X-TYPE
Sedan and Sports Brake Electrical Guide

2.0 L, 2.5 L and 3.0 L Gasoline; 2.0 L Diesel
Model Years: Sedan 2004.25, Sports Brake 2004.5

Published by Parts and Service Communications
Jaguar Cars Limited
Publication Part Number – JTP 977
<table>
<thead>
<tr>
<th>Section</th>
<th>Page Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table of Contents</td>
<td>1</td>
</tr>
<tr>
<td>Table of Contents: Figures</td>
<td>2 – 3</td>
</tr>
<tr>
<td>Abbreviations and Acronyms</td>
<td>4</td>
</tr>
<tr>
<td>Introduction</td>
<td>5</td>
</tr>
<tr>
<td>Symbols and Codes</td>
<td>6 – 9</td>
</tr>
<tr>
<td>Network Configuration</td>
<td>10</td>
</tr>
<tr>
<td>Relay and Fuse Location</td>
<td>11 – 12</td>
</tr>
<tr>
<td>Fuse Box Connectors</td>
<td>13</td>
</tr>
<tr>
<td>Major Harnesses and Fuse Box Location</td>
<td>14 – 15</td>
</tr>
<tr>
<td>Harness In-Line Connector Location</td>
<td>16 – 18</td>
</tr>
<tr>
<td>Ground Point Location</td>
<td>19</td>
</tr>
<tr>
<td>Control Module Location</td>
<td>20 – 21</td>
</tr>
<tr>
<td>Electrical Guide Figures</td>
<td>follows after page 21</td>
</tr>
<tr>
<td>(pages are numbered by Figure number)</td>
<td></td>
</tr>
</tbody>
</table>
## Table of Contents: Figures

### FIGURES

<table>
<thead>
<tr>
<th>Fig.</th>
<th>Description</th>
<th>Variant</th>
</tr>
</thead>
<tbody>
<tr>
<td>01</td>
<td><strong>Power Distribution</strong></td>
<td>All Vehicles</td>
</tr>
<tr>
<td>01.1</td>
<td>Main Power Distribution</td>
<td>All Vehicles</td>
</tr>
<tr>
<td>01.2</td>
<td>Battery Power Distribution: Part 1</td>
<td>All Vehicles</td>
</tr>
<tr>
<td>01.3</td>
<td>Battery Power Distribution: Part 2</td>
<td>All Vehicles</td>
</tr>
<tr>
<td>01.4</td>
<td>Ignition Switched Power Distribution: I (Accessory)</td>
<td>All Vehicles</td>
</tr>
<tr>
<td>01.5</td>
<td>Ignition Switched Power Distribution: II (Run) – Part 1</td>
<td>All Vehicles</td>
</tr>
<tr>
<td>01.6</td>
<td>Ignition Switched Power Distribution: II (Run) – Part 2</td>
<td>All Vehicles</td>
</tr>
<tr>
<td>01.7</td>
<td>Ignition Switched Power Distribution: Battery Saver</td>
<td>All Vehicles</td>
</tr>
<tr>
<td>01.8</td>
<td>EMS Switched Power Distribution: Gasoline Engines</td>
<td>Gasoline Engine Vehicles</td>
</tr>
<tr>
<td>01.9</td>
<td>EMS Switched Power Distribution: Diesel Engine</td>
<td>Diesel Engine Vehicles</td>
</tr>
<tr>
<td>02</td>
<td><strong>Battery; Starter; Generator</strong></td>
<td>2.5 L &amp; 3.0 L Vehicles</td>
</tr>
<tr>
<td>02.1</td>
<td>Battery; Starter; Generator: 2.5 L &amp; 3.0 L</td>
<td>2.5 L &amp; 3.0 L Vehicles</td>
</tr>
<tr>
<td>02.2</td>
<td>Battery; Starter; Generator: 2.0 L</td>
<td>2.0 L Gasoline Engine Vehicles</td>
</tr>
<tr>
<td>02.3</td>
<td>Battery; Starter; Generator: 2.0 L D</td>
<td>2.0 L Diesel Engine Vehicles</td>
</tr>
<tr>
<td>03</td>
<td><strong>Engine Management</strong></td>
<td>2.5 L &amp; 3.0 L Vehicles</td>
</tr>
<tr>
<td>03.1</td>
<td>Engine Management: 2.5 L &amp; 3.0 L – Part 1</td>
<td>2.5 L &amp; 3.0 L Vehicles</td>
</tr>
<tr>
<td>03.2</td>
<td>Engine Management: 2.5 L &amp; 3.0 L – Part 2</td>
<td>2.5 L &amp; 3.0 L Vehicles</td>
</tr>
<tr>
<td>03.3</td>
<td>Engine Management: 2.0 L – Part 1</td>
<td>2.0 L Gasoline Engine Vehicles</td>
</tr>
<tr>
<td>03.4</td>
<td>Engine Management: 2.0 L – Part 2</td>
<td>2.0 L Gasoline Engine Vehicles</td>
</tr>
<tr>
<td>03.5</td>
<td>Engine Management: 2.0 L D – Part 1</td>
<td>2.0 L Diesel Engine Vehicles</td>
</tr>
<tr>
<td>03.6</td>
<td>Engine Management: 2.0 L D – Part 2</td>
<td>2.0 L Diesel Engine Vehicles</td>
</tr>
<tr>
<td>04</td>
<td><strong>Transmission</strong></td>
<td>16-Bit TCM Vehicles</td>
</tr>
<tr>
<td>04.1</td>
<td>Automatic Transmission: 16-Bit TCM</td>
<td>16-Bit TCM Vehicles</td>
</tr>
<tr>
<td>04.2</td>
<td>Automatic Transmission: 32-Bit TCM</td>
<td>32-Bit TCM Vehicles</td>
</tr>
<tr>
<td>05</td>
<td><strong>Braking</strong></td>
<td>ABS Vehicles</td>
</tr>
<tr>
<td>05.1</td>
<td>Anti-Lock Braking</td>
<td>ABS Vehicles</td>
</tr>
<tr>
<td>05.2</td>
<td>Traction Control</td>
<td>ABS / TC Vehicles</td>
</tr>
<tr>
<td>05.3</td>
<td>Dynamic Stability Control</td>
<td>DSC Vehicles</td>
</tr>
<tr>
<td>06</td>
<td><strong>Climate Control</strong></td>
<td>Manual Climate Control Vehicles</td>
</tr>
<tr>
<td>06.1</td>
<td>Manual Climate Control</td>
<td>Manual Climate Control Vehicles</td>
</tr>
<tr>
<td>06.2</td>
<td>Automatic Climate Control</td>
<td>Automatic Climate Control Vehicles</td>
</tr>
<tr>
<td>06.3</td>
<td>Glass Heaters</td>
<td>All Vehicles</td>
</tr>
<tr>
<td>07</td>
<td><strong>Instrumentation</strong></td>
<td>All Vehicles</td>
</tr>
<tr>
<td>07.1</td>
<td>Instrument Cluster</td>
<td>All Vehicles</td>
</tr>
<tr>
<td>07.2</td>
<td>Audible Warnings</td>
<td>All Vehicles</td>
</tr>
<tr>
<td>08</td>
<td><strong>Exterior Lighting</strong></td>
<td>Auto Headlamp Vehicles</td>
</tr>
<tr>
<td>08.1</td>
<td>Exterior Lighting: Front – Auto Headlamps</td>
<td>Auto Headlamp Vehicles</td>
</tr>
<tr>
<td>08.2</td>
<td>Exterior Lighting: Front – Non Autolamps</td>
<td>Non Autolamp Vehicles; Daytime Running Lamp Vehicles</td>
</tr>
<tr>
<td>08.3</td>
<td>Exterior Lighting: Rear – Sedan</td>
<td>Sedan Vehicles</td>
</tr>
<tr>
<td>08.4</td>
<td>Exterior Lighting: Rear – Sports Brake (SB)</td>
<td>SB Vehicles</td>
</tr>
<tr>
<td>08.5</td>
<td>Exterior Lighting: Rear – Sedan European Trailer Towing</td>
<td>Euro. Sedan Trailer Towing Vehicles</td>
</tr>
<tr>
<td>08.6</td>
<td>Exterior Lighting: Rear – Sedan U.K. Trailer Towing</td>
<td>U.K. Sedan Trailer Towing Vehicles</td>
</tr>
<tr>
<td>08.7</td>
<td>Exterior Lighting: Rear – Sedan NAS Trailer Towing</td>
<td>NAS Sedan Trailer Towing Vehicles</td>
</tr>
<tr>
<td>08.8</td>
<td>Exterior Lighting: Rear – SB European Trailer Towing</td>
<td>Euro. SB Trailer Towing Vehicles</td>
</tr>
<tr>
<td>08.9</td>
<td>Exterior Lighting: Rear – SB U.K. Trailer Towing</td>
<td>U.K. SB Trailer Towing Vehicles</td>
</tr>
<tr>
<td>08.10</td>
<td>Exterior Lighting: Rear – SB NAS Trailer Towing</td>
<td>NAS SB Trailer Towing Vehicles</td>
</tr>
<tr>
<td>08.11</td>
<td>Headlamp Leveling (H/L)</td>
<td>H/L &amp; HID Headlamp Vehicles</td>
</tr>
<tr>
<td>09</td>
<td><strong>Interior Lighting</strong></td>
<td>All Vehicles</td>
</tr>
<tr>
<td>09.1</td>
<td>Interior Lighting</td>
<td>All Vehicles</td>
</tr>
<tr>
<td>09.2</td>
<td>Dimmer-Controlled Lighting</td>
<td>All Vehicles</td>
</tr>
</tbody>
</table>
### FIGURES

