

REMOTE ENGINE STARTER MZ360340EX INSTALLATION INSTRUCTIONS

Applicable Models
RVR (10MY-)

Warning

This system is exclusively for automatic transmission vehicles. Never install this system on the manual transmission vehicles.

Thank you for purchasing the Mitsubishi Genuine Accessory.

To install and use the product correctly with proper knowledge of it, read this publication carefully.

Keep this publication for reference when maintenance is required.

Attention

- This publication gives precautionary instructions in the boxes titled as follows.
Read through these instructions thoroughly.

Warning

Describes precautions that should be observed in order to prevent serious injury or death to the user.

Caution

Describes precautions that should be observed in order to prevent injury or damage to the vehicle or its components, which may occur if sufficient care is not taken.

Note

Provides additional information that facilitates installation work.

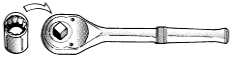
- Failure to follow these instructions not only prevents the product from working properly but may lead to trouble with the vehicle. Be sure to follow all instructions carefully.
- If there is anything unclear about the installation, handling and/or usage of the product, contact your Mitsubishi Motors dealer for clarification.
- Mitsubishi Motors Corporation is not responsible for any defects or difficulties caused by or resulting from the failure to follow given instructions.
- We recommend you to have the installation performed at an authorized Mitsubishi Motors dealer.

To the dealer:

Be sure that the customer receives this publication.

TOOLS (Make the following tools ready for use.)

Socket wrench (10mm)



Extension bar



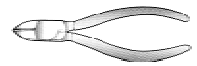
Phillips screwdriver (medium)



Scissors



Cutting pliers



Trim remover



Scale



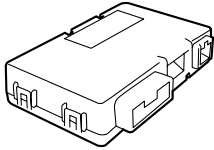
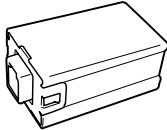
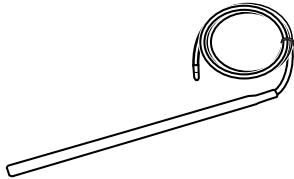
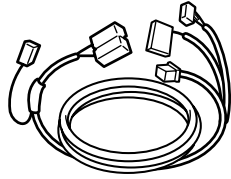
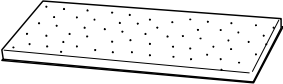
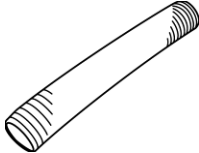
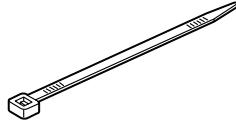
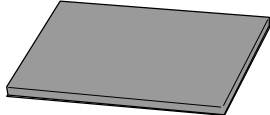
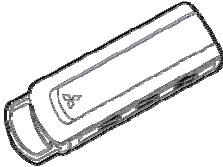
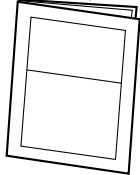
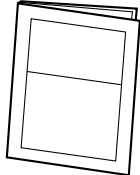
Vinyl tape



Multimeter



COMPONENTS (Make sure that all of the following components were included in the kit.)

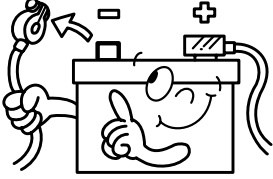
<p>Electronic control unit:1</p> 	<p>Control unit:1</p> 	<p>Antenna unit:1</p> 	<p>Harness:1</p> 
<p>Urethane sheet:1</p> 	<p>Corrugated tube:1</p> 	<p>Tie-wrap:13</p> 	<p>Protective sheet:1</p> 
<p>Remote controller:1</p> 	<p>Installation Instructions:1 (this document)</p> 	<p>Owner's Manual:1</p> 	

PRECAUTIONS

- Be sure to apply the parking brake securely. Remove the ignition key from the key cylinder.
- Disconnecting the (-) cable from the battery causes the radio and audio presets, the clock, etc. to lose their memory. Record the contents of the memory before disconnecting the battery (-) cable to allow you to reprogram the radio presets after the installation is completed.
- Be sure to connect the connectors securely.
- At positions where the harness may interfere with other vehicle parts, take appropriate measures such as winding vinyl tape over the harness or fixing the harness using tie-wraps to prevent it from damage and dangling.
- To prevent the cut edges of tie wraps causing injury, do the following:
 - Wind the tie wrap with its protruding part pointing downward (so that its cut end points downward).
 - Cut off the excess tie wrap close to the head. Do not cut at an angle.

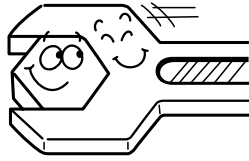
Before installation

- Be sure to disconnect the negative terminal cable from the battery.



