-WAY ECONOSEAL III LC / BLACK	PASSENGER DOOR / DOOR CASING
ENGINE COMPARTMENT SECURITY SWITCH	EM34 / 2-WAY ECONOSEAL 3 LC / BLACK	ENGINE COMPARTMENT / RIGHT HAND HOOD LATCH
ENGINE CONTROL MODULE	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 MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
FUSE BOX – ENGINE COMPARTMENT	LF5 / 10-WAY U.T.A. FUSEBOX / NATURAL LF6 / 10-WAY U.T.A. FUSEBOX / BLACK LF7 / 10-WAY U.T.A. FUSEBOX / GREEN LF8 / 10-WAY U.T.A. FUSEBOX / BLUE LF70 / EYELET	ENGINE COMPARTMENT / LEFT FRONT
GLASS BREAKAGE SENSOR (ROOF CONSOLE)	RF10 / 6-WAY MULTILOCK 070 / GREY	ROOF CONSOLE
HORN – LH	LF16 / LUCAR POSILOCK / BLACK LF17 / LUCAR POSILOCK / BLACK	FRONT BUMPER / REAR
HORN – RH	LF14 / LUCAR POSILOCK / BLACK LF15 / LUCAR POSILOCK / BLACK	FRONT BUMPER / REAR
INCLINATION SENSOR	IS1 / INCLINATION SENSOR CONNECTOR / ORANGE	TRUNK / ADJACENT TO ANTENNA
KEY FOB ANTENNA (CONVERTIBLE)	HARD WIRED	TOP OF BACKLIGHT
KEY FOB ANTENNA (COUPE)	RH7 / COAXIAL CONNECTOR	TOP OF BACKLIGHT
KEY TRANSPONDER MODULE	FC22 / 20-WAY MULTILOCK 040 / GREEN	ADJACENT TO DRIVER SIDE FUSE BOX
MAJOR INSTRUMENT PACK	FC25 / 26-WAY AMP MICRO QUAD LOCK / BLACK FC26 / 26-WAY AMP MICRO QUAD LOCK / YELLOW	FASCIA
PASSIVE SECURITY SOUNDER	LF18 / 6-WAY ECONOSEAL III LC / BLACK	ENGINE COMPARTMENT / RIGHT HAND SIDE
READER / EXCITER COIL (COLUMN SWITCHGEAR)	SC12 / 3-WAY MULTILOCK 070 / WHITE	STEERING COLUMN / RIGHT HAND SIDE
SECURITY ACTIVE INDICATOR (GEAR SELECTOR ILLUMINATION MODULE)	FC88 / 10-WAY MULTILOCK 070 / WHITE	FRONT OF GEAR SELECTOR MODULE
SECURITY AND LOCKING CONTROL MODULE	BT40 / 16-WAY FORD 2.8 TIMER / BLACK BT41 / 26-WAY FORD IDC / BLACK BT42 / 10-WAY FORD 2.8 TIMER / BLACK RH20 / COAXIAL CONNECTOR	TRUNK / ELECTRICAL CARRIER
TRUNK SWITCH	BT46 / 2-WAY AUGAT 1.6 / BLACK	TRUNK
VALET SWITCH	FC67 / 10-WAY AMP MQL / BLACK	DRIVER KNEE BOLSTER

RELAYS

Relay	Color / Stripe	Connector / Color	Location / Access
HORN RELAY (#6)	BROWN	BUS	ENGINE COMPARTMENT FUSE BOX

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
AC14	14-WAY MULTILOCK 070 / GREY	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
BT1	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
BT47	3-WAY MULTILOCK 070 / WHITE	TRUNK / ADJACENT TO ANTENNA
DD1	23-WAY AMP – FORD / BLACK	DRIVER SIDE 'A' POST MOUNTING BRACKET/ 'A' POST TRIM
DP1	23-WAY AMP – FORD / BLACK	PASSENGER SIDE 'A' POST / 'A' POST TRIM
EM2	18-WAY MULTILOCK 070 / YELLOW	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
EM3	14-WAY MULTILOCK 070 / GREY	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
LF1	20-WAY MULTILOCK 070 / GREY	LEFT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
LF60	20-WAY MULTILOCK 070 / WHITE	LEFT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
RF1	24-WAY CONNECTOR / BLACK	RIGHT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
RF5	8-WAY MULTILOCK 070 / WHITE	LOWER RH 'A' POST / 'A' POST TRIM
RF5	8-WAY MULTILOCK 070 / WHITE	LOWER RH 'A' POST / 'A' POST TRIM
SC1	12-WAY MULTILOCK 070 / WHITE	RIGHT HAND SIDE OF STEERING COLUMN

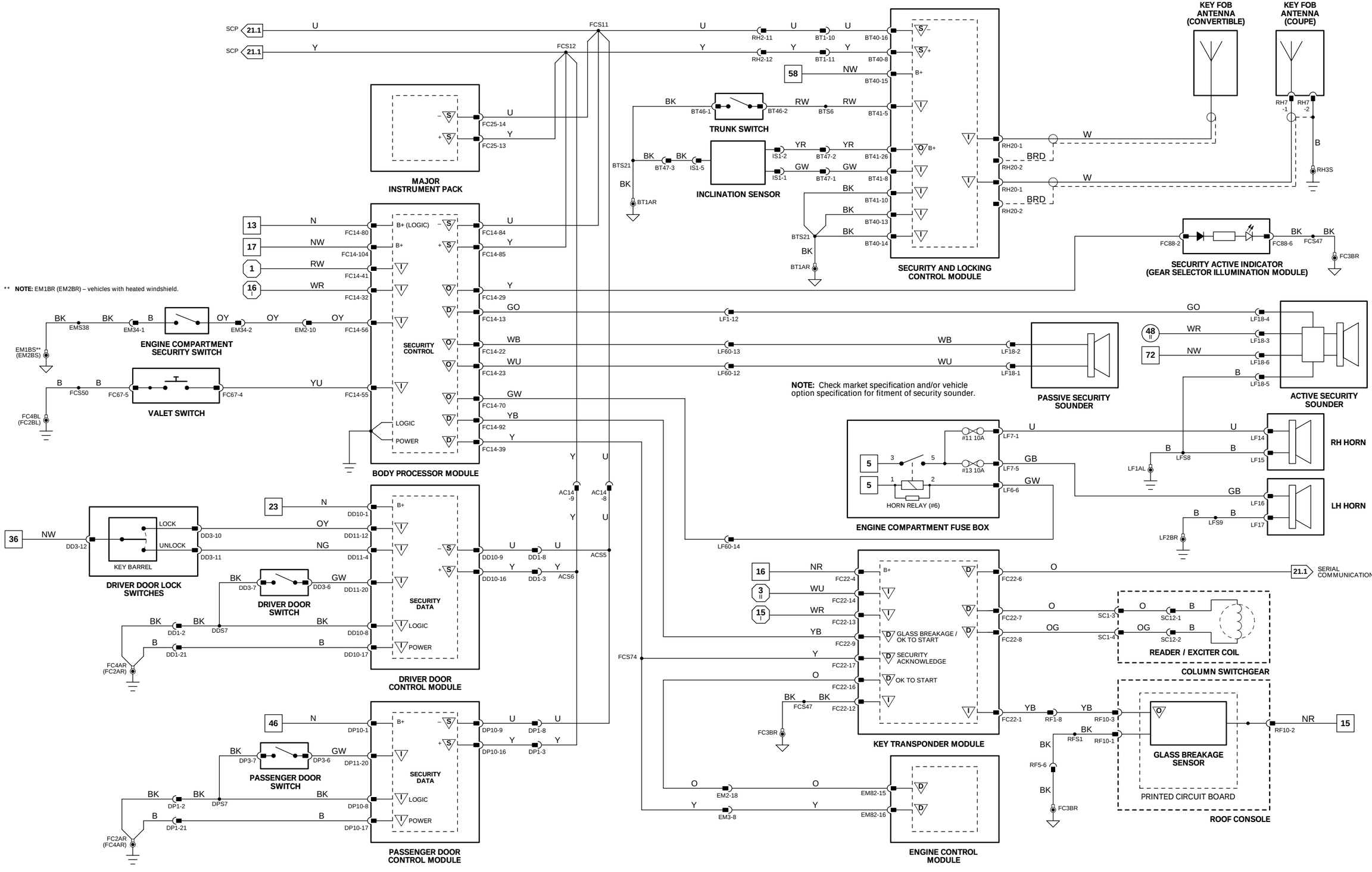
GROUNDS

Ground	Location / Type
BT1AR	EYELET (PAIR) – RIGHT HAND LEG / ADJACENT TO BATTERY
EM1BR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM1BS	EYELET (SINGLE) / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM2BR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE
EM2BS	EYELET (SINGLE) / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE
FC2AR	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND 'A' POST
FC2BL	EYELET (PAIR) – LEFT HAND LEG / RIGHT HAND 'A' POST
FC3BR	EYELET (PAIR) – RIGHT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
FC4AR	EYELET (PAIR) – RIGHT HAND LEG / LEFT HAND 'A' POST
FC4BL	EYELET (PAIR) – LEFT HAND LEG / LEFT HAND 'A' POST
LF1AL	EYELET (PAIR) – LEFT HAND LEG / RIGHT HAND HEADLAMP
LF2BR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, FORWARD OF LEFT HAND HOOD CATCH
RH3S	EYELET (SINGLE) / ROOF, ADJACENT TO BACKLIGHT

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

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

DATE OF ISSUE: September 2000



1 → 7 Fig. 01.1 (1 II → 5 E) Fig. 01.1 8 → 50 Fig. 02.2 51 → 90 Fig. 01.3 (6 II → 58 H) Fig. 01.4 (59 E → 73 E) Fig. 01.5 1 → 18 I Fig. 02.1

I Input
O Output
+ Sensor Supply V
− Sensor Ground
A ACP
C CAN
S SCP
D Serial and Encoded Data

VARIANT: ROW Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
O	FC14-22	PASSIVE SECURITY SOUNDER	AUDIO OUTPUT	
O	FC14-23	PASSIVE SECURITY SOUNDER	AUDIO OUTPUT	
O	FC14-29	SECURITY STATUS LED	B+ (PULSED)	GROUND
I	FC14-32	IGNITION SWITCHED GROUND SUPPLY	GROUND	GROUND
D	FC14-39	ENCODED COMMUNICATIONS		
I	FC14-41	IGNITION GROUND SUPPLY	GROUND	
I	FC14-55	VALET SWITCH	GROUND (MOMENTARY)	B+
I	FC14-56	ENGINE COMPARTMENT SECURITY SWITCH	GROUND (HOOD OPEN)	B+
O	FC14-70	HORN RELAY ACTIVATE	GROUND (HORN SOUNDING)	B+
I	FC14-80	BATTERY POWER SUPPLY (LOGIC)	B+	B+
S	FC14-84	SCP NETWORK	2 – 1600 Hz	
S	FC14-85	SCP NETWORK	2 – 1600 Hz	
I	FC14-104	LIGHTING / MOTORS BATTERY POWER SUPPLY	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	DD11-4	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+

ENGINE CONTROL MODULE

▽	Pin	Description	Active	Inactive
D	EM82-15	OK TO START	ENCODED COMMUNICATIONS	
D	EM82-16	SECURITY ACKNOWLEDGE	ENCODED COMMUNICATIONS	

KEY TRANSPONDER MODULE

▽	Pin	Description	Active	Inactive
I	FC22-4	BATTERY POWER SUPPLY	B+	B+
D	FC22-6	SERIAL COMMUNICATION (ENCODED COMMUNICATION)		
D	FC22-7	READER / EXCITER COIL (ENCODED COMMUNICATION)		
D	FC22-8	READER / EXCITER COIL (ENCODED COMMUNICATION)		
I	FC22-12	GROUND	GROUND	GROUND
I	FC22-13	IGNITION SWITCHED GROUND	GROUND	
I	FC22-14	IGNITION SWITCHED GROUND	GROUND	
D	FC22-16	OK TO START (ENCODED COMMUNICATION)		
D	FC22-17	SECURITY ACKNOWLEDGE (ENCODED COMMUNICATION)		

MAJOR INSTRUMENT PACK

▽	Pin	Description	Active	Inactive
S	FC25-13	SCP NETWORK	2 – 1600 Hz	
S	FC25-14	SCP NETWORK	2 – 1600 Hz	

PASSENGER DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	DP10-1	BATTERY POWER SUPPLY	B+	B+
I	DP10-8	LOGIC GROUND	GROUND	GROUND
S	DP10-9	SCP NETWORK	2 – 1600 Hz	
S	DP10-16	SCP NETWORK	2 – 1600 Hz	
I	DP10-17	POWER GROUND	GROUND	GROUND
I	DP11-20	PASSENGER DOOR SWITCH	GROUND (DOOR OPEN)	B+

SECURITY AND LOCKING CONTROL MODULE

▽	Pin	Description	Active	Inactive
S	BT40-8	SCP NETWORK	2 – 1600 Hz	
I	BT40-13	GROUND	GROUND	GROUND
I	BT40-14	GROUND	GROUND	GROUND
I	BT40-15	BATTERY POWER SUPPLY	B+	B+
S	BT40-16	SCP NETWORK	2 – 1600 Hz	
I	BT41-5	TRUNK SWITCH	GROUND	B+
I	BT41-10	GROUND	GROUND	GROUND
I	RH20-1	KEY FOB ANTENNA		
I	RH20-2	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 abbreviations are used to represent values for Control Module Pin-Out data

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

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

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

Fig. 13.3

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC14 / 104-WAY AMP EEEC / GREY	PASSENGER SIDE FASCIA / AIRBAG BRACKET
DOOR CONTROL MODULE – DRIVER	DD10 / 22-WAY FORD 2.8 TIMER / BLUE DD11 / 22-WAY FORD 2.8 TIMER / BLACK	DRIVER DOOR / DOOR CASING
DOOR CONTROL MODULE – PASSENGER	DP10 / 22-WAY FORD 2.8 TIMER / BLUE DP11 / 22-WAY FORD 2.8 TIMER / BLACK	PASSENGER DOOR / DOOR CASING
DOOR LOCK SWITCHES – DRIVER	DD3 / 13-WAY ECONOSEAL III LC / BLACK	DRIVER DOOR / DOOR CASING
DOOR SWITCH – DRIVER	DD3 / 13-WAY ECONOSEAL III LC / BLACK	DRIVER DOOR / DOOR CASING
DOOR SWITCH – PASSENGER	DP3 / 13-WAY ECONOSEAL III LC / BLACK	PASSENGER DOOR / DOOR CASING
ENGINE COMPARTMENT SECURITY SWITCH	EM34 / 2-WAY ECONOSEAL 3 LC / BLACK	ENGINE COMPARTMENT / RIGHT HAND HOOD LATCH
ENGINE CONTROL MODULE	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 MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
FUSE BOX – ENGINE COMPARTMENT	LF5 / 10-WAY U.T.A. FUSEBOX / NATURAL LF6 / 10-WAY U.T.A. FUSEBOX / BLACK LF7 / 10-WAY U.T.A. FUSEBOX / GREEN LF8 / 10-WAY U.T.A. FUSEBOX / BLUE LF70 / EYELET	ENGINE COMPARTMENT / LEFT FRONT
HORN – LH	LF16 / LUCAR POSILOCK / BLACK LF17 / LUCAR POSILOCK / BLACK	FRONT BUMPER / REAR
HORN – RH	LF14 / LUCAR POSILOCK / BLACK LF15 / LUCAR POSILOCK / BLACK	FRONT BUMPER / REAR
KEY FOB ANTENNA (CONVERTIBLE)	HARD WIRED	TOP OF BACKLIGHT
KEY FOB ANTENNA (COUPE)	RH7 / COAXIAL CONNECTOR	TOP OF BACKLIGHT
KEY TRANSPONDER MODULE	FC22 / 20-WAY MULTILOCK 040 / GREEN	ADJACENT TO DRIVER SIDE FUSE BOX
MAJOR INSTRUMENT PACK	FC25 / 26-WAY AMP MICRO QUAD LOCK / BLACK FC26 / 26-WAY AMP MICRO QUAD LOCK / YELLOW	FASCIA
PASSIVE SECURITY SOUNDER	LF18 / 6-WAY ECONOSEAL III LC / BLACK	ENGINE COMPARTMENT / RIGHT HAND SIDE
READER / EXCITER COIL (COLUMN SWITCHGEAR)	SC12 / 3-WAY MULTILOCK 070 / WHITE	STEERING COLUMN / RIGHT HAND SIDE
ROOF CONSOLE	RF11 / HYBRID / WHITE RF10 / 6-WAY MULTILOCK 070 / GREY	ROOF CONSOLE
SECURITY ACTIVE INDICATOR (GEAR SELECTOR ILLUMINATION MODULE)	FC88 / 10-WAY MULTILOCK 070 / WHITE	FRONT OF GEAR SELECTOR MODULE
SECURITY AND LOCKING CONTROL MODULE	BT40 / 16-WAY FORD 2.8 TIMER / BLACK BT41 / 26-WAY FORD IDC / BLACK BT42 / 10-WAY FORD 2.8 TIMER / BLACK RH20 / COAXIAL CONNECTOR	TRUNK / ELECTRICAL CARRIER
TRUNK SWITCH	BT46 / 2-WAY AUGAT 1.6 / BLACK	TRUNK
VALET SWITCH	FC67 / 10-WAY AMP MQL / BLACK	DRIVER KNEE BOLSTER

RELAYS

Relay	Color / Stripe	Connector / Color	Location / Access
HORN RELAY (#6)	BROWN	BUS	ENGINE COMPARTMENT FUSE BOX

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
AC14	14-WAY MULTILOCK 070 / GREY	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
BT1	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
DD1	23-WAY AMP – FORD / BLACK	DRIVER SIDE 'A' POST MOUNTING BRACKET/ 'A' POST TRIM
DP1	23-WAY AMP – FORD / BLACK	PASSENGER SIDE 'A' POST / 'A' POST TRIM
EM2	18-WAY MULTILOCK 070 / YELLOW	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
EM3	14-WAY MULTILOCK 070 / GREY	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
LF1	20-WAY MULTILOCK 070 / GREY	LEFT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
LF60	20-WAY MULTILOCK 070 / WHITE	LEFT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
RF1	24-WAY CONNECTOR / BLACK	RIGHT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
RF5	8-WAY MULTILOCK 070 / WHITE	LOWER RH 'A' POST / 'A' POST TRIM
RF5	8-WAY MULTILOCK 070 / WHITE	LOWER RH 'A' POST / 'A' POST TRIM
RH2	20-WAY MULTILOCK 070 / WHITE	REAR OF CENTER CONSOLE ASSEMBLY