<table>
<thead>
<tr>
<th>Fig.</th>
<th>Description</th>
<th>Variant</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td><strong>Steering; Mirrors; Heaters</strong></td>
<td></td>
</tr>
<tr>
<td>10.1</td>
<td>Variable Assist Steering; Electrochromic Rear View Mirror</td>
<td>All Vehicles</td>
</tr>
<tr>
<td>10.2</td>
<td>Door Mirrors: Movement; Fold-Back – Non Memory</td>
<td>Non Memory Vehicles</td>
</tr>
<tr>
<td>10.3</td>
<td>Door Mirrors: Movement; Fold-Back – Memory</td>
<td>Memory Vehicles</td>
</tr>
<tr>
<td>11</td>
<td><strong>Seat Systems</strong></td>
<td></td>
</tr>
<tr>
<td>11.1</td>
<td>Powered Seat: Driver – Memory</td>
<td>Memory Vehicles</td>
</tr>
<tr>
<td>11.2</td>
<td>Powered Seat: Passenger – Memory</td>
<td>Memory Vehicles</td>
</tr>
<tr>
<td>11.3</td>
<td>Powered Seats: 8-Way Movement</td>
<td>8-Way Powered Seat Vehicles</td>
</tr>
<tr>
<td>11.4</td>
<td>Powered Seats: 2-Way Movement</td>
<td>2-Way Powered Seat Vehicles</td>
</tr>
<tr>
<td>11.5</td>
<td>Seat Heaters: Memory</td>
<td>Memory Vehicles</td>
</tr>
<tr>
<td>11.6</td>
<td>Seat Heaters: Non Memory</td>
<td>Heated Seat Vehicles</td>
</tr>
<tr>
<td>12</td>
<td><strong>Door Locking; Security</strong></td>
<td></td>
</tr>
<tr>
<td>12.1</td>
<td>Central Door Locking: Sedan – Double Locking</td>
<td>Double Locking Sedan Vehicles</td>
</tr>
<tr>
<td>12.2</td>
<td>Central Door Locking: Sedan – Non Double Locking</td>
<td>Non Double Locking Sedan Vehicles</td>
</tr>
<tr>
<td>12.3</td>
<td>Central Door Locking: Sports Brake</td>
<td>Sports Brake Vehicles</td>
</tr>
<tr>
<td>12.4</td>
<td>Security: Sedan</td>
<td>Sedan Vehicles</td>
</tr>
<tr>
<td>12.5</td>
<td>Security: Sports Brake</td>
<td>Sports Brake Vehicles</td>
</tr>
<tr>
<td>13</td>
<td><strong>Wash / Wipe</strong></td>
<td></td>
</tr>
<tr>
<td>13.1</td>
<td>Wash / Wipe: Front</td>
<td>Non Rain Sensing Vehicles</td>
</tr>
<tr>
<td>13.2</td>
<td>Wash / Wipe: Front with Rain Sensing</td>
<td>Rain Sensing Vehicles</td>
</tr>
<tr>
<td>13.3</td>
<td>Wash / Wipe: Rear</td>
<td>Sports Brake Vehicles</td>
</tr>
<tr>
<td>14</td>
<td><strong>Powered Windows; Sliding Roof</strong></td>
<td></td>
</tr>
<tr>
<td>14.1</td>
<td>Powered Windows</td>
<td>All Vehicles</td>
</tr>
<tr>
<td>14.2</td>
<td>Sliding Roof</td>
<td>Sliding Roof Vehicles</td>
</tr>
<tr>
<td>15</td>
<td><strong>In-Car Entertainment</strong></td>
<td></td>
</tr>
<tr>
<td>15.1</td>
<td>In-Car Entertainment – Standard</td>
<td>Standard ICE Vehicles</td>
</tr>
<tr>
<td>15.2</td>
<td>In-Car Entertainment – Premium</td>
<td>Premium ICE Vehicles</td>
</tr>
<tr>
<td>16</td>
<td><strong>Telematics</strong></td>
<td></td>
</tr>
<tr>
<td>16.1</td>
<td>Telephone: ROW</td>
<td>ROW Vehicles</td>
</tr>
<tr>
<td>16.2</td>
<td>Telephone: NAS</td>
<td>NAS Vehicles</td>
</tr>
<tr>
<td>16.3</td>
<td>Telephone with Voice Control: ROW</td>
<td>ROW Voice Vehicles</td>
</tr>
<tr>
<td>16.4</td>
<td>Telephone with Voice Control: NAS</td>
<td>NAS Voice Vehicles</td>
</tr>
<tr>
<td>16.5</td>
<td>Navigation System</td>
<td>NAV Vehicles (except Japan)</td>
</tr>
<tr>
<td>16.6</td>
<td>Navigation System: Japan</td>
<td>Japan Vehicles</td>
</tr>
<tr>
<td>17</td>
<td><strong>Occupant Protection</strong></td>
<td></td>
</tr>
<tr>
<td>17.1</td>
<td>Advanced Restraint System: Sedan</td>
<td>Sedan Vehicles</td>
</tr>
<tr>
<td>17.2</td>
<td>Advanced Restraint System: Sports Brake</td>
<td>Sports Brake Vehicles</td>
</tr>
<tr>
<td>18</td>
<td><strong>Driver Assist</strong></td>
<td></td>
</tr>
<tr>
<td>18.1</td>
<td>Parking Aid</td>
<td>Parking Aid Vehicles</td>
</tr>
<tr>
<td>19</td>
<td><strong>Ancillaries</strong></td>
<td></td>
</tr>
<tr>
<td>19.1</td>
<td>Ancillaries: Horn; Cigar Lighter; Accessory Connectors;</td>
<td>All Vehicles</td>
</tr>
<tr>
<td></td>
<td>Garage Door Opener</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td><strong>Vehicle Multiplex Systems</strong></td>
<td></td>
</tr>
<tr>
<td>20.1</td>
<td>Controller Area Network: LHD</td>
<td>LHD Vehicles</td>
</tr>
<tr>
<td>20.2</td>
<td>Controller Area Network: RHD</td>
<td>RHD Vehicles</td>
</tr>
<tr>
<td>20.3</td>
<td>Standard Corporate Protocol Network; Serial Data Link</td>
<td>All Vehicles</td>
</tr>
<tr>
<td>20.4</td>
<td>D2B Network</td>
<td>All Vehicles</td>
</tr>
</tbody>
</table>
The following abbreviations and acronyms are used throughout this Electrical Guide:

