

2014 M201

Workshop Manual

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Description and Operation

About This Manual

Introduction

This manual has been written in a format that is designed to meet the needs of technicians. This manual provides general descriptions for accomplishing service and repair work. Following them will help assure reliability.

Spare Parts

The parts from Changan Automobile Co., Ltd. are manufactured according to the original factory standard. Only the genuine parts from Changan Automobile Co., Ltd. can be used in repair.

Special Tool

Special tool(s) list provided at the beginning of each procedure are the special tools required to carry out the repair. Where possible, illustrations are provided to assist in identifying the special tool required. The special tools can be ordered from Changan Automobile Co., Ltd.


Important Safety Instructions

Appropriate service methods and correct repair procedures are essential for the safe, reliable operation on the vehicles as well as the personal safety.

This manual cannot possibly provide all such variations and advice or cautions as to each. Anyone who departs from the instructions provided in this manual must assure that the operation methods, tools and components used neither cause personal injury nor break the vehicle integrity.

Warnings, Cautions and Notes in This Manual

As you read through this manual, you will come across WARNINGS and CAUTIONS.

 **WARNING: Warnings are used to indicate that failure to follow a procedure correctly may result in personal injury.**



CAUTION: Cautions are used to indicate that failure to follow a procedure correctly may result in damage to the vehicle or repair tools being used.

Refer to: Notes are used to provide additional information to effectively help improve repair efficiency.

How to Use the Manual

This manual covers the maintenance and repair service procedures.

This manual is structured into groups and sections, with specific system sections collected together under their relevant group. A group covers a specific portion of the vehicle.

The manual is divided into five groups: Overview, Chassis, Powertrain, Electrical and Body.

Table of Contents of the manual includes all sections. Each section has a regular structure: Specifications, Description and Operation, General Inspection, Symptom Diagnosis and Testing, DTC Diagnosis and Testing, Removal and Installation, Disassembly and Assembly.

All left-hand and right-hand references to the vehicle are taken from a position sitting in the driver seat looking forward.

All left-hand and right-hand references to the engine are taken from a position at the flywheel looking towards the front camshaft pulley.

Specifications

Specifications mainly describes the material specifications, component specifications, general specifications (the contents that can be included in other specifications) and torque specifications. The information in the specifications shall use the metrics except the torque (imperial).

Symptom	Possible Causes	Solutions
Vehicle inclines or shakes in turning	<ul style="list-style-type: none"> • Stabilizer bar loose • Shock absorber, strut or fitting parts fault • Spring damaged or droop • Overload 	<ul style="list-style-type: none"> • Tighten the stabilizer bar bolt or nut or replace the bushing or joint. • Replace the strut or fitting parts. • Replace the spring. <p style="text-align: center; color: blue;">Refer to: Front Strut Assembly (2.1.2 Front Suspension, Disassembly and Assembly).</p> <p style="text-align: center; color: blue;">Refer to: Rear Leaf Spring Assembly (2.1.3 Rear Suspension, Removal and Installation).</p> <ul style="list-style-type: none"> • Inspect the load.
Suspension is pressed to bottom	<ul style="list-style-type: none"> • Overload • Shock absorber or strut fault • Spring fault or droop 	<ul style="list-style-type: none"> • Inspect the load. • Replace the shock absorber or strut. • Replace the spring.

Vehicle vibration due to wheel and tire	• Tire pressure too high	• Adjust the tire pressure.
	• Wheel or tire out of balance	• Balance the wheel and tire assembly.
	• Uneven tire abrasion	• When necessary, replace with a new tire to eliminate vibration.
	• Brake disc out of balance	• Check the brake disc for dirt or scraps. If not, it may have heavy fouling.
	• Tire with water inside	• Remove the water.
	• Wheel distortion	• Replace with a new wheel. Attempt to repair the wheel would cause crack and reduce the strength.
	• Incorrect assembly of tire bead	• Rotate the wheel on the vehicle. Inspect the junction part between tire and wheel. In case some part swings during rotation, it maybe caused due to poor assembly of wheel and tire. Remove the tire and clean junction part between wheel and tire.
	• Wheel or tire runout too large	• Measure the runout of wheel or tire with a dial indicator. If the runout is not within specified range, check the runout of wheel bolts further. Replace if outside the standard range.
	• Wheel bolt loose or damaged or bolt hole expanded	• Tighten or replace when necessary.
	• Foreign matter between installation surfaces of wheel and hub.	• Clean the installation surface.
• Front wheel bearing damaged	• Replace the front wheel bearing. Refer to: Front wheel Hub Bearing (2.1.2 Front Suspension, Removal and Installation).	