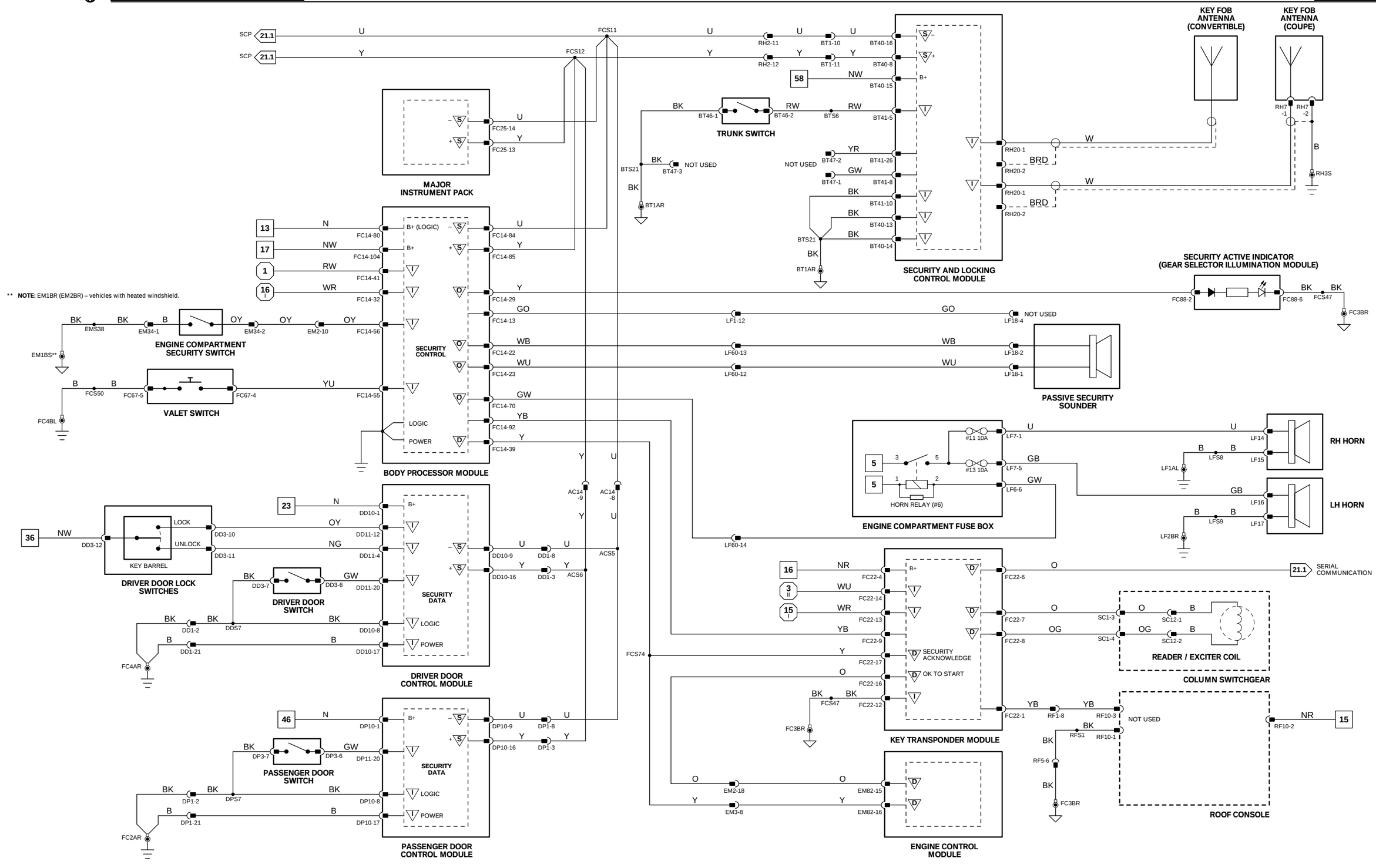
GROUNDS

Ground	Location / Type
BT1AR	EYELET (PAIR) – RIGHT HAND LEG / ADJACENT TO BATTERY
EM1BR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM1BS	EYELET (SINGLE) / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM2BR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE
EM2BS	EYELET (SINGLE) / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE
FC2AR	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND 'A' POST
FC2BL	EYELET (PAIR) – LEFT HAND LEG / RIGHT HAND 'A' POST
FC3BR	EYELET (PAIR) – RIGHT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
FC4AR	EYELET (PAIR) – RIGHT HAND LEG / LEFT HAND 'A' POST
FC4BL	EYELET (PAIR) – LEFT HAND LEG / LEFT HAND 'A' POST
LF1AL	EYELET (PAIR) – LEFT HAND LEG / RIGHT HAND HEADLAMP
LF2BR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, FORWARD OF LEFT HAND HOOD CATCH
RH3S	EYELET (SINGLE) / ROOF, ADJACENT TO BACKLIGHT

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

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

DATE OF ISSUE: September 2000



1 → 7 Fig. 01.1 | 1 II → 5 E Fig. 01.1 | 8 → 50 Fig. 02.2 | 51 → 90 Fig. 01.3 | 6 II → 58 H Fig. 01.4 | 59 E → 73 E Fig. 01.5 | 1 → 18 I Fig. 02.1

I Input | O Output | + Sensor Supply V | − Sensor Ground | A ACP | C CAN | S SCP | D Serial and Encoded Data

VARIANT: NAS Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC14-6	WASHER FLUID LEVEL LOW	0 V	B+
I	FC14-9	INTERMITTENT WIPER REQUEST	GROUND (MOMENTARY)	B+
I	FC14-15	IGNITION SWITCHED GROUND SUPPLY	GROUND	
I	FC14-16	SIDE LAMP REQUEST	GROUND	B+
O	FC14-18	POWERWASH RELAY ACTIVATE	GROUND	B+
O	FC14-19	WIPER FAST / SLOW RELAY ACTIVATE	GROUND	B+
O	FC14-26	WINDSHIELD WASH PUMP AND FLUID LEVEL SENSOR SUPPLY	B+	GROUND
I	FC14-34	FAST WIPE REQUEST	GROUND	B+
I	FC14-37	WASH REQUEST	0 V (MOMENTARY)	B+
O	FC14-43	WIPER RUN / STOP RELAY ACTIVATE	GROUND	B+
I	FC14-60	WIPER MOTOR PARK SWITCH	GROUND (PARKED)	B+ (NOT PARKED)
I	FC14-80	BATTERY POWER SUPPLY (LOGIC)	B+	B+
I	FC14-94	SLOW WIPE REQUEST	GROUND (WIPERS ON)	B+
I	FC14-104	LIGHTING / MOTORS BATTERY POWER SUPPLY	B+	B+

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

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

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

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

Fig. 14.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC14 / 104-WAY AMP EEEC / GREY	PASSENGER SIDE FASCIA / AIRBAG BRACKET
FUSE BOX – ENGINE COMPARTMENT	LF5 / 10-WAY U.T.A. FUSEBOX / NATURAL LF6 / 10-WAY U.T.A. FUSEBOX / BLACK LF7 / 10-WAY U.T.A. FUSEBOX / GREEN LF8 / 10-WAY U.T.A. FUSEBOX / BLUE LF70 / EYELET	ENGINE COMPARTMENT / LEFT FRONT
INTERIOR REAR VIEW MIRROR	RF2 / 6-WAY MULTILOCK 070 / YELLOW	WINDSHIELD / FORWARD OF ROOF CONSOLE
LIGHTING STALK (COLUMN SWITCHGEAR)	SC2 / 10-WAY MULTILOCK 070 / YELLOW	STEERING COLUMN
POWERWASH PUMP	LF25 / 2-WAY ECONOSEAL III HC / BLACK	LEFT FRONT FENDER / WHEEL ARCH LINER
RAIN SENSING MODULE	RS1 / 12-WAY AMP ML42 / BLACK	ABOVE PASSENGER FOOTWELL
RAIN SENSOR	RF15 / 3-WAY MICRO QUAD LOCK / BLACK	BEHIND REAR VIEW MIRROR
WASH / WIPE STALK (COLUMN SWITCHGEAR)	SC1 / 12-WAY MULTILOCK 070 / WHITE	STEERING COLUMN
WINDSHIELD WASH PUMP AND FLUID LEVEL SENSOR	LF27 / 3-WAY AUGAT 1.6 / BLACK	LEFT FRONT FENDER / WHEEL ARCH LINER
WIPER MOTOR	EM51 / 5-WAY FORD FAO / BLACK	BASE OF WINDSHIELD / AIR INTAKE PLENUM

RELAYS

Relay	Color / Stripe	Connector / Color	Location / Access
WIPER RUN / STOP RELAY	BLACK	LF48 / BLACK	LH ENCLOSURE RELAYS
WIPER FAST / SLOW RELAY	BLACK	LF49 / BLACK	LH ENCLOSURE RELAYS
POWERWASH RELAY (#4)	BROWN	BUS	ENGINE COMPARTMENT FUSE BOX

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
EM2	18-WAY MULTILOCK 070 / YELLOW	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
FC49	12-WAY MULTILOCK 040 /BLACK	FASCIA
LF3	13-WAY ECONOSEAL III LC / WHITE	LHD: ENGINE COMPARTMENT / ADJACENT TO BRAKE SERVO RHD: ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
LF1	20-WAY MULTILOCK 070 / GREY	LEFT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
LF60	20-WAY MULTILOCK 070 / WHITE	LEFT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
RF1	24-WAY CONNECTOR / BLACK	RIGHT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM

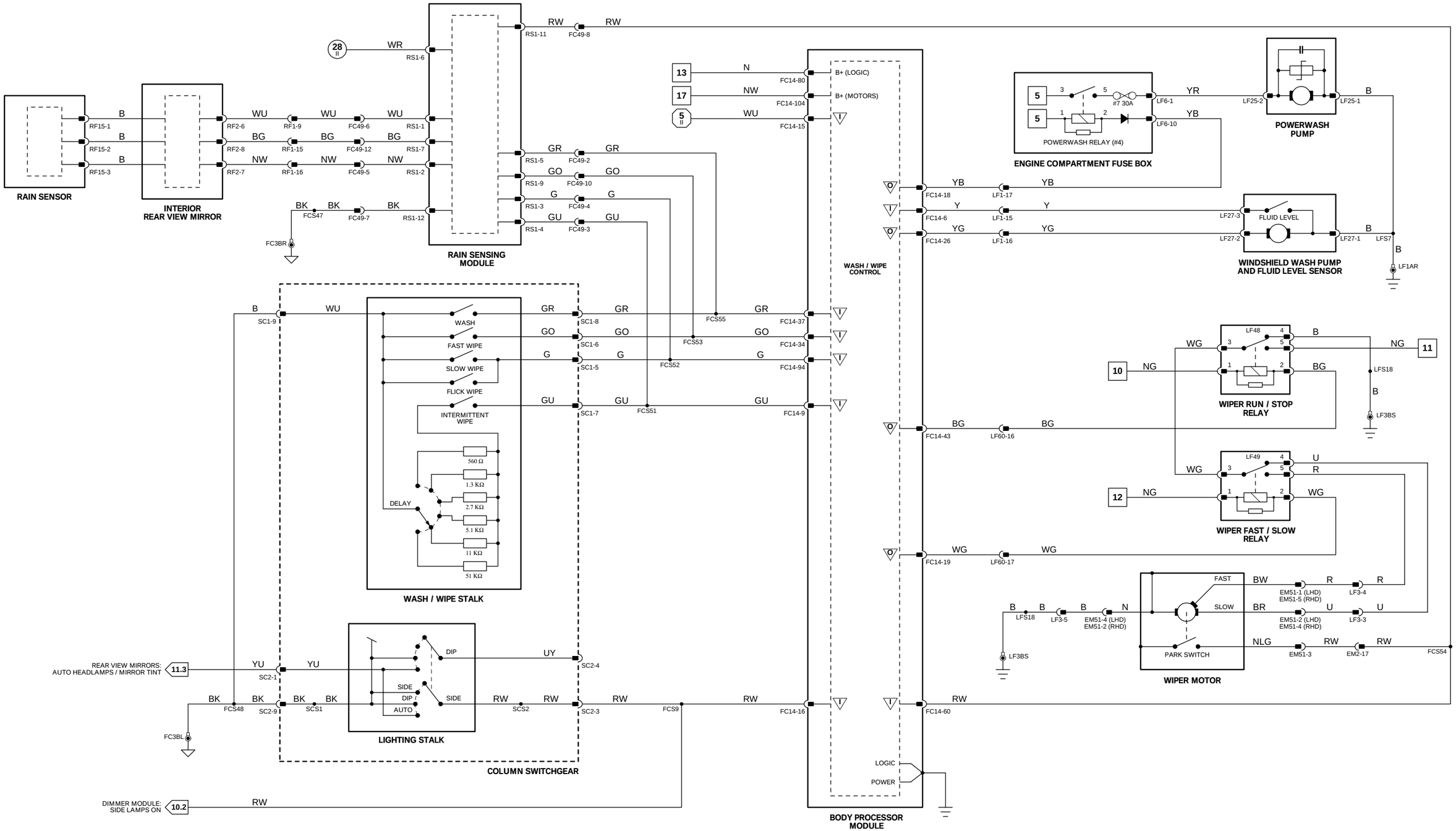
GROUNDS

Ground	Location / Type
FC3BL	EYELET (PAIR) – LEFT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
FC3BR	EYELET (PAIR) – RIGHT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
LF1AR	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND HEADLAMP
LF3BS	EYELET (SINGLE) / ENGINE COMPARTMENT, FORWARD OF LEFT HAND HOOD CATCH

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

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

Wash / Wipe System



1 → 7 Fig. 01.1 1 → 5 Fig. 01.1 8 → 50 Fig. 01.2 51 → 90 Fig. 01.3 6 → 58 Fig. 01.4 59 → 73 Fig. 01.5 1 → 18 Fig. 02.1

I Input
O Output
+ Sensor Supply V
− Sensor Ground
A ACP
C CAN
S SCP
D Serial and Encoded Data

VARIANT: All Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
S	FC14-84	SCP NETWORK	2 – 1600 Hz	
S	FC14-85	SCP NETWORK	2 – 1600 Hz	

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 SWITCH PACK LH WINDOW DOWN REQUEST	GROUND (MOMENTARY)	B+
I	DD10-11	DRIVER WINDOW LIFT SENSOR FEEDBACK	2 V = UP; 12 V = DOWN	
I	DD10-12	DRIVER WINDOW LIFT SENSOR FEEDBACK	2 V = UP; 12 V = DOWN	
O	DD10-13	DRIVER WINDOW LIFT SENSOR REFERENCE VOLTAGE	B+	B+
O	DD10-15	DRIVER 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 SWITCH PACK LH WINDOW UP REQUEST	GROUND (MOMENTARY)	GROUND
I	DD10-19	DRIVER SWITCH PACK RH WINDOW UP REQUEST	GROUND (MOMENTARY)	GROUND
I	DD11-4	DRIVER DOOR LOCK BARREL UNLOCK REQUEST	B+ (MOMENTARY)	GROUND
I	DD11-7	DRIVER SWITCH PACK RH WINDOW DOWN REQUEST	B+ (MOMENTARY)	GROUND
I	DD11-12	DRIVER DOOR LOCK BARREL LOCK REQUEST	B+ (MOMENTARY)	GROUND

MAJOR INSTRUMENT PACK

▽	Pin	Description	Active	Inactive
S	FC25-13	SCP NETWORK	2 – 1600 Hz	
S	FC25-14	SCP NETWORK	2 – 1600 Hz	

PASSENGER DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
I	DP10-1	BATTERY POWER SUPPLY	B+	B+
O	DP10-7	PASSENGER WINDOW LIFT MOTOR DOWN SUPPLY	B+	GROUND
I	DP10-8	LOGIC GROUND	GROUND	GROUND
S	DP10-9	SCP NETWORK	2 – 1600 Hz	
I	DP10-10	PASSENGER SWITCH PACK RH WINDOW DOWN REQUEST	B+ (MOMENTARY)	GROUND
I	DP10-11	PASSENGER WINDOW LIFT MOVEMENT SENSOR FEEDBACK	2 V = UP; 12 V = DOWN	
I	DP10-12	PASSENGER WINDOW LIFT MOVEMENT SENSOR FEEDBACK	2 V = UP; 12 V = DOWN	
O	DP10-13	PASSENGER WINDOW LIFT MOVEMENT SENSOR REFERENCE VOLTAGE	B+	B+
O	DP10-15	PASSENGER WINDOW LIFT MOTOR UP SUPPLY	B+	GROUND
S	DP10-16	SCP NETWORK	2 – 1600 Hz	
I	DP10-17	POWER GROUND	GROUND	GROUND
I	DP10-18	PASSENGER SWITCH PACK RH WINDOW UP REQUEST	B+ (MOMENTARY)	GROUND

SECURITY AND LOCKING CONTROL MODULE

▽	Pin	Description	Active	Inactive
S	BT40-8	SCP NETWORK	2 – 1600 Hz	
S	BT40-16	SCP NETWORK	2 – 1600 Hz	

NOTE: Refer to the Appendix at the rear of this book for CAN and SCP Network Messages.