When installing or removing parts

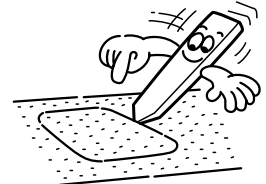
- Loosen or tighten bolts and nuts using tools that match their sizes.



- Use a Phillips screwdriver that fits the recess in the head of the screw being loosened or tightened.

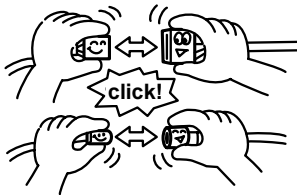


- To remove plastic parts, use a trim remover.

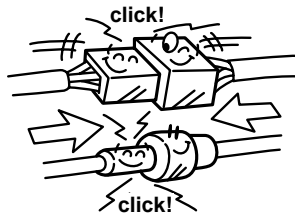


Wiring

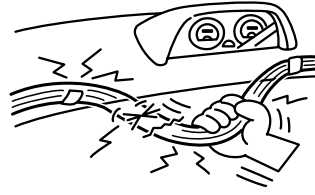
- When disconnecting connectors, first unlock them, then separate the connectors by pulling on themselves, not on cables.



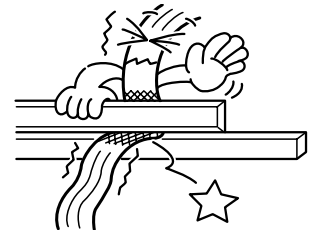
- When connecting connectors, push them against each other until the lock clicks.



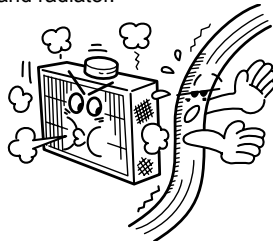
- Do not pull on wiring harnesses strongly.



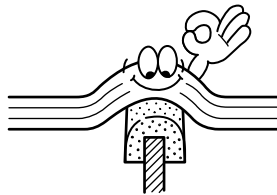
- Do not let harnesses be pinched between parts.



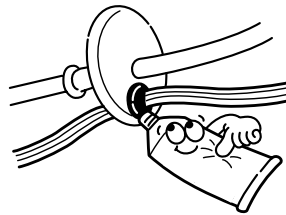
- Route the harness away from hot components such as the engine and radiator.



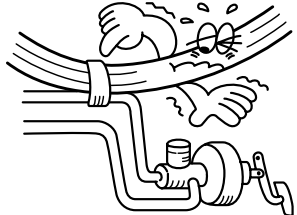
- Protect the harness from sharp edges by covering the edges with tape or other suitable materials.



- Apply sealant to grommets at portions where the harness run through.

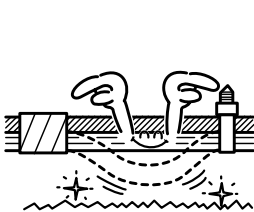


- Do not fasten the harness to brake pipes or high pressure air conditioner pipes.



Clamping harness

- Fasten the additional harness to an existing vehicle harness using tape or tie wraps.



- Bind up extra length of the harness using a tie wrap.

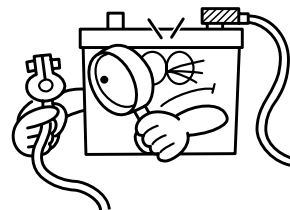


- If one tie wrap is too short, use two connected together.

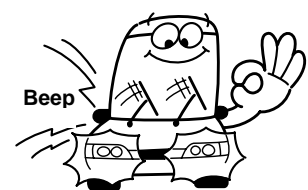


After installation

- Check the product and wiring for installed condition before connecting the cable to the battery.

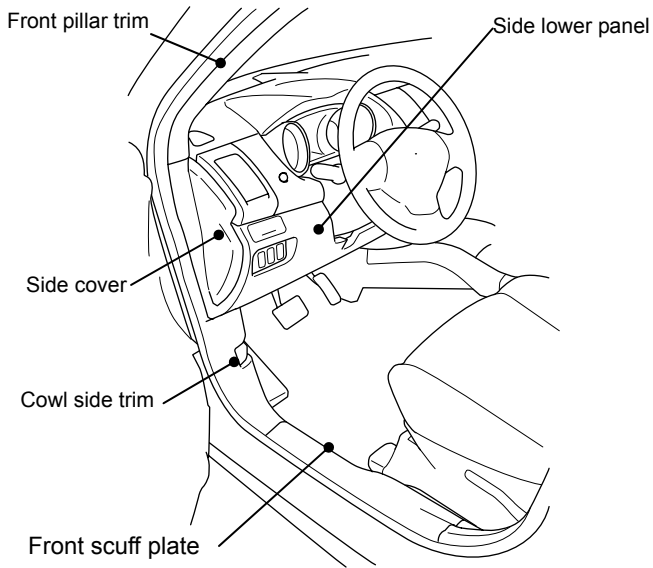


- Check the installed product for function. Also check lamps, horn, wipers, etc. for proper operation.



