GENERAL INFORMATION
01

CONTENTS

SERVICE INFORMATION

HOW TO USE THIS MANUAL

Topics

This manual contains procedures for performing all required service operations.

The procedures are divided into three basic operations:

- Removal/Installation
- Disassembly/Assembly
- Inspection

Service Procedures

Most repair procedures begin with an illustration. It identifies the components, shows how the parts fit together and describes visual part inspection. Removal & Installation procedures have written instructions.

Service procedures include the following elements:

- Detailed removal & installation instructions
- Integrated torque specifications
- Integrated illustrations
- Component specifications

Diagnostic Procedures

The diagnostic procedures are grouped into the following:

Diagnostic Trouble Codes (DTC)

- DTCs are important hints for repairing malfunctions that are difficult to simulate. Perform the specific DTC diagnostic inspection to quickly and accurately diagnose the malfunction.

Diagnostic Symptoms

- Symptom troubleshooting quickly determines the location of the malfunction according to symptom type.

Specifications

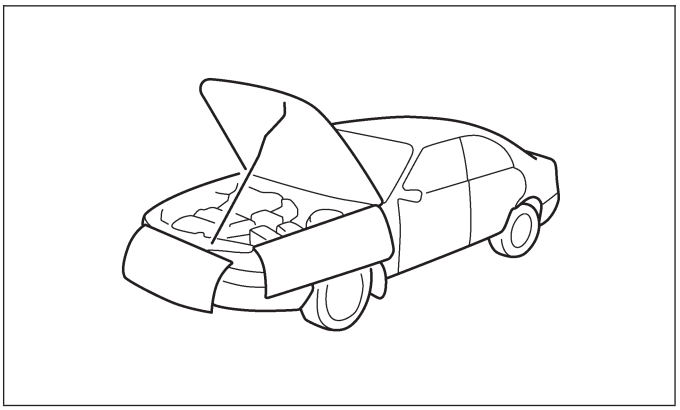
This manual contains specifications that are divided into the following groups:

- Torque specifications
- Clearance specifications
- Capacity specifications

VEHICLE SERVICE PREPARATION

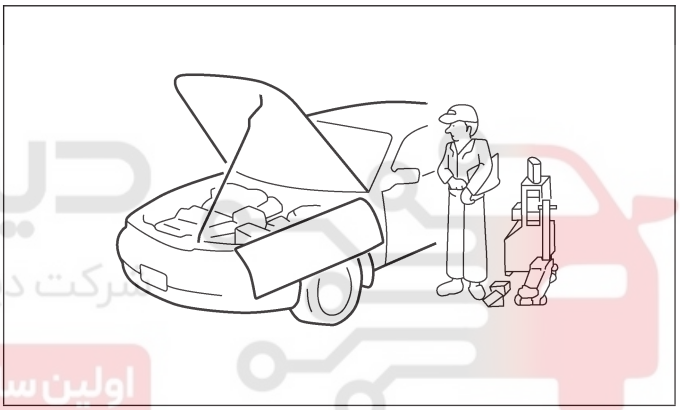
Preparation For Vehicle Service

- Always be sure to cover fenders, seats and floor areas before starting work.



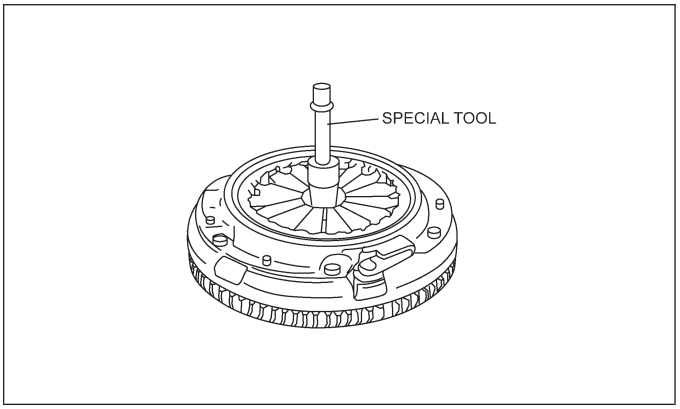
Tools and Testing Equipment

- Be sure that all necessary tools and measuring equipment are available before starting any work.
- Inspect the vehicle and reference any needed service information before starting any work.



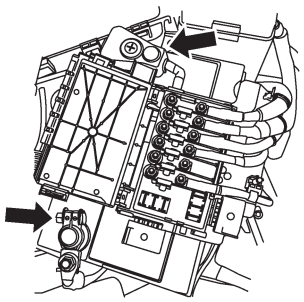
Special Tools

- Use special tools when they are required.



Disconnection of the Negative Battery Cable

- Before beginning any work, turn the ignition switch to LOCK, disconnect the negative battery cable and then wait for more than 1 minute to allow the backup supply of the air bag diagnostic monitor unit to deplete its stored power.Disconnecting the battery cable deletes the memories of the clock, audio and DTCs, etc. Therefore, it is necessary to verify those memories before disconnecting the cable.



