

CONTROL MODULE PIN-OUT INFORMATION

General Electronic Module

| Pin | Description and Characteristic |
|----------|--|
| S IP5-18 | SCP - |
| S IP5-19 | SCP + |
| I IP6-18 | SEATBELT AND AIRBAG AUDIBLE WARNING REQUEST: AUDIBLE WARNING REQUEST ACTIVE = GROUND |

Instrument Cluster

| Pin | Description and Characteristic |
|------------|---|
| I IP10-01 | REVERSE LAMP SWITCH: B+ WHEN ACTIVATED |
| I IP10-07 | FUEL LEVEL SENSOR 1 SIGNAL: VARIABLE RESISTANCE: 20 Ω = EMPTY; 160 Ω = FULL |
| I IP10-08 | FUEL LEVEL SENSOR 2 SIGNAL: VARIABLE RESISTANCE: 20 Ω = EMPTY; 160 Ω = FULL |
| SG IP10-09 | FUEL LEVEL SENSOR REFERENCE: GROUND |
| I IP10-10 | MAIN BEAM STATUS: B+ WHEN ACTIVATED |
| I IP10-11 | WASHER FLUID LEVEL LOW SIGNAL: FLUID LEVEL LOW = GROUND |
| I IP10-12 | BRAKE FLUID LEVEL WARNING SIGNAL: FLUID LEVEL LOW = GROUND |
| I IP10-15 | PARKING BRAKE SIGNAL: PARKING BRAKE ON = GROUND |
| I IP10-16 | TRIP COMPUTER CYCLE SWITCH: GROUND WHEN ACTIVATED |
| C IP10-17 | CAN + |
| C IP10-18 | CAN - |
| I IP10-19 | FRONT FOG STATUS (HARD WIRED TO INDICATOR): B+ WHEN ACTIVATED |
| I IP10-20 | REAR FOG STATUS (HARD WIRED TO INDICATOR): B+ WHEN ACTIVATED |
| S IP10-22 | SCP + |
| S IP10-23 | SCP - |
| I IP10-24 | TRIP COMPUTER MODE SIGNAL: STEPPED RESISTANCE |
| SG IP10-25 | TRIP COMPUTER SWITCH PACK REFERENCE: GROUND |
| I IP11-05 | ENGINE OIL PRESSURE SIGNAL: ENGINE OIL PRESSURE PRESENT = GROUND |
| I IP11-07 | BATTERY POWER SUPPLY: B+ |
| I IP11-08 | POWER GROUND: GROUND |
| I IP11-11 | IGNITION SWITCHED POWER SUPPLY (II): B+ |
| I IP11-13 | IGNITION SWITCHED POWER SUPPLY (I): B+ |
| I IP11-15 | SIDE LAMPS STATUS: B+ WHEN ACTIVATED |
| I IP11-17 | DIP BEAM STATUS: B+ WHEN ACTIVATED |
| I IP11-19 | AIR BAG WARNING: HARD WIRED TO AIR BAG INDICATOR |
| I IP11-21 | DIMMER CONTROLLED ILLUMINATION: PWM, 80 Hz, GROUND = 0% DUTY CYCLE, B+ = 100% DUTY CYCLE; HARD WIRED TO BACK LIGHTING; MICRO SENSED FOR DISPLAY |

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

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.