INSTALLATION PROCEDURES FOR RVR

A. PREPARATORY WORK



- 1) Confirm that the ignition key is removed and all the electrical switches are off. Then disconnect the battery(-) cable from the battery.
- 2) Remove the following parts in accordance with the workshop manual.
 - Side lower panel
 - Front pillar trim, driver's side
 - Front scuff plate, driver's side
 - Cowl side trim, driver's side
 - Side cover, driver's side

Check	
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B. ROUTING THE HARNESS

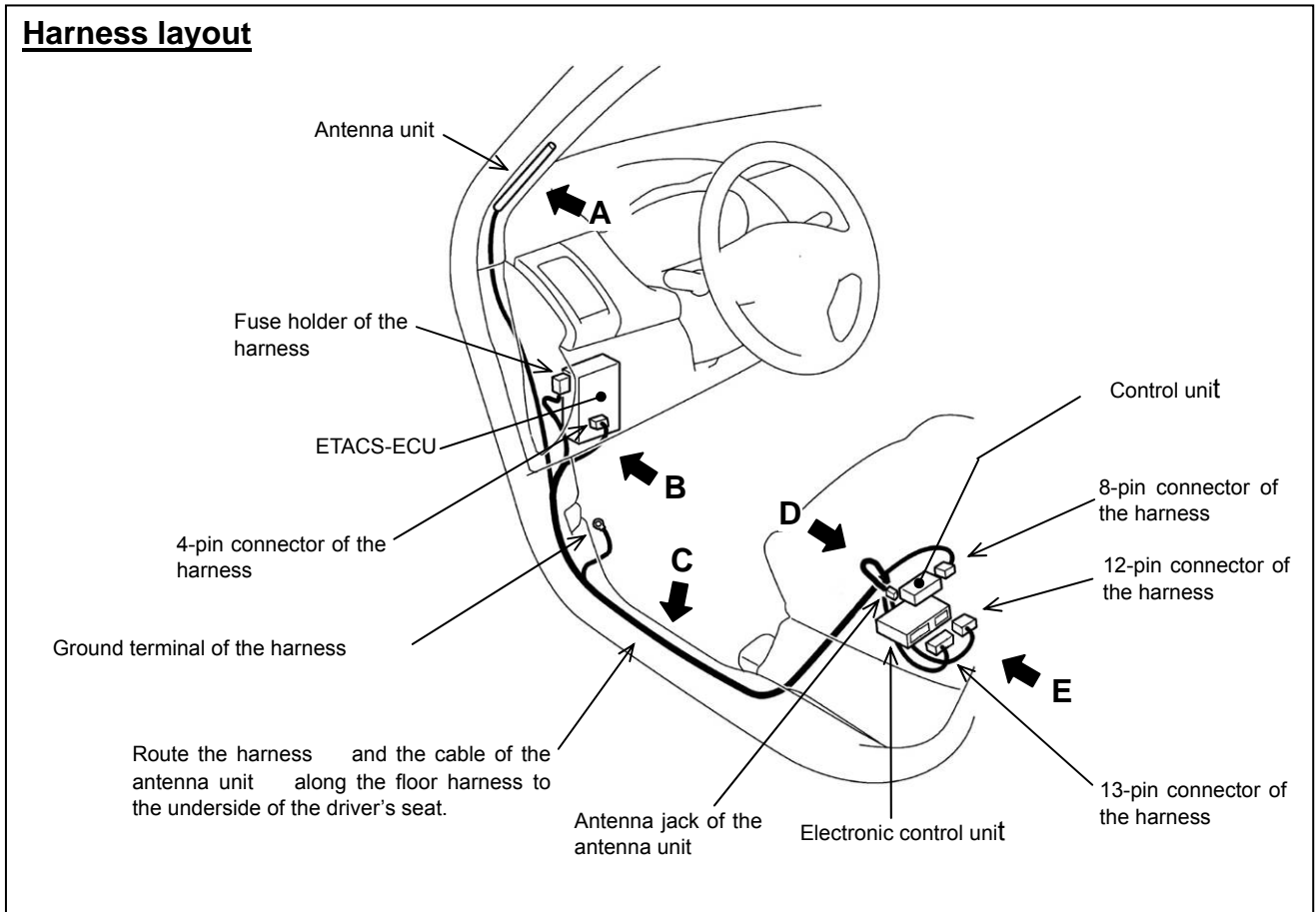
1) Route the harness and the antenna unit as shown in the drawing.

- Harness :

Route from the ETACS-ECU along the floor harness under the scuff plate to the underside of the driver's seat.