Symptom	Details/Results/Actions
1. Vehicle road test	<p>A. Carry out road test, and depress the brake pedal.</p> <p>B. Inspect if the brake pedal action force is normal. Is the action force normal?</p> <p>Yes</p> <p>The vehicle is normal.</p> <p>No</p> <p>Go to step 2.</p>
2. Inspect brake fluid level	<p>A. Inspect the brake fluid reservoir level. Is it normal?</p> <p>Yes</p> <p>Go to step 3.</p> <p>No</p> <p>Inspect if there is a leakage at sealing of reservoir.</p> <p>Refer to: Brake Fluid Level Inspection (2.3.1 Brake System - Overview, General Inspection).</p>
3. Brake system pressurizing	<p>A. Depress the brake pedal quickly for five times. Inspect if the brake pedal height increases and remains?</p> <p>Yes</p> <p>Inspect the parking brake and adjust when necessary.</p> <p>Refer to: Parking Brake Cable Adjustment (2.3.4 Parking Brake and Operation, General Inspection).</p> <p>If the fault still exists, bleed air in the brake system.</p> <p>Refer to: Brake System Bleeding (2.3.1 Brake System - Overview, General Inspection).</p> <p>No</p> <p>Go to step 4.</p>

Symptom Chart

If the fault occurs and cannot confirm the cause by basic inspection, diagnose and repair it in order of the following table.

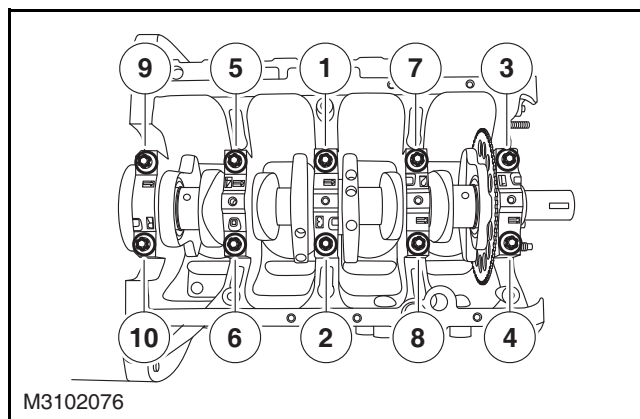
Symptom	Possible Causes	Solutions
Steering swing or poor steering stability	<ul style="list-style-type: none"> Tires do not match or charging pressures are uneven 	<ul style="list-style-type: none"> Charge the tire to the correct pressure or replace it. <p>Refer to: Wheel and Tire (2.1.4 Wheel and Tire, Removal and Installation).</p>
	<ul style="list-style-type: none"> Ball joints of front suspension arm and tie rod loose 	<ul style="list-style-type: none"> Replace the front shaft swing arm or steering tie rod end. <p>Refer to: Front Shaft Swing Arm Assembly (2.1.2 Front Suspension, Removal and Installation) or Tie Rod Ball Joint (2.4.2 Steering Gear, Removal and Installation).</p>
	<ul style="list-style-type: none"> Shock absorber, strut or fitting parts failure 	<ul style="list-style-type: none"> Replace the strut or repair the fitting parts.
	<ul style="list-style-type: none"> Stabilizer bar loose 	<ul style="list-style-type: none"> Tighten or replace the stabilizer bar or bushing.
	<ul style="list-style-type: none"> Spring worn or droop 	<ul style="list-style-type: none"> Replace the spring.
	<ul style="list-style-type: none"> Improper adjustment for rack and pinion 	<ul style="list-style-type: none"> Inspect and adjust the torque for rack and pinion.
	<ul style="list-style-type: none"> Incorrect front wheel alignment 	<ul style="list-style-type: none"> Inspect and adjust the front wheel alignment. <p>Refer to: Front Wheel Toe-in Inspection and Adjustment (2.1.1 Suspension System-General Inspection).</p>
	<ul style="list-style-type: none"> Stabilizer bar link ball joint loose 	<ul style="list-style-type: none"> Replace the stabilizer bar link ball joint.