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

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

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

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

Fig. 15.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC14 / 104-WAY AMP EEEC / GREY	PASSENGER SIDE FASCIA / AIRBAG BRACKET
DOOR CONTROL MODULE – DRIVER	DD10 / 22-WAY FORD 2.8 TIMER / BLUE DD11 / 22-WAY FORD 2.8 TIMER / BLACK	DRIVER DOOR / DOOR CASING
DOOR CONTROL MODULE – PASSENGER	DP10 / 22-WAY FORD 2.8 TIMER / BLUE DP11 / 22-WAY FORD 2.8 TIMER / BLACK	PASSENGER DOOR / DOOR CASING
DOOR LOCK SWITCHES – DRIVER	DD3 / 13-WAY ECONOSEAL III LC / BLACK	DRIVER DOOR / DOOR CASING
MAJOR INSTRUMENT PACK	FC25 / 26-WAY AMP MICRO QUAD LOCK / BLACK FC26 / 26-WAY AMP MICRO QUAD LOCK / YELLOW	FASCIA
SECURITY AND LOCKING CONTROL MODULE	BT40 / 16-WAY FORD 2.8 TIMER / BLACK BT41 / 26-WAY FORD IDC / BLACK BT42 / 10-WAY FORD 2.8 TIMER / BLACK RH20 / COAXIAL CONNECTOR	TRUNK / ELECTRICAL CARRIER
WINDOW LIFT SWITCHES – DRIVER DOOR	DD17 / 20-WAY MULTILOCK 040 / BLACK	DRIVER DOOR SWITCH PACK
WINDOW LIFT SWITCHES – PASSENGER DOOR (PASSENGER DOOR SWITCH PACK)	DP17 / 20-WAY MULTILOCK 040 / BLACK	PASSENGER DOOR SWITCH PACK
WINDOW LIFT – DRIVER	DD16 / 6-WAY ECONOSEAL III LC / BLACK	DRIVER DOOR
WINDOW LIFT – PASSENGER	DP16 / 6-WAY ECONOSEAL III LC / BLACK	DRIVER DOOR

HARNESS-TO-HARNESS CONNECTORS

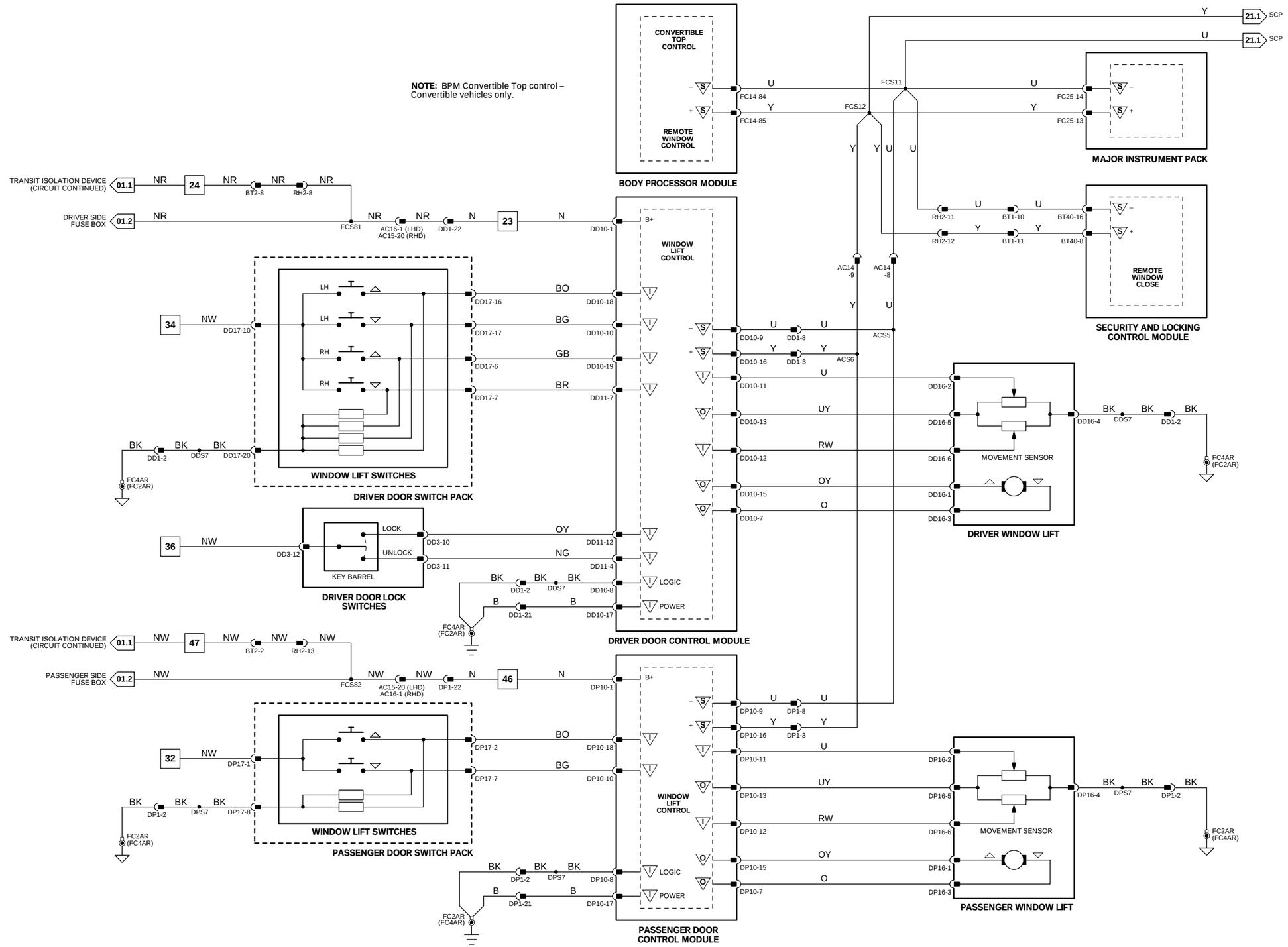
Connector	Type / Color	Location / Access
AC14	14-WAY MULTILOCK 070 / GREY	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
AC15	20-WAY MULTILOCK 070 / GREY	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
AC16	6-WAY MULTILOCK 070 / YELLOW	LEFT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
BT1	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
BT2	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
DD1	23-WAY AMP – FORD / BLACK	DRIVER SIDE 'A' POST MOUNTING BRACKET/ 'A' POST TRIM
DP1	23-WAY AMP – FORD / BLACK	PASSENGER SIDE 'A' POST / 'A' POST TRIM
FC62	10-WAY AMP MQL / BLACK	CONVERTIBLE TOP SWITCH
RF1	24-WAY CONNECTOR / BLACK	RIGHT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
RH12	18-WAY MULTILOCK 070 / YELLOW	REAR OF CENTER CONSOLE ASSEMBLY
RH2	20-WAY MULTILOCK 070 / WHITE	REAR OF CENTER CONSOLE ASSEMBLY

GROUNDS

Ground	Location / Type
FC2AR	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND 'A' POST
FC4AR	EYELET (PAIR) – RIGHT HAND LEG / LEFT HAND 'A' POST

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

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



1 → 7 Fig. 01.1	(1 II) → (5 E) Fig. 01.1	8 → 50 Fig. 01.2	51 → 90 Fig. 01.3	(6 II) → (58 II) Fig. 01.4	(59 E) → (73 E) Fig. 01.5
1 → (18 I) Fig. 02.1					

I Input
O Output
+ Sensor Supply V
– Sensor Ground
A ACP
C CAN
S SCP
D Serial and Encoded Data

VARIANT: All Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC14-10	CONVERTIBLE TOP RAISE REQUEST	GROUND (MOMENTARY)	B+
I	FC14-15	IGNITION SWITCHED GROUND SUPPLY	GROUND	
I	FC14-32	IGNITION SWITCHED GROUND SUPPLY	GROUND	GROUND
I	FC14-33	IGNITION SWITCHED GROUND SUPPLY	GROUND	GROUND
I	FC14-36	CONVERTIBLE TOP READY TO LATCH	GROUND	B+
I	FC14-62	CONVERTIBLE TOP LATCH CLOSED	GROUND (CLOSED)	B+
I	FC14-63	CONVERTIBLE TOP LOWER REQUEST	GROUND (MOMENTARY)	B+
O	FC14-77	REAR QUARTER GLASS DOWN RELAYS ACTIVATE	GROUND	B+
I	FC14-80	BATTERY POWER SUPPLY (LOGIC)	B+	B+
S	FC14-84	SCP NETWORK	2 – 1600 Hz	
S	FC14-85	SCP NETWORK	2 – 1600 Hz	
I	FC14-89	CONVERTIBLE TOP CLOSED	GROUND	B+
O	FC14-98	REAR QUARTER GLASS UP RELAYS ACTIVATE	GROUND	B+

DRIVER DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
S	DD10-9	SCP NETWORK	2 – 1600 Hz	
S	DD10-16	SCP NETWORK	2 – 1600 Hz	

MAJOR INSTRUMENT PACK

▽	Pin	Description	Active	Inactive
S	FC25-13	SCP NETWORK	2 – 1600 Hz	
S	FC25-14	SCP NETWORK	2 – 1600 Hz	

PASSENGER DOOR CONTROL MODULE

▽	Pin	Description	Active	Inactive
S	DP10-9	SCP NETWORK	2 – 1600 Hz	
S	DP10-16	SCP NETWORK	2 – 1600 Hz	
C	FC25-24	CAN NETWORK	15 – 1500 Hz	
C	FC25-47	CAN NETWORK	15 – 1500 Hz	

SECURITY AND LOCKING CONTROL MODULE

▽	Pin	Description	Active	Inactive
O	BT40-3	TOP UP RELAY ACTIVATE	B+	GROUND
O	BT40-4	LATCH CONTROL VALVE	B+	GROUND
I	BT40-6	BATTERY POWER SUPPLY	B+	B+
S	BT40-8	SCP NETWORK	2 – 1600 Hz	
O	BT40-9	MAIN CONTROL VALVE	B+	GROUND
O	BT40-10	TOP DOWN RELAY ACTIVATE	B+	GROUND
I	BT40-13	GROUND	GROUND	GROUND
I	BT40-14	GROUND	GROUND	GROUND
S	BT40-16	SCP NETWORK	2 – 1600 Hz	
I	BT41-3	CONVERTIBLE TOP DOWN SWITCH	GROUND	B+

NOTE: Refer to the Appendix at the rear of this book for CAN and SCP Network Messages.

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

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

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

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

Fig. 15.2

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC14 / 104-WAY AMP EEEC / GREY	PASSENGER SIDE FASCIA / AIRBAG BRACKET
CONVERTIBLE TOP CLOSED SWITCH	RF4 / 6-WAY MULTILOCK 070 / WHITE	TOP OF WINDSHIELD
CONVERTIBLE TOP DOWN SWITCH	RH29 / 3-WAY MULTILOCK 070 / WHITE	RIGHT HAND OPERATING CYLINDER
CONVERTIBLE TOP LATCH CLOSED SWITCH	RF4 / 6-WAY MULTILOCK 070 / WHITE	TOP OF WINDSHIELD
CONVERTIBLE TOP PUMP	BT15 / 2-WAY AMP / NATURAL	TRUNK / RIGHT HAND SIDE
CONVERTIBLE TOP RAISED SWITCH	RH29 / 3-WAY MULTILOCK 070 / WHITE	RIGHT HAND OPERATING CYLINDER
CONVERTIBLE TOP READY-TO-LATCH SWITCH	RF4 / 6-WAY MULTILOCK 070 / WHITE	TOP OF WINDSHIELD
CONVERTIBLE TOP SWITCH	FC62 / 10-WAY AMP MQL / BLACK	FORWARD OF GEAR SELECTOR
DOOR CONTROL MODULE – DRIVER	DD10 / 22-WAY FORD 2.8 TIMER / BLUE DD11 / 22-WAY FORD 2.8 TIMER / BLACK	DRIVER DOOR / DOOR CASING
DOOR CONTROL MODULE – PASSENGER	DP10 / 22-WAY FORD 2.8 TIMER / BLUE DP11 / 22-WAY FORD 2.8 TIMER / BLACK	PASSENGER DOOR / DOOR CASING
LATCH CONTROL VALVE	PH2 / 2-WAY DAUT & RIETZ / BLUE	TRUNK / CONVERTIBLE TOP PUMP
MAIN CONTROL VALVE	PH3 / 2-WAY DAUT & RIETZ / ORANGE	TRUNK / CONVERTIBLE TOP PUMP
MAJOR INSTRUMENT PACK	FC25 / 26-WAY AMP MICRO QUAD LOCK / BLACK FC26 / 26-WAY AMP MICRO QUAD LOCK / YELLOW	FASCIA
QUARTER LIGHT LIFT – LH	RH33 / 2-WAY ECONOSEAL III HC / BLACK	REAR QUARTER PANEL
QUARTER LIGHT LIFT – RH	RH34 / 2-WAY ECONOSEAL III HC / BLACK	REAR QUARTER PANEL
SECURITY AND LOCKING CONTROL MODULE	BT40 / 16-WAY FORD 2.8 TIMER / BLACK BT41 / 26-WAY FORD IDC / BLACK BT42 / 10-WAY FORD 2.8 TIMER / BLACK RH20 / COAXIAL CONNECTOR	TRUNK / ELECTRICAL CARRIER

RELAYS

Relay	Color / Stripe	Connector / Color	Location / Access
QUARTER DOWN RELAY – LH	BLACK	BT74 / BLACK	TRUNK RELAYS
QUARTER DOWN RELAY – RH	BLACK	BT76 / BLACK	TRUNK RELAYS
QUARTER UP RELAY – LH	BLACK	BT74 / BLACK	TRUNK RELAYS
QUARTER UP RELAY – RH	BLACK	BT76 / BLACK	TRUNK RELAYS
TOP UP RELAY	BLACK	BT16 / BLACK	TRUNK RELAYS
TOP DOWN RELAY	BLACK	BT17 / BLACK	TRUNK RELAYS

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
AC14	14-WAY MULTILOCK 070 / GREY	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
BT1	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
BT3	18-WAY MULTILOCK 070 / YELLOW	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
DD1	23-WAY AMP – FORD / BLACK	DRIVER SIDE 'A' POST MOUNTING BRACKET/ 'A' POST TRIM
DP1	23-WAY AMP – FORD / BLACK	PASSENGER SIDE 'A' POST / 'A' POST TRIM
PH1	3-WAY MULTILOCK 070 / YELLOW	TRUNK
RF1	24-WAY CONNECTOR / BLACK	RIGHT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
RF5	8-WAY MULTILOCK 070 / WHITE	LOWER RH 'A' POST / 'A' POST TRIM
RH2	20-WAY MULTILOCK 070 / WHITE	REAR OF CENTER CONSOLE ASSEMBLY
RH5	3-WAY MULTILOCK 070 / WHITE	BEHIND LEFT HAND QUARTER TRIM PANEL
RH6	3-WAY MULTILOCK 070 / WHITE	BEHIND RIGHT HAND QUARTER TRIM PANEL
RH12	18-WAY MULTILOCK 070 / YELLOW	REAR OF CENTER CONSOLE ASSEMBLY

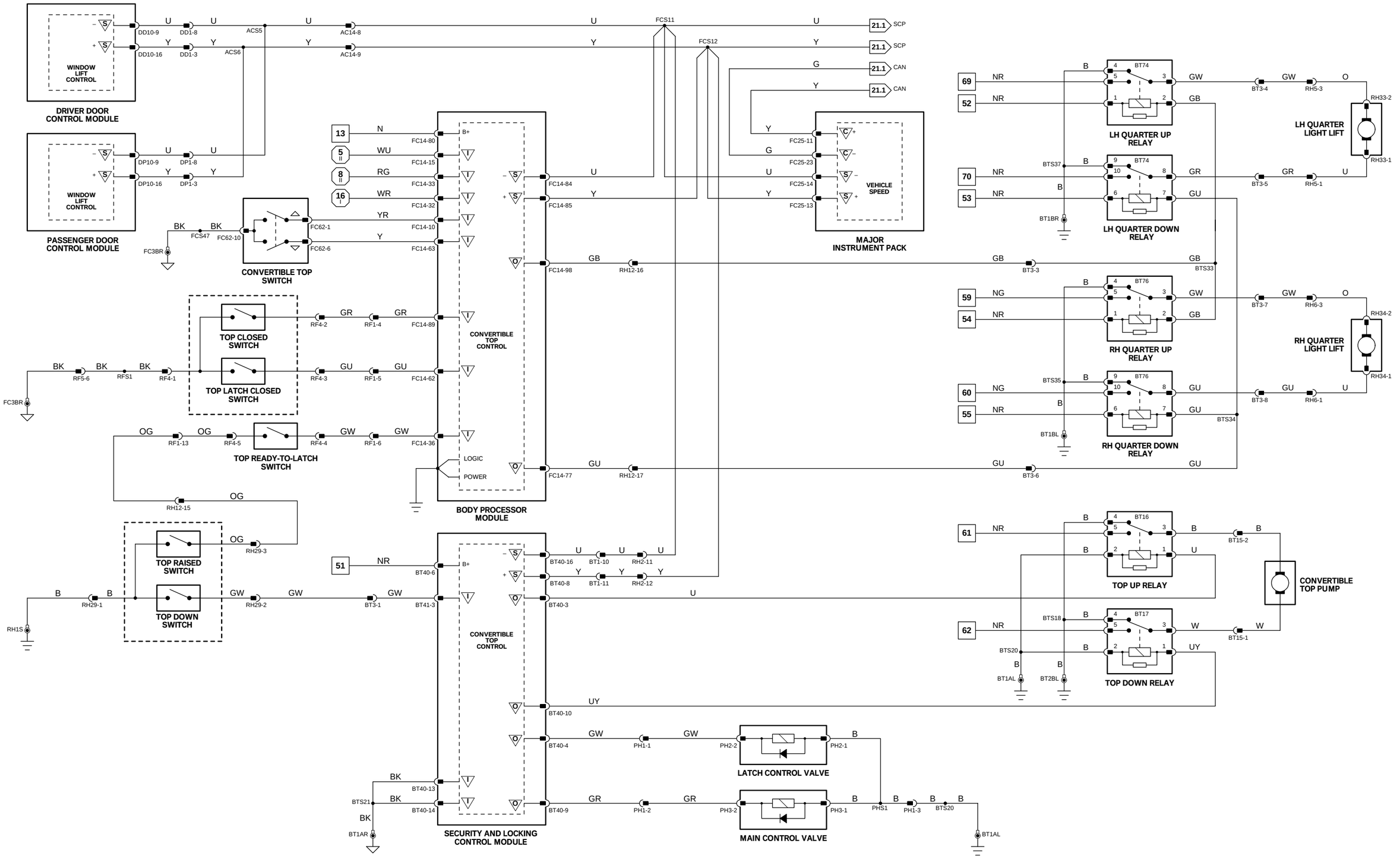
GROUNDS

Ground	Location / Type
BT1AL	EYELET (PAIR) – LEFT HAND LEG / ADJACENT TO BATTERY
BT1AR	EYELET (PAIR) – RIGHT HAND LEG / ADJACENT TO BATTERY
BT1BL	EYELET (PAIR) – LEFT HAND LEG / ADJACENT TO BATTERY
BT1BR	EYELET (PAIR) – RIGHT HAND LEG / ADJACENT TO BATTERY
BT2BL	EYELET (PAIR) – LEFT HAND LEG / TRUNK, RIGHT REAR
FC3BR	EYELET (PAIR) – RIGHT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
RH1S	EYELET (SINGLE) / RIGHT HAND REAR QUARTER

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

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

DATE OF ISSUE: September 2000



1 → 7 Fig. 01.1 | 1 II → 5 E Fig. 01.1 | 8 → 50 Fig. 01.2 | 51 → 90 Fig. 01.3 | 6 II → 58 II Fig. 01.4 | 59 E → 73 E Fig. 01.5 | 1 → 18 I Fig. 02.1

I Input | O Output | + Sensor Supply V | – Sensor Ground | A ACP | C CAN | S SCP | D Serial and Encoded Data

VARIANT: Convertible Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

MAJOR INSTRUMENT PACK

▽	Pin	Description	Active	Inactive
C	FC25-11	CAN NETWORK	15 – 1500 Hz	
C	FC25-23	CAN NETWORK	15 – 1500 Hz	
O	FC26-20	VEHICLE SPEED	22 Hz @ 10 MPH (16 KM/H); 44 Hz @ 20 MPH (32 KM/H) @ B+	

NOTE: Refer to the Appendix at the rear of this book for CAN and SCP Network Messages.

