

CONTROL MODULE PIN-OUT INFORMATION

Engine Control Module – 2.5 L, 3.0 L

	Pin	Description and Characteristic
I	EN16-006	ENGINE CRANK: B+
I	EN16-031	PARK / NEUTRAL SWITCH (AUTOMATIC TRANSMISSION): NORMALLY CLOSED / B+ IN P,N
O	EN16-041	STARTER RELAY DRIVE: TO ACTIVATE, ECM SWITCHES CIRCUIT TO GROUND
O	EN16-053	GENERATOR CONTROL: VARIABLE VOLTAGE
I	EN16-065	GENERATOR FIELD RETURN SIGNAL: VARIABLE VOLTAGE BY GENERATOR OPERATING CONDITION
I	EN16-079	GENERATOR CHARGE / FAULT: B+ = NORMAL, AFTER-START SWITCH-ON; GROUND = GENERATOR FAILURE, AFTER-START SWITCH-ON
C	EN16-123	CAN -
C	EN16-124	CAN +

General Electronic Module

	Pin	Description and Characteristic
S	IP5-18	SCP -
S	IP5-19	SCP +
I	IP6-08	KEY-IN IGNITION SWITCH: B+ WHEN KEY IN

Instrument Cluster

	Pin	Description and Characteristic
D	IP10-03	PATS 1: ENCODED COMMUNICATION
D	IP10-04	PATS 2: ENCODED COMMUNICATION
I	IP10-05	PATS GROUND: GROUND
O	IP10-06	PATS TRANSCIEVER POWER: B+
C	IP10-17	CAN +
C	IP10-18	CAN -
S	IP10-22	SCP +
S	IP10-23	SCP -
I	IP11-08	POWER GROUND: GROUND
I	IP11-13	IGNITION SWITCHED POWER SUPPLY (I): B+

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

Fig. 02.1

COMPONENTS

Component	Connector(s)	Connector Description	Location
BATTERY	-	-	ENGINE COMPARTMENT
CLUTCH PEDAL SAFETY SWITCH	PA5	2-WAY / WHITE	TOP OF CLUTCH PEDAL
ENGINE CONTROL MODULE – 2.5 L, 3.0 L	EN16	134-WAY / BLACK	ENGINE COMPARTMENT, FRONT BULKHEAD / RH SIDE
GENERAL ELECTRONIC MODULE	CA86 CA87 IP5 IP6 JB172	23-WAY / GREY 23-WAY / GREEN 23-WAY / BROWN 23-WAY / NATURAL 23-WAY / BLUE	BEHIND INSTRUMENT PANEL / RH SIDE
GENERATOR – 2.0 L, 2.5 L, 3.0 L	EN49	4-WAY / BLACK	ENGINE BANK 1 / FRONT
IGNITION SWITCH	IP18	7-WAY / BLACK	STEERING COLUMN
INSTRUMENT CLUSTER	IP10 IP11	26-WAY / WHITE 26-WAY / WHITE	INSTRUMENT PANEL
PASSIVE ANTI-THEFT SYSTEM TRANSCIEVER	IP15	4-WAY / BLACK	STEERING COLUMN, IGNITION SWITCH
POWER DISTRIBUTION FUSE BOX	-	-	ENGINE COMPARTMENT
STARTER MOTOR – 2.0 L, 2.5 L, 3.0 L	EN700 ST2	EYELET EYELET	ENGINE BLOCK / RH SIDE
STARTER RELAY	-	-	POWER DISTRIBUTION FUSE BOX – R12
TRANSMISSION RANGE SENSOR	JB156	10-WAY / BLACK	TOP OF TRANSMISSION

HARNESS IN-LINE CONNECTORS

Connector	Connector Description	Location
JB1	42-WAY / BLACK / ENGINE MANAGEMENT HARNESS TO JUNCTION BOX HARNESS	ENGINE COMPARTMENT / LH SIDE
JB2	16-WAY / GREEN / ENGINE MANAGEMENT HARNESS TO JUNCTION BOX HARNESS (PEDAL ASSEMBLY)	BELOW INSTRUMENT PANEL / DRIVER SIDE
JB129	22-WAY / GREY / JUNCTION BOX HARNESS TO INSTRUMENT PANEL HARNESS	BELOW INSTRUMENT PANEL / LH SIDE
JB145	8-WAY / BLACK / ENGINE MANAGEMENT HARNESS TO JUNCTION BOX HARNESS	ENGINE COMPARTMENT / LH SIDE