Test Conditions	Details/Results/Actions
3. Inspect cylinder head assembly	<p>A. Remove the timing chain.</p> <p style="text-align: center;">Refer to: Timing System (3.1.2 Mechanical System, Removal and Installation).</p> <p>B. Inspect the cylinder head.</p> <p style="text-align: center;">Refer to: Cylinder Head Subassembly and Valve (3.1.2 Mechanical System, Disassembly and Assembly).</p> <ul style="list-style-type: none"> • Camshaft seized or cracked. • Valve tappet severe wear. • Valve or valve spring stuck or broken. <p>Do the conditions above exist?</p> <p>Yes</p> <p>Repair or replace.</p> <p>No</p> <p>Go to step 4.</p>
4. Inspect cylinder block assembly	<p>A. Inspect the cylinder block assembly.</p> <p style="text-align: center;">Refer to: Piston, Piston Ring, Connecting Rod and Cylinder (3.1.2 Mechanical System, Disassembly and Assembly).</p> <p style="text-align: center;">Refer to: Main Bearing, Crankshaft and Cylinder Block (3.1.2 Mechanical System, Disassembly and Assembly).</p> <ul style="list-style-type: none"> • Cracked piston. • Foreign matters in the cylinder. • Cracked crankshaft. • Bent or cracked connecting rod. <p>Do the conditions above exist?</p> <p>Yes</p> <p>Repair or replace.</p> <p>No</p> <p>The system is normal.</p>

6. Tighten the crankshaft main bearing cap bolts to the specified torque in the order shown in the figure.

Torque: 25 Nm + 45°

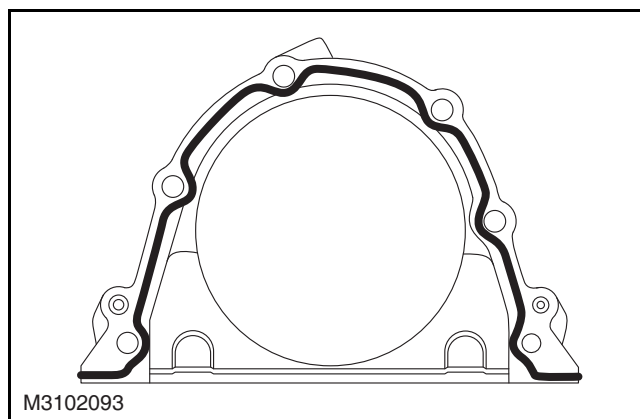
- !** CAUTION: The bolts cannot be reused if removed. Replace the main bearing cap bolts with new ones.
- !** CAUTION: Do not tighten the bolts to the specified torque at one time during installation. The correct procedure is to tighten them in several times before tightening them to the specified torque.
- !** CAUTION: After tightening the bearing cap bolts, make sure that the crankshaft rotates smoothly when rotating it with a force of 8 Nm or less.