- **A/C** Air Conditioning
- **APP SENSOR** Accelerator Pedal Position Sensor
- **APP1** Accelerator Pedal Position Sensor Element 1
- **APP2** Accelerator Pedal Position Sensor Element 2
- **B+** Battery Voltage
- **BANK 1** RH Cylinder Bank (Cylinders 1, 3, 5, 7)
- **BANK 2** LH Cylinder Bank (Cylinders 2, 4, 6, 8)
- **CAN** Controller Area Network
- **CHT SENSOR** Cylinder Head Temperature Sensor
- **CKP SENSOR** Crankshaft Position Sensor
- **CMP SENSOR / 1** Camshaft Position Sensor / RH Bank
- **CMP SENSOR / 2** Camshaft Position Sensor / LH Bank
- **D2B** D2B Network
- **DSC** Dynamic Stability Control
- **ECT SENSOR** Engine Coolant Temperature Sensor
- **EFT SENSOR** Engine Fuel Temperature Sensor
- **EGR VALVE** Exhaust Gas Recirculation Valve
- **EGT SENSOR** Exhaust Gas Temperature Sensor
- **EMS** Engine Management System
- **EOT SENSOR** Engine Oil Temperature Sensor
- **EVAP CANISTER CLOSE VALVE** Evaporative Emission Canister Close Valve
- **EVAP CANISTER PURGE VALVE** Evaporative Emission Canister Purge Valve
- **FTP SENSOR** Fuel Tank Pressure Sensor
- **GPS** Global Positioning System
- **HID** High Intensity Discharge
- **HO2 SENSOR 1 / 1** Heated Oxygen Sensor – RH Bank / Upstream
- **HO2 SENSOR 1 / 2** Heated Oxygen Sensor – RH Bank / Downstream
- **HO2 SENSOR 2 / 1** Heated Oxygen Sensor – LH Bank / Upstream
- **HO2 SENSOR 2 / 2** Heated Oxygen Sensor – LH Bank / Downstream
- **IAT SENSOR** Intake Air Temperature Sensor
- **ICE** In-Car Entertainment System
- **IMT VALVE / 1** Intake Manifold Tuning Valve / Bottom
- **IMT VALVE / 2** Intake Manifold Tuning Valve / Top
- **IP SENSOR** Injection Pressure Sensor
- **KS / 1** Knock Sensor / RH Bank
- **KS / 2** Knock Sensor / LH Bank
- **LH** Left Hand
- **LHD** Left Hand Drive
- **MAF SENSOR** Mass Air Flow Sensor
- **MAP SENSOR** Manifold Absolute Pressure Sensor
- **N/A** Normally Aspirated
- **NAS** North American Specification
- **PATS** Passive Anti-Theft System
- **PWM** Pulse Width Modulated
- **RH** Right Hand
- **RHD** Right Hand Drive
- **ROW** Rest of World
- **SB** Sports Brake
- **SCP** Standard Corporate Protocol Network
- **T-MAP SENSOR** Temperature Manifold Absolute Pressure Sensor
- **TP SENSOR** Throttle Position Sensor
- **TP1** Throttle Position Sensor Element 1
- **TP2** Throttle Position Sensor Element 2
- **TURN** Turn Signal
- **TV** Television
- **V6** V6 Engine
- **V8** V8 Engine
- **VVT VALVE / 1** Variable Valve Timing Valve / Bank 1
- **VVT VALVE / 2** Variable Valve Timing Valve / Bank 2
- **+ve** Positive
- **–ve** Negative
Provisional Electrical Guide Format