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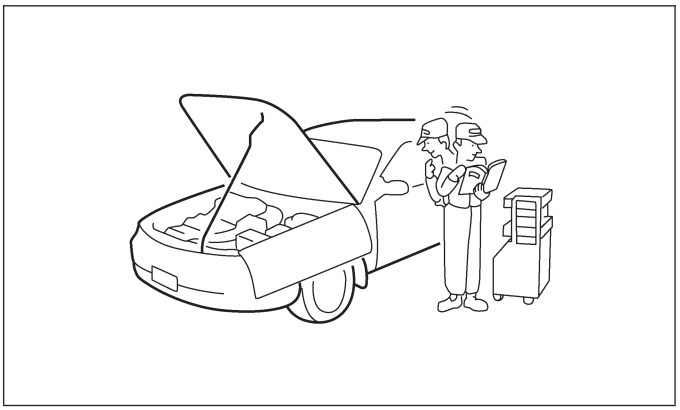
PROPER SERVICE PRACTICES

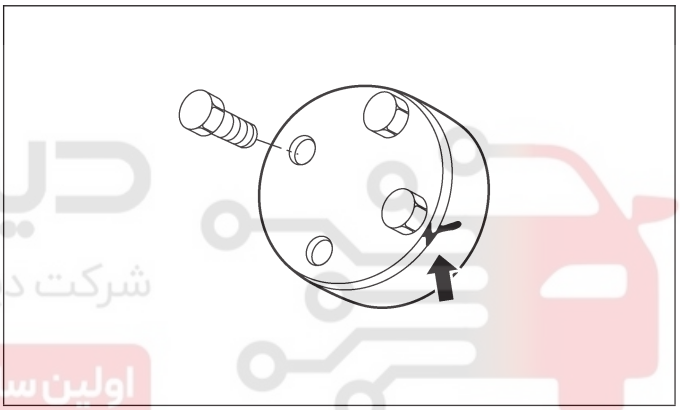
Removal of Parts

- While correcting a problem, also try to determine its cause. Begin work only after first learning which parts and subassemblies must be removed and disassembled for replacement or repair. After removing the part, plug all holes and ports to prevent foreign material from entering.



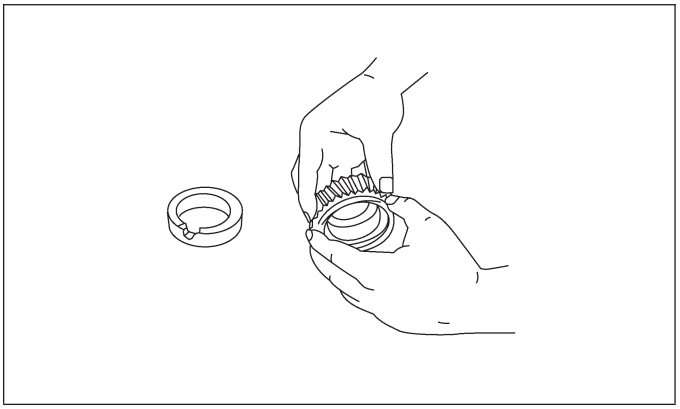
Component Disassembly

- If the disassembly procedure is complex requiring many parts to be disassembled, make sure that all parts are disassembled in a way that will not affect their performance or external appearance and identify so reassembly can be performed easily and efficiently.



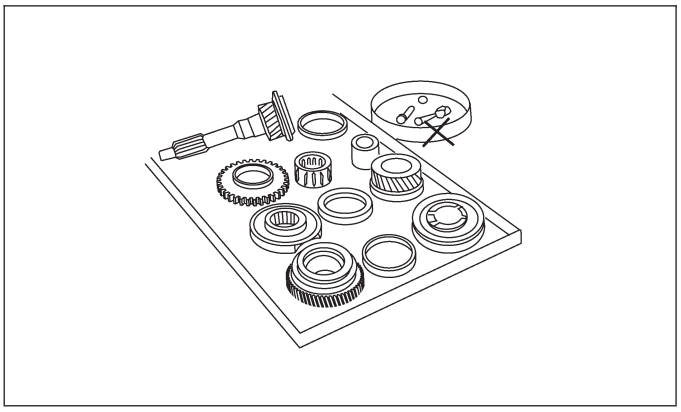
Inspection of Parts

- When removed, inspect each part for malfunctioning, deformation, damage and other problems.



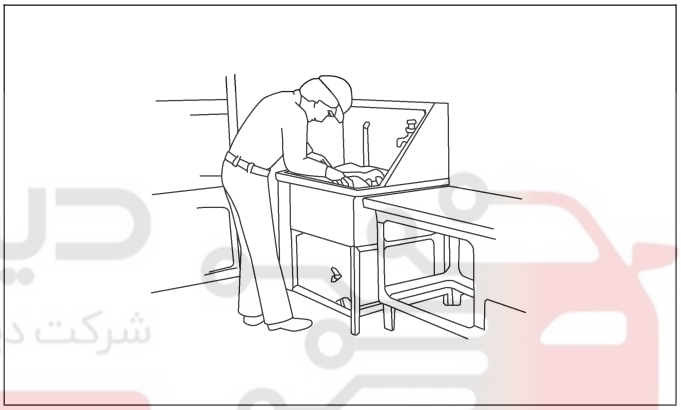
Arrangement of Parts

- All disassembled parts should be carefully arranged for reassembly.
- Be sure to separate or otherwise identify the parts to be replaced from those that will be reused.



Cleaning of Parts

- Carefully and thoroughly clean all parts to be reused.

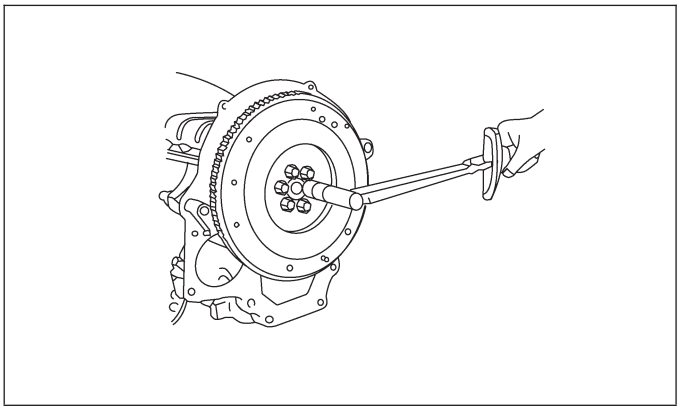


WARNING!