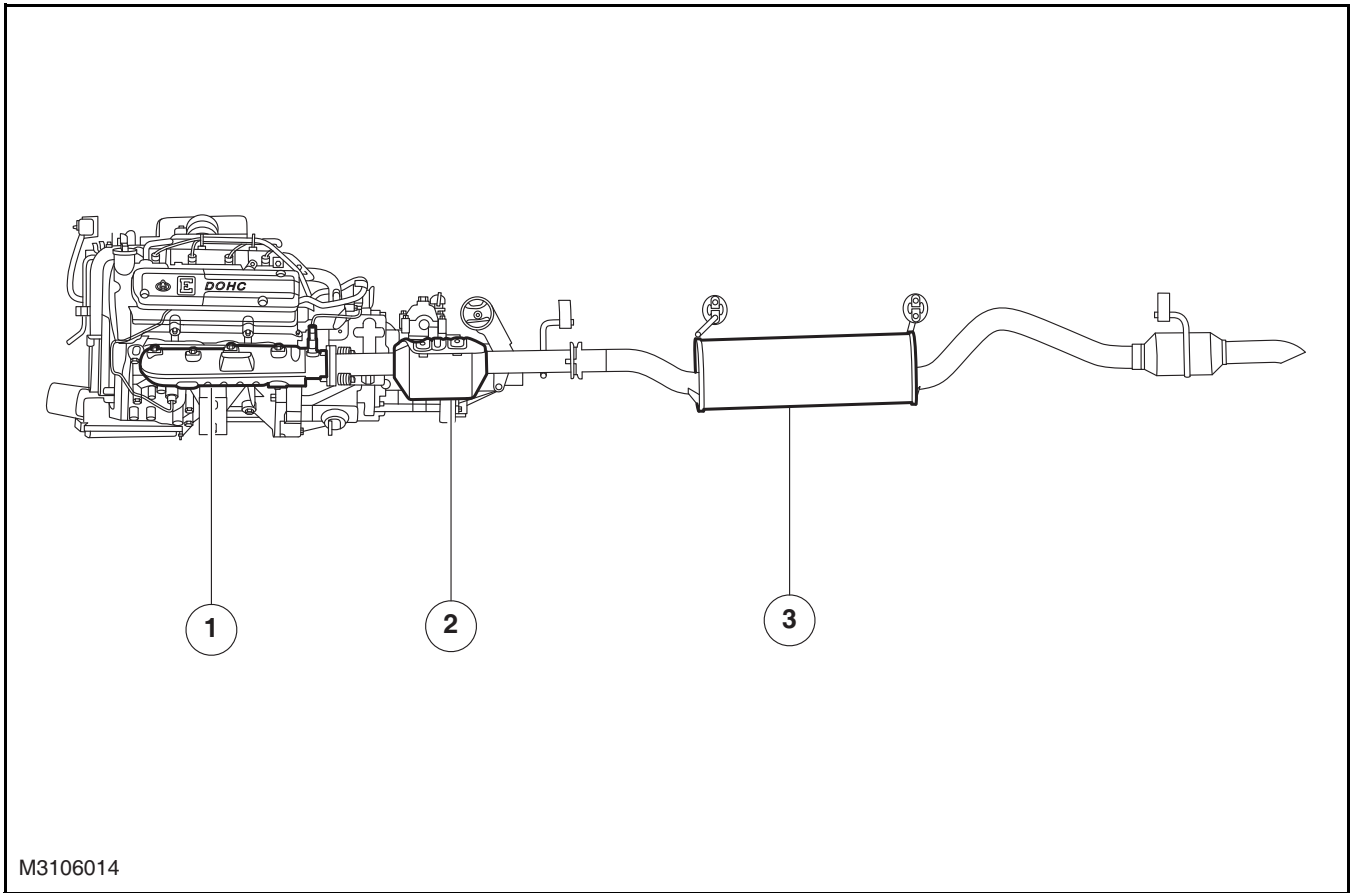
7. Install the new crankshaft rear oil seal.

1 Apply sealant to the crankshaft rear end cover as shown in the figure.

- !** CAUTION: Clear off the residual sealant on the crankshaft rear end cover with a scraper before application. Apply the sealant continuously and evenly to the inner circle with a diameter of 2 ~ 3 mm. Close the box after applying for a certain period. Clean and reapply the sealant if applying time is too long.