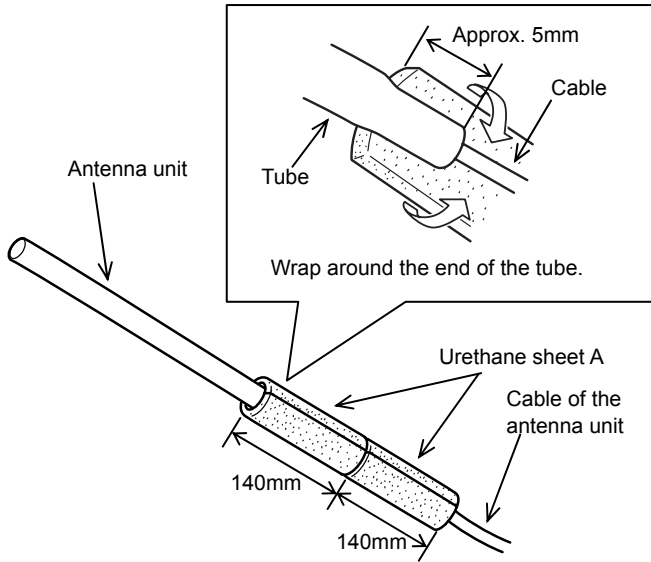
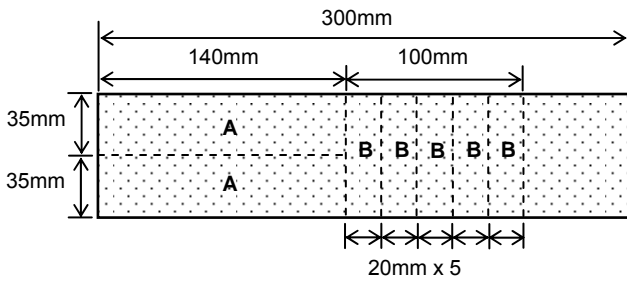
- Antenna unit :

Wind the urethane sheet around the antenna unit for protection. Then route the cable of the antenna unit to the underside of the driver's seat.

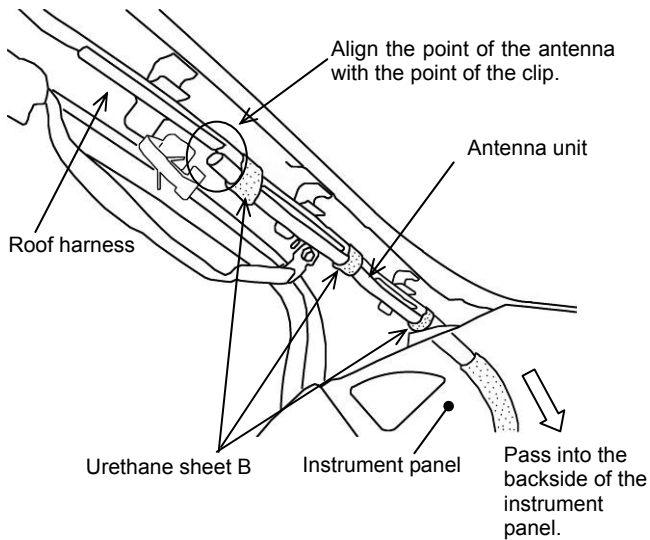


Check	
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C. INSTALLING THE ANTENNA UNIT



View A



1) Cut the urethane sheet into the following dimensions.

A: 35 x 140 mm (2 pieces)

B: 70 x 20 mm (5 pieces)

2) Wrap the two pieces of urethane sheet A around the cable of the antenna unit.

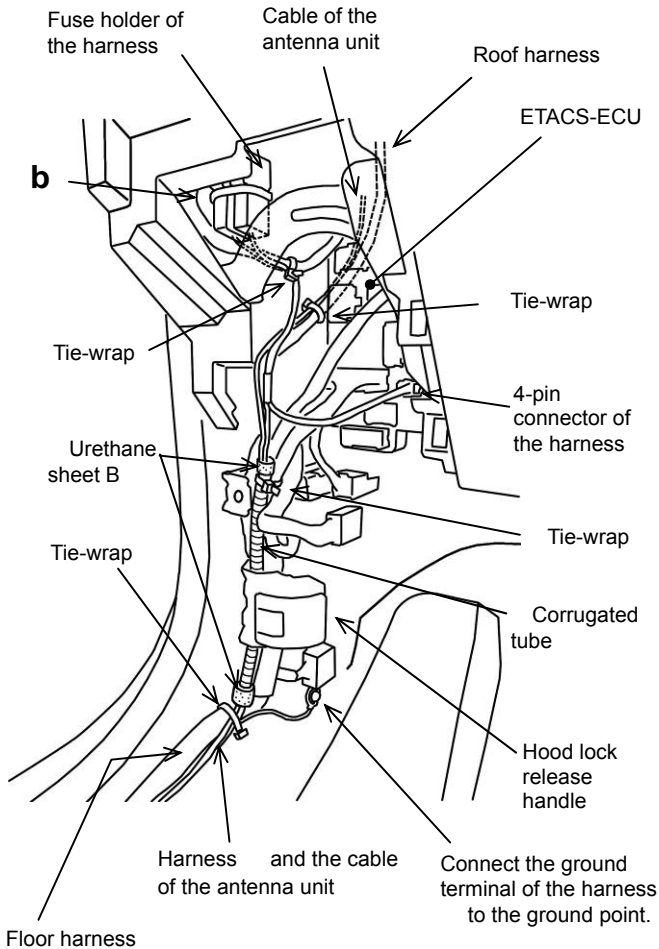
3) Pass the cable of the antenna unit into the backside of the instrument panel at the bottom of the front pillar.