GROUND

Ground	Harness	Location
G13	B03	BATTERY ENGINE GROUND
G16	B03	ENGINE COMPARTMENT / UNDER BATTERY TRAY
G36	IP	BEHIND INSTRUMENT PANEL / LH SIDE OF CROSS CAR BEAM
G37	IP	BEHIND INSTRUMENT PANEL / RH SIDE OF CROSS CAR BEAM

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

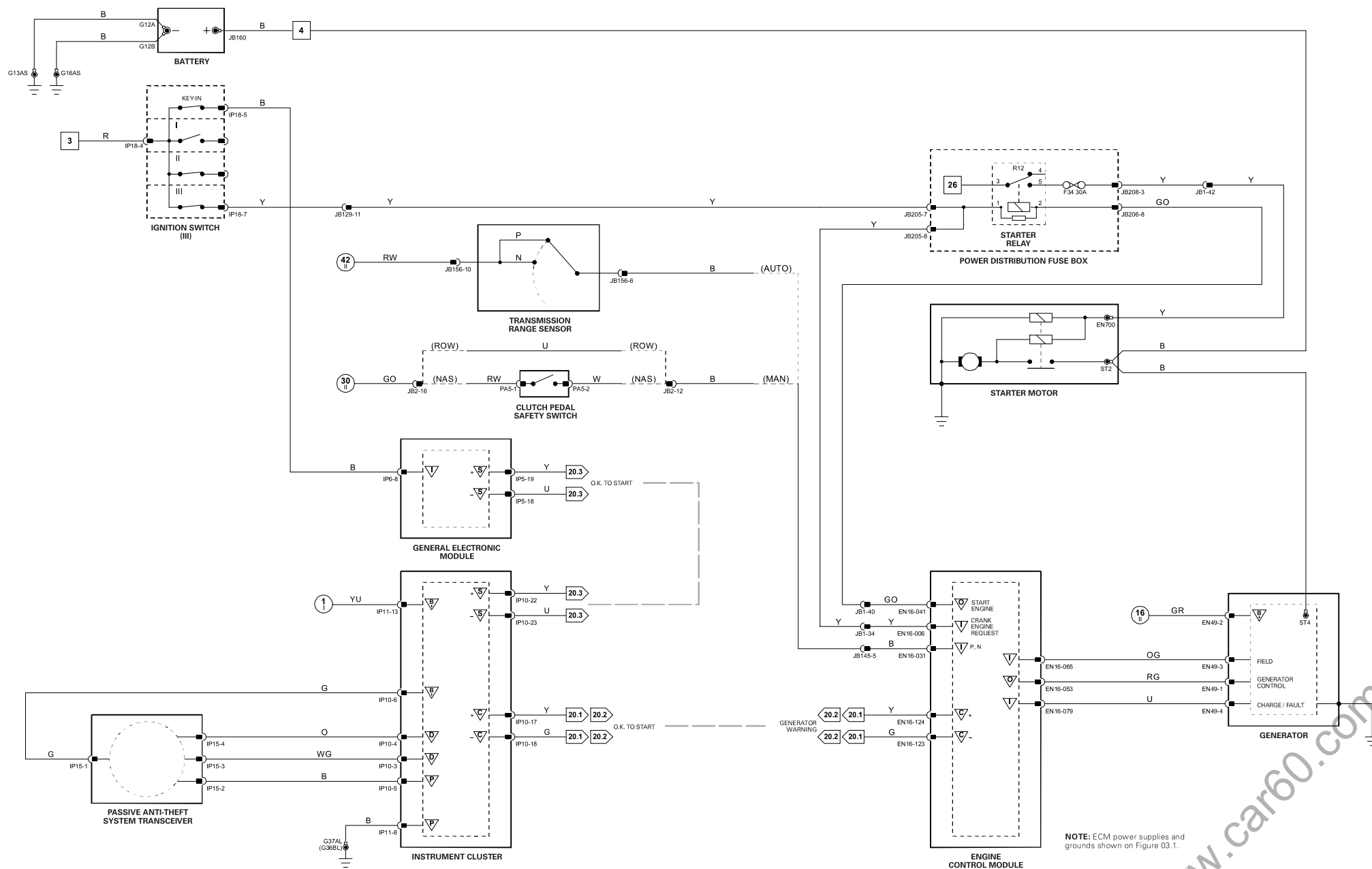
The following abbreviations are used to represent values for Control Module Pin-Out data

I	Input	PG	Power Ground	C	CAN Network	D	Serial and Encoded Data
O	Output	SS	Sensor / Signal Supply V	S	SCP Network	V	Voltage (DC)
B+	Battery Voltage	SG	Sensor / Signal Ground	D2	D2B Network	PWM	Pulse Width Modulated

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.