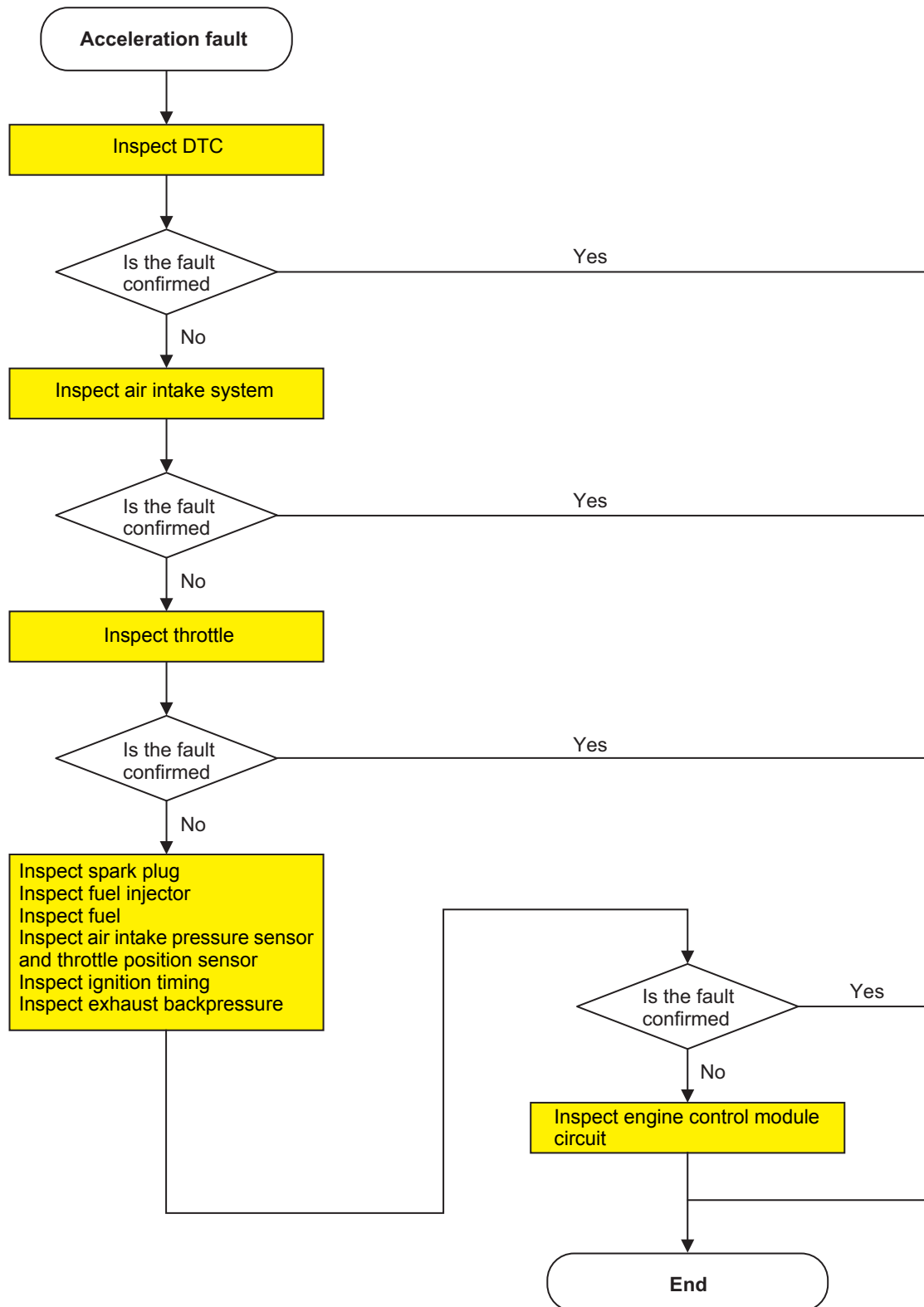


Components Location View

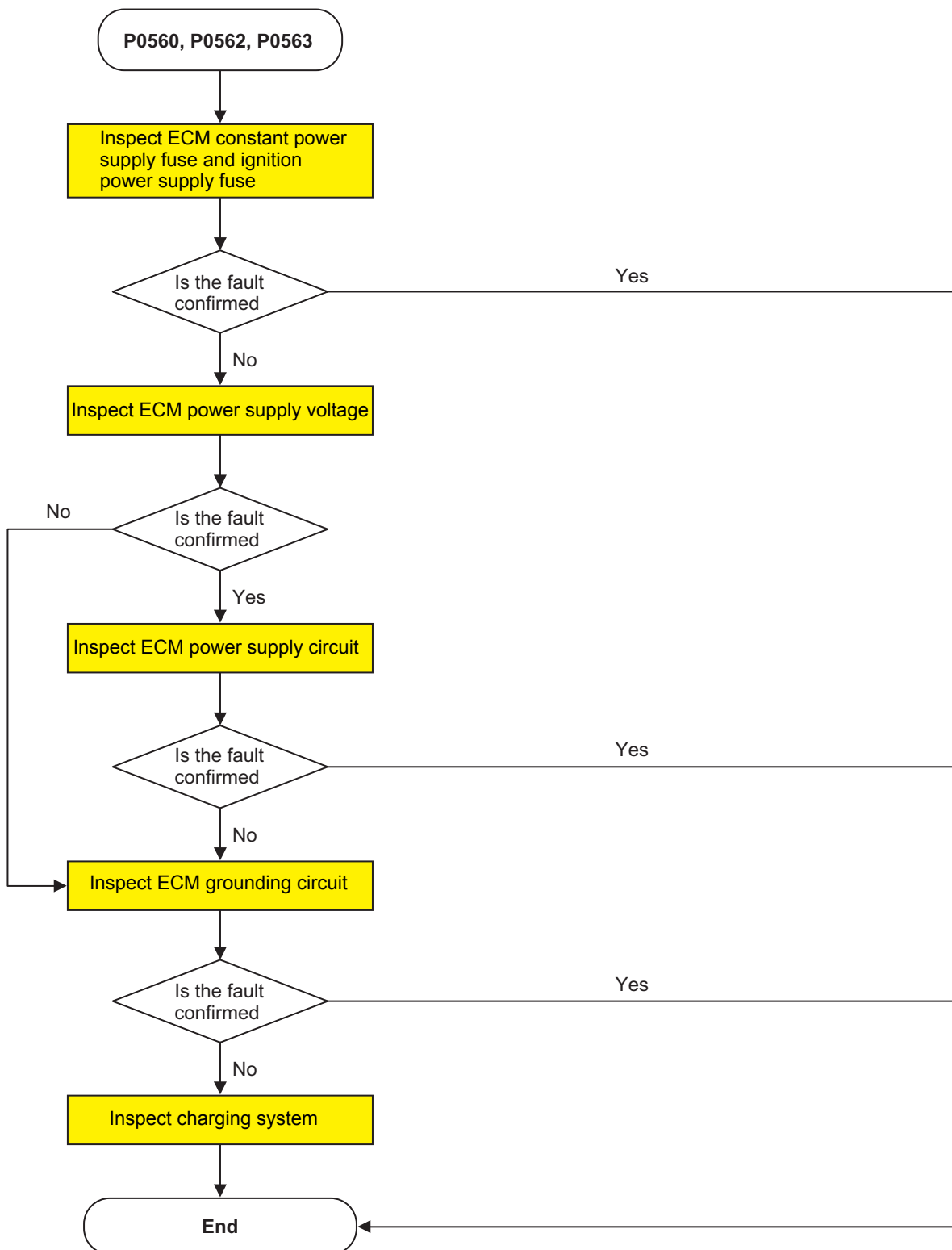


Item	Description	Item	Description
1	Exhaust manifold	3	Muffler
2	Three-way catalytic converter		

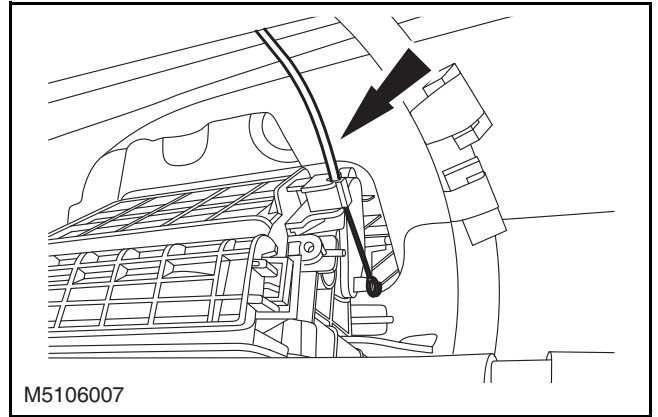
Diagnosis Procedure for Acceleration Fault