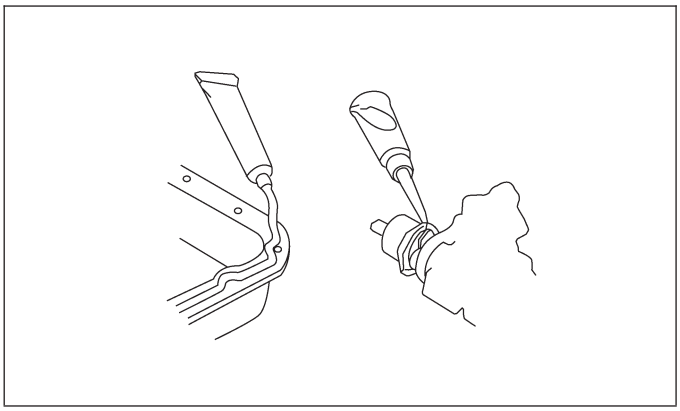
Using compressed air can cause dirt and other particles to fly out causing injury to the eyes. Wear protective eyewear whenever using compressed air.

Component Reassembly

- Standard values, such as torques and certain adjustments, must be strictly observed in the reassembly of all parts.If removed, replace these parts with new ones:
  - Oil seals
  - Gaskets
  - O-rings
  - Lock washers
  - Cotter pins
  - Nylon nuts

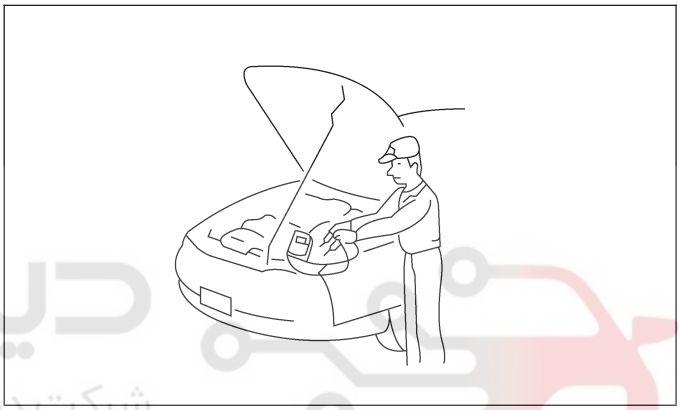


Depending on location:
- Apply sealant and gaskets, or both, to specified locations. When sealant is applied, install parts before sealant hardens to prevent leaks.
- Apply oil to the moving components of parts.
- Apply specified oil or grease at the prescribed locations (such as oil seals) before reassembly.



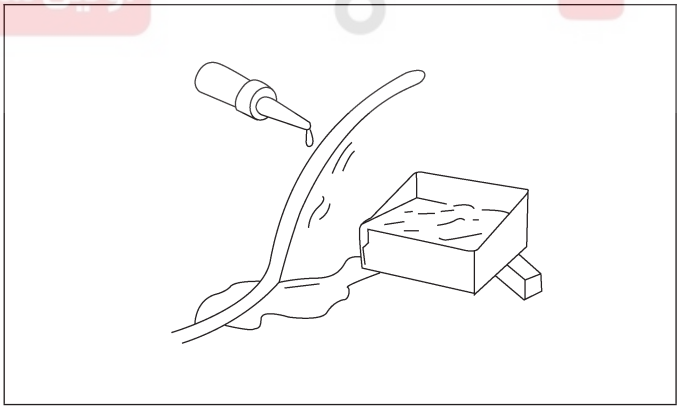
Adjustments

- Use suitable gauges and testers when making adjustments.



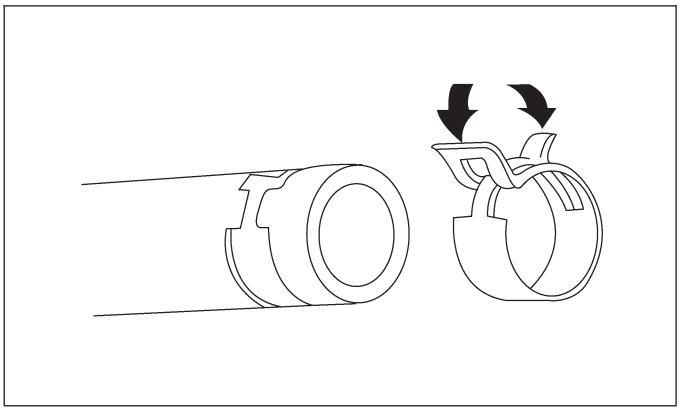
Rubber Parts and Rubber Tubing

- Prevent gasoline or oil from getting on rubber parts or tubing.



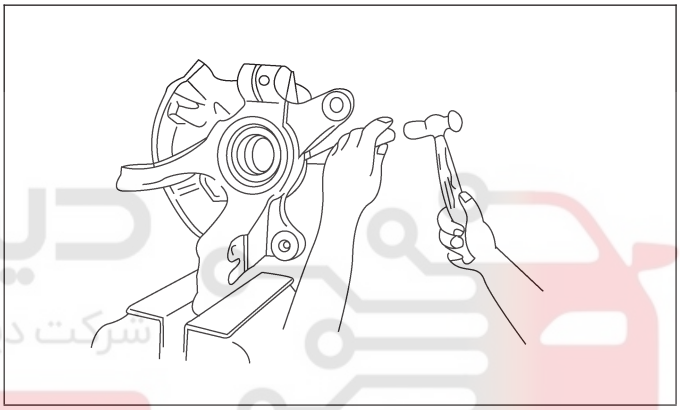
Hose Clamps

- When reinstalling, position the hose clamp in the original location on the hose and squeeze the clamp lightly with large pliers to ensure a good fit.



Vise

- When using a vise, put protective plates in the jaws of the vise to prevent damage to parts.