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



CONTROL MODULE PIN-OUT INFORMATION

Engine Control Module – 2.0 L

	Pin	Description and Characteristic
I	EN65-006	ENGINE CRANK: B+
O	EN65-008	GENERATOR FIELD RETURN SIGNAL: VARIABLE VOLTAGE BY GENERATOR OPERATING CONDITION
I	EN65-035	GENERATOR CHARGE / FAULT: B+ = NORMAL, AFTER-START SWITCH-ON; GROUND = GENERATOR FAILURE, AFTER-START SWITCH-ON
I	EN65-043	GENERATOR CONTROL: VARIABLE VOLTAGE
O	EN65-068	STARTER RELAY DRIVE: TO ACTIVATE, ECM SWITCHES CIRCUIT TO GROUND
I	EN65-085	PARK / NEUTRAL SWITCH (AUTOMATIC TRANSMISSION): NORMALLY CLOSED / GROUND WHEN ACTIVATED
C	EN65-088	CAN -
C	EN65-089	CAN +

General Electronic Module

	Pin	Description and Characteristic
S	IP5-18	SCP -
S	IP5-19	SCP +
I	IP6-08	KEY-IN IGNITION SWITCH: B+ WHEN KEY IN

Instrument Cluster

	Pin	Description and Characteristic
D	IP10-03	PATS 1: ENCODED COMMUNICATION
D	IP10-04	PATS 2: ENCODED COMMUNICATION
I	IP10-05	PATS GROUND: GROUND
O	IP10-06	PATS TRANSCIEVER POWER: B+
C	IP10-17	CAN +
C	IP10-18	CAN -
S	IP10-22	SCP +
S	IP10-23	SCP -

I	IP11-08	POWER GROUND: GROUND
I	IP11-13	IGNITION SWITCHED POWER SUPPLY (I): B+

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

Fig. 02.2

COMPONENTS

Component	Connector(s)	Connector Description	Location
BATTERY	-	-	ENGINE COMPARTMENT
ENGINE CONTROL MODULE – 2.0 L	EN65	104-WAY / BLACK	ENGINE COMPARTMENT, FRONT BULKHEAD / RH SIDE
GENERAL ELECTRONIC MODULE	CA86	23-WAY / GREY	BEHIND INSTRUMENT PANEL / RH SIDE
	CA87	23-WAY / GREEN	
	IP5	23-WAY / BROWN	
	IP6	23-WAY / NATURAL	
	JB172	23-WAY / BLUE	
GENERATOR – 2.0 L, 2.5 L, 3.0 L	EN49	4-WAY / BLACK	ENGINE BANK 1 / FRONT
IGNITION SWITCH	IP18	7-WAY / BLACK	STEERING COLUMN
INSTRUMENT CLUSTER	IP10	26-WAY / WHITE	INSTRUMENT PANEL
	IP11	26-WAY / WHITE	
PASSIVE ANTI-THEFT SYSTEM TRANSCIEVER	IP15	4-WAY / BLACK	STEERING COLUMN, IGNITION SWITCH
POWER DISTRIBUTION FUSE BOX	-	-	ENGINE COMPARTMENT
STARTER MOTOR – 2.0 L, 2.5 L, 3.0 L	EN700	EYELET	ENGINE BLOCK / RH SIDE
	ST2	EYELET	
STARTER RELAY	-	-	POWER DISTRIBUTION FUSE BOX – R12
TRANSMISSION RANGE SENSOR	JB156	10-WAY / BLACK	TOP OF TRANSMISSION

HARNESS IN-LINE CONNECTORS

Connector	Connector Description	Location
JB1	42-WAY / BLACK / ENGINE MANAGEMENT HARNESS TO JUNCTION BOX HARNESS	ENGINE COMPARTMENT / LH SIDE
JB129	22-WAY / GREY / JUNCTION BOX HARNESS TO INSTRUMENT PANEL HARNESS	BELOW INSTRUMENT PANEL / LH SIDE

GROUND

Ground	Harness	Location
G13	B03	BATTERY ENGINE GROUND
G16	B03	ENGINE COMPARTMENT / UNDER BATTERY TRAY
G36	IP	BEHIND INSTRUMENT PANEL / LH SIDE OF CROSS CAR BEAM
G37	IP	BEHIND INSTRUMENT PANEL / RH SIDE OF CROSS CAR BEAM