This Provisional Electrical Guide is an abridged version made up of two sections. The first section provides general information for and about the use of the book, and information and illustrations to aid in the location and identification of components.

The Figure section illustrates detailed electrical circuit information for each system on the vehicle. Each Figure is identified by a Figure Number (i.e. Fig. 01.1) and Title. The data that would normally accompany each Figure is not included in this provisional version.

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 should help to guide the user.

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”.

Jaguar 2004 Model Year X-TYPE Electrical System Architecture

Power Supplies

The Jaguar 2004 Model year X-TYPE electrical system is a supply-side switched system. The ignition switch directly carries much of the ignition switched power supply load. Power supply is provided via three methods: direct battery power supply, ignition switched power supply, and “Battery Saver Power Supply”. The “Battery Saver Power Supply” circuit is controlled via the GEM (General Electronic Module). Refer to Figure 01.7 for circuit activation details.

Fuse Boxes

The electrical harness incorporates two serviceable power distribution fuse boxes: the Power Distribution Fuse Box located in the engine compartment and the Passenger Junction Fuse Box located in the left-hand ‘A’ Post. All fuses and relays (except the trailer towing accessory kit and two Diesel vehicle relays) are located in the two fuse boxes.

Vehicle Networks

The X-TYPE employs three different networks: a CAN (Controller Area Network) for high-speed power train communications, an SCP (Standard Corporate Protocol) network for slower speed body systems communications, and a D2B (Optical) Network for very high-speed “real-time” audio data transfer. The D2B Network is a fiber optic network with a gateway to the remaining vehicle networks via the Audio Unit. Technician access to the three networks and the Serial Data Link is via the Data Link Connector.

Ground Studs

Circuit ground connections are made at body studs located throughout the vehicle. There are no separate power and logic grounding systems; however, there are a certain number of components that use unique ground points.
Symbols and Codes

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

Reference Symbols

- Battery power supply
- Ignition switched auxiliary power supply (key I)
- Ignition switched power supply (key II, III)
- Ignition switched Battery Saver power supply
- Engine Management System power supply
- Figure number reference
- Controller Area Network
- Standard Corporate Protocol network
- D2B network

Control Module Pin Symbols

- Input
- Output
- Battery voltage
- Power ground
- Sensor/signal supply V *
- Sensor/signal ground **

* May also indicate Reference Voltage.
** May also indicate Reference Ground or Logic Ground.
Refer to Control Module Pin-Out Information.

Wiring Symbols

- Splice
- Simplified splice
- Bulb
- Capacitor
- Connector
- Diode
- Eyelet and stud
- Fuse
- Ground
- Hall effect sensor
- Light emitting diode (LED)
- Motor
- Potentiometer
- Pressure transducer
- Resistor
- Solenoid
- Suppression diode
- Suppression resistor
- Thermistor
- Transistor
- Wire continued
- Zener diode
## Harness Codes

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC</td>
<td>Climate Control</td>
</tr>
<tr>
<td>AS</td>
<td>Side Airbag</td>
</tr>
<tr>
<td>BH</td>
<td>Engine Block Heaters</td>
</tr>
<tr>
<td>BL</td>
<td>LH Rear Door</td>
</tr>
<tr>
<td>BR</td>
<td>RH Rear Door</td>
</tr>
<tr>
<td>CA</td>
<td>Cabin</td>
</tr>
<tr>
<td>DE</td>
<td>Diesel Engine</td>
</tr>
<tr>
<td>DL</td>
<td>Diesel Engine Link</td>
</tr>
<tr>
<td>EN</td>
<td>Engine</td>
</tr>
<tr>
<td>FB</td>
<td>Front Bumper</td>
</tr>
<tr>
<td>FL</td>
<td>LH Front Door</td>
</tr>
<tr>
<td>FR</td>
<td>RH Front Door</td>
</tr>
<tr>
<td>FT</td>
<td>Fuel Tank</td>
</tr>
<tr>
<td>GC</td>
<td>Cooling Pack</td>
</tr>
<tr>
<td>IJ</td>
<td>Injector Rail</td>
</tr>
<tr>
<td>IP</td>
<td>Instrument Panel</td>
</tr>
<tr>
<td>JB</td>
<td>Junction Box</td>
</tr>
<tr>
<td>LF</td>
<td>LH Front Wheel Speed Sensor</td>
</tr>
<tr>
<td>LR</td>
<td>LH Rear Wheel Speed Sensor</td>
</tr>
<tr>
<td>LS</td>
<td>LH Front Seat</td>
</tr>
<tr>
<td>NA</td>
<td>Navigation System</td>
</tr>
<tr>
<td>PA</td>
<td>Pedal Assembly</td>
</tr>
<tr>
<td>PH</td>
<td>Telephone</td>
</tr>
<tr>
<td>RB</td>
<td>Rear Bumper</td>
</tr>
<tr>
<td>RC</td>
<td>Roof Console</td>
</tr>
<tr>
<td>RF</td>
<td>RH Front Wheel Speed Sensor</td>
</tr>
<tr>
<td>RR</td>
<td>RH Rear Wheel Speed Sensor</td>
</tr>
<tr>
<td>RS</td>
<td>RH Front Seat</td>
</tr>
<tr>
<td>SL</td>
<td>Security Sounder Link</td>
</tr>
<tr>
<td>TL</td>
<td>Trunk Lid</td>
</tr>
<tr>
<td>TT</td>
<td>Trailer Towing</td>
</tr>
<tr>
<td>TV</td>
<td>Television</td>
</tr>
<tr>
<td>WG</td>
<td>Tailgate Glass (Sports Brake only)</td>
</tr>
<tr>
<td>WL</td>
<td>Tailgate Link (Sports Brake only)</td>
</tr>
<tr>
<td>WS</td>
<td>Weight Sensor</td>
</tr>
<tr>
<td>WT</td>
<td>Tailgate (Sports Brake only)</td>
</tr>
</tbody>
</table>