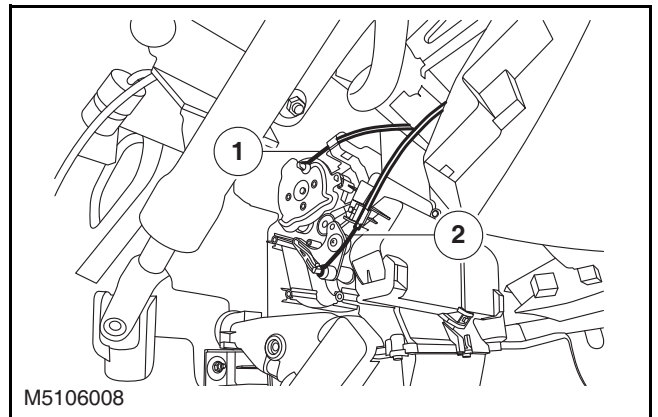
3. Diagnosis Procedure



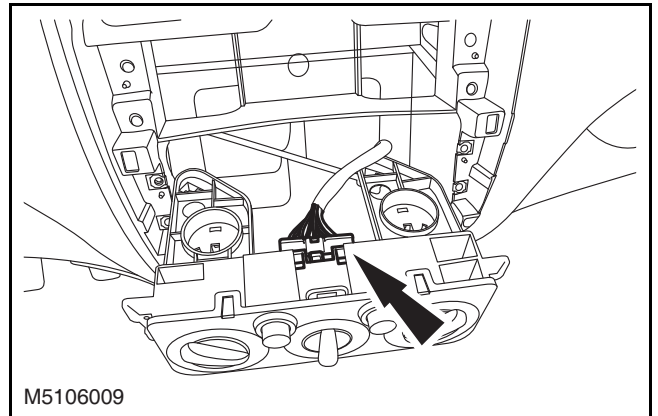
2 Disconnect the A/C inside/outside circulation control cable.



3 Disconnect the A/C mode vent control cable (1) and A/C temperature vent control cable (2).



4 Disconnect the wiring harness connector and remove the A/C controller.



Installation

1. Installation is in the reverse order of removal.

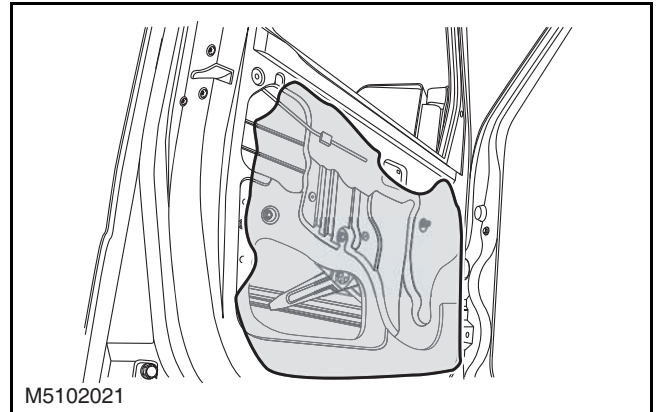
⚠ CAUTION: Make sure that the cables are installed in their original positions and the vent is turned easily and flexibly when installing the cables.

Speaker

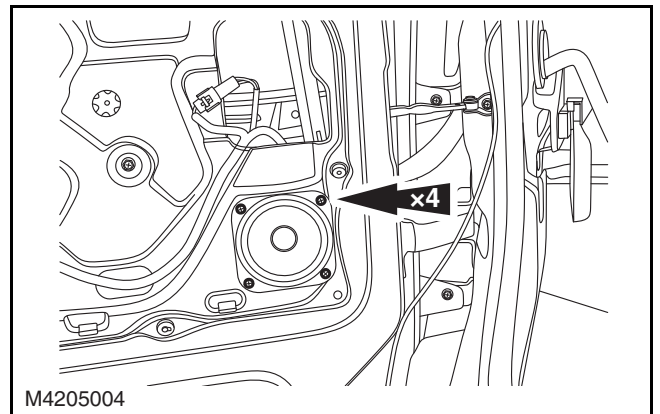
Removal

1. Disconnect the negative battery cable.
Refer to: Battery (3.1.10 Charging System, Removal and Installation).
2. Remove the front door interior trim panel.
Refer to: Front Door Interior Trim Panel (5.1.2 Door, Removal and Installation).
3. Remove the front door water-proof film.