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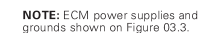
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O	Output	SS	Sensor / Signal Supply V	S	SCP Network	V	Voltage (DC)
B+	Battery Voltage	SG	Sensor / Signal Ground	D2	D2B Network	PWM	Pulse Width Modulated

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CONTROL MODULE PIN-OUT INFORMATION

Engine Control Module – 2.0 L D

	Pin	Description and Characteristic
O	DL1-021	STARTER RELAY DRIVE: TO ACTIVATE, ECM SWITCHES CIRCUIT TO GROUND
O	DL1-047	GENERATOR MONITOR
C	DL1-054	CAN +
C	DL1-073	CAN -
O	DL1-112	GENERATOR COMMON

	Pin	Description and Characteristic
S	IP5-18	SCP -
S	IP5-19	SCP +

I	IP6-08	KEY-IN IGNITION SWITCH: B+ WHEN KEY IN
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Instrument Cluster

	Pin	Description and Characteristic
D	IP10-03	PATS 1: ENCODED COMMUNICATION
D	IP10-04	PATS 2: ENCODED COMMUNICATION
I	IP10-05	PATS GROUND: GROUND
O	IP10-06	PATS TRANSCIVER POWER: B+
C	IP10-17	CAN +
C	IP10-18	CAN -
S	IP10-22	SCP +
S	IP10-23	SCP -

I	IP11-08	POWER GROUND: GROUND
I	IP11-13	IGNITION SWITCHED POWER SUPPLY (I): B+

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

Fig. 02.3

COMPONENTS

Component	Connector(s)	Connector Description	Location
BATTERY	–	–	ENGINE COMPARTMENT
ENGINE CONTROL MODULE – 2.0 L D	DL1	121-WAY / BLACK	ENGINE COMPARTMENT, FRONT BULKHEAD / RH SIDE
GENERAL ELECTRONIC MODULE	CA86 CA87 IP5 IP6 JB172	23-WAY / GREY 23-WAY / GREEN 23-WAY / BROWN 23-WAY / NATURAL 23-WAY / BLUE	BEHIND INSTRUMENT PANEL / RH SIDE
GENERATOR – 2.0 L D	DE2	4-WAY / BLACK	ENGINE BLOCK / RH SIDE / FRONT
IGNITION SWITCH	IP18	7-WAY / BLACK	STEERING COLUMN
INSTRUMENT CLUSTER	IP10 IP11	26-WAY / WHITE 26-WAY / WHITE	INSTRUMENT PANEL
PASSIVE ANTI-THEFT SYSTEM TRANSCIVER	IP15	4-WAY / BLACK	STEERING COLUMN, IGNITION SWITCH
POWER DISTRIBUTION FUSE BOX	–	–	ENGINE COMPARTMENT
STARTER MOTOR – 2.0 L D	DL8 ST2	EYELET EYELET	ENGINE BLOCK / LH SIDE
STARTER RELAY	–	–	POWER DISTRIBUTION FUSE BOX – R12

HARNESS IN-LINE CONNECTORS

Connector	Connector Description	Location
DL2	42-WAY / BLACK / ENGINE HARNESS TO ENGINE MANAGEMENT HARNESS	ENGINE COMPARTMENT / RH SIDE
JB1	42-WAY / BLACK / ENGINE MANAGEMENT HARNESS TO JUNCTION BOX HARNESS	ENGINE COMPARTMENT / LH SIDE
JB129	22-WAY / GREY / JUNCTION BOX HARNESS TO INSTRUMENT PANEL HARNESS	BELOW INSTRUMENT PANEL / LH SIDE

GROUND

Ground	Harness	Location
G13	B03	BATTERY ENGINE GROUND
G16	B03	ENGINE COMPARTMENT / UNDER BATTERY TRAY
G36	IP	BEHIND INSTRUMENT PANEL / LH SIDE OF CROSS CAR BEAM
G37	IP	BEHIND INSTRUMENT PANEL / RH SIDE OF CROSS CAR BEAM