## Wiring Color Codes

<table>
<thead>
<tr>
<th>Letter</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
<td>Brown</td>
</tr>
<tr>
<td>O</td>
<td>Orange</td>
</tr>
<tr>
<td>B</td>
<td>Black</td>
</tr>
<tr>
<td>S</td>
<td>Slate</td>
</tr>
<tr>
<td>W</td>
<td>White</td>
</tr>
<tr>
<td>L</td>
<td>Light</td>
</tr>
<tr>
<td>K</td>
<td>Pink</td>
</tr>
<tr>
<td>U</td>
<td>Blue</td>
</tr>
<tr>
<td>G</td>
<td>Green</td>
</tr>
<tr>
<td>P</td>
<td>Purple</td>
</tr>
<tr>
<td>R</td>
<td>Red</td>
</tr>
<tr>
<td>BRD</td>
<td>Braid</td>
</tr>
<tr>
<td>Y</td>
<td>Yellow</td>
</tr>
<tr>
<td>BOF</td>
<td>Fiber optic (D2B Network)</td>
</tr>
</tbody>
</table>

## 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, in most cases, been shortened. Thus AC001-001 becomes AC1-1, AC002-001 becomes AC2-1, etc.
Grounds

There may be up to three eyelets on one ground 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). 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).

**EXAMPLE:**

```
S

Ground
Ground stud number 15

Single eyelet
First eyelet on stud
```

```
L R

Ground
Ground stud number 30

Eyelet pair, RH leg
Third eyelet on stud
```

On figures where LHD and RHD circuits are combined and 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.

**EXAMPLE:**

```
G15AR
(G4AR)
```

```
G30AS
```

Relays

Serviceable Relays

Serviceable relays are located in both fuse boxes. They do not have a separate relay connector (base). All relays use the ISO pin numbering system – 1, 2, 3, 4, 5. Each relay is identified by an “R” number unique only to the fuse box in which it is located.

**EXAMPLE:**

```
V SUPPLY

CHANGE-OVER RELAY:
RELAY PIN NUMBERS
AND STANDARD FUNCTIONS

R2
NORMALLY CLOSED

SWITCHED POWER (NORMALLY OPEN)

SEEKS GROUND
```

Non-Serviceable Relays

Non-serviceable relays are located in both fuse boxes. They are a component part of the fuse box printed circuit board (PCB) and are arranged in singles or pairs. The relays use the ISO pin numbering system – 1, 2, 3, 4, 5 (single relay or top pair relay) and 6, 7, 8, 9, 10 (bottom pair relay). Each relay is identified by an “R” number unique only to the fuse box in which it is located. Pair relays are normally depicted separately.

**EXAMPLE:**

```
R10

SINGLE PCB RELAY
```

```
R9

PCB PAIR RELAY
```

```
R9

PCB PAIR RELAY
```

```
```

NOTE: Diesel vehicles have one serviceable relay located on the Junction Box harness and one serviceable relay attached to the Power Distribution Fuse Box.
Fuses

All fuses are located in the fuse boxes. Each fuse is identified by an “F” number unique only to the fuse box in which it is located.

EXAMPLE:

![Fuse Diagram]

Networks

In most instances, networks are shown as a broken grey line to indicate that there is network communication between the depicted control modules. Refer to Figures 20.1, 20.2, 20.3 and 20.4 for circuit details.

EXAMPLE:

![Network Diagram]

Component Depictions

EXAMPLE:

![Component Depictions]

COMPLETE COMPONENTS AND CONTROL MODULES
INCOMPLETE COMPONENTS (EXCEPT CONTROL MODULES)
ASSEMBLIES AND POWER DISTRIBUTION FUSE BOXES
COMPONENTS WITH INTERNAL ELECTRONIC CIRCUIT
Network Configuration

X-TYPE Sedan / Sports Brake

NOTE: TYPICAL NETWORK CONFIGURATION.
REFER TO FIGURES 20.1, 20.2, 20.3 AND 20.4 FOR CIRCUIT DETAILS.
POWER DISTRIBUTION FUSE BOX (TOP): GASOLINE ENGINE VEHICLES

- R1 MAIN BEAM / FRONT FOG RELAY
- R2 NOT USED
- R3 A/C COMPRESSOR CLUTCH RELAY
- R4 WINDSHIELD WIPER MOTOR RELAY
- R5 POWER DISTRIBUTION FUSE BOX IGNITION RELAY
- R6 WINDSHIELD HEATER RELAY
- R7 EMS CONTROL RELAY
- R8 POWERWASH PUMP RELAY

* NON-SERVICEABLE PCB RELAYS

POWER DISTRIBUTION FUSE BOX (TOP): DIESEL ENGINE VEHICLES

- R1 MAIN BEAM / FRONT FOG RELAY
- R2 HORN RELAY
- R3 A/C COMPRESSOR CLUTCH RELAY
- R4 WINDSHIELD WIPER MOTOR RELAY
- R5 POWER DISTRIBUTION FUSE BOX IGNITION RELAY
- R6 WINDSHIELD HEATER RELAY
- R7 EMS CONTROL RELAY
- R8 POWERWASH PUMP RELAY