Fig. 07.1

COMPONENTS

| Component | Connector(s) | Connector Description | Location |
|--|-------------------------------------|--|-----------------------------------|
| BRAKE FLUID LEVEL SWITCH | JB70 | 3-WAY / BLACK | BRAKE MASTER CYLINDER |
| FUEL LEVEL SENSOR – 2.0 L, 2.0 L D | CA415 | 6-WAY / BLACK | FUEL TANK |
| FUEL LEVEL SENSOR 1 – 2.5 L, 3.0 L (NAS) | FT6 | 6-WAY / BLACK | FUEL TANK |
| FUEL LEVEL SENSOR 1 – 2.5 L, 3.0 L (ROW) | FT2 | 4-WAY / BLACK | FUEL TANK |
| FUEL LEVEL SENSOR 2 – 2.5 L, 3.0 L (NAS) | FT6 | 6-WAY / BLACK | FUEL TANK |
| FUEL LEVEL SENSOR 2 – 2.5 L, 3.0 L (ROW) | FT3 | 4-WAY / BLACK | FUEL TANK |
| 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 |
| INSTRUMENT CLUSTER | IP10 IP11 | 26-WAY / WHITE 26-WAY / WHITE | INSTRUMENT PANEL |
| MASTER LIGHTING SWITCH | IP17 | 16-WAY / BLACK | INSTRUMENT PANEL |
| OIL PRESSURE SWITCH – 2.0 L D | DE4 | 1-WAY / BLACK | ABOVE ENGINE OIL FILTER |
| OIL PRESSURE SWITCH – 2.0 L, 2.5 L, 3.0 L | EN19 | 1-WAY / BLACK | ADJACENT TO ENGINE OIL FILTER |
| PARKING BRAKE SWITCH | IP72 | 1-WAY / ORANGE | PARKING BRAKE |
| RESTRAINTS CONTROL MODULE – ALL WHEEL DRIVE VEHICLES | CA450 IP74 | 40-WAY / BLACK 24-WAY / BLACK | UNDER CENTER CONSOLE |
| RESTRAINTS CONTROL MODULE – FRONT WHEEL DRIVE VEHICLES | CA165 IP74 | 40-WAY / BLACK 24-WAY / BLACK | UNDER CENTER CONSOLE |
| TURN SIGNAL SWITCH | IP53 | 10-WAY / GREY | STEERING COLUMN |
| WASHER FLUID LEVEL SWITCH | JB103 | 2-WAY / BLACK | ENGINE COMPARTMENT / RH FRONT |

HARNESS IN-LINE CONNECTORS

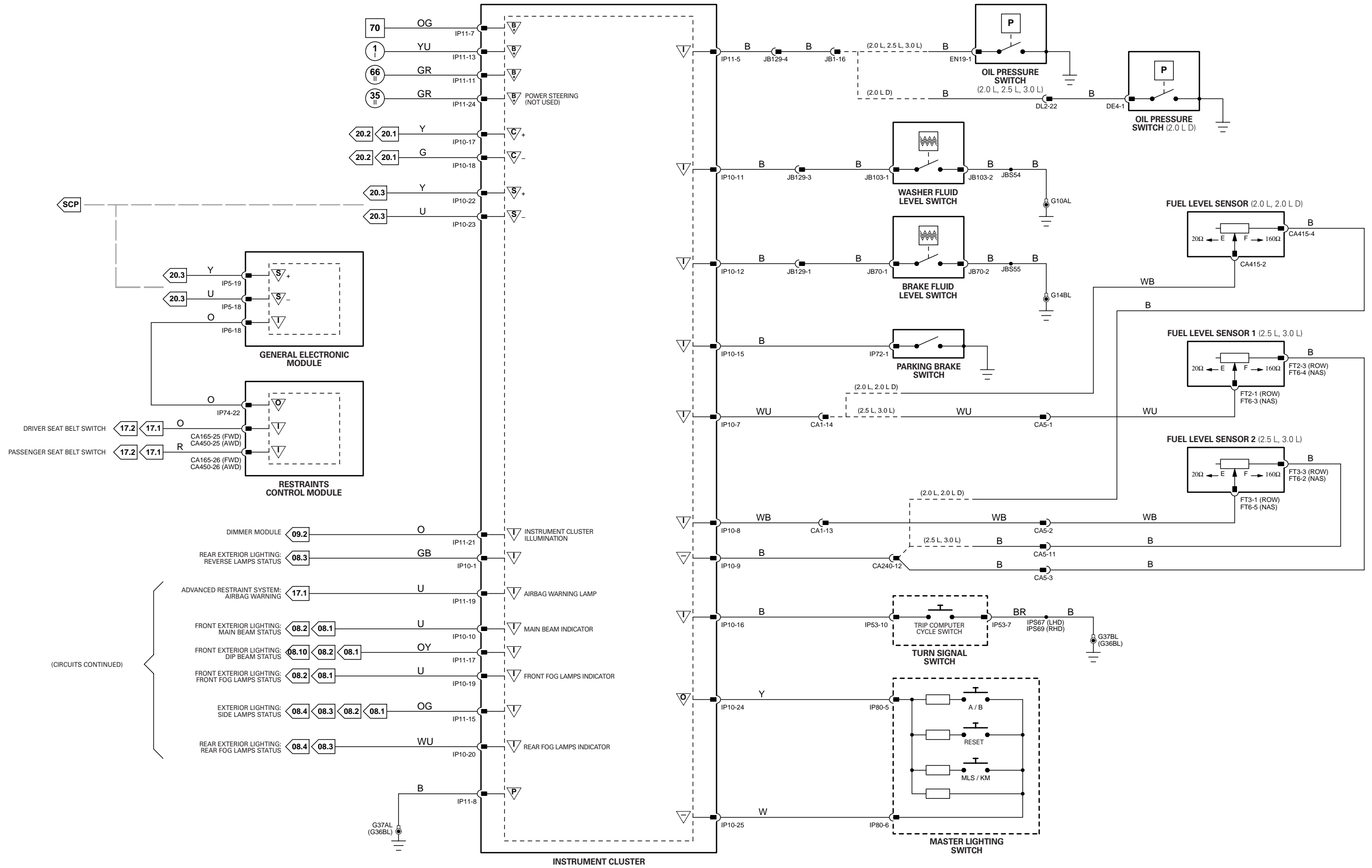
| Connector | Connector Description | Location |
|-----------|--|----------------------------------|
| CA1 | 22-WAY / NATURAL / INSTRUMENT PANEL HARNESS TO CABIN HARNESS | LH 'A' POST / 'A' POST TRIM |
| CA5 | 12-WAY / BLACK / FUEL TANK LINK HARNESS TO CABIN HARNESS | TOP OF FUEL TANK |
| DL2 | 42-WAY / 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 |
|--------|---------|---|
| G10 | JB | ENGINE COMPARTMENT / BEHIND RH HEADLAMP |
| G14 | JB | ENGINE COMPARTMENT / BEHIND POWER DISTRIBUTION FUSE BOX |
| 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.