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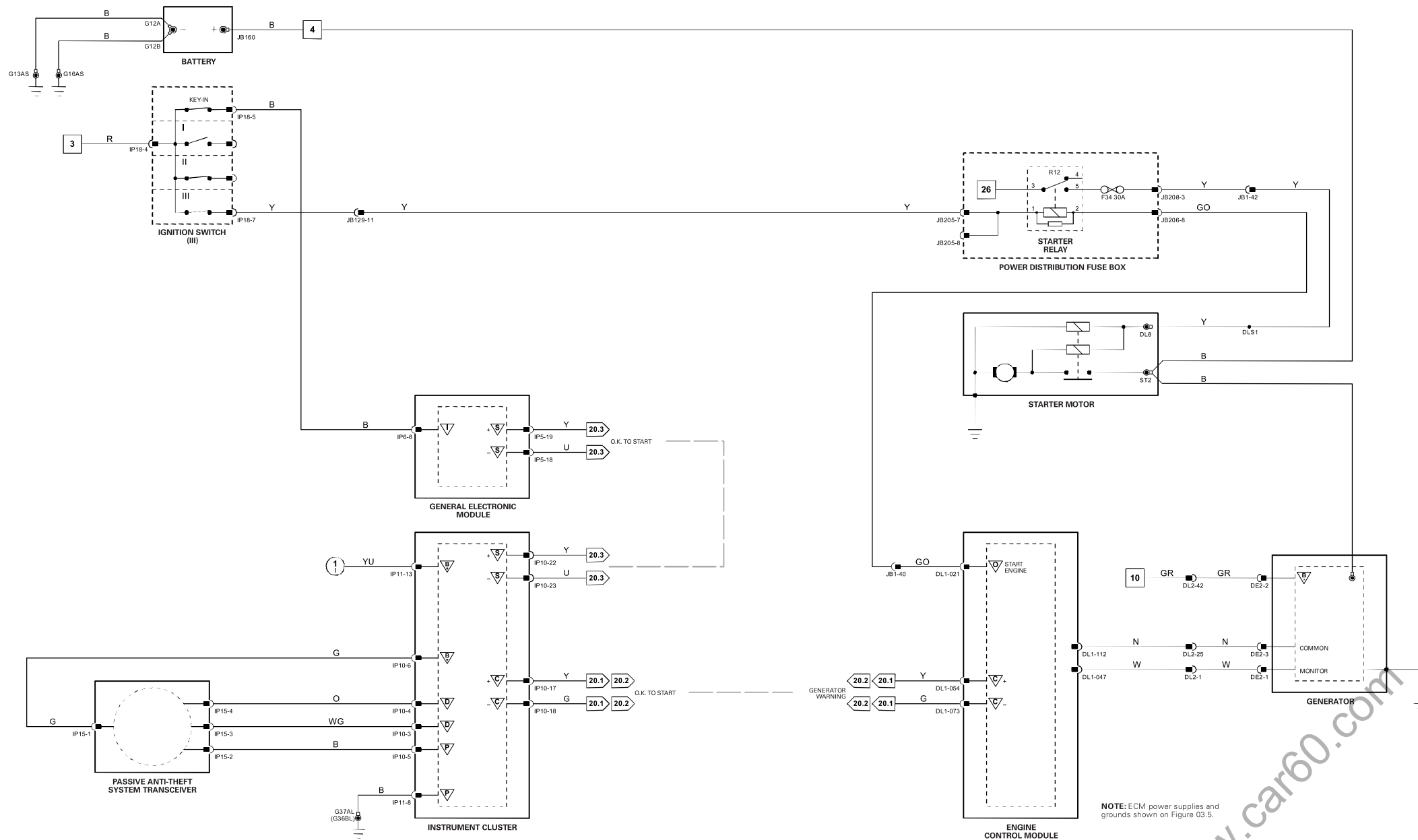
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I	Input	PG	Power Ground	C	CAN Network	D	Serial and Encoded Data
O	Output	SS	Sensor / Signal Supply V	S	SCP Network	V	Voltage (DC)
B+	Battery Voltage	SG	Sensor / Signal Ground	D2	D2B Network	PWM	Pulse Width Modulated

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1 → 6 Fig. 01.1

34 → 79 Fig. 01.3

11 → 31 Fig. 01.5

67 → 76 Fig. 01.7

98 → 107 Fig. 01.9

1 → 10 Fig. 01.4

32 → 66 Fig. 01.6

77 → 97 Fig. 01.8

▽ Input
▽ Output▽ Battery Voltage
▽ Power Ground▽ Sensor/Signal Supply V
▽ Sensor/Signal Ground▽ CAN
▽ SCP▽ D2B Network
▽ Serial and Encoded DataVARIANT: 2.0 L Diesel Engine Vehicles
VIN RANGE: All
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