* NON-SERVICEABLE PCB RELAYS
Major Harnesses and Fuse Box Location

X-TYPE Sedan / Sports Brake

**Major Harnesses and Fuse Box Location**

- **Battery**
- **Battery Chassis Ground (Under Battery Tray)**
- **Power Distribution Fuse Box**
- **Junction Box Harness (JB)**
- **Passenger Junction Fuse Box**
- **Cabin Harness (CA)**
- **Starter Motor**
- **Generator**
- **Battery Engine Ground**
- **Engine Harness (EN)**
- **RHD Junction Box Harness Deviation**
- **RHD Instrument Panel Harness Deviation**
- **Instrument Panel Harness (IP)**
Major Harnesses and Fuse Box Location

SPORTS BRAKE (GASOLINE ENGINE SHOWN)

- BATTERY
- BATTERY CHASSIS GROUND (UNDER BATTERY TRAY)
- POWER DISTRIBUTION FUSE BOX
- JUNCTION BOX HARNESS (JB)
- PASSENGER JUNCTION FUSE BOX
- CABIN HARNESS (CA)
- STARTER MOTOR GENERATOR
- BATTERY ENGINE GROUND
- ENGINE HARNESS (EN)
- RHD JUNCTION BOX HARNESS DEVIATION
- RHD INSTRUMENT PANEL HARNESS DEVIATION
- INSTRUMENT PANEL HARNESS (IP)
Harness In-Line Connector Location

X-TYPE Sedan / Sports Brake

SEDAN: GASOLINE ENGINE (LHD SHOWN)
SEEDAN: DIESEL ENGINE (RHD SHOWN)
SPORTS BRAKE (RHD SHOWN)
SEDAN SHOWN

G32 – UNDER LH HEADLAMP ASSEMBLY (HID GROUND)
G11 – UNDER LH HEADLAMP ASSEMBLY
G16 – UNDER BATTERY TRAY (BATTERY CHASSIS GROUND)
G13 – ENGINE BLOCK (BATTERY ENGINE GROUND)
G14 – REARWARD OF POWER DISTRIBUTION FUSE BOX
G36 – LH CROSS CAR BEAM
G15 – LH ‘A’ POST, LOWER
G35 – LH ‘E’ POST, LOWER (FUEL PUMP GROUND)
G38 – ROOF, TOP OF LH ‘E’ POST (HIGH MOUNT STOP LAMP GROUND – SEDAN ONLY)
G3 – LH ‘E’ POST (HEATED REAR WINDOW GROUND)
G39 – TRUNK, LH REAR
G40 – TRUNK, LH REAR
G1 – TRUNK, LH REAR
G2 – TRUNK, LH REAR
G18 – UNDER RH HEADLAMP ASSEMBLY
G10 – UNDER RH HEADLAMP ASSEMBLY
G17 – ON GENERATOR BRACKET (A/C COMRESSOR CLUTCH GROUND)
G33 – BEHIND RH HEADLAMP ASSEMBLY (HID GROUND)
G8 – RH FRONT INNER WHEEL ARCH
G37 – RH CROSS CAR BEAM
G5 – RH ‘A’ POST, LOWER
G4 – RH ‘A’ POST, LOWER
G50 – RH REAR ROOF PANEL (SPORTS BRAKE ONLY)

NOTE: UNIQUE GROUND STUDS ARE NOTED IN PARENTHESES.
Control Module Location

X-TYPE Sedan / Sports Brake

COOLING FAN MODULE
VACUUM MODULE
CLIMATE CONTROL MODULE (COMBINED WITH CONTROL PANEL)
SPEED CONTROL MODULE
RAIN SENSING MODULE
TRANSMISSION CONTROL MODULE
HEADLAMP LEVELING MODULE
INSTRUMENT CLUSTER: LHD
RESTRAINTS CONTROL MODULE
DRIVER SEAT MODULE: LHD
FUEL PUMP MODULE
CONTROL MODULE STACK:
VOICE ACTIVATION MODULE (TOP)
NAVIGATION CONTROL MODULE
CD AUTOCHANGER
CELLULAR PHONE MODULE (BOTTOM)
POWER AMPLIFIER
VEHICLE INFORMATION CONTROL MODULE
ABS, ABS/TC OR DSC MODULE
CLIMATE CONTROL MODULE (REMOTE)
ENGINE CONTROL MODULE
GENERAL ELECTRONIC MODULE
INSTRUMENT CLUSTER: RHD
YAW RATE SENSOR
J GATE MODULE
DRIVER SEAT MODULE: RHD
PARKING AID MODULE
FULL OPTION SET SHOWN.

SEDAN

INSTRUMENT CLUSTER: LHD
X-TYPE Sedan / Sports Brake

SPORTS BRAKE

COOLING FAN MODULE
VACUUM MODULE
CLIMATE CONTROL MODULE (COMBINED WITH CONTROL PANEL)
SPEED CONTROL MODULE
RAIN SENSING MODULE
TRANSMISSION CONTROL MODULE
HEADLAMP LEVELING MODULE
INSTRUMENT CLUSTER: LHD
RESTRAINTS CONTROL MODULE
DRIVER SEAT MODULE: LHD
FUEL PUMP MODULE
CONTROL MODULE STACK:
VEHICLE INFORMATION CONTROL MODULE (TOP)
NAVIGATION CONTROL MODULE
CD AUTOCHANGER
VOICE ACTIVATION MODULE
CELLULAR PHONE MODULE (BOTTOM)
POWER AMPLIFIER
ABS, ABS/TC OR DSC MODULE
CLIMATE CONTROL MODULE (REMOTE)
ENGINE CONTROL MODULE
GENERAL ELECTRONIC MODULE
INSTRUMENT CLUSTER: RHD
YAW RATE SENSOR
J GATE MODULE
DRIVER SEAT MODULE: RHD
TRAILER TOWING MODULE
FULL OPTION SET SHOWN.
NOTE: “Battery Saver” provides automatic switch-off of the Courtesy Lamps after 10 minutes and automatic switch-off of the Demand Lighting and Audible Warning after 30 minutes.