4) Position the antenna unit along the roof harness and bind them using the three pieces of urethane sheet B.

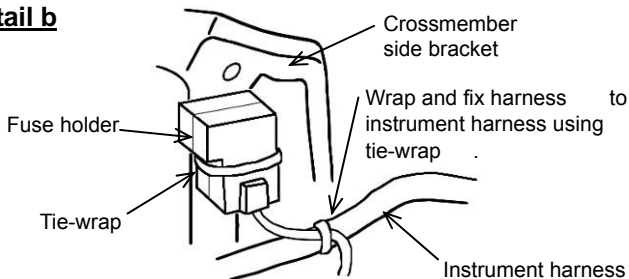
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D. ROUTING UNDER THE INSTRUMENT PANEL

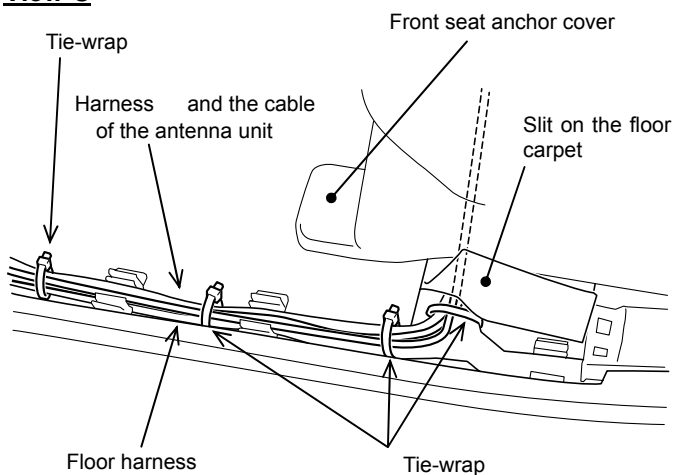
View B



Detail b



View C



- 1) Route the cable of the antenna unit along the roof harness at the backside of the instrument panel and bundle them using the tie-wraps as shown in the drawing.
- 2) Connect the 4-pin connector of the harness to the unused 4-pin connector on the ETACS-ECU securely.
- 3) Secure the fuse holder of the harness on the crossmember side bracket in the direction shown in Detail b using the tie-wrap.
- 4) To prevent damage of the harness by the brackets around the hood lock release handle, cover the harness and the cable of the antenna unit with the corrugated tube as shown in the drawing. Wind the urethane sheet B around each end of the corrugated tube to fix the tube in position.
- 5) Route the corrugated tube along the floor harness and bundle them using the tie-wrap.
- 6) Tighten the ground terminal of the harness to the vehicle's ground point securely.

Note

Refer to the workshop manual for the ground bolts tightening torque.

- 7) Route the harness and the cable of the antenna unit along the floor harness to the underside of the driver's seat and bundle them using the tie-wraps.

Caution

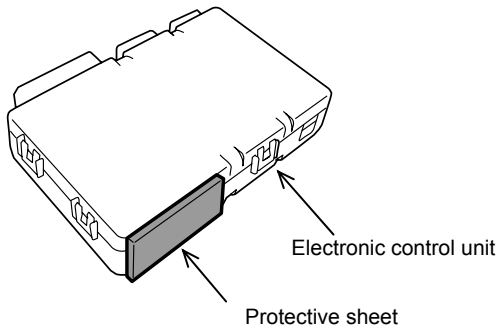
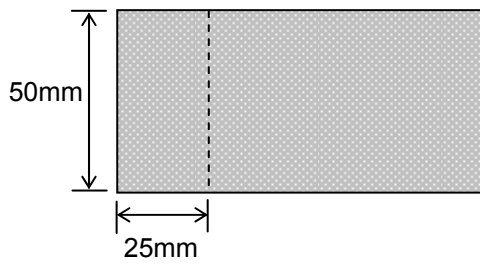
Position the harness and cable so as not to be pinched by the scuff plate mounting clips.