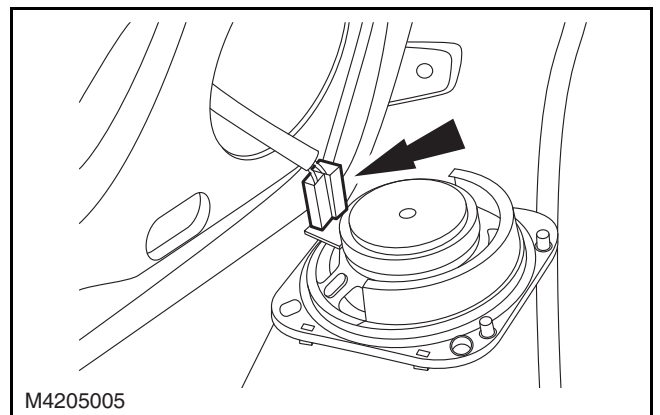
⚠ CAUTION: Be careful to prevent damage to the water-proof film during removal. Do not touch the adhesive surface to avoid reduction in adhesion effect during reassembly.



4. Remove 4 retaining screws from the speaker.



5. Disconnect the speaker wiring harness connector, and remove the speaker.



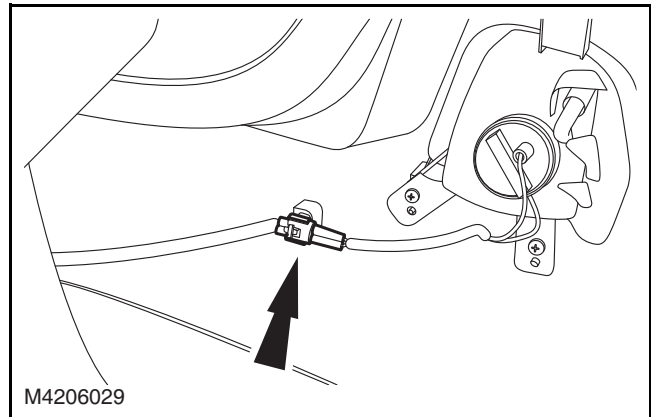
Installation

1. Installation is in the reverse order of removal.

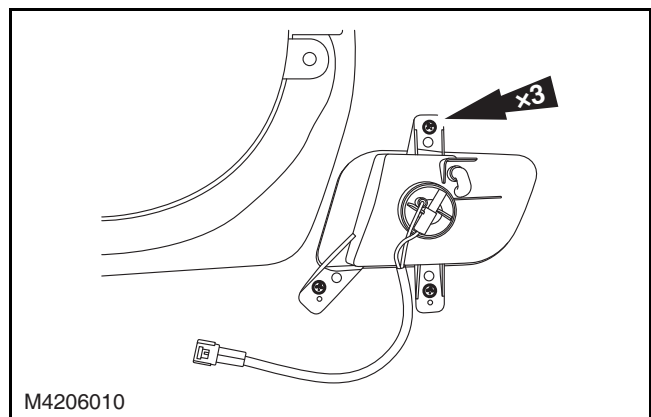
Rear Fog Lamp

Removal

1. Disconnect the negative battery cable.
Refer to: Battery (3.1.10 Charging System, Removal and Installation).
2. Remove the rear bumper.
Refer to: Rear Bumper (5.1.7 Bumper, Removal and Installation).
3. Disconnect the rear fog lamp wiring harness connector.



4. Remove 3 retaining screws from the rear fog lamp, and remove the rear fog lamp.



Installation

1. Installation is in the reverse order of removal.