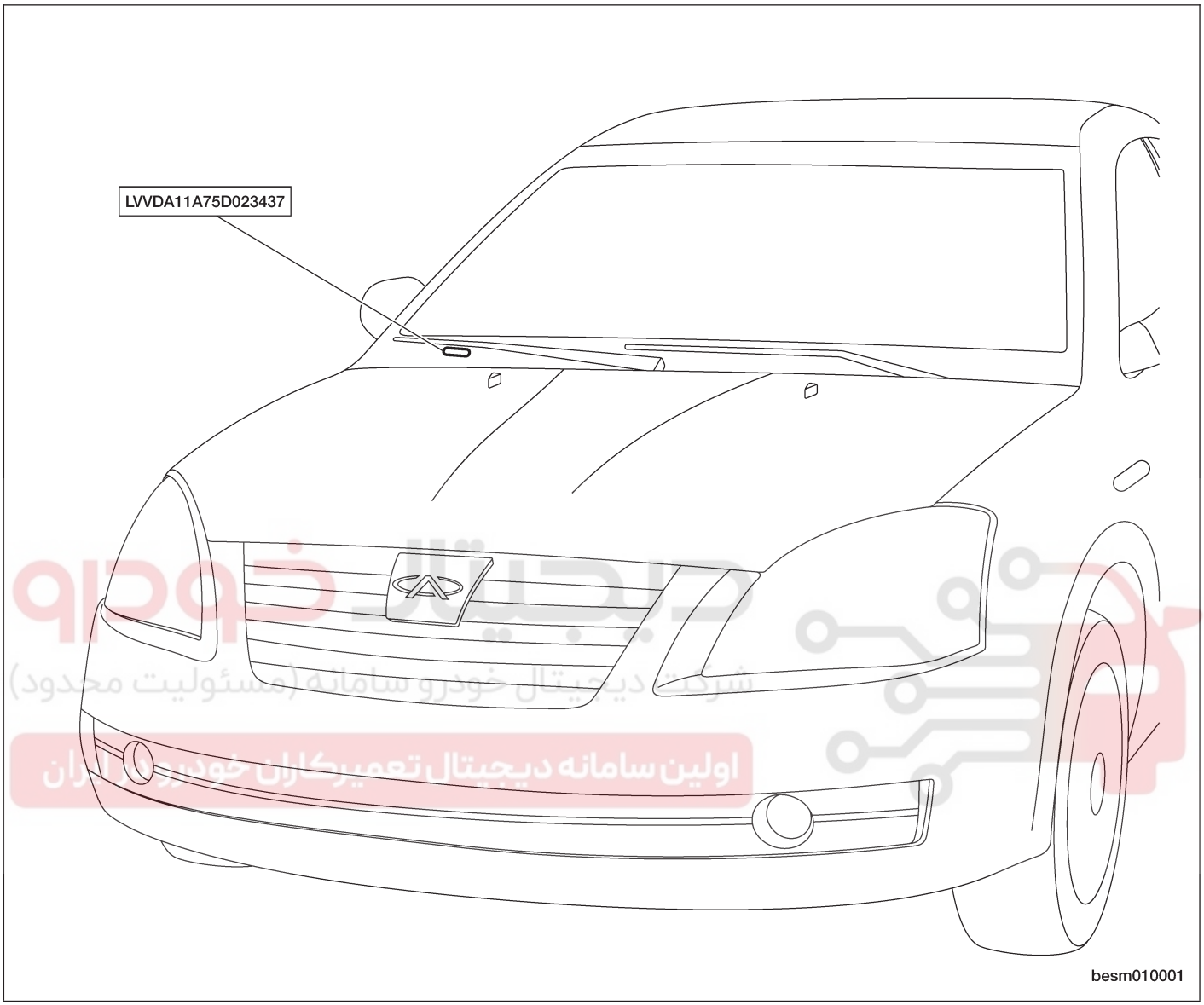
Dynamometer

- When test-running a vehicle on a dynamometer:
  - Place a fan, preferably a vehicle-speed proportional type, in front of the vehicle.
  - Connect an exhaust gas ventilation unit.
  - Cool the exhaust pipes with a fan.
  - Keep the area around the vehicle uncluttered.
  - Monitor the engine coolant temperature gauge.

VEHICLE INFORMATION

VEHICLE IDENTIFICATION NUMBER (VIN)

VIN Location

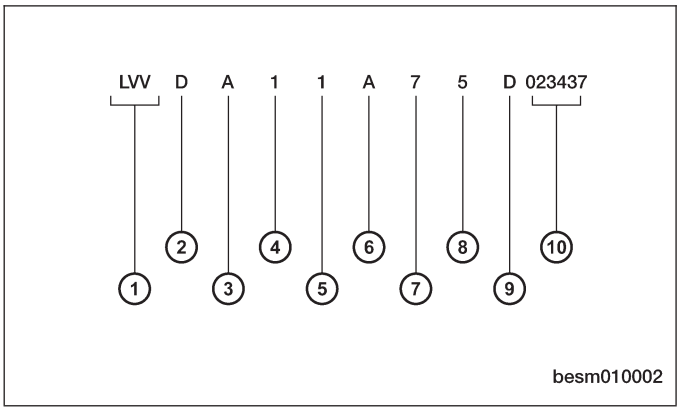


Vehicle Identification Number (VIN) Tag Location

The VIN is stamped on a metal tab riveted on the instrument panel, top upper right of the dash. The VIN is also found on the vehicle certification (VC) label.

VIN Identification Codes

The vehicle identification number (VIN) is a 17-digit combination of letters and numbers.