GEM timers are started when the Ignition Key has been switched to the I (Accessory) or 0 (Off) position. When the timers expire at 10 and 30 minutes, the feature(s) will switch off.

When one of the following actions is detected, all features are enabled, and the Battery Saver timer is reset:
- The Ignition is switched to II (run) or III (start).
- Any door or trunk lid becomes ajar or is opened.
- Any unlock is activated.

Battery Saver is also active when GEM diagnostic mode is entered.
Engine Management: 2.5 L & 3.0 L – Part 1

Fig. 03.1

NOTES:

* EVAP Carrier Close Valve and Fuel Tank Pressure Sensor – NAS vehicles only.

Shielding shown as dashed lines are beaded wires.

VIN RANGE:

2.5 L & 3.0 L Vehicles

DATE OF ISSUE: June 2003 (PROVISIONAL)

Sensor/Signal Ground

Output

Sensor/Signal Supply V CAN

Pressure Sensor – NAS vehicles only.

SWITCH

Purge Valve (1 – BOTTOM; 2 – TOP)

Close Valve *

ON / OFF

Canister

IMT

VVT

TP SENSOR

TP2

TP1

Motor

G8AL G8AR

Engine Control Module

EN1 ENS22

Engine Control Module

EN998 -2 -1

Engine Control Module

EN999 -2 -1

Engine Control Module

EN61 -2 -1

Engine Control Module

EN16-013

Engine Control Module

EN16-083

Engine Control Module

EN16-094

Engine Control Module

EN16-103

Engine Control Module

EN16-044

Engine Control Module

EN16-127

Engine Control Module

EN16-056

Engine Control Module

EN16-080

Engine Control Module

EN16-107

Engine Control Module

EN16-076

Engine Control Module

EN16-055

Engine Control Module

EN16-073

Engine Control Module

EN16-008

Engine Control Module

EN16-104

Engine Control Module

EN16-019

Engine Control Module

EN16-039

Engine Control Module

EN16-098

Engine Control Module

EN16-066

Engine Control Module

EN16-045

Engine Control Module

EN16-078

Engine Control Module

EN16-012

Engine Control Module

EN16-095

Engine Control Module

EN16-068

Engine Control Module

EN16-020

Engine Control Module

EN16-067

Engine Control Module

EN16-110

Engine Control Module

EN16-023

Engine Control Module

EN16-024

Engine Control Module

EN16-006

Engine Control Module

EN16-007

Engine Control Module

EN16-010

Engine Control Module

EN16-011

Engine Control Module

EN16-005

Engine Control Module

EN16-018

Engine Control Module

EN16-029

Engine Control Module

EN16-031

Engine Control Module

EN16-040

Engine Control Module

EN16-041

Engine Control Module

EN16-053

Engine Control Module

EN16-042

Engine Control Module

EN16-054

Engine Control Module

EN16-043

Engine Control Module

EN16-046

Engine Control Module

EN16-057

Engine Control Module

EN16-058

Engine Control Module

EN16-059

Engine Control Module

EN16-061

Engine Control Module

EN16-062

Engine Control Module

EN16-063

Engine Control Module

EN16-065

Engine Control Module

EN16-064

Engine Control Module

EN16-069

Engine Control Module

EN16-021

Engine Control Module

EN16-022

Engine Control Module

EN16-025

Engine Control Module

EN16-026

Engine Control Module

EN16-027

Engine Control Module

EN16-028

Engine Control Module

EN16-072

Engine Control Module

EN16-070

Engine Control Module

EN16-071

Engine Control Module

EN16-074

Engine Control Module

EN16-075

Engine Control Module

EN16-079

Engine Control Module

EN16-081

Engine Control Module

EN16-082

Engine Control Module

EN16-084
Engine Management: 2.0 L – Part 2

Engine Control Module

Cylinder numbering:

1 2 3 4 5 6

Output power ground

Fig. 01.4

VIN range:

Fig. 01.3

Fig. 01.8

Fig. 01.2

Fig. 01.7

Fig. 01.9

Fig. 01.6

Fig. 01.5

Fig. 01.1

NOTE:

- Switch control vehicle only.
- Clutch cancel switch – Manual transmission vehicle only.

NOTE:

- Boost pressure sensor
- Cancel
- Brake

Control vehicles only.

*NOTE:

- Clutch cancel switch – Manual Transmission vehicle only.

Power distribution fuse box

Fig. 03.4
*NOTE:* Either Fuel-Fired Auxiliary Heater or Electric Auxiliary Heater fitted.

**Engine Management: 2.0 L D – Part 2**

(Continued from Fig. 03.5)

**NOTE:** ECM power supplies and grounds shown on Figure 03.3.

---

**Engine Control Module**

---

**SOLID STATE RELAY**

**FUEL-FIRED AUXILIARY HEATER MODULE**

**POWER DISTRIBUTION FUSE BOX**

**AUXILIARY HEATER RELAY 1**

**AUXILIARY HEATER RELAY 2**

**ELECTRIC AUXILIARY HEATER**

**AIR CONDITIONING COOLANT PUMP**

**AIR CONDITIONING COMPRESSOR CLUTCH**

**POWER DISTRIBUTION FUSE BOX**

---

**COOLING FAN MODULE**

---

**ENGINE CONTROL MODULE**

(Continued from Fig. 03.5)

**NOTE:** ECM power supplies and grounds shown on Figure 03.3.
NOTE: The CCM incorporates the control panel for the Climate Control System.
NOTE: Vehicles without Navigation "Touch Screen" – The CCM incorporates the control panel for the Climate Control System.

Vehicles with Navigation "Touch Screen" – The CCM is remotely mounted on the Climate Control Unit. Driver control inputs are received via Network Communication.

NOTE: Refer to Figure 03.2, 03.4 or 03.6 for A/C Compressor Clutch and Cooling Fan circuits.
Glass Heaters

Input
Battery Voltage
Sensor/Signal Supply V
CAN
J2B Network
Serial and Encoded Data

Output
Power Ground
Sensor/Signal Ground

NOTE:
Refer to Figures 06.1 and 06.2 for CCM power supplies and grounds.