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

General Electronic Module

Pin Description and Characteristic

| Pin | Description and Characteristic |
|-------------|--|
| PG CA86-05 | POWER GROUND |
| S IP5-18 | SCP - |
| S IP5-19 | SCP + |
| SG IP6-01 | LOGIC GROUND: GROUND |
| I IP6-08 | KEY-IN IGNITION SWITCH: B+ WHEN KEY IN |
| I IP6-15 | NOT-IN-PARK SWITCH: PARK = OPEN CIRCUIT; NOT-IN-PARK = GROUND |
| I IP6-18 | SEATBELT AND AIRBAG AUDIBLE WARNING REQUEST: AUDIBLE WARNING REQUEST ACTIVE = GROUND |
| I IP6-22 | DRIVER DOOR AJAR: DOOR OPEN = OPEN CIRCUIT; DOOR CLOSED = GROUND |
| B+ JB172-05 | BATTERY POWER SUPPLY (TURN SIGNALS): B+ |

Instrument Cluster

Pin Description and Characteristic

| Pin | Description and Characteristic |
|-----------|--------------------------------|
| S IP10-22 | SCP + |
| S IP10-23 | SCP - |

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

Fig. 07.2

COMPONENTS

| Component | Connector(s) | Connector Description | Location |
|--|-------------------------------------|--|-----------------------------------|
| DOOR LATCH – DRIVER | DD3 DD9 | 8-WAY / BLACK 2-WAY / BLACK | DRIVER DOOR |
| 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 |
| IGNITION SWITCH | IP18 | 7-WAY / BLACK | STEERING COLUMN |
| INSTRUMENT CLUSTER | IP10 IP11 | 26-WAY / WHITE 26-WAY / WHITE | INSTRUMENT PANEL |
| J-GATE MODULE | IP14 | 16-WAY / GREY | CENTER CONSOLE |
| RESTRAINTS CONTROL MODULE – ALL WHEEL DRIVE VEHICLES | CA450 IP74 | 40-WAY / BLACK 24-WAY / BLACK | UNDER CENTER CONSOLE |
| RESTRAINTS CONTROL MODULE – FRONT WHEEL DRIVE VEHICLES | CA165 IP74 | 40-WAY / BLACK 24-WAY / BLACK | UNDER CENTER CONSOLE |

HARNESS IN-LINE CONNECTORS

| Connector | Connector Description | Location |
|-----------|--|-----------------------------|
| CA1 | 22-WAY / NATURAL / INSTRUMENT PANEL HARNESS TO CABIN HARNESS | LH 'A' POST / 'A' POST TRIM |
| CA15 | 20-WAY / BLACK / CABIN HARNESS TO DRIVER DOOR HARNESS | DRIVER DOOR / DOOR CASING |

GROUND

| Ground | Harness | Location |
|--------|---------|-------------------|
| G4 | CA | LOWER RH 'A' POST |
| G5 | IP | UPPER RH 'A' POST |