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

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

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

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

Fig. 16.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
ANTENNA MOTOR	BT19 / 6-WAY YAZAKI C.S.U. / WHITE	TRUNK / RIGHT HAND SIDE
CD AUTO-CHANGER	IC7 / 8-WAY ALPINE	TRUNK / RIGHT HAND SIDE
MAJOR INSTRUMENT PACK	FC25 / 26-WAY AMP MICRO QUAD LOCK / BLACK FC26 / 26-WAY AMP MICRO QUAD LOCK / YELLOW	FASCIA
RADIO / CASSETTE HEAD UNIT	IC8 / 8-WAY ALPINE / BLACK IC19 / 12-WAY MULTILOCK 070 / WHITE IC20 / 26-WAY MQS / YELLOW	CENTER CONSOLE
RADIO ANTENNA	IC12 / COAXIAL CONNECTOR	TRUNK / RIGHT HAND SIDE
RADIO CONTROL SWITCHES (STEERING WHEEL)	SW4 / 3-WAY EPC / BLACK	STEERING WHEEL
SPEAKER – DRIVER DOOR (MID-BASS)	DD19 / 2-WAY GROTE AND HARTMAN MDK / BLACK	DRIVER DOOR CASING
SPEAKER – PASSENGER DOOR (MID-BASS)	DP19 / 2-WAY GROTE AND HARTMAN MDK / BLACK	PASSENGER DOOR CASING
SPEAKER – LH SIDE FASCIA	FC38 / 2-WAY MULTILOCK 070 / GREY	FASCIA / LH SIDE
SPEAKER – RH SIDE FASCIA	FC39 / 2-WAY MULTILOCK 070 / GREY	FASCIA / RH SIDE
SPEAKER – LH SIDE REAR (CONVERTIBLE)	RH26 / 2-WAY GROTE AND HARTMAN MDK / BLACK	INTERIOR REAR QUARTER PANEL
SPEAKER – RH SIDE REAR (CONVERTIBLE)	RH27 / 2-WAY GROTE AND HARTMAN MDK / BLACK	INTERIOR REAR QUARTER PANEL
SPEAKER – LH SIDE REAR QUARTER (COUPE)	RH30 / 2-WAY GROTE AND HARTMAN MDK / BLACK	INTERIOR REAR QUARTER PANEL
SPEAKER – RH SIDE REAR QUARTER (COUPE)	RH31 / 2-WAY GROTE AND HARTMAN MDK / BLACK	INTERIOR REAR QUARTER PANEL

HARNESS-TO-HARNESS CONNECTORS

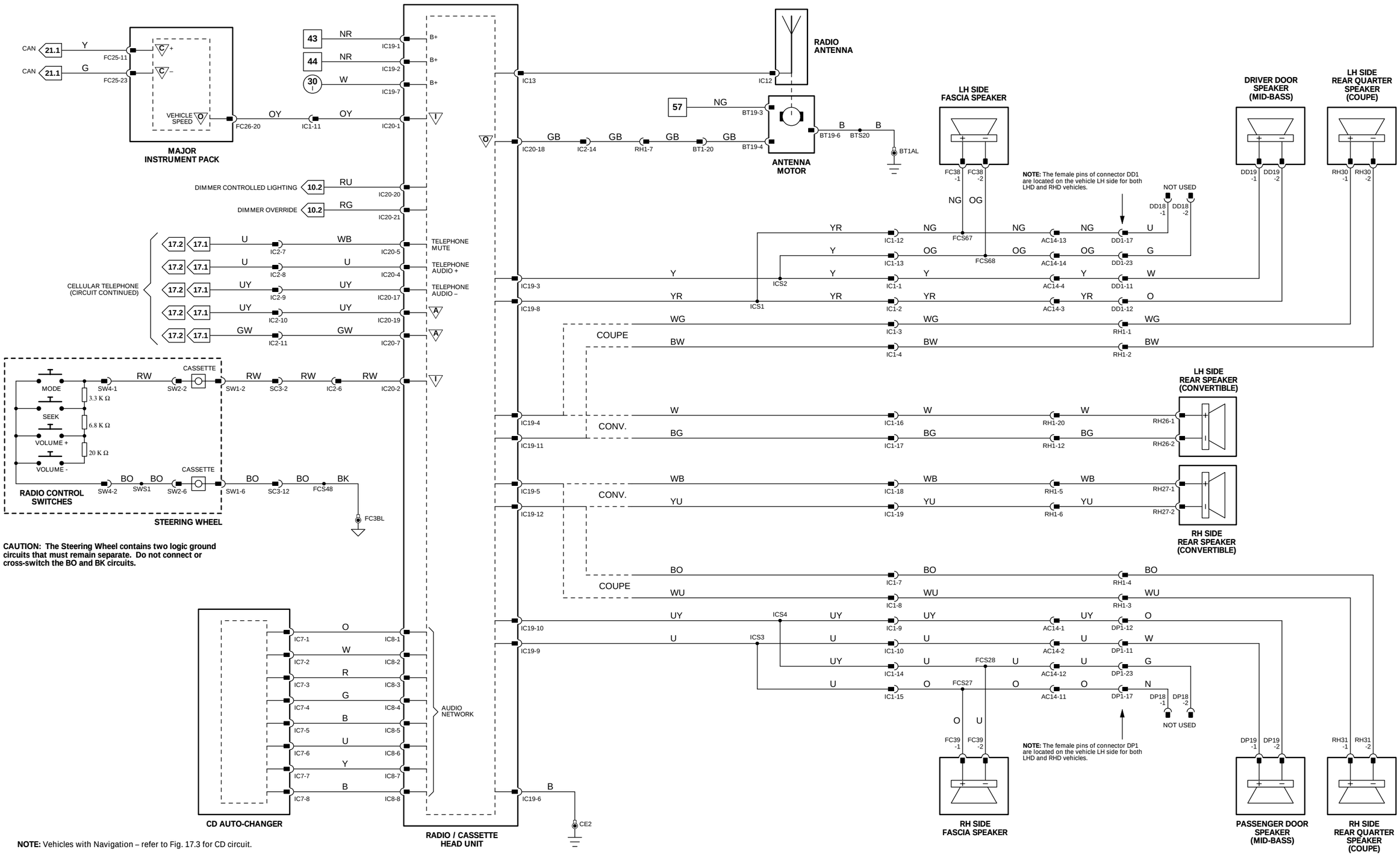
Connector	Type / Color	Location / Access
AC14	14-WAY MULTILOCK 070 / GREY	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
BT1	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
DD1	23-WAY AMP – FORD / BLACK	DRIVER SIDE 'A' POST MOUNTING BRACKET/ 'A' POST TRIM
DP1	23-WAY AMP – FORD / BLACK	PASSENGER SIDE 'A' POST / 'A' POST TRIM
IC1	20-WAY MULTILOCK 070 / YELLOW	BELOW CENTER CONSOLE GLOVE BOX
IC2	14-WAY MULTILOCK 070 / WHITE	BELOW CENTER CONSOLE GLOVE BOX
RH1	20-WAY MULTILOCK 070 / GREY	BEHIND GLOVE BOX
SC2	10-WAY MULTILOCK 070 / YELLOW	ADJACENT TO STEERING COLUMN MOTOR
SC3	12-WAY MULTILOCK 070 / GREY	RIGHT HAND SIDE OF STEERING COLUMN
SW1	12-WAY MULTILOCK 040 / BLACK	INSIDE STEERING COLUMN COWL
SW2	6-WAY JST / WHITE	CENTER OF STEERING WHEEL

GROUNDS

Ground	Location / Type
BT1AL	EYELET (PAIR) – LEFT HAND LEG / ADJACENT TO BATTERY
CE2	EYELET (SINGLE) / ABOVE RIGHT HAND SIDE OF TRANSMISSION TUNNEL
FC3BL	EYELET (PAIR) – LEFT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE

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

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



NOTE: Vehicles with Navigation – refer to Fig. 17.3 for CD circuit.

1 → 7 Fig. 01.1 (1 II → 5 E) Fig. 01.1 8 → 50 Fig. 01.2 51 → 90 Fig. 01.3 (6 II → 58 H) Fig. 01.4 (59 E → 73 E) Fig. 01.5 1 → 18 I Fig. 02.1

I Input O Output + Sensor Supply V – Sensor Ground A ACP C CAN S SCP D Serial and Encoded Data

VARIANT: Standard ICE Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

MAJOR INSTRUMENT PACK

▽	Pin	Description	Active	Inactive
C	FC25-11	CAN NETWORK	15 – 1500 Hz	
C	FC25-11	CAN NETWORK	15 – 1500 Hz	
O	FC25-11	VEHICLE SPEED	22 Hz @ 10 MPH (16 KM/H); 44 Hz @ 20 MPH (32 KM/H) @ B+	

NOTE: Refer to the Appendix at the rear of this book for CAN and SCP Network Messages.

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

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

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

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

Fig. 16.2

COMPONENTS

Component	Connector / Type / Color	Location / Access
ANTENNA MOTOR	BT19 / 6-WAY YAZAKI C.S.U. / WHITE	TRUNK / RIGHT HAND SIDE
CD AUTO-CHANGER	IC7 / 8-WAY ALPINE	TRUNK / RIGHT HAND SIDE
MAJOR INSTRUMENT PACK	FC25 / 26-WAY AMP MICRO QUAD LOCK / BLACK FC26 / 26-WAY AMP MICRO QUAD LOCK / YELLOW	FASCIA
POWER AMPLIFIER	IC7 / 8-WAY ALPINE / BLACK IC15 / 18-WAY / MULTILOCK 070 / WHITE IC16 / 12-WAY MULTILOCK 070 / WHITE	TRUNK / RIGHT HAND SIDE
RADIO / CASSETTE HEAD UNIT	IC8 / 8-WAY ALPINE / BLACK IC19 / 12-WAY MULTILOCK 070 / WHITE IC20 / 26-WAY MQS / YELLOW	CENTER CONSOLE
RADIO ANTENNA	IC12 / COAXIAL CONNECTOR	TRUNK / RIGHT HAND SIDE
RADIO CONTROL SWITCHES (STEERING WHEEL)	SW4 / 3-WAY EPC / BLACK	STEERING WHEEL
SPEAKER – DRIVER DOOR (MID-BASS)	DD19 / 2-WAY GROTE AND HARTMAN MDK / BLACK	DRIVER DOOR CASING
SPEAKER – PASSENGER DOOR (MID-BASS)	DP19 / 2-WAY GROTE AND HARTMAN MDK / BLACK	PASSENGER DOOR CASING
SPEAKER – DRIVER DOOR (TWEETER)	DD18 / 2-WAY MULTILOCK 040 / BLACK	DRIVER DOOR
SPEAKER – PASSENGER DOOR (TWEETER)	DP18 / 2-WAY MULTILOCK 040 / BLACK	PASSENGER DOOR
SPEAKER – LH SIDE FASCIA	FC38 / 2-WAY MULTILOCK 070 / GREY	FASCIA / LH SIDE
SPEAKER – RH SIDE FASCIA	FC39 / 2-WAY MULTILOCK 070 / GREY	FASCIA / RH SIDE
SPEAKER – LH SIDE REAR (CONVERTIBLE)	RH26 / 2-WAY GROTE AND HARTMAN MDK / BLACK	INTERIOR REAR QUARTER PANEL
SPEAKER – RH SIDE REAR (CONVERTIBLE)	RH27 / 2-WAY GROTE AND HARTMAN MDK / BLACK	INTERIOR REAR QUARTER PANEL
SPEAKER – LH SIDE REAR QUARTER (COUPE)	RH30 / 2-WAY GROTE AND HARTMAN MDK / BLACK	INTERIOR REAR QUARTER PANEL
SPEAKER – RH SIDE REAR QUARTER (COUPE)	RH31 / 2-WAY GROTE AND HARTMAN MDK / BLACK	INTERIOR REAR QUARTER PANEL
SPEAKER – REAR (COUPE)	RH26 / 2-WAY GROTE AND HARTMAN MDK / BLACK RH27 / 2-WAY GROTE AND HARTMAN MDK / BLACK	PARCEL SHELF

HARNESS-TO-HARNESS CONNECTORS

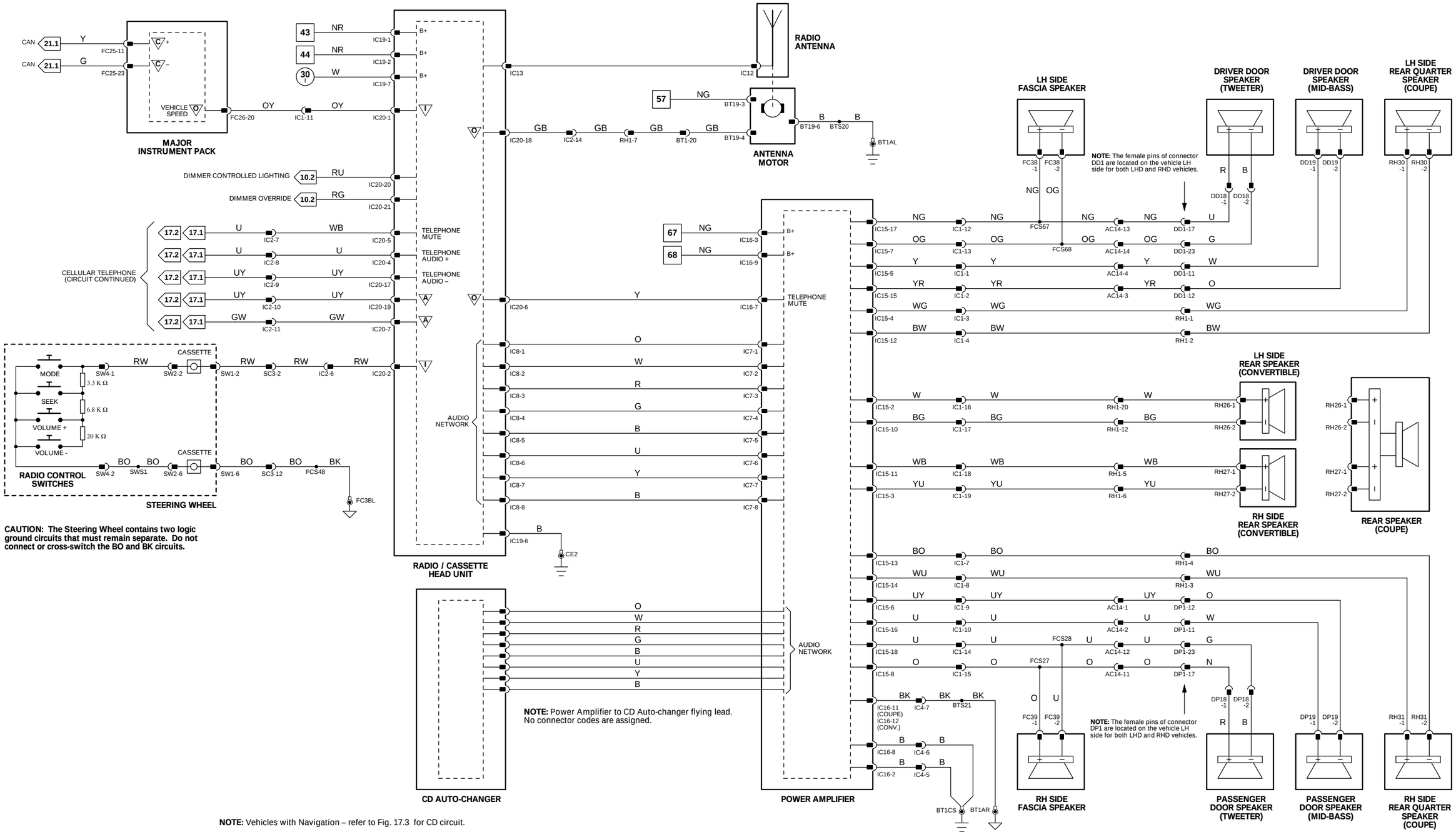
Connector	Type / Color	Location / Access
AC14	14-WAY MULTILOCK 070 / GREY	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
BT1	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
DD1	23-WAY AMP – FORD / BLACK	DRIVER SIDE 'A' POST MOUNTING BRACKET/ 'A' POST TRIM
DP1	23-WAY AMP – FORD / BLACK	PASSENGER SIDE 'A' POST / 'A' POST TRIM
IC1	20-WAY MULTILOCK 070 / YELLOW	BELOW CENTER CONSOLE GLOVE BOX
IC2	14-WAY MULTILOCK 070 / WHITE	BELOW CENTER CONSOLE GLOVE BOX
IC4	4-WAY MULTILOCK 070 / WHITE	TRUNK / LEFT OF ANTENNA ASSEMBLY
RH1	20-WAY MULTILOCK 070 / GREY	BEHIND GLOVE BOX
SC3	12-WAY MULTILOCK 070 / GREY	RIGHT HAND SIDE OF STEERING COLUMN
SW1	12-WAY MULTILOCK 040 / BLACK	INSIDE STEERING COLUMN COWL
SW2	6-WAY JST / WHITE	CENTER OF STEERING WHEEL

GROUNDS

Ground	Location / Type
BT1AL	EYELET (PAIR) – LEFT HAND LEG / ADJACENT TO BATTERY
BT1AR	EYELET (PAIR) – RIGHT HAND LEG / ADJACENT TO BATTERY
BT1CS	EYELET (SINGLE) / ADJACENT TO BATTERY
CE2	EYELET (SINGLE) / ABOVE RIGHT HAND SIDE OF TRANSMISSION TUNNEL
FC3BL	EYELET (PAIR) – LEFT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE

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

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



NOTE: Vehicles with Navigation – refer to Fig. 17.3 for CD circuit.