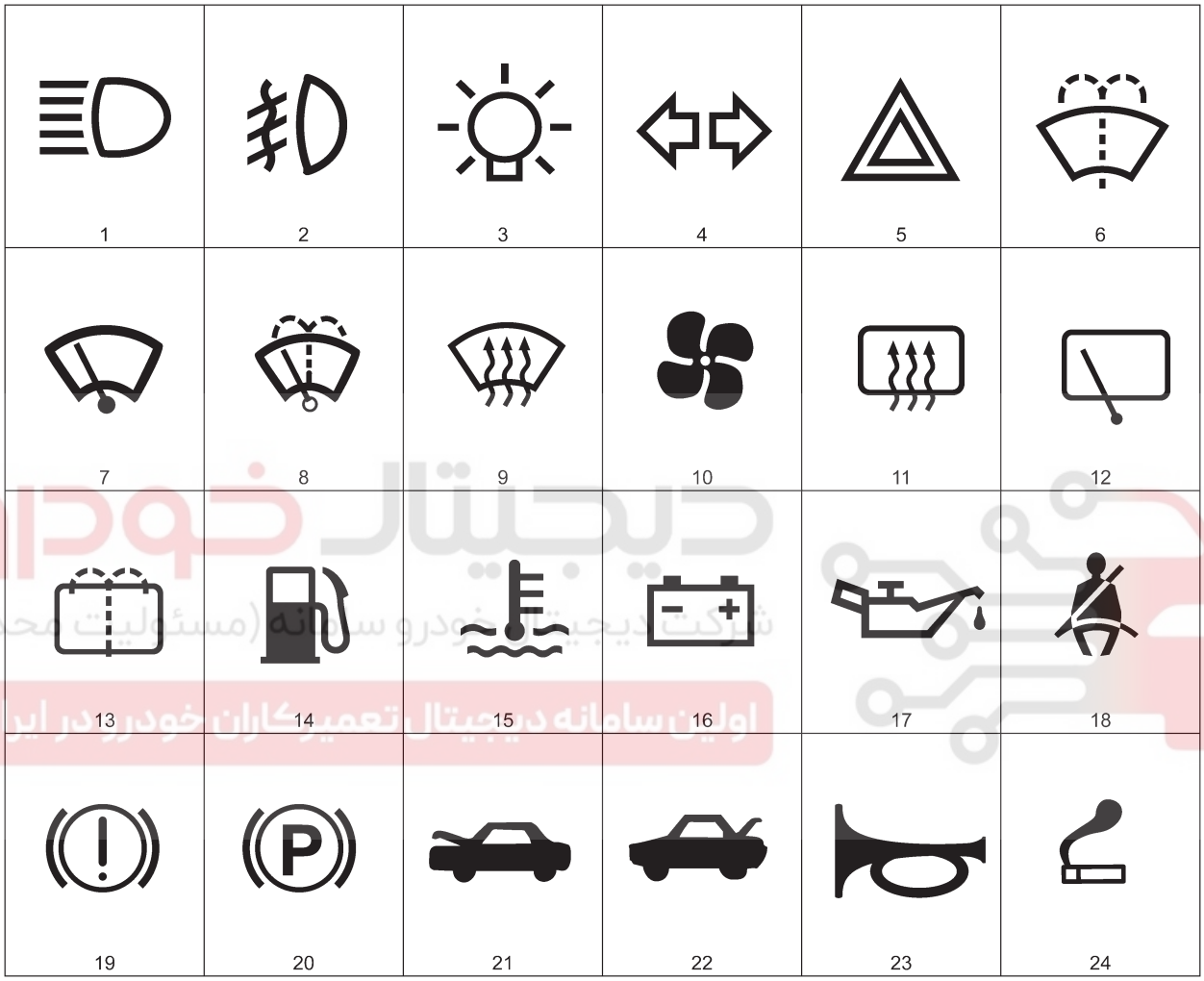
1	World Manufacture Identifier
2	Brand Of The Vehicle
3	Vehicle Chassis Type
4	Transmission Type
5	Engine Type
6	Restraint System
7	Check Digit
8	Model Year
9	Assembly Plant
10	Production Sequence Number

- **Digits #1, #2, #3** The first 3 vehicle identification number (VIN) positions are the world manufacturer identifier:
  - ″LVV″ represents Chery Automobile Co., Ltd.
- **Digit #4** The fourth digit of the VIN code represents the brand of the vehicle:
  - The brand ″Chery″ is represented by the letter ″D″.
- **Digit #5** The fifth digit of the VIN code represents the body configuration of the vehicle:
  - ″A″ represents three compartments, five-door, and 4X2.
  - ″B″ represents two compartments, five-door, and 4X2.
  - ″C″ represents three compartments, four-door, two-lid, and 4X2.
  - ″D″ represents two compartments, five-door, and 4X4.
- **Digit #6** The sixth digit of VIN code represents the type of transmission:
  - ″1″ represents manual transmission.
  - ″2″ represents automatic transmission.
- **Digit #7** The seventh digit of VIN code represents the type of engine:
  - ″1″ represents electronically controlled gasoline engines 1.5L - 2.0L (excluding 2.0L) series.
  - ″2″ represents engines smaller than 1.5L (excluding 1.5L).
  - ″4″ represents 2.0L - 2.5L engines (excluding 2.5L).
- **Digit #8** The eighth digit of VIN code represents the Restraint System:
  - ″A″ represents manual safety belts.
  - ″B″ represents manual safety belts plus air bags in the front row.
- **Digit #9** The ninth digit of VIN code is the check digit:
  - It is to check accuracy of VIN record, and is made out through computation after confirming the other sixteen digits of VIN
- **Digit #10** The tenth VIN position represents the model year code:
  - ″5″ represents the year 2005
- **Digit #11** The eleventh VIN position represents the assembly plant code:
  - ″D″ represents the ″Chery Automobile Co.,Ltd.″
- **Digits #12, #13, #14, #15, #16, #17** The last six VIN positions represents the production sequence number.
  - This represents the actual production number of the vehicle.