Note

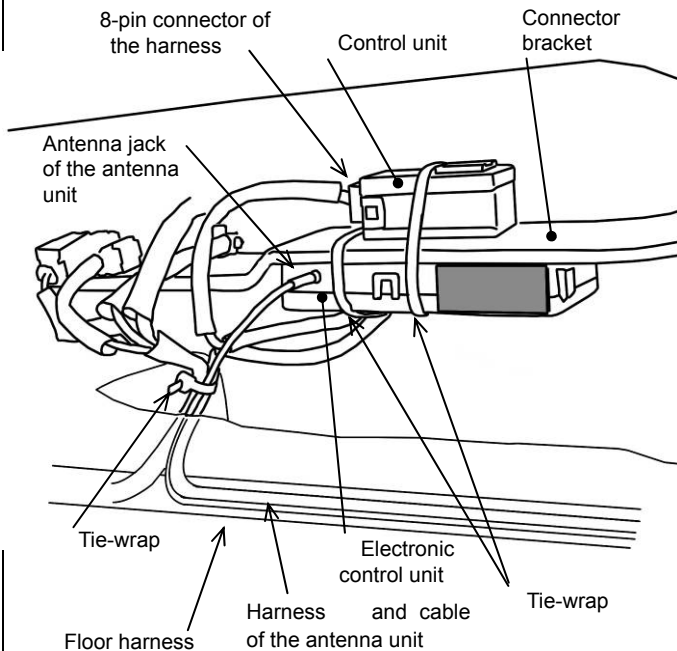
When routing the harness and cable from under the floor carpet to the underside of the driver's seat, releasing the driver's seat fasteners will facilitate the work.

Check	
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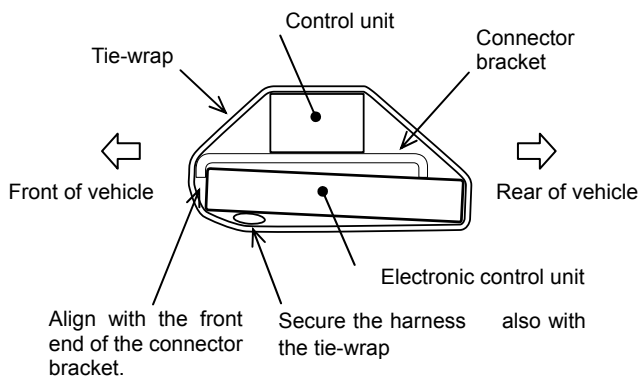
E. ROUTING UNDER THE DRIVER'S SEAT



View D



Securing the electronic control unit and the control unit



1) Cut off a 25 x 50 mm sheet from the protective sheet . Attach it on the electronic control unit as shown in the drawing.

2) Secure the electronic control unit , control unit and the harness to the connector bracket under the driver's seat using tie-wrap as shown in the drawing.

- The electronic control unit should be aligned with the front end of the connector bracket.
- Locate these units where they would not interfere with other parts when the seat is moved forward/reverse or upward/downward.

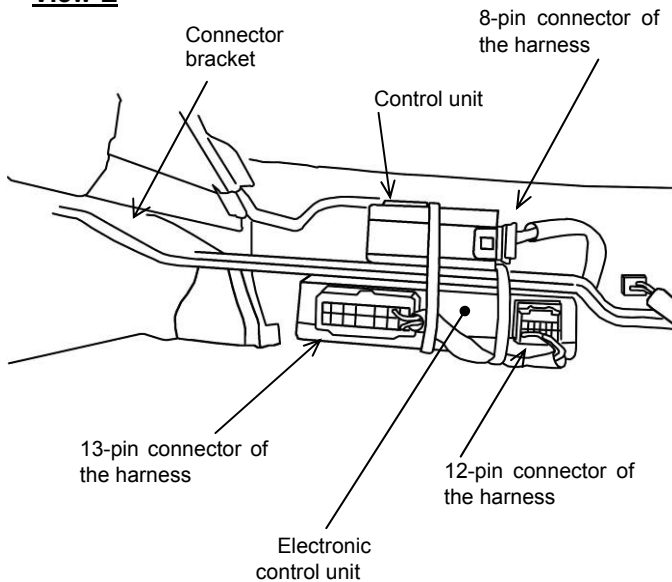
Note

Raising the seat cushion will facilitate the work.

3) Connect the antenna jack of the antenna unit to the electronic control unit .

4) Secure the harness and the cable of the antenna unit with the floor harness using the tie-wrap while taking care not to interfere the harnesses with the vehicle's brackets. In addition, bundle the excess lengths of there harness and the cable together in a proper way.

View E



- 5) Connect the 8-pin connector of the harness to the control unit securely.
- 6) Connect the 12-pin connector and the 13-pin connector of harness to the electronic control unit securely.
- 7) After connection, confirm that the harness does not interfere with any part of the seat while moving the seat forward/reverse and upward/downward.