1 → 7 Fig. 01.1 (1 II → 5 E) Fig. 01.1 8 → 50 Fig. 01.2 51 → 90 Fig. 01.3 (6 II → 58 II) Fig. 01.4 (59 E → 73 E) Fig. 01.5 1 → 18 I Fig. 02.1

I Input
O Output
+ Sensor Supply V
– Sensor Ground
A ACP
C CAN
S SCP
D Serial and Encoded Data

VARIANT: Premium ICE Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

Fig. 17.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
CELLULAR PHONE CONTROL MODULE (PORTABLE PHONE)	RT2 / 12-WAY MULTILOCK 42 / BLACK RT5 / 16-WAY MULTILOCK 42 / BLACK	BEHIND REAR SEAT
HANDSET	RT4 / TELEPHONE / PROPRIETARY	CENTER CONSOLE
MICROPHONE	RF9 / 2-WAY MULTILOCK 040 / BLUE	ROOF CONSOLE
TELEPHONE ANTENNA	RT7 / 2-WAY HIROSE COAX GT SERIES	TRUNK / ABOVE LH WHEEL ARCH

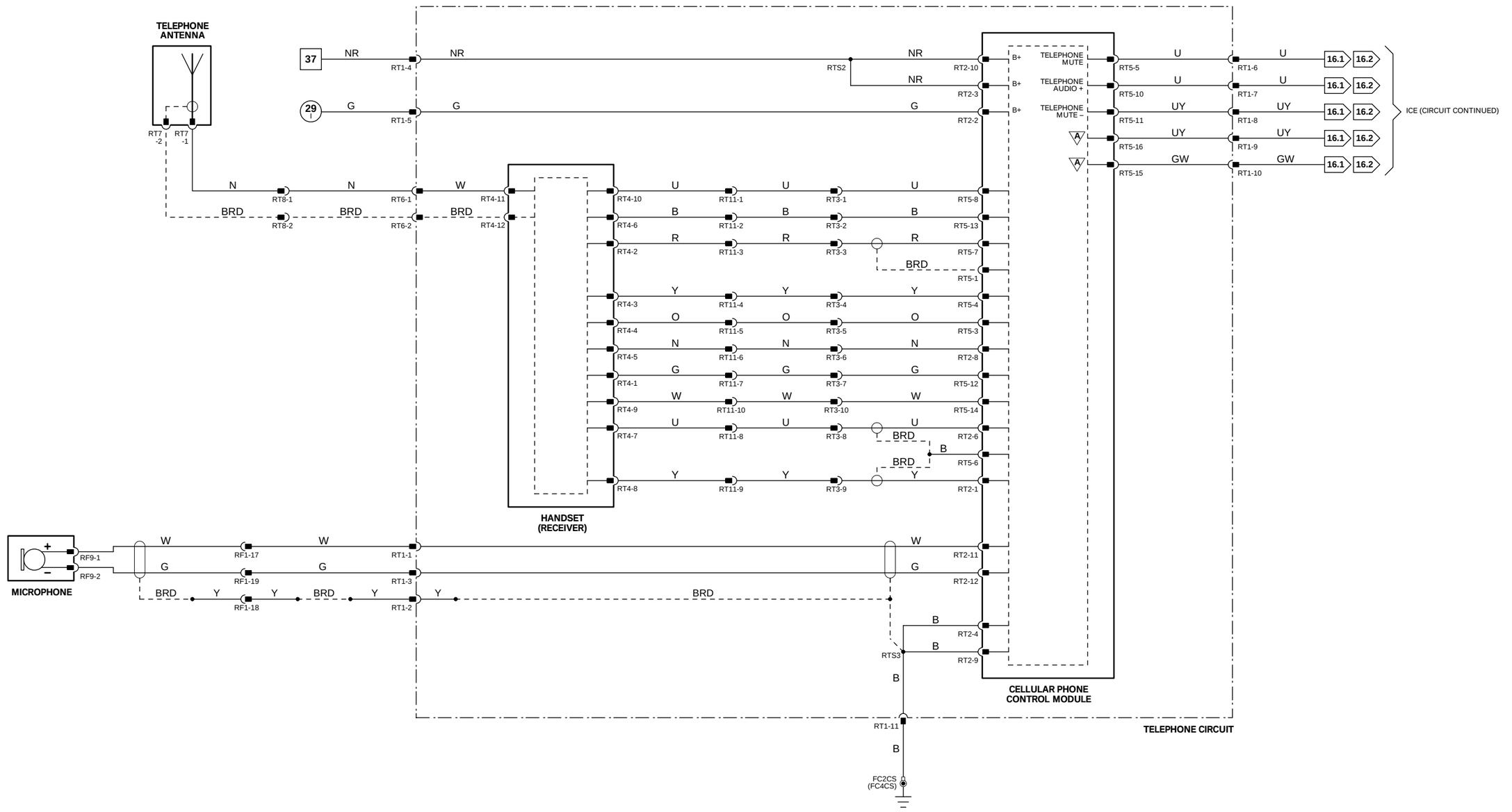
HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
IC2	14-WAY MULTILOCK 070 / WHITE	BELOW CENTER CONSOLE GLOVE BOX
RF1	24-WAY CONNECTOR / BLACK	RIGHT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
RT1	14-WAY MULTILOCK 070 / YELLOW	BELOW CENTER CONSOLE
RT3	10-WAY CONNECTOR / GREY	BELOW CENTER CONSOLE
RT6	2-WAY HIROSE COAX GT SERIES / GREY	BELOW CENTER CONSOLE
RT8	2-WAY HIROSE COAX GT SERIES / GREY	BEHIND REAR SEAT
RT11	10-WAY CONNECTOR / BLACK	CENTER CONSOLE GLOVE BOX

GROUNDS

Ground	Location / Type
FC2CS	EYELET (SINGLE) / RIGHT HAND 'A' POST
FC4CS	EYELET (SINGLE) / LEFT HAND 'A' POST

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



1 → 7 Fig. 01.1	I: Input	+: Sensor Supply V	A: ACP	S: SCP
1 (II) → 5 (E) Fig. 01.1	O: Output	–: Sensor Ground	C: CAN	D: Serial and Encoded Data
8 → 50 Fig. 01.2				
51 → 90 Fig. 01.3				
6 (II) → 58 (II) Fig. 01.4				
59 (E) → 73 (E) Fig. 01.5				
1 → 18 (I) Fig. 02.1				

VARIANT: NAS Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

Fig. 17.2

COMPONENTS

Component	Connector / Type / Color	Location / Access
CELLULAR PHONE CONTROL MODULE (FIXED PHONE)	RT9 / 32-WAY CONNECTOR / BLUE	BEHIND REAR SEAT
HANDSET	RT11 / 10-WAY CONNECTOR / BLACK	CENTER CONSOLE GLOVE BOX
MICROPHONE	RF9 / 2-WAY MULTILOCK 040 / BLUE	ROOF CONSOLE
TELEPHONE ANTENNA	RT7 / COAXIAL	TRUNK / RIGHT HAND SIDE

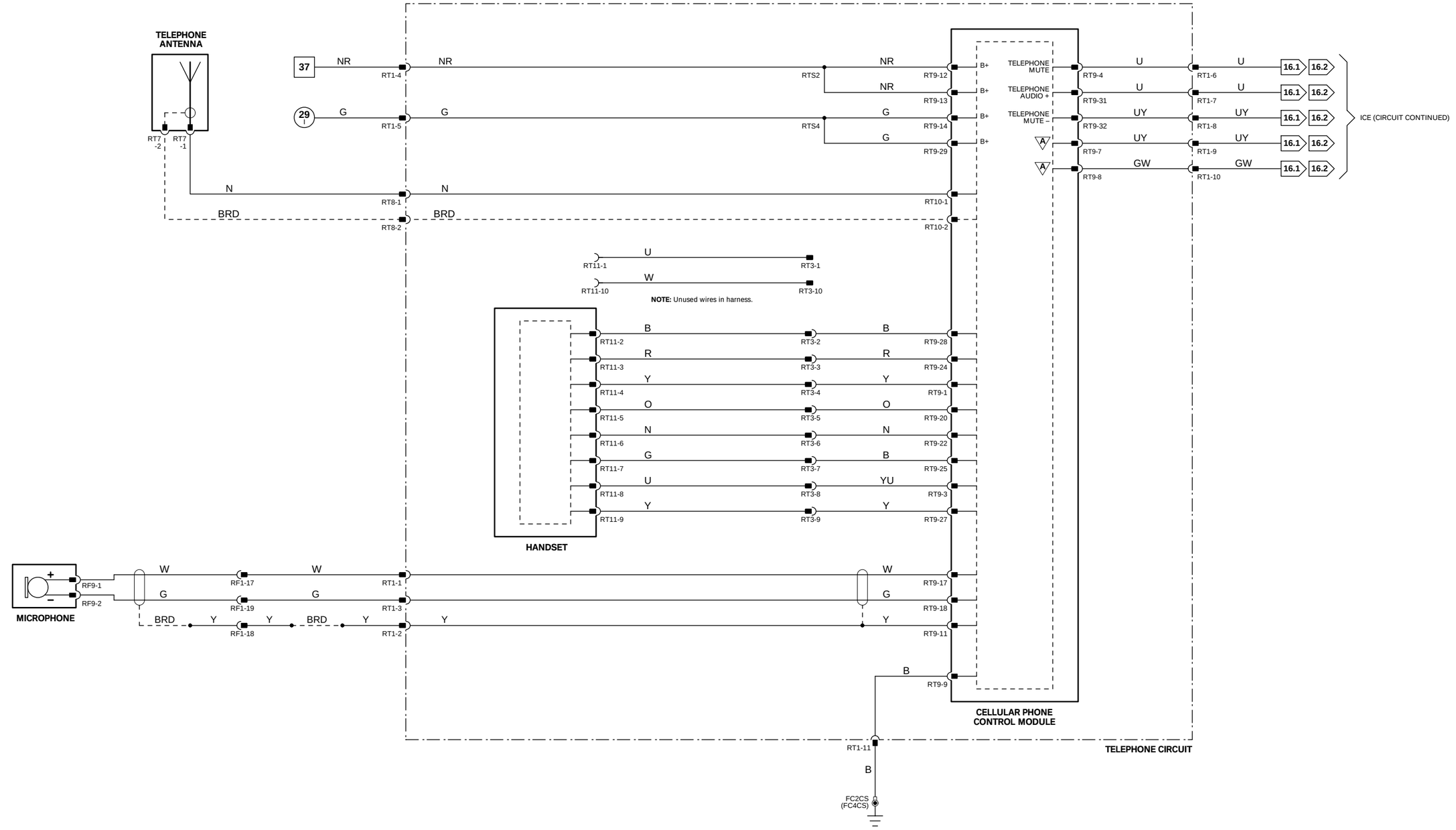
HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
IC2	14-WAY MULTILOCK 070 / WHITE	BELOW CENTER CONSOLE GLOVE BOX
RF1	24-WAY CONNECTOR / BLACK	RIGHT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
RT1	14-WAY MULTILOCK 070 / YELLOW	BELOW CENTER CONSOLE
RT3	10-WAY CONNECTOR / GREY	BELOW CENTER CONSOLE
RT6	2-WAY HIROSE COAX GT SERIES / GREY	BELOW CENTER CONSOLE
RT8	2-WAY HIROSE COAX GT SERIES / GREY	BEHIND REAR SEAT

GROUNDS

Ground	Location / Type
FC2CS	EYELET (SINGLE) / RIGHT HAND 'A' POST
FC4CS	EYELET (SINGLE) / LEFT HAND 'A' POST

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



1 → 7 Fig. 01.1 (1 II → 5 E) Fig. 01.1 8 → 50 Fig. 01.2 51 → 90 Fig. 01.3 (6 II → 58 II) Fig. 01.4 (59 E → 73 E) Fig. 01.5 1 → 18 I Fig. 02.1

I Input O Output + Sensor Supply V – Sensor Ground A ACP C CAN S SCP D Serial and Encoded Data

VARIANT: ROW Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

Fig. 17.3

COMPONENTS

Component	Connector / Type / Color	Location / Access
CD AUTO-CHANGER	IC7 / 8-WAY ALPINE	TRUNK / RIGHT HAND SIDE
NAVIGATION CONTROL MODULE	IC7 / 8-WAY ALPINE / BLACK IC22 / 16-WAY AMP ML42 / BLACK IC23 / 24-WAY AMP ML42 / BLACK	TRUNK / RIGHT HAND SIDE
NAVIGATION DISPLAY	FC97 / 12-WAY AMP ML42 / BLACK FC98 / 16-WAY AMP ML42 / BLACK	BEHIND NAVIGATION DISPLAY
NAVIGATION GPS ANTENNA	IC5 / 2-WAY HIROSE COAX GT5 SERIES / GREY	BELOW PARCEL SHELF
POWER AMPLIFIER	IC7 / 8-WAY ALPINE / BLACK IC15 / 18-WAY / MULTILOCK 070 / WHITE IC16 / 12-WAY MULTILOCK 070 / WHITE	TRUNK / RIGHT HAND SIDE
RADIO / CASSETTE HEAD UNIT	IC8 / 8-WAY ALPINE / BLACK IC19 / 12-WAY MULTILOCK 070 / WHITE IC20 / 26-WAY MQS / YELLOW	CENTER CONSOLE

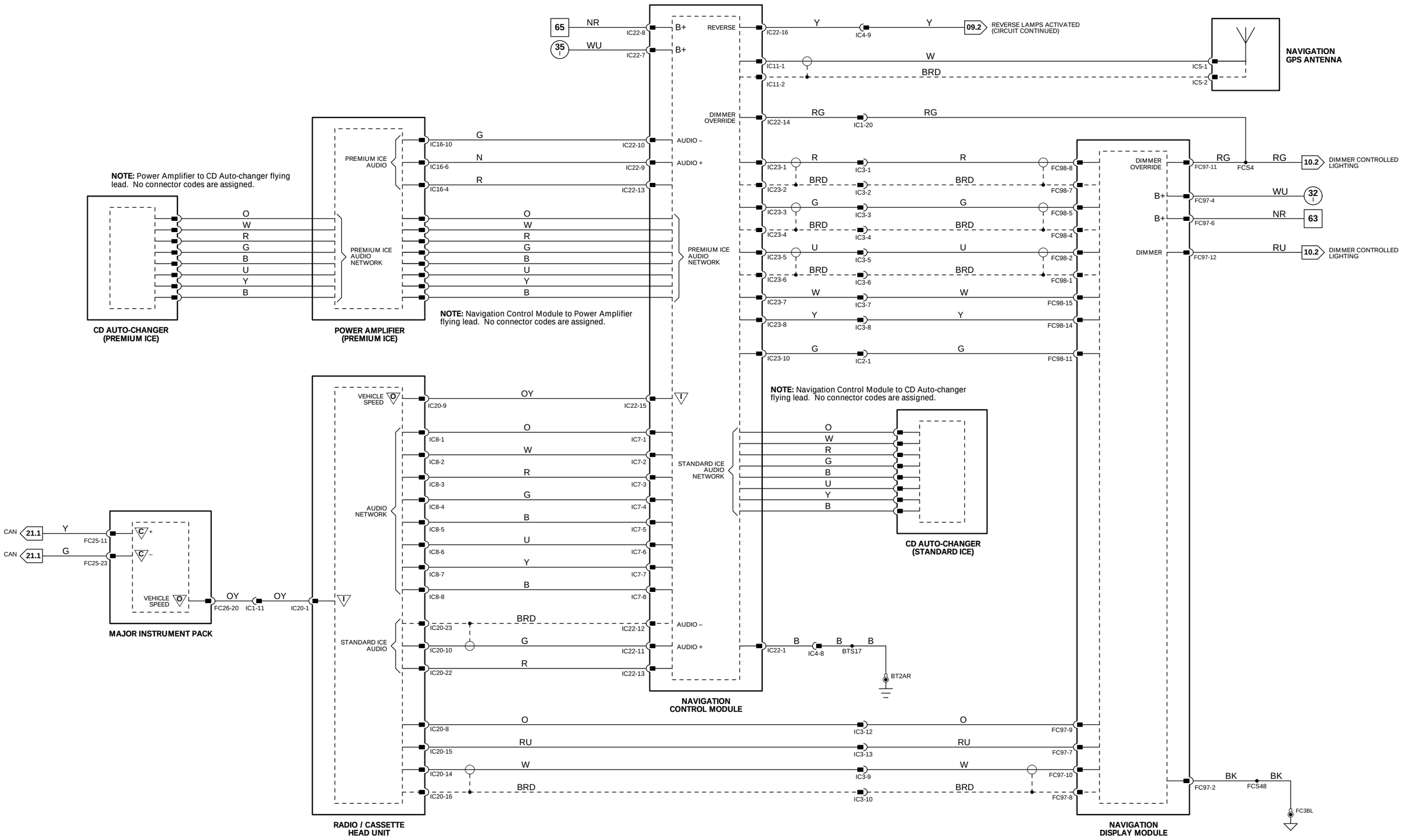
HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
IC1	20-WAY MULTILOCK 070 / YELLOW	BELOW CENTER CONSOLE GLOVE BOX
IC2	14-WAY MULTILOCK 070 / WHITE	BELOW CENTER CONSOLE GLOVE BOX
IC3	14-WAY MULTILOCK 070 / GREY	BELOW CENTER CONSOLE GLOVE BOX
IC4	4-WAY MULTILOCK 070 / WHITE	TRUNK / LEFT OF ANTENNA ASSEMBLY

GROUNDS

Ground	Location / Type
BT2AR	EYELET (PAIR) – RIGHT HAND LEG / TRUNK, RIGHT REAR
EM1AL	EYELET (PAIR) – LEFT HAND LEG / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM2AL	EYELET (PAIR) – LEFT HAND LEG / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE
FC3BL	EYELET (PAIR) – LEFT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE

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



1 → 7 Fig. 01.1 (1 II → 5 E) Fig. 01.1 8 → 50 Fig. 02.2 51 → 90 Fig. 01.3 (6 II → 58 II) Fig. 01.4 (59 E → 73 E) Fig. 01.5 1 → 18 I Fig. 02.1

I Input O Output + Sensor Supply V – Sensor Ground A ACP C CAN S SCP D Serial and Encoded Data

VARIANT: NAV Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

Fig. 17.4

COMPONENTS

Component	Connector / Type / Color	Location / Access
NAVIGATION CONTROL MODULE	IC7 / 8-WAY ALPINE / BLACK IC22 / 16-WAY AMP ML42 / BLACK IC23 / 24-WAY AMP ML42 / BLACK	TRUNK / RIGHT HAND SIDE
NAVIGATION DISPLAY	FC97 / 12-WAY AMP ML42 / BLACK FC98 / 16-WAY AMP ML42 / BLACK	BEHIND NAVIGATION DISPLAY
NAVIGATION GPS ANTENNA	IC5 / 2-WAY HIROSE COAX GT5 SERIES / GREY	BELOW PARCEL SHELF
PARKING BRAKE SWITCH	FC19 / 1-WAY LUCAR POSILOCK / BLACK	BELOW PARKING BRAKE LEVER
POWER AMPLIFIER	IC7 / 8-WAY ALPINE / BLACK IC15 / 18-WAY / MULTILOCK 070 / WHITE IC16 / 12-WAY MULTILOCK 070 / WHITE	TRUNK / RIGHT HAND SIDE
RADIO / CASSETTE HEAD UNIT	IC8 / 8-WAY ALPINE / BLACK IC19 / 12-WAY MULTILOCK 070 / WHITE IC20 / 26-WAY MQS / YELLOW	CENTER CONSOLE
TELEVISION ANTENNA – RH #1	TV4 / 1-WAY ANTENNA / BLACK	REAR WINDOW
TELEVISION ANTENNA – RH #2	TV34 / 1-WAY ANTENNA / METALLIC	REAR WINDOW
TELEVISION ANTENNA – LH #3	TV3 / 1-WAY ANTENNA / BLACK	REAR WINDOW
TELEVISION ANTENNA – LH #4	TV35 / 1-WAY ANTENNA / METALLIC	REAR WINDOW
TELEVISION ANTENNA AMPLIFIER	TV15 / 3-WAY ANTENNAE INPUT / GREY TV18 / 3-WAY ANTENNAE INPUT / GREY	ABOVE LH REAR INNER WHEEL ARCH ABOVE LH REAR INNER WHEEL ARCH
TELEVISION MODULE	TV5 / 2-WAY 3.5 MM JACK PLUG / BLACK TV6 / 2-WAY 3.5 MM JACK PLUG / BLACK TV7 / 2-WAY 3.5 MM JACK PLUG / BLACK TV8 / 8-WAY AMP ML42 MICROLOCK / BLACK	ON TRUNK FUSE BOX HOUSING
VEHICLE INFORMATION CONTROL BEACON MODULE	TV10 / 8-WAY DIN / BLACK	SPARE WHEEL WELL
VEHICLE INFORMATION CONTROL INFRARED SENSOR	IR1 / 2-WAY HIROSE COAX GT5 SERIES / GREY	BELOW CENTER CONSOLE GLOVE BOX
VEHICLE INFORMATION CONTROL MODULE	TV12 / 4-WAY DIN / BLACK TV14 / 8-WAY DIN / BLACK	SPARE WHEEL WELL SPARE WHEEL WELL