INTERNATIONAL SYMBOLS

International Symbols

The graphic symbols illustrated in the following International Control and Display Symbols chart are used to identify various instrument controls. The symbols correspond to the controls and displays that are located on the instrument panel.



1 - High Beam	13 - Rear Window Washer
2 - Fog Lamps	14 - Fuel
3 - Headlamp, Parking Lamps, Panel Lamps	15 - Engine Coolant Temperature
4 - Turn Signals	16 - Battery Charging Condition
5 - Hazard Warning	17 - Engine Oil
6 - Windshield Washer	18 - Seat Belt
7 - Windshield Wiper	19 - Brake Failure
8 - Windshield Wiper and Washer	20 - Parking Brake
9 - Windshield Defroster	21 - Hood
10 - Blower Motor Fan	22 - Trunk
11 - Rear Window Defroster	23 - Horn
12 - Rear Window Wiper	24 - Lighter

FASTENER USAGE

Fastener Usage

WARNING!

Use of an incorrect fastener may result in component damage. Failure to follow these instructions may result in personal injury or death.

Fasteners and torque specifications references in this Service Manual are identified in metric format.

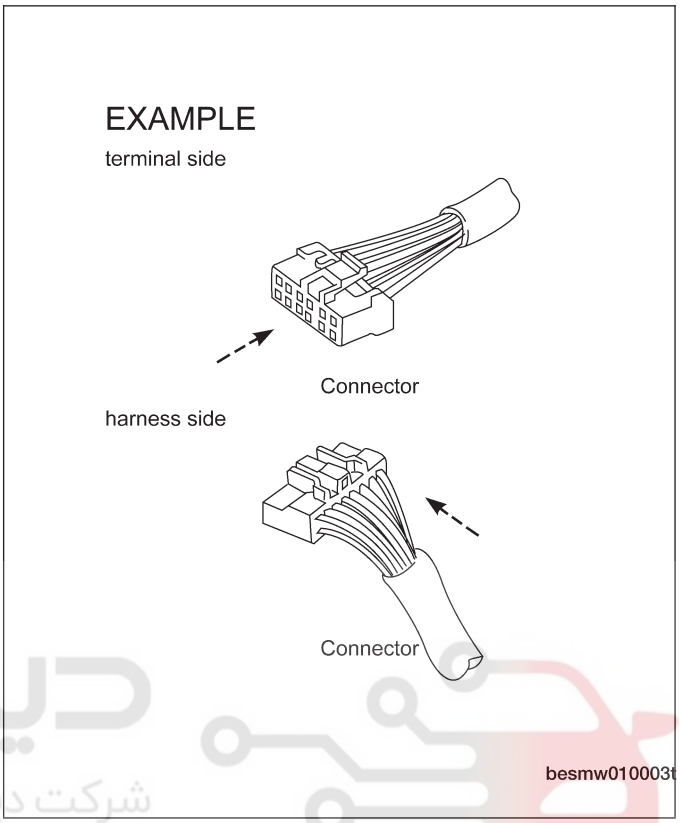
During any maintenance or repair procedures, it is important to salvage all fasteners (nuts, bolts, etc.) for reassembly. If the fastener is not salvageable, a fastener of equivalent specification must be used.

ELECTRICAL INFORMATION

HOW TO READ ELECTRICAL SCHEMATICS

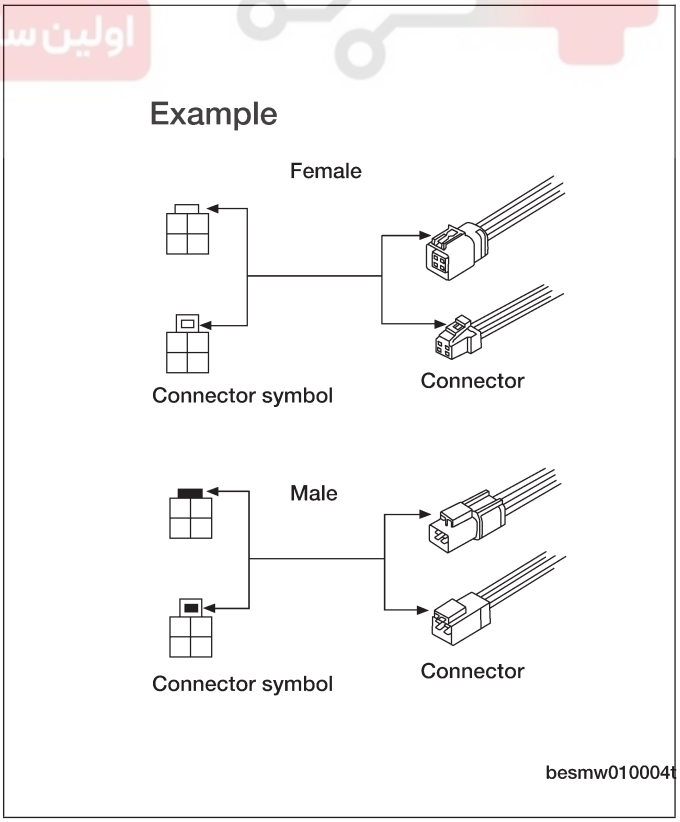
Connector Symbols

- Connector symbols shown from the terminal side are enclosed by a single line and followed by the direction mark.
- Connector symbols shown from the harness side are enclosed by a double line and followed by the direction mark.
- Most of the connector symbols in the wiring diagrams are shown from the terminal side.