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

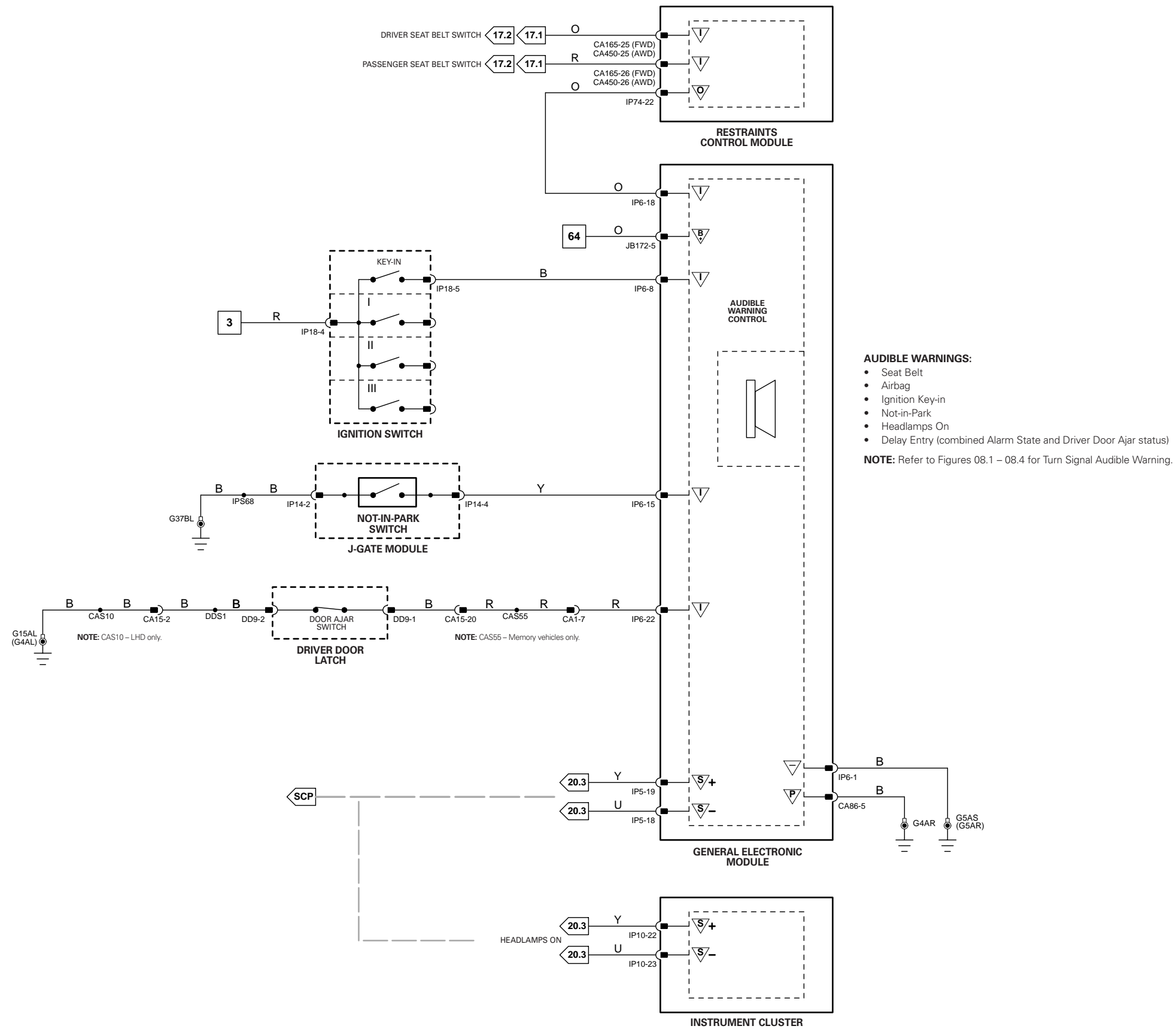
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|----|-----------------|----|--------------------------|----|-------------|-----|-------------------------|
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| O | Output | SS | Sensor / Signal Supply V | S | SCP Network | V | Voltage (DC) |
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NOTE: 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.

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- AUDIBLE WARNINGS:**
- Seat Belt
 - Airbag
 - Ignition Key-in
 - Not-in-Park
 - Headlamps On
 - Delay Entry (combined Alarm State and Driver Door Ajar status)
- NOTE:** Refer to Figures 08.1 – 08.4 for Turn Signal Audible Warning.