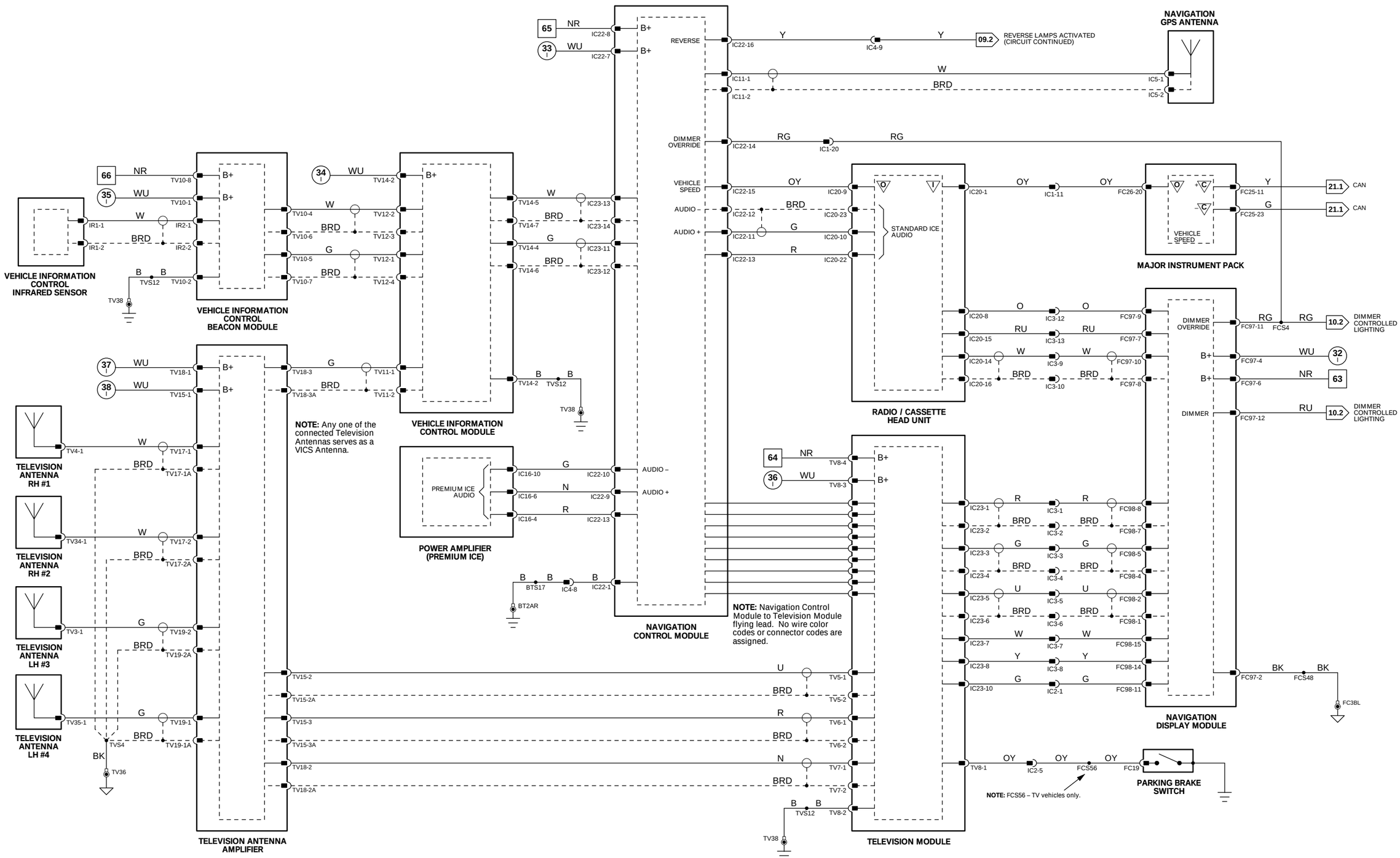
HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
IC1	20-WAY MULTILOCK 070 / YELLOW	BELOW CENTER CONSOLE GLOVE BOX
IC2	14-WAY MULTILOCK 070 / WHITE	BELOW CENTER CONSOLE GLOVE BOX
IC3	14-WAY MULTILOCK 070 / GREY	BELOW CENTER CONSOLE GLOVE BOX
IC4	4-WAY MULTILOCK 070 / WHITE	TRUNK / LEFT OF ANTENNA ASSEMBLY

GROUNDS

Ground	Location / Type
BT2AR	EYELET (PAIR) – RIGHT HAND LEG / TRUNK, RIGHT REAR
EM1AL	EYELET (PAIR) – LEFT HAND LEG / ENGINE COMPARTMENT, RIGHT HAND ENCLOSURE
EM2AL	EYELET (PAIR) – LEFT HAND LEG / ENGINE COMPARTMENT, LEFT HAND ENCLOSURE
FC3BL	EYELET (PAIR) – LEFT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
TV36	EYELET (SINGLE) / BELOW PARCEL SHELF
TV38	EYELET (SINGLE) / ADJACENT TO BATTERY

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



NOTE: Refer to Fig. 17.3 for Navigation vehicles CD Auto-changer circuits.

1 → 7 Fig. 01.1 (1 II → 5 E) Fig. 01.1 | 8 → 50 Fig. 01.2 | 51 → 90 Fig. 01.3 | (6 II → 58 II) Fig. 01.4 | (59 E → 73 E) Fig. 01.5 | 1 → 18 I Fig. 02.1

I Input
O Output
+ Sensor Supply V
– Sensor Ground
A ACP
C CAN
S SCP
D Serial and Encoded Data

VARIANT: TV and VICS Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

Fig. 18.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
CRASH SENSOR – FRONT	LF50 / 2-WAY CONNECTOR / BLACK	FORWARD OF RADIATOR
CRASH SENSOR – SIDE, LH	RH15 / 2-WAY CONNECTOR / BLACK	BEHIND SAFETY BELT RETRACTOR / REAR QUARTER TRIM PANEL
CRASH SENSOR – SIDE, RH	RH16 / 2-WAY CONNECTOR / BLACK	BEHIND SAFETY BELT RETRACTOR / REAR QUARTER TRIM PANEL
DRIVER SEAT BELT SWITCH	SD20 / 6-WAY MULTILOCK 040 / WHITE	BELOW SEAT CUSHION
DRIVER SEAT TRACK SWITCH	SD21 / 2-WAY CONNECTOR / BLACK	BELOW SEAT CUSHION
IGNITOR – LH SEAT BELT PRETENSIONER	PT2 / 2-WAY FORD AIRBAG / YELLOW	BEHIND LH REAR QUARTER TRIM PANEL
IGNITOR – PASSENGER AIRBAG / 1	FC75 / 2-WAY CONNECTOR / BLACK	SIDE OF AIRBAG ASSEMBLY
IGNITOR – PASSENGER AIRBAG / 2	FC76 / 2-WAY CONNECTOR / BLACK	SIDE OF AIRBAG ASSEMBLY
IGNITOR – RH SEAT BELT PRETENSIONER	PT3 / 2-WAY FORD AIRBAG / YELLOW	BEHIND LH REAR QUARTER TRIM PANEL
IGNITOR – SIDE AIRBAG, DRIVER	SD15 / 2-WAY CONNECTOR / BROWN	SEAT BACK
IGNITOR – SIDE AIRBAG, PASSENGER	SP15 / 2-WAY CONNECTOR / BROWN	SEAT BACK
IGNITORS – DRIVER AIRBAG	SW12 / 2-WAY CONNECTOR / GREY SW13 / 2-WAY CONNECTOR / BLACK	CENTER OF STEERING WHEEL CENTER OF STEERING WHEEL
OCCUPANCY SENSING MODULE	FC10 / 26-WAY AMP MQL / YELLOW	'A' POST / RH SIDE OF FASCIA
OCCUPANCY SENSOR – CONSOLE	RZ2 / 4-WAY MULTILOCK 070 / WHITE	BEHIND ROOF CONSOLE
OCCUPANCY SENSOR – LH 'A' POST (RHD)	RZ3 / 4-WAY CONNECTOR / BLACK	UPPER LH 'A' POST / 'A' POST TRIM
OCCUPANCY SENSOR – LH 'B' POST (RHD)	RH10 / 4-WAY MULTILOCK 070 / WHITE	'B' POST (COUPE); REAR QUARTER (CONV.) / TRIM
OCCUPANCY SENSOR – RH 'A' POST (LHD)	RF3 / 4-WAY CONNECTOR / BLACK	UPPER RH 'A' POST / 'A' POST TRIM
OCCUPANCY SENSOR – RH 'B' POST (LHD)	RH11 / 4-WAY MULTILOCK 070 / WHITE	'B' POST (COUPE); REAR QUARTER (CONV.) / TRIM
PASSENGER AIRBAG DEACTIVATED INDICATOR LAMP	FC15 / 3-WAY CONNECTOR / BLACK	PASSENGER SIDE FASCIA
PASSENGER SEAT BELT SWITCH	SP20 / 6-WAY MULTILOCK 040 / WHITE	BELOW SEAT CUSHION
PASSENGER SEAT WEIGHT PRESSURE SENSOR	SP18 / 3-WAY CONNECTOR / BLACK	BELOW SEAT CUSHION
PASSENGER SEAT WEIGHT SENSING MODULE	SP21 / 2-WAY METRI-PACK 150 / BLACK	BELOW SEAT CUSHION
RESTRAINTS CONTROL MODULE	FC8 / 24-WAY CONNECTOR / BLACK FC9 / 40-WAY CONNECTOR / BLACK	CENTER CONSOLE

HARNESS-TO-HARNESS CONNECTORS

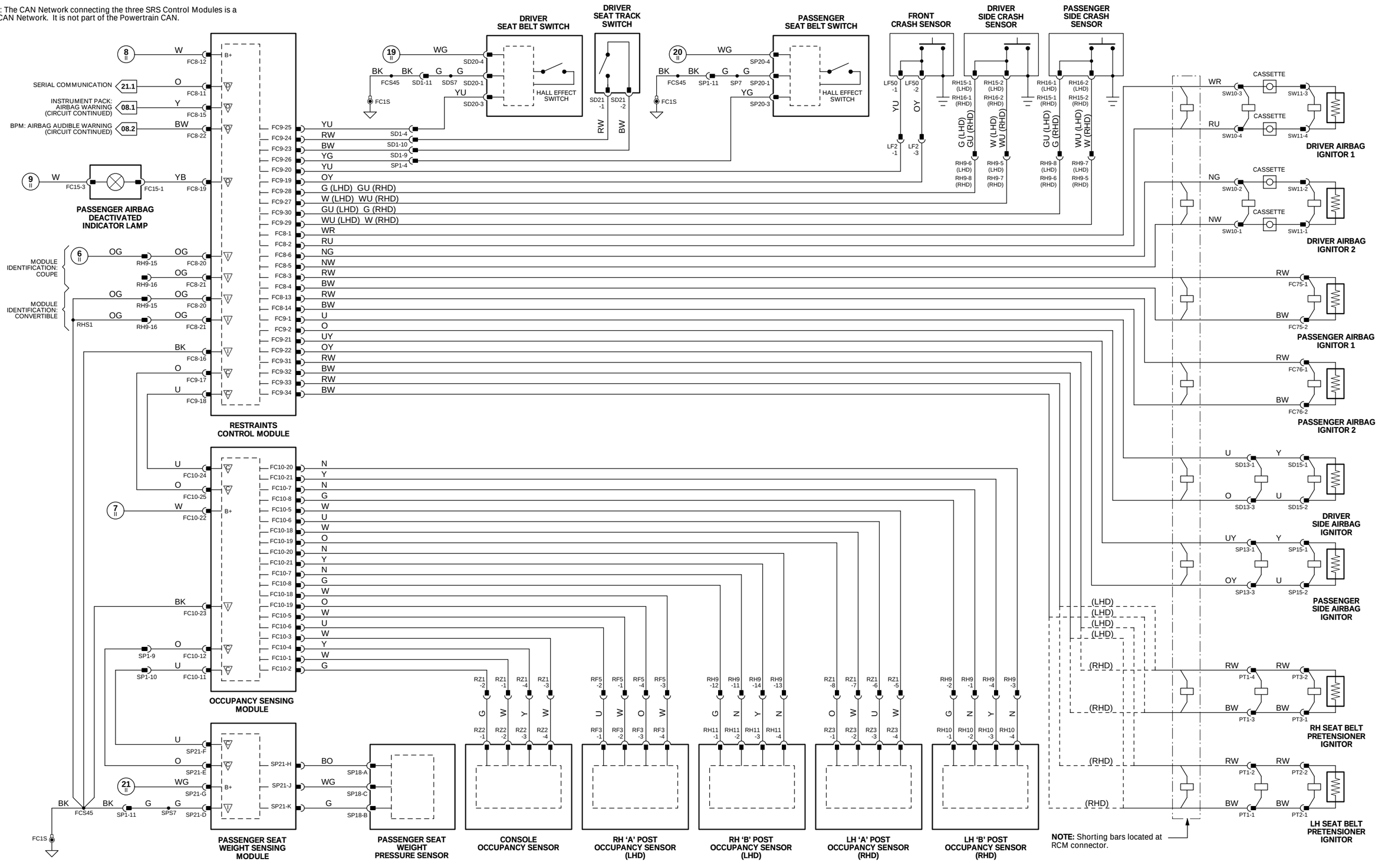
Connector	Type / Color	Location / Access
LF2	8-WAY FORD AIRBAG / NATURAL	LEFT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
PT1	4-WAY MULTILOCK 070 / WHITE	BELOW CENTER CONSOLE ASSEMBLY
RF5	8-WAY MULTILOCK 070 / WHITE	LOWER RH 'A' POST / 'A' POST TRIM
RH9	20-WAY MULTILOCK 070 / YELLOW	BELOW CENTER CONSOLE
RZ1	8-WAY MULTILOCK 070 / YELLOW	LOWER LH 'A' POST / 'A' POST TRIM
SD1	14-WAY MULTILOCK 070 / YELLOW	BELOW DRIVER SEAT
SD13	3-WAY EPC / BLACK	BELOW SEAT CUSHION
SP1	14-WAY MULTILOCK 070 / YELLOW	BELOW PASSENGER SEAT
SP13	3-WAY EPC / BLACK	BELOW SEAT CUSHION
SW10	4-WAY CONNECTOR / GREY	INSIDE STEERING COLUMN COWL

GROUNDS

Ground	Location / Type
FC1S	EYELET (SINGLE) / TRANSMISSION TUNNEL, RIGHT HAND SIDE

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

NOTE: The CAN Network connecting the three SRS Control Modules is a local CAN Network. It is not part of the Powertrain CAN.



NOTE: Shorting bars located at RCM connector.

1 → 7 Fig. 01.1 (1 II → 5 E) Fig. 01.1 8 → 50 Fig. 01.2 51 → 90 Fig. 01.3 (6 II → 58 II) Fig. 01.4 (59 E → 73 E) Fig. 01.5 1 → 18 I Fig. 02.1

Input / Output — Sensor Supply V / Sensor Ground — ACP / CAN — SCP / Serial and Encoded Data

VARIANT: All Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

Fig. 19.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
PARKING AID SENSOR – CENTER LH	RB3 / 3-WAY AMP MQL / BLACK	BEHIND REAR BUMPER
PARKING AID SENSOR – CENTER RH	RB4 / 3-WAY AMP MQL / BLACK	BEHIND REAR BUMPER
PARKING AID SENSOR – LH	RB2 / 3-WAY AMP MQL / BLACK	BEHIND REAR BUMPER
PARKING AID SENSOR – RH	RB5 / 3-WAY AMP MQL / BLACK	BEHIND REAR BUMPER
PARKING AID SOUNDER	RH4 / 2-WAY MULTILOCK 070 / WHITE	BELOW CENTER CONSOLE GLOVE BOX
REVERSE PARKING AID CONTROL MODULE	BT4 / 16-WAY CONNECTOR / WHITE	TRUNK / SPARE WHEEL WELL
	RB1 / 12-WAY CONNECTOR / WHITE	TRUNK / SPARE WHEEL WELL

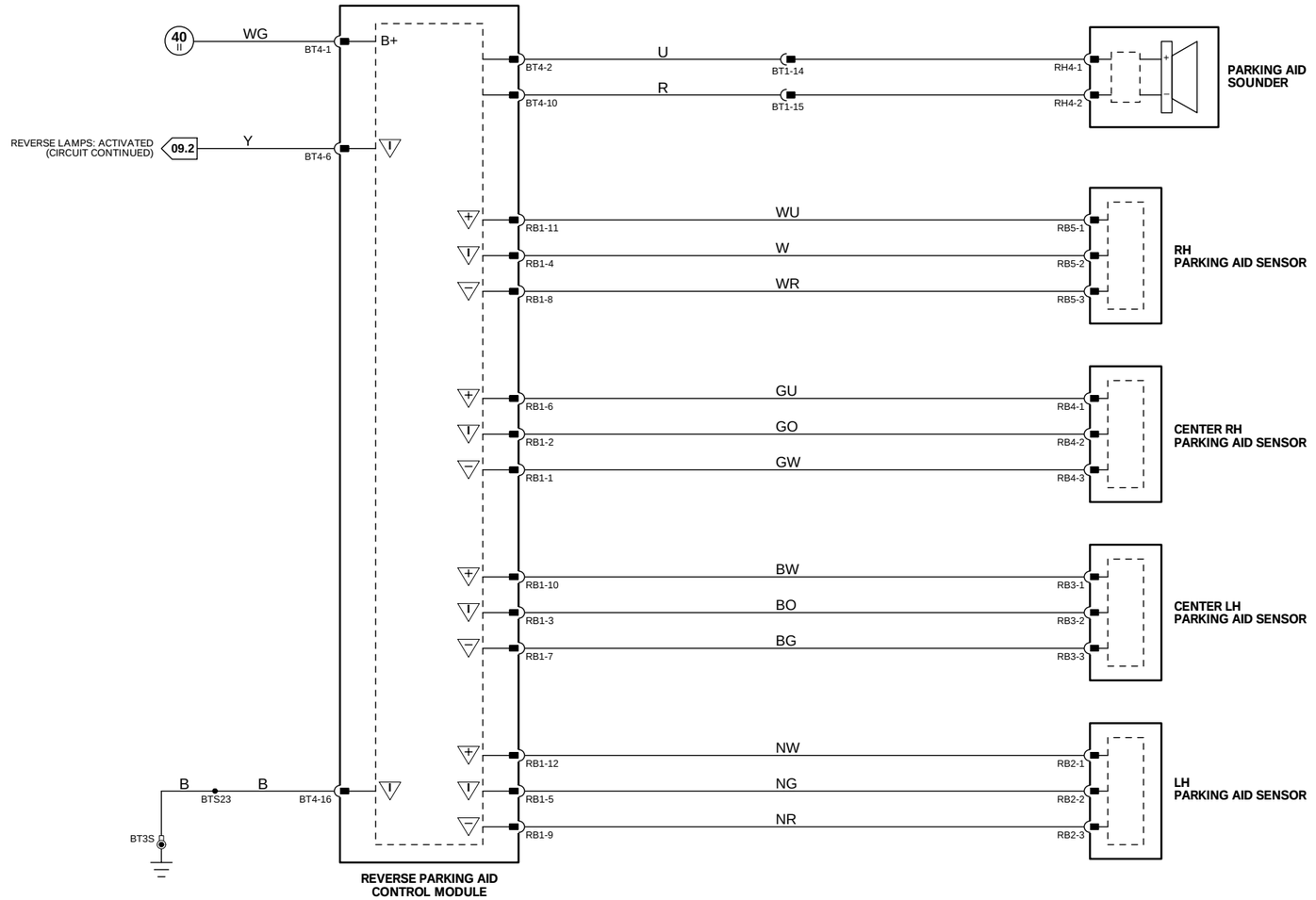
HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT1	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH