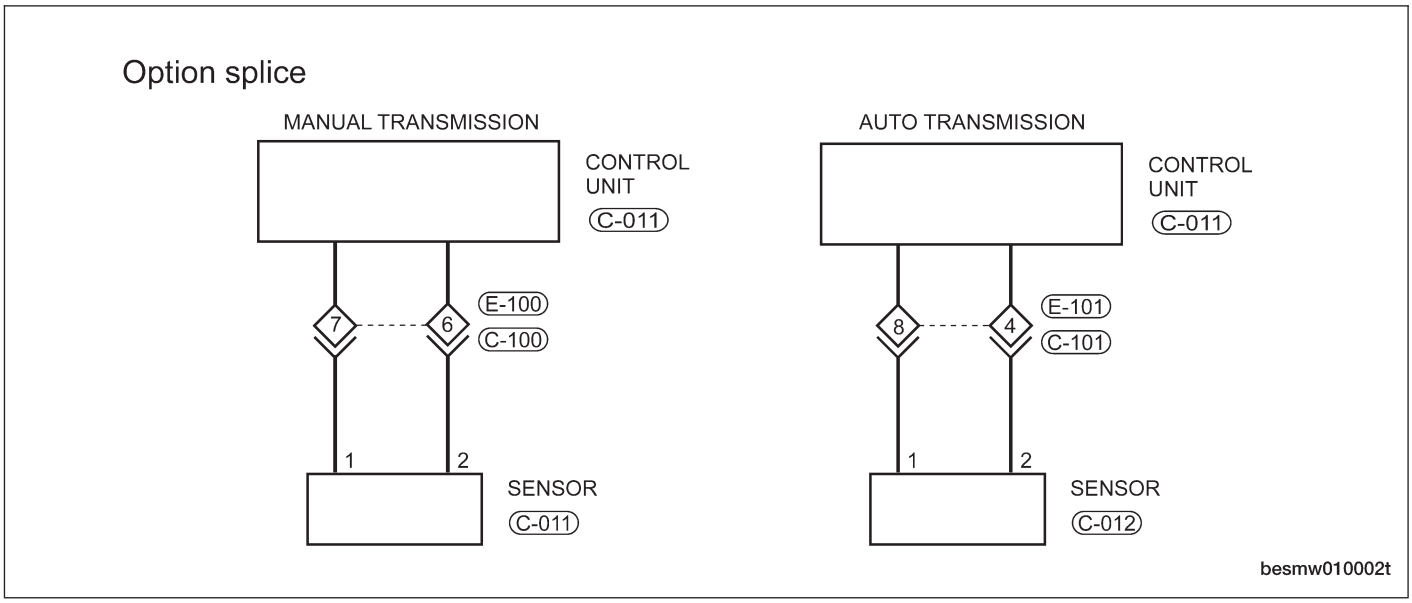


- Male and female terminals

NOTE :
Connector guides for male terminals are shown in black and female terminals in white in wiring diagrams.

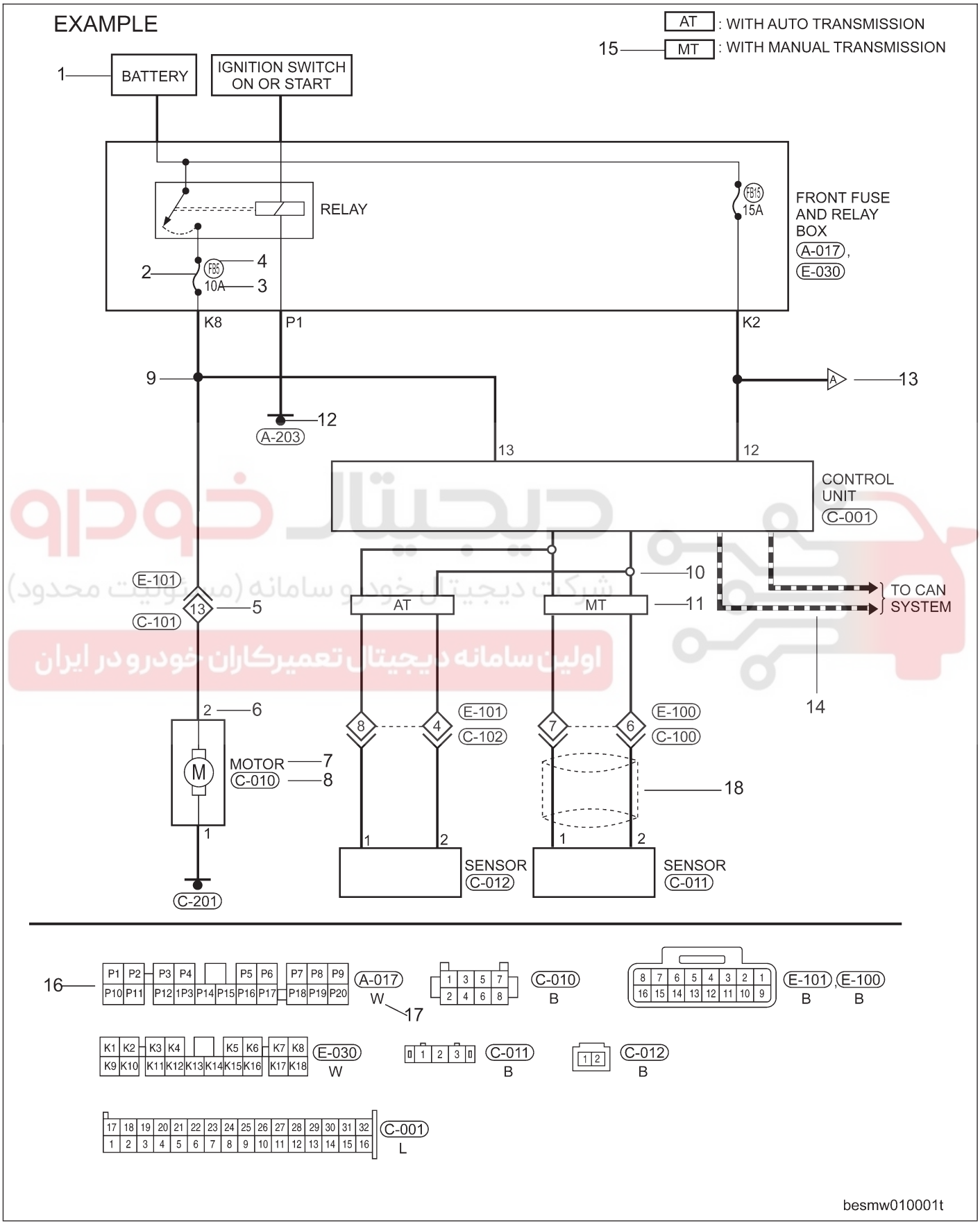


Option Splices



- Option splices are shown with solid squared boxes with identification numbers inside.