NOTE:
Memory vehicles
Non-Memory vehicles
Sedan
Sports Brake

NOTE:
Memory vehicles
Non-Memory vehicles
Sedan
Sports Brake

NOTE:
Check market specification for fitment of Heated Windshield.

NOTE:
CAS10 – LHD only.
CAS10 – RHD only.

NOTE:
Wave Trap(s) fitted with television option.

NOTE:
Driver Seat Module
Heated Rear Window Relay

NOTE:
Passenger Junction Fuse Box
Windshield Heater Relay

NOTE:
Driver Door Heated Mirror

NOTE:
Driver Door Heated Mirror

NOTE:
Passenger Door Heated Mirror

NOTE:
Heated Rear Window (Sports Brake)

NOTE:
Heated Rear Window (Sedan)

NOTE:
Driver Door Heated Mirror

NOTE:
Wave Trap

NOTE:
Driver Door Heated Mirror

NOTE:
Passenger Door Heated Mirror

NOTE:
Glass Heaters

DATE OF ISSUE: Jan 2001 (PROVISIONAL)
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.
Exterior Lighting: Front – Auto Headlamps
Cluster power supplies and grounds. Refer to Figure 07.1 for Instrument Cluster power supplies and grounds.

NOTE: See Figure 07.1 for Instrument Cluster power supplies and grounds.

Fig. 01.4
Fig. 01.1
Fig. 01.2
Fig. 01.3
Fig. 01.8
Fig. 01.9
Fig. 08.4

SPORTS BRAKE VEHICLES

VARIANT:

67 76
98107

WG1-4
WG6-1
WG6-2
JB2-1
CA170-15

GW1-8
GW3-2
GW1-2

GW3-10
GW4-1
GW5-1
GW7-1
GW8-1

CA204-1
CA204-14
CA204-6
CA208-4
CA209-12
CA209-4

CA138-1
CA138-2
CA138-3
CA138-4
CA138-5
CA138-6

CA86-2
CA86-5
CA87-4

CA10-6
EN85-02
EN85-01

CAS26

HAZARD SWITCH
TURN SIGNAL SWITCH
INSTRUMENT CLUSTER
LIGHTING MODULES

REVERSE LAMPS RELAY
REVERSE LAMPS SWITCH
REVERSE LAMPS OUTPUT

MASTER LIGHTING SWITCH
PARKING LAMPS
FOG LAMPS
SIDE MARKER

STOP LAMP HIGH-MOUNT SWITCH

HIGH MOUNT STOP LAMP

18.1 PARKING AID:
10.1 ELECTROCHROMIC MIRROR:
VARIABLE ASSIST STEERING

ELECTROCHROMIC REAR VIEW MIRROR
DOOR MIRROR MOVEMENT

DOOR MIRRORS: FOLD-BACK

NOTE: Refer to Figure 06.3 for Mirror Heaters.
Door Mirrors: Movement; Fold-Back – Memory

Door Mirror Movement

Door Mirrors: Fold Back

NOTE: Refer to Figure 06.3 for Mirror Heaters.
NOTE: Drive-Away Door Locking occurs when all doors are closed, the ignition is switched to II or III and the vehicle speed exceeds 7 kph (4 mph).

Central Door Locking: Sedan – Double Locking

X-TYPE Sedan / Sports Brake

DATE OF ISSUE: June 2003 (PROVISIONAL) Sensor/Signal Ground

VIN RANGE:

TEST CONDITIONS:

VARIANT: Double Locking Sedan Vehicles
VIN RANGE: All

NOTE:

SWITCH

SWITCH

ACTUATOR

ACTUATOR

INERTIA SWITCH

INERTIA SWITCH

VEHICLE SPEED

VEHICLE SPEED

EMERGENCY UNLOCK

EMERGENCY UNLOCK

NOTE: CAS73 – Memory vehicles only.

NOTE: CAS55 – Memory vehicles only.

NOTE: CAS9 – Memory vehicles only.

NOTE: CAS1 – Memory vehicles only.

NOTE: CAS2 – Memory vehicles only.

NOTE: CAS10 – LHD only.

NOTE: CAS10 – RHD only.

NOTE: BRS4 – Powered Rear Windows only.

NOTE: BRS3 – Powered Rear Windows only.
NOTE: Drive-Away Door Locking occurs when all doors are closed, the ignition is switched to II or III and the vehicle speed exceeds 7 km/h (4 mph).

Drive Away Door Locking: Sports Brake

Central Door Locking: Sports Brake

Fig. 12.3
NOTE: ECM power supplies and grounds shown on Figures 03.1, 03.3 and 03.5.

PASSIVE ANTI-THEFT SYSTEM TRANSMITTER

INSTRUMENT CLUSTER

NOTE: OBD II (16-pin) only

NOTE: G11AR - TRIM unit only

NOTE: G15AL - TRIM unit only

NOTE: DL1-054 (2.0L D)

NOTE: DL1-073 (2.0L D)

NOTE: EN65-88 (2.0L)

NOTE: EN65-89 (2.0L)

NOTE: EN16-123

NOTE: EN16-124

NOTE: Check market specification and/or vehicle option specification for fitment of the following security components:
- Inclination Sensor
- Intrusion Sensor
- Passive Security Sounder
- Active Security Sounder

PASSIVE SECURITY SOUNDER

ACTIVE SECURITY SOUNDER

NOTE: X-TYPE Sedan / Sports Brake

NOTE: Check market specification and/or vehicle option specification for fitment of the following security components:
NOTE: Japan vehicles with Voice Activation Control, refer to Figure. 16.6.
HORN

CIGAR LIGHTER

ACCESSORY CONNECTORS

GARAGE DOOR OPENER
NOTES:
The 6-module D2B Network shown depicts the greatest number of
modules available. D2B Networks containing less than 6 modules
are always connected in the sequence shown from top to bottom.
Audio Unit – Master Module
1 – CD Autochanger
2 – Cellular Phone Module
3 – Voice Activation Module
4 – Navigation Control Module
5 – Power Amplifier
When modules are not fitted to the vehicle, the fiber optic cables
and the connectors are deleted. Therefore, any Network containing
less than 6 modules has a unique fiber optic and “wake-up” circuit.
D2B Network diagnostics via SCP Network – refer to Figure 20.3.