GROUNDS

Ground	Location / Type
BT3S	EYELET (SINGLE) / TRUNK, LEFT REAR

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



1 → 7 Fig. 01.1 | 1 II → 5 E Fig. 01.1 | 8 → 50 Fig. 01.2 | 51 → 90 Fig. 01.3 | 6 II → 58 II Fig. 01.4 | 59 E → 73 E Fig. 01.5 | 1 → 18 I Fig. 02.1

I Input | O Output | + Sensor Supply V | − Sensor Ground | A ACP | C CAN | S SCP | D Serial and Encoded Data

VARIANT: All Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

CONTROL MODULE PIN OUT INFORMATION

BODY PROCESSOR MODULE

▽	Pin	Description	Active	Inactive
I	FC14-4	BATTERY POWER SUPPLY	B+	B+
O	FC14-70	HORN RELAY ACTIVATE	GROUND (HORN SOUNDING)	B+
I	FC14-80	BATTERY POWER SUPPLY (LOGIC)	B+	B+

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

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

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

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

Fig. 20.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
BODY PROCESSOR MODULE	FC14 / 104-WAY AMP EEEC / GREY	PASSENGER SIDE FASCIA / AIRBAG BRACKET
CIGAR LIGHTER	FC42 / 2-WAY AMP / METALLIC FC59 / LUCAR POSILOCK / BLACK	FORWARD OF GEAR SELECTOR
FASCIA ACCESSORY CONNECTOR	FC51 / 3-WAY AMP SERIES 250 / BLACK	FASCIA / ADJACENT TO RIGHT HAND SIDE OF GLOVE BOX
FUSE BOX – ENGINE COMPARTMENT	LF5 / 10-WAY U.T.A. FUSEBOX / NATURAL LF6 / 10-WAY U.T.A. FUSEBOX / BLACK LF7 / 10-WAY U.T.A. FUSEBOX / GREEN LF8 / 10-WAY U.T.A. FUSEBOX / BLUE LF70 / EYELET	ENGINE COMPARTMENT / LEFT FRONT
FUSE BOX – TRUNK	BT10 / 10-WAY U.T.A. FUSEBOX / NATURAL BT11 / 10-WAY U.T.A. FUSEBOX / BLACK BT12 / 10-WAY U.T.A. FUSEBOX / GREEN BT13 / 10-WAY U.T.A. FUSEBOX / BLUE BT64 / EYELET	TRUNK / ELECTRICAL CARRIER
GARAGE DOOR OPENER (ROOF CONSOLE)	RF11 / HYBRID / WHITE RF10 / 6-WAY MULTILOCK 070 / GREY	ROOF CONSOLE
HORN SWITCHES (STEERING WHEEL)	HP1 / 1-WAY BLADE / METALLIC HP2 / 1-WAY BLADE / METALLIC HP3 / EYELET	CENTER OF STEERING WHEEL
HORN – LH	LF16 / LUCAR POSILOCK / BLACK LF17 / LUCAR POSILOCK / BLACK	FRONT BUMPER / REAR
HORN – RH	LF14 / LUCAR POSILOCK / BLACK LF15 / LUCAR POSILOCK / BLACK	FRONT BUMPER / REAR
TRUNK ACCESSORY CONNECTOR	BT25 / 3-WAY AMP SERIES 250 PIN / BLACK	TRUNK / ADJACENT TO BATTERY

RELAYS

Relay	Color / Stripe	Connector / Color	Location / Access
HORN RELAY (#6)	BROWN	BUS	ENGINE COMPARTMENT FUSE BOX
ACCESSORY CONNECTOR RELAY (#6)	BROWN	BUS	TRUNK FUSE BOX

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
BT58	4-WAY ECONOSEAL III HC / BLACK	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
LF60	20-WAY MULTILOCK 070 / WHITE	LEFT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
RF5	8-WAY MULTILOCK 070 / WHITE	LOWER RH 'A' POST / 'A' POST TRIM
RH14	2-WAY ECONOSEAL III HC / BLACK	REAR OF CENTER CONSOLE ASSEMBLY
SC2	10-WAY MULTILOCK 070 / YELLOW	ADJACENT TO STEERING COLUMN MOTOR
SC3	12-WAY MULTILOCK 070 / GREY	RIGHT HAND SIDE OF STEERING COLUMN
SW1	12-WAY MULTILOCK 040 / BLACK	INSIDE STEERING COLUMN COWL
SW2	6-WAY JST / WHITE	CENTER OF STEERING WHEEL

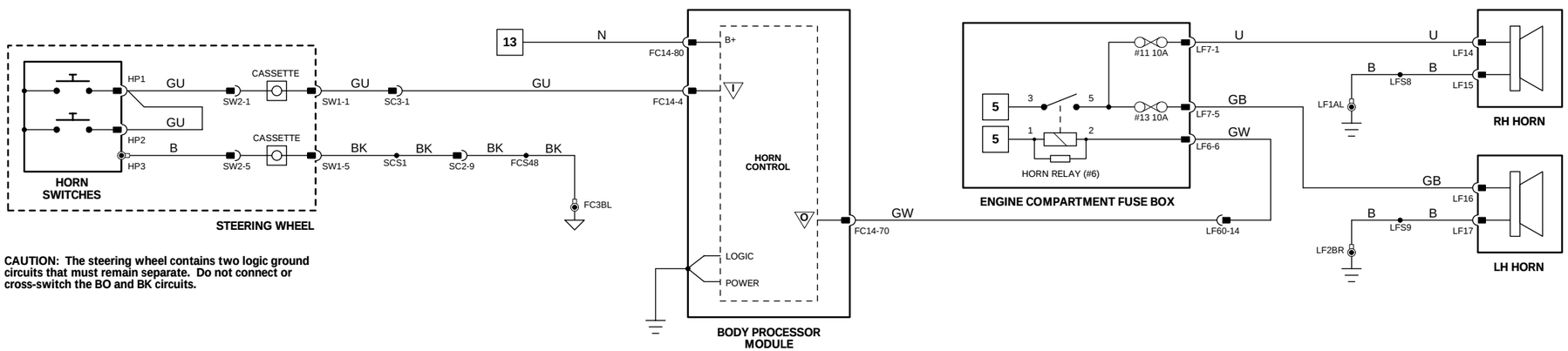
GROUNDS

Ground	Location / Type
BT2BR	EYELET (PAIR) – RIGHT HAND LEG / TRUNK, RIGHT REAR
BT2BS	EYELET (SINGLE) – TRUNK, RIGHT REAR
FC2BL	EYELET (PAIR) – LEFT HAND LEG / RIGHT HAND 'A' POST
FC2BR	EYELET (PAIR) – RIGHT HAND LEG / RIGHT HAND 'A' POST
FC3BL	EYELET (PAIR) – LEFT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
FC3BR	EYELET (PAIR) – RIGHT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE
FC4BL	EYELET (PAIR) – LEFT HAND LEG / LEFT HAND 'A' POST
FC4BR	EYELET (PAIR) – RIGHT HAND LEG / LEFT HAND 'A' POST
LF1AL	EYELET (PAIR) – LEFT HAND LEG / RIGHT HAND HEADLAMP
LF2BR	EYELET (PAIR) – RIGHT HAND LEG / ENGINE COMPARTMENT, FORWARD OF LEFT HAND HOOD LATCH

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

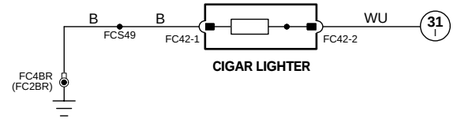
Refer to the front of this book for detailed information and illustrations regarding the location and identification of harnesses, relays, grounds, control modules and control module pins.

HORNS

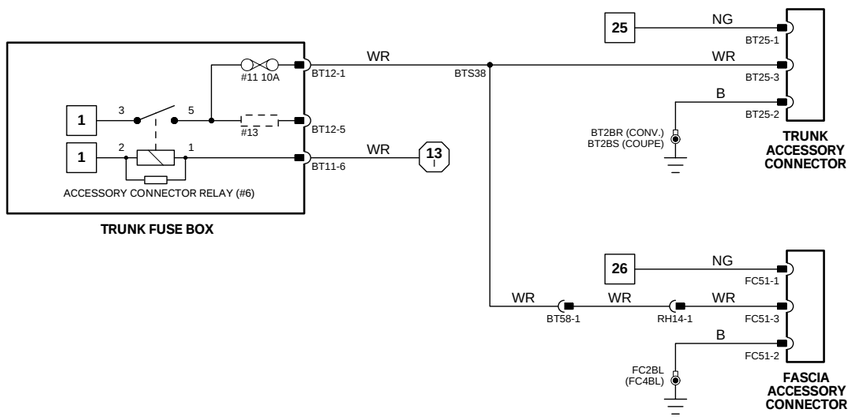


CAUTION: The steering wheel contains two logic ground circuits that must remain separate. Do not connect or cross-switch the BO and BK circuits.

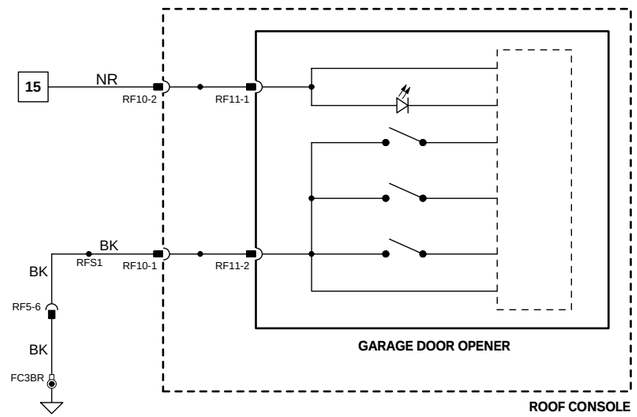
CIGAR LIGHTER



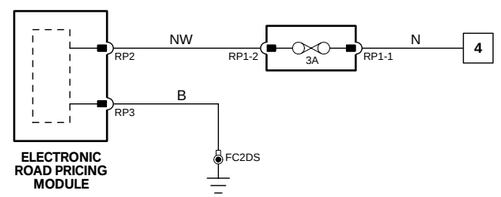
ACCESSORY CONNECTORS



GARAGE DOOR OPENER



ELECTRONIC ROAD PRICING



1 → 7 Fig. 01.1 (1 II) → (5 E) Fig. 01.1 8 → 50 Fig. 01.2 51 → 90 Fig. 01.3 (6 II) → (58 II) Fig. 01.4 (59 E) → (73 E) Fig. 01.5 1 → (18 I) Fig. 02.1

I Input
O Output
+ Sensor Supply V
− Sensor Ground
A ACP
C CAN
S SCP
D Serial and Encoded Data

VARIANT: All Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

Fig. 21.1

COMPONENTS

Component	Connector / Type / Color	Location / Access
ABS / TRACTION CONTROL CONTROL MODULE	LF37 / 25-WAY AMP HYBRID / BLACK	ENGINE COMPARTMENT / FRONT LEFT
ACTIVE SECURITY SOUNDER	LF18 / 6-WAY ECONOSEAL III LC / BLACK	REARWARD OF RIGHT FRONT HEADLAMP
ADAPTIVE DAMPING CONTROL MODULE	BT69 / 35-WAY AMP / BLACK	TRUNK / ADJACENT TO ELECTRICAL CARRIER
ADAPTIVE SPEED CONTROL CONTROL MODULE	LF61 / 12-WAY ECONOSEAL III LC / BLACK	ENGINE COMPARTMENT / FORWARD OF RADIATOR
AIR CONDITIONING CONTROL MODULE	AC1 / 26-WAY MULTILOCK 47 / GREY AC2 / 16-WAY MULTILOCK 47 / GREY AC3 / 12-WAY MULTILOCK 47 / GREY AC4 / 22-WAY MULTILOCK 47 / GREY	A/C UNIT / RIGHT HAND SIDE
BODY PROCESSOR MODULE	FC14 / 104-WAY AMP EEEC / GREY	PASSENGER SIDE FASCIA / AIRBAG BRACKET
DATA LINK CONNECTOR	FC53 / 16-WAY AMP OBD2 / BLACK	BELOW DRIVER SIDE FUSE BOX
DOOR CONTROL MODULE – DRIVER	DD10 / 22-WAY FORD 2.8 TIMER / BLUE DD11 / 22-WAY FORD 2.8 TIMER / BLACK	DRIVER DOOR / DOOR CASING
DOOR CONTROL MODULE – PASSENGER	DP10 / 22-WAY FORD 2.8 TIMER / BLUE DP11 / 22-WAY FORD 2.8 TIMER / BLACK	PASSENGER DOOR / DOOR CASING
ENGINE CONTROL MODULE	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 MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
GEAR SELECTOR ILLUMINATION MODULE	FC88 / 10-WAY MULTILOCK 070 / WHITE	FRONT OF GEAR SELECTOR ASSEMBLY
HEAD RESTRAINT CONTROL MODULE – DRIVER	SD22 / 16-WAY FORD IDC / BLACK	BEHIND SEAT BACK FINISHER
HEAD RESTRAINT CONTROL MODULE – PASSENGER	SP22 / 16-WAY FORD IDC / BLACK	BEHIND SEAT BACK FINISHER
KEY TRANSPONDER MODULE	FC22 / 20-WAY MULTILOCK 040 / GREEN	ADJACENT TO DRIVER SIDE FUSE BOX
MAJOR INSTRUMENT PACK	FC25 / 26-WAY AMP MICRO QUAD LOCK / BLACK FC26 / 26-WAY AMP MICRO QUAD LOCK / YELLOW	FASCIA
RESTRAINTS CONTROL MODULE	FC8 / 24-WAY CONNECTOR / BLACK FC9 / 40-WAY CONNECTOR / BLACK	CENTER CONSOLE
SEAT CONTROL MODULE – DRIVER	SD3 / 16-WAY FORD 2.8 TIMER / BLACK SD4 / 26-WAY FORD IDC / BLACK SD5 / 10-WAY FORD 2.8 TIMER / BLACK	BELOW SEAT CUSHION
SEAT CONTROL MODULE – PASSENGER	SP3 / 16-WAY FORD 2.8 TIMER / BLACK SP5 / 10-WAY FORD 2.8 TIMER / BLACK	BELOW SEAT CUSHION
SECURITY AND LOCKING CONTROL MODULE	BT40 / 16-WAY FORD 2.8 TIMER / BLACK BT41 / 26-WAY FORD IDC / BLACK BT42 / 10-WAY FORD 2.8 TIMER / BLACK RH20 / COAXIAL CONNECTOR	TRUNK / ELECTRICAL CARRIER
TRANSMISSION CONTROL MODULE: AJ27 N/A	EM7 / 88-WAY BOSCH / BLACK	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE
TRANSMISSION CONTROL MODULE: AJ27 SC	EM72 / 14-WAY AMP JUNIOR POWER TIMER / BLACK EM73 / 18-WAY AMP JUNIOR POWER TIMER / BLACK	ENGINE COMPARTMENT / CONTROL MODULE ENCLOSURE

HARNESS-TO-HARNESS CONNECTORS

Connector	Type / Color	Location / Access
AC14	14-WAY MULTILOCK 070 / GREY	FASCIA BOTTOM CONNECTOR MOUNTING BRACKET / RIGHT HAND SIDE
BT1	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL ARCH
BT2	20-WAY MULTILOCK 070 / WHITE	TRUNK / ABOVE RIGHT HAND REAR WHEEL
DD1	23-WAY AMP – FORD / BLACK	DRIVER SIDE 'A' POST MOUNTING BRACKET/ 'A' POST TRIM
DP1	23-WAY AMP – FORD / BLACK	PASSENGER SIDE 'A' POST / 'A' POST TRIM
EM1	20-WAY MULTILOCK 070 / WHITE	ENGINE COMPARTMENT / ADJACENT TO RIGHT HAND ENCLOSURE
LF1	20-WAY MULTILOCK 070 / GREY	LEFT HAND 'A' POST CONNECTOR MOUNTING BRACKET / 'A' POST TRIM
LF40	13-WAY ECONOSEAL III LC / BLACK	LHD: ENGINE COMPARTMENT / FORWARD OF BRAKE FLUID RESERVOIR RHD: ENGINE COMPARTMENT / BELOW CONTROL MODULE ENCLOSURE
RH2	20-WAY MULTILOCK 070 / WHITE	REAR OF CENTER CONSOLE ASSEMBLY
RH12	18-WAY MULTILOCK 070 / YELLOW	REAR OF CENTER CONSOLE ASSEMBLY
SD1	14-WAY MULTILOCK 070 / YELLOW	BELOW DRIVER SEAT
SP1	14-WAY MULTILOCK 070 / YELLOW	BELOW PASSENGER SEAT

GROUNDS

Ground	Location / Type
FC3BL	EYELET (PAIR) – LEFT HAND LEG / TRANSMISSION TUNNEL, LEFT HAND SIDE

NOTE: Refer to the Appendix at the rear of this book for CAN and SCP Network Messages.