Electrical Schematic - Example



HOW TO READ ELECTRICAL SCHEMATICS

Number	Item	Description
1	Power source	This represents the condition when the system receives battery positive voltage.
2	Fuse	The single line represents that this is a fuse.
3	Current rating	This represents the current rating of the fuse.
4	Fuse location	This represents the location of the fuse in the Power Fuse Box or Front Fuse and Relay Box.
5	Connectors	This represents connector E-101 is female and connector C-101 is male.
6	Terminal number	This represents the terminal number of a connector.
7	Component name	This represents the name of a component.
8	Connector number	This represents the connector number. The letter represents which harness the connector is located in.
9	Splice	The shaded circle represents that the splice is always on the vehicle.
10	Optional splice	The open circle represents that the splice is optional depending on vehicle application.
11	Option abbreviation	This represents that the circuit is optional depending on vehicle application.
12	Ground (GND)	This represents the ground connection. (See Ground Distribution in Section 16 Wiring). Ground connector number has no view face.
13	Page crossing	This arrow represents that the circuit continues to an adjacent page. The ″A″ corresponds with the ″A″ on the adjoining page of the electrical schematic.
14	Data link	This represents that the system branches to another system identified by cell data code.
15	Option description	This represents a description of the option abbreviation used on the page.
16	Connector views	This represents the connector information. This component side is described by the connector symbols.
17	Connector color	This shows a code for the color of the connector: B = Black W = White R = Red G = Green L = Blue Y = Yellow BR = Brown O = Orange GR = Gray
18	Shielded line	The line enclosed by broken line circle represents shielded wire.

HOW TO LOCATE ELECTRICAL SCHEMATICS IN THE SERVICE MANUAL

Electrical Schematic Index

The following table shows where to locate a specific electrical schematic for a vehicle component or system. The electrical schematics are found throughout the service manual and are easily identified by their components or vehicle systems.

NOTE :
Some service manual chapters DO NOT contain electrical schematics, and will be identified as **None** in the Component/Vehicle System column.

Service Manual Chapter	Component / Vehicle System
01 - General Information	• None
02 - Engine	• None
03 - Electronic Engine Controls	• Engine Control Module (ECM) • Engine Coolant Temperature Sensor • Knock Sensor • Oxygen Sensor (1 & 2) • Crankshaft Position Sensor • Camshaft Position Sensor • Ignition Coil • Canister Control Valve • Front Fuse and Relay Box • A/C Compressor • Fuel Level Sensor and Fuel Pump • Vehicle Security Module • Fuel Injectors • Refrigerant Pressure Switch • Canister Control Valve • Air Flow Sensor (1.8L & 2.0L only) • Brake Switch • Vehicle Speed Sensor • Throttle Pedal Position Sensor • Power Steering Switch • Clutch Pedal Switch (if equipped) • Electronic Throttle Control Actuator • Manifold Absolute Pressure Sensor (1.6L only)
04 - Fuel Delivery	• Fuel Injectors • Fuel Level Sensor and Fuel Pump
05 - Starting & Charging	• Starter Motor • Ignition Switch • Clutch Pedal Switch (if equipped) • Generator
06 - Cooling System	• Cooling Fan

HOW TO LOCATE ELECTRICAL SCHEMATICS IN THE SERVICE MANUAL

Service Manual Chapter	Component / Vehicle System
07 - Exhaust	• None
08 - Transmission	• Transmission Control Module (TCM) • Automatic Transaxle Shifter Selector • Automatic Transaxle Assembly • Winter Mode Switch • EPDE Solenoid Valve • Backup Lamp Switch
09 - Axle	• None
10 - Suspension	• None
11 - Steering	• Power Steering Switch
12 - Brakes	• Antilock Brake System (ABS) Module • Wheel Speed Sensors • Brake Switch • Parking Brake Switch • Brake Fluid Level Switch • Brake Pad Wear Sensor
13 - Heating & Air Conditioning	• Manual Temperature Control System • Automatic Temperature Control System • Blower Motor • A/C Compressor • In-Car Temperature Sensor • Outside Temperature Sensor • Refrigerant Pressure Switch
14 - Restraints	• Airbag Module • Seat Belt Buckle Switch • Front Crash Sensors • Passenger Airbag ON/OFF Switch • Driver Airbag • Passenger Airbag • Side Airbags

HOW TO LOCATE ELECTRICAL SCHEMATICS IN THE SERVICE MANUAL

Service Manual Chapter	Component / Vehicle System
15 - Body & Accessories	• Windshield Wiper Motor • Windshield Washer Motor • Rear Window Defroster • Power Door Locks • Power Windows • Power Mirrors • Sunroof Control Unit • Sonar Module • Radio • Interior Lights • Exterior Lights • Oil Pressure Switch • Warning Buzzer • Front Body Control Module (FBCM) • Rear Body Control Module (RBCM) • Trunk Opening Switch • Trunk Release Solenoid • Instrument Cluster • Key Switch • Power Outlet • Data Link Connector • Vehicle Security Module • Horn
16 - Wiring	• Power Distribution • Front Fuse and Relay Box • Power Fuse Box • Ignition Switch • Ground Distribution