Check	<input type="checkbox"/>
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F. CHECKING AFTER INSTALLATION

- 1) Check that all the harnesses are connected correctly while referring to the wiring diagram.
- 2) Check that all the connectors are connected securely.
- 3) Fix the harnesses properly to prevent them from interference and dangling using the tie-wraps and vinyl tape.

Check	<input type="checkbox"/>
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G. REGISTRATION AND OPERATION CHECK

- 1) Connect the battery (-) cable.
- 2) Perform the registration and operation check in accordance with "REGISTRATION AND OPERATION CHECK PROCEDURES" (Page 10).

Check	<input type="checkbox"/>
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H. REINSTALLATION

- 1) Reinstall the removed parts to the vehicle in accordance with the workshop manual.

⚠ Caution

- Be careful not to pinch the harnesses or damage the parts.
- Refer to the workshop manual for the reinstallation of the parts.
- Refer to the workshop manual for the tightening torque of each bolt.

- 2) Reprogram the radio and audio memories and adjust the clock. For the reprogramming procedure, refer to the owner's manual.

Check	<input type="checkbox"/>
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REGISTRATION AND OPERATION CHECK PROCEDURES

⚠ Caution

Never perform the registration and operation check procedures simultaneously on some vehicles to prevent duplicated registration.

(1) Operation check of remote controller



Check

Perform the operation check in the following procedure.

⚠ Caution

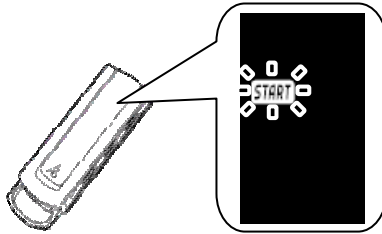
- The remote controller should be checked with the (-) terminal of the vehicle's battery disconnected.
- For how to install batteries, refer to the owner's manual.

📖 Note

- Before starting the work, refer to the drawing in the owner's manual to confirm the name and use of the controls on the remote controller.
- Release the Switch Lock referring to the drawing in the owner's manual if the Switch Lock Mark () lights when the switch of the remote controller is pushed.
- Replace the battery for the new article referring to the owner's manual if the Battery Mark () lights when the switch of the remote controller is pushed.

1) Perform the engine start operation.

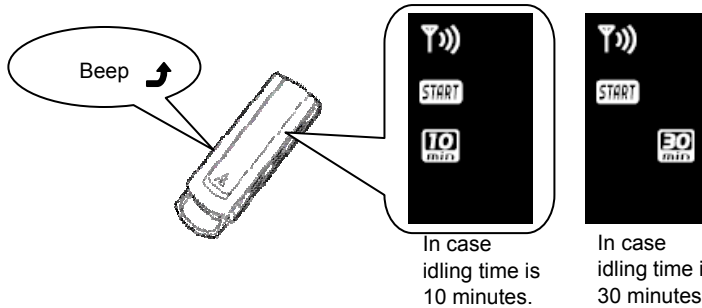
Push Function SW short once. → Start Mark blinks approx. 3 seconds.



OK ↓

While Start Mark is blinking, push Start SW until sounding Buzzer.

→ Buzzer sounds, and the idling time, Transmission, Start Mark lights approx. 3 seconds.



NG →

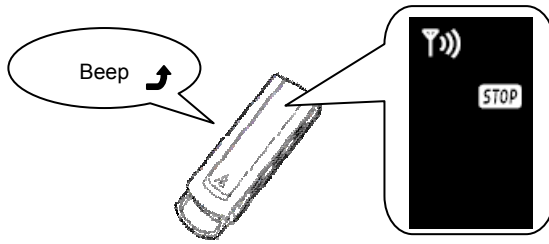
Go to Troubleshooting A.





2) Perform the engine stop operation.

Push Stop SW for 1 seconds or more. → Buzzer sounds, and Transmission, Stop Mark lights approx. 3 seconds.



NG → Go to Troubleshooting A.

(2) Registration of the remote controller

Connect the (-) terminal of the vehicle's battery and perform the registration in the following procedure.

Check

⚠ Caution

- The engine starter cannot function unless the remote controller is registered correctly.
 - This procedure requires the keyless-entry key or keyless operation key registered to the vehicle.
 - Some steps of this procedure must be performed within the limited time. Be sure to understand this procedure fully before starting the work.
- If the required operation have not finished in a specified time, retry the registration procedure from the beginning.
- The step that has a time limit is shown by a black arrow "↓".
- The remote controller will not be registered if the procedure is not performed in the correct way. In such case, disconnect the (-) terminal of the vehicle's battery once and then retry the registration procedure from the beginning.

⚠ Caution

Do not step on the brake pedal when operating that pushes the engine switch on vehicles with keyless operation system : the engine switch is a push type.

1) Set the vehicle in the following condition.

- Close all the doors (including backdoor and trunk lid) and hood.
(The worker should get in the vehicle.)
- Remove the ignition key from the ignition key cylinder.

On vehicles with keyless operation system : the engine switch is a rotary type.
Set the ignition knob to LOCK (OFF) position and remove the ignition knob cap.

On vehicles with keyless operation system : the engine switch is a push type.
Set the state of LOCK(OFF) (The indicator of the switch is turned off).





2) Insert the ignition key into the key cylinder.
Turn the key from LOCK (OFF) to ACC, and wait for 3 to 5 seconds.

On vehicles with keyless operation system : the engine switch is a rotary type.

Insert the emergency key into the ignition knob.

Turn the ignition knob from LOCK(OFF) to ACC, and wait for 3 to 5 seconds.

On vehicles with keyless operation system : the engine switch is a push type.

Push the engine switch once, set to the ACC state(The indicator of the switch lights to the orange color), and wait for 3 to 5 seconds.



3) Return the key from ACC to LOCK (OFF).

On vehicles with keyless operation system : the engine switch is a rotary type.

Return the ignition knob from ACC to LOCK (OFF).

On vehicles with keyless operation system : the engine switch is a push type.

Push the engine switch twice, set to the LOCK(OFF) state(The indicator of the switch is turned off).



4) Within 10 seconds after the operation in the above step 3), turn the key from LOCK (OFF) to ACC to LOCK (OFF) repeatedly 4 times.

On vehicles with keyless operation system : the engine switch is a rotary type.

Within 10 seconds after the operation in the above step 3), turn the ignition knob from LOCK (OFF) to ACC to LOCK (OFF) repeatedly 4 times.

On vehicles with keyless operation system : the engine switch is a push type.

Within 10 seconds after the operation in the above step 3), push the engine switch 12 times.

When the key (or knob) is finally returned to the LOCK(OFF) position after the above operation, the buzzer of the ECU beeps once. If the buzzer sounds once, remove the key.

NG

Go to
Troubleshooting B.



Note

- In case of "On vehicles with keyless operation system : the engine switch is a push type", the transition of LOCK (OFF) to ACC to IG to LOCK (OFF) state will be repeated 4 times by pushing the engine switch from the LOCK(OFF) state (The indicator of the switch is turned off) 12 times.
After the engine switch is pushed 12 times, the state will be the LOCK(OFF) state (The indicator of the switch is turned off).
If the state is not LOCK(OFF) state (The indicator of the switch is turned off) after pushing it 12 times, disconnect the (-) terminal of the vehicle's battery once and reconnect it, and then retry the registration procedure from the beginning.

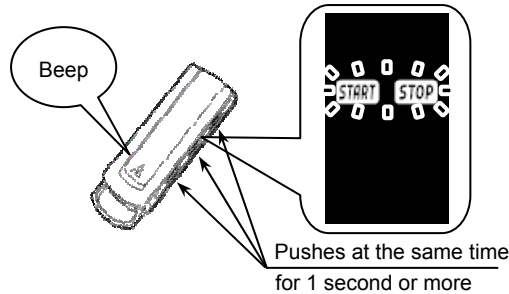
OK



OK ↓

5) Within 5 seconds after the operation in the above step 4), push three switches (Function Switch, Start Switch, and Stop Switch) on the right side of the remote controller at the same time for 1 second or more.

The buzzer of the remote controller sounds when pushing for 1 second or more, and the Start Mark and Stop Mark begin blinking.



NG

Faulty remote controller

OK ↓

While the Start Mark and Stop Mark of the remote controller is blinking (about 20 seconds), perform the following operations 6) and 7).

6) Insert the ignition key into the key cylinder and turn the key from LOCK (OFF) to ACC to LOCK (OFF), and remove the key.

On vehicles with keyless operation system : the engine switch is a rotary type.

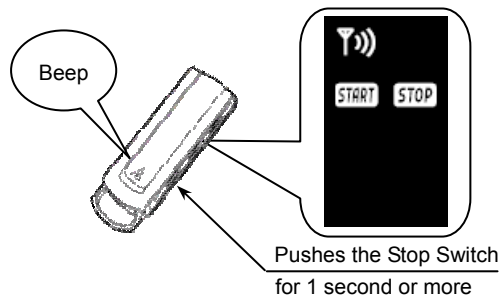
Insert the emergency key into the ignition knob and turn the knob from LOCK(OFF) to ACC to LOCK(OFF), and remove the emergency key.

On vehicles with keyless operation system : the engine switch is a push type.

Push the engine switch 3 times for the state transition of LOCK(OFF) to ACC to IG to LOCK(OFF).

When the key