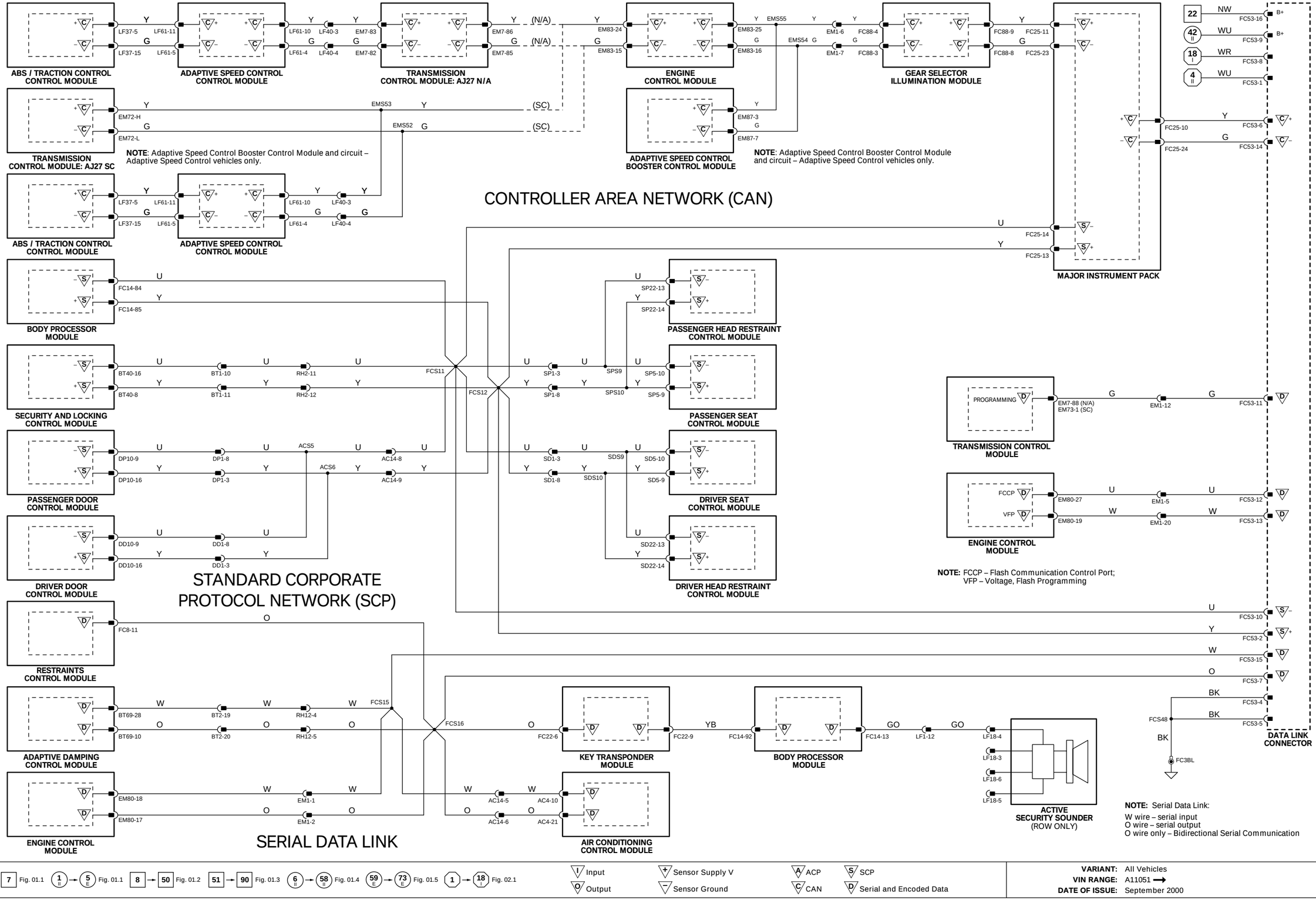
The following abbreviations are used to represent values for Control Module Pin-Out data

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

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

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

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



1 → 7 Fig. 01.1 (1 II → 5 E) Fig. 01.1 8 → 50 Fig. 01.2 51 → 90 Fig. 01.3 (6 II → 58 II) Fig. 01.4 (59 E → 73 E) Fig. 01.5 1 → 18 I Fig. 02.1

I Input
O Output
+ Sensor Supply V
− Sensor Ground
A ACP
C CAN
S SCP
D Serial and Encoded Data

VARIANT: All Vehicles
VIN RANGE: A11051 →
DATE OF ISSUE: September 2000

This Appendix contains a listing of CAN and SCP Network messages.

Abbreviations

The following abbreviations are used throughout this Appendix:

ABS/TCCM	Anti-Lock Braking / Traction Control Control Module
BPM	Body Processor Module
DIAG	Diagnostics
DDCM	Driver Door Control Module
DSCM	Driver Seat Control Module
ECM	Engine Control Module
INST	Instrument Pack
J-GATE	Gear Selector Illumination Module
PDCM	Passenger Door Control Module
PSCM	Passenger Seat Control Module
R	Receive
T	Transmit
TCM	Transmission Control Module
SCCM	Adaptive Speed Control Control Module
SCBCM	Adaptive Speed Control Booster Control Module
SLCM	Security and Locking Control Module

CAN Message Matrix

Message / Function	Source	Receivers							
		ECM	TCM	ABS/TCCM	INST	J-GATE	SCCM	SCBCM	DIAG
CAN traction acknowledge	ECM		X						
CAN traction control estimated engine torque	ECM		X						
CAN set speed	ECM						X		
CAN target speed	ECM						X		
CAN shift energy management estimated engine torque	ECM		X	X					
CAN throttle position	ECM		X	X					
CAN pedal position	ECM		X	X			X		
CAN torque reduction acknowledge	ECM		X						
CAN engine speed	ECM		X	X	X				
CAN brake pedal pressed	ECM			X	X		X	X	
CAN ECM adaptive speed control fail	ECM						X		
CAN speed control status	ECM		X				X		
CAN parking brake status	ECM				X				
CAN OBD II clear fault codes	ECM		X	X					
CAN headway increment	ECM						X		
CAN cancel request	ECM						X		
CAN engine coolant temperature	ECM		X		X				
CAN engine OBD II MIL	ECM			X	X				
CAN throttle malfunction red	ECM			X	X				
CAN throttle malfunction amber	ECM			X	X				
CAN ECM fault code MIL status	ECM			X					
CAN ECM PECUS flag	ECM				X				
CAN engine fault codes	ECM			X					
CAN fuel used	ECM				X				
CAN barometric pressure	ECM		X						
CAN torque reduction request	TCM	X							
CAN transmission overload	TCM	X							
CAN transmission input speed	TCM	X		X					
CAN transmission output speed	TCM	X		X					

Message / Function	Source	Receivers							
		ECM	TCM	ABS/TCCM	INST	J-GATE	SCCM	SCBCM	DIAG
CAN torque converter slip	TCM	X		X					
CAN kickdown	TCM	X		X					
CAN gear position actual	TCM	X		X					
CAN torque converter status	TCM	X		X					
CAN gear position selected	TCM	X			X	X			
CAN gear selection fault	TCM	X			X	X			
CAN transmission shift map	TCM	X		X			X		
CAN transmission oil temperature	TCM	X			X				
CAN transmission malfunction	TCM	X		X	X				
CAN TCM PECUS flag	TCM				X				
CAN gear position target (not used)	TCM			X					
CAN torque transfer in progress (not used)	TCM			X					
CAN TCM fault code MIL status	TCM	X							
CAN OBD II TCM clear acknowledge	TCM	X							
CAN transmission fault codes	TCM	X		X					
CAN torque reduction throttle	ABS/TCCM	X							
CAN fast torque reduction ignition	ABS/TCCM	X							
CAN fast torque reduction cylinder	ABS/TCCM	X							
CAN traction status	ABS/TCCM	X			X				
CAN traction shift map	ABS/TCCM		X						
CAN ABS PECUS flag	ABS/TCCM				X				
CAN vehicle reference speed	ABS/TCCM	X			X				
CAN reference distance traveled	ABS/TCCM				X				
CAN ABS fault codes	ABS/TCCM	X							
CAN OBD II ABS clear acknowledge	ABS/TCCM	X							
CAN ABS fault code MIL status	ABS/TCCM	X							
CAN ABS malfunction	ABS/TCCM	X			X			X	
CAN ABS status	ABS/TCCM							X	
CAN front left wheel speed	ABS/TCCM	X	X				X	X	

CAN Message Matrix

Message / Function	Source	Receivers							
		ECM	TCM	ABS/TCCM	INST	J-GATE	SCCM	SCBCM	DIAG
CAN front right wheel speed	ABS/TCCM	X	X				X	X	
CAN rear left wheel speed	ABS/TCCM	X	X				X		
CAN rear right wheel speed	ABS/TCCM	X	X		X		X		
CAN sidelight status	INST	X							
CAN dipped beam status	INST	X							
CAN main beam status	INST	X							
CAN oil pressure low	INST	X							
CAN indicator right	INST						X		
CAN indicator left	INST						X		
CAN trip units	INST	X					X		
CAN fuel level damped	INST	X							
CAN fuel level raw	INST	X							
CAN display commands	SCCM				X				
CAN headway setting	SCCM				X				
CAN follow warning light	SCCM				X				
CAN extra bong	SCCM				X				
CAN display set speed	SCCM				X				
CAN follow speed	SCCM	X							
CAN brake demand pressure	SCCM							X	
CAN adaptive speed control status	SCCM				X				
CAN adaptive speed control PECUS flag	SCCM				X				
CAN brake booster enable	SCCM							X	
CAN brake actual pressure	SCBCM						X		
CAN brake demand pressure acknowledge	SCBCM						X		
CAN SBU status	SCBCM						X		
CAN diagnostic data in acknowledge	DIAG						X		
CAN diagnostic data out acknowledge	SCCM								X
CAN diagnostic data in SCBCM	DIAG							X	
CAN diagnostic data out SCBCM	SCBCM								X

Message / Function	Source	Receivers							
		ECM	TCM	ABS/TCCM	INST	J-GATE	SCCM	SCBCM	DIAG
CAN NWM token ECM	ECM		X	X	X		X		
CAN NWM token TCM	TCM	X		X	X		X		
CAN NWM token INST	INST	X	X	X			X		
CAN NWM token ABS	ABS/TCCM	X	X		X		X		
CAN NWM token SCCM	SCCM				X				
CAN diagnostic data in ECM	DIAG	X							
CAN diagnostic data in TCM	DIAG		X						
CAN diagnostic data in INST	DIAG				X				
CAN diagnostic data in ABS	DIAG			X					
CAN diagnostic data out ECM	ECM								X
CAN diagnostic data out TCM	TCM								X
CAN diagnostic data out INST	INST								X
CAN diagnostic data out ABS	ABS/TCCM								X

SCP Message Matrix

#	Message Name	INST	BPM	DDCM	PDCM	DSCM	PSCM	SLCM
1	Vehicle speed	T	R	R				R
2	Brake pedal pressed	T	R					
3	SLCM not programmed	R						T
4	BPM not programmed	R	T					
5	DDCM not programmed	R		T				
6	DSCM not programmed	R				T		
7	PDCM not programmed	R			T			
8	PSCM not programmed	R					T	
9	Left hand drive vehicle		T	R	R			R
10	Valet mode OFF		T					R
11	Non-convertible vehicle		T					R
12	Right hand drive vehicle		T	R	R			R
13	Valet mode ON		T					R
14	Convertible vehicle		T					R
15	Request vehicle drive side		R	T				
16	Request valet mode status		R					T
17	Request convertible status		R					T
18	Reverse gear selected	T	R	R	R	R	R	R
19	Not-in-park switch – inactive		T	R	R	R	R	
20	Not-in-park switch – active		T	R	R	R	R	
21	Request not-in-park switch status		R			T		
22	Request not-in-park switch status		R				T	
23–58	Diagnostic messages							
59	Charging OK	T				R	R	
60	Inertia switch inactive		T	R	R			R
61	Inertia switch active		T	R	R			R
62	Request inertia switch status		R	T				
63	Request inertia switch status		R		T			
64	Ignition status	R	T	R	R	R	R	R
65	Key not-in-ignition		T	R	R			R
66	Key in-ignition		T	R	R			R
67	Request ignition status		R					T
68	Request ignition status	T	R					
69	Request ignition status		R	T				
70	Request ignition status		R			T		
71	Request ignition status		R		T			
72	Request ignition status		R				T	
73	Request key-in status		R					T
74	Request key-in status		R	T				
75	Request key-in status		R			T		
76	Request key-in status		R		T			
77	Seat belt telltale OFF	R				T		
78	Low washer fluid warning OFF	R	T					
79	Convertible top latch warning OFF	R						T
80	Seat belt telltale ON	R				T		
81	Low washer fluid warning ON	R	T					
82	Convertible top latch warning ON	R						T
83	Request washer fluid status	T	R					
84	Request convertible top latch status	T						R
85	Security audible indication		R					T
86	Remote panic		R	R	R			T
87	Security disarm		R	R	R			T
88	Glass break fault		T					R
89	Security armed		R	R	R			T

#	Message Name	INST	BPM	DDCM	PDCM	DSCM	PSCM	SLCM
90	Key valid		T					R
91	Glass break detected		T					R
92	Request security arm status		T					R
93	Request security arm status			T				R
94	Request security arm status				T			R
95	Seat belt chime OFF		R			T		
96	Seat belt chime ON		R			T		
97	Request seat belt chime status		T			R		
98–165	Diagnostic messages							
166	Recall memory 1		R	T	R	R		
167	Recall memory 2		R	T	R	R		
168	Save memory 1		R	T	R	R		
169	Save memory 2		R	T	R	R		
170	DDCM memory 1 recalled		R	T				
171	DSCM memory 1 recalled		R			T		
172	PDCM memory 1 recalled		R		T			
173	DDCM memory 2 recalled		R	T				
174	DSCM memory 2 recalled		R			T		
175	PDCM memory 2 recalled		R		T			
176	Park fold-back mirrors			T		R	R	
177	Unfold fold-back mirrors			T		R	R	
178	Stop driver mirror			T	R			
179	Stop passenger mirror			T	R			
180	Driver mirror up			T	R			
181	Passenger mirror up			T	R			
182	Driver mirror down			T	R			
183	Passenger mirror down			T	R			
184	Passenger mirror right			T	R			
185	Passenger mirror left			T	R			
186	Unlock driver door			R	T			
187	Unlock passenger door			T	R			
188	Remote unlock		R	R	R			T
189	Remote trunk release		R					T
190	Lock front doors		R	T				
191	Lock front doors		R		T			
192	Remote superlock			R	R			T
193	Superlock driver door					T		
194	Superlock passenger door			T				
195	Remote lock		R					T
196	Vehicle unlocked		R	T				R
197	Driver door unlocked		R	R	R			T
198	Passenger door unlocked		R		R			T
199	Driver lock switch status		R	T				R
200	Passenger lock switch status		R		T			R
201	Driver door unsuperlocked		R	T				
202	Passenger door unsuperlocked		R		T			
203	Vehicle locked		R	T				R
204	Driver door locked		R	R	R			T
205	Passenger door locked		R	R	R			T
206	Driver door superlocked		R	T				
207	Passenger door superlocked		R		T			
208	Request vehicle lock status			R				T
209	Request driver door lock status			T				R
210	Request passenger door status				T			R

continued…

SCP Message Matrix

#	Message Name	INST	BPM	DDCM	PDCM	DSCM	PSCM	SLCM
211	Request driver key barrel status			R				T
212	Request driver key barrel status			R	T			
213	Request passenger key barrel status (deleted)				R			T
214	Request passenger key barrel status (deleted)			T	R			
215	Request superlock status		T	R	R			
216	Open trunk		T					R
217	Hood closed	R	T					R
218	Driver door closed	R	R	T		R		R
219	Passenger door closed	R	R			T	R	R
220	Trunk closed	R	R					T
221	Stop fuel filler flap open		T					R
222	Convertible top latch status		T					
223	Hood ajar	R	T					R
224	Driver door ajar	R	R	T		R		R
225	Passenger door ajar	R	R		T		R	R
226	Trunk ajar	R	R					T
227	Open fuel filler flap		T					R
228	Request hood ajar status		R					T
229	Request driver door ajar status			R				T
230	Request driver door status		T	R				
231	Request driver door ajar status			R		T		
232	Request passenger door ajar status				R			T
233	Request trunk ajar status		T					R
234	Request convertible top latch switches status		R					T
235	Driver seat heater telltale OFF		R			T		
236	Passenger seat heater telltale OFF		R				T	
237	Driver seat heater telltale ON		R			T		
238	Passenger seat heater telltale ON		R				T	
239	Request driver heater telltale status		T			R		
240	Request passenger heater telltale status		T				R	
241	Stop global window open		R	R	R			T
242	Stop global window close		R	R	R			T
243	Position driver window			R				T
244	Position passenger window				R			T
245	Position rear quarters		R					T
246	Driver window position			T				R
247	Passenger window position				T			R
248	Stop passenger window open			T	R			
249	Stop convertible top open		T					R
250	Stop passenger window close			T	R			
251	Stop convertible top close		T					R
252	Open passenger window			T	R			
253	Open convertible top		T					R
254	Close passenger window			T	R			
255	Close convertible top		T					R
256	Request driver window position			R				T
257	Request passenger window position				R			T
258	Request driver and passenger window switch status			R	T			
259	Driver seat heater switch active		T			R		
260	Passenger seat heater switch active		T				R	
261	Front bulb failure	R	T					
262	Rear bulb failure	R						T
263	Front bulbs OK	R	T					
264	Rear bulbs OK	R						T

#	Message Name	INST	BPM	DDCM	PDCM	DSCM	PSCM	SLCM
265	Request front bulb fail status	T	R					
266	Request rear bulb fail status	T						R
267	Rear fog lamps OFF		T					R
268	Remote headlamp convenience OFF		R					T
269	Rear fog lamps ON		T					R
270	Remote headlamp convenience ON		R					T
271	Dip beam OFF	R	T					
272	Side lamps OFF	R	T					
273	Hazard warning OFF	R	T					
274	Left DI lamp OFF	R	T					
275	Right DI lamp OFF	R	T					
276	Main beam OFF	R	T					
277	Rear fog lamps OFF		R					T
278	Main beam flash OFF		T					R
279	Request rear fog switch status		R					T
280	Request remote headlamp convenience status		T					R
281	Dip beam ON	R	T					
282	Side lamps ON	R	T					
283	Hazards ON	R	T					
284	Left DI lamp ON	R	T					
285	Right DI lamp ON	R	T					
286	Main beam ON	R	T					
287	Rear fog lamps ON		R					T
288	Main beam flash ON		T					R
289	Request dip beam status	T	R					
290	Request side lamps status	T	R					
291	Request left DI status	T	R					
292	Request right DI status	T	R					
293	Request main beam status	T	R					
294	Request hazard warning status	T	R					
295	Request rear fog lamps status		T					R
296	Interior lamps OFF	R	T					
297	Interior lamps ON	R	T					
298	Request interior lighting status	T	R					
299	Valet mode message OFF	R	T					
300	Recoding keying message OFF	R						T
301	Valet mode message	R	T					
302	Recoding keying message	R						T
303–356	Diagnostic messages							
357	Wake up (SLCM)							T
358	Wake up (BPM)		T					
359	Wake up (INST)	T						
360	Wake up (DDCM)			T				
361	Wake up (DSCM)					T		
362	Wake up (PDCM)				T			
363	Wake up (PSCM)						T	
364	Network awake (SLCM)	R	R	R	R	R	R	T
365	Network awake (BPM)	R	T	R	R	R	R	R
366	Network awake (INST)	T	R	R	R	R	R	R
367	Network awake (DDCM)	R	R	T	R	R	R	R
368	Network awake (DSCM)	R	R	R	R	T	R	R
369	Network awake (PDCM)	R	R	R	T	R	R	R

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SCP Message Matrix

#	Message Name	INST	BPM	DDCM	PDCM	DSCM	PSCM	SLCM
370	Network awake (PSCM)	R	R	R	R	R	T	R
371	SLCM entering sleep mode	R	R	R	R	R	R	T
372	BPM entering sleep mode	R	T	R	R	R	R	R
373	INST entering sleep mode	T	R	R	R	R	R	R
374	DDCM entering sleep mode	R	R	T	R	R	R	R
375	DSCM entering sleep mode	R	R	R	R	T	R	R
376	PDCM entering sleep mode	R	R	R	T	R	R	R
377	PSCM entering sleep mode	R	R	R	R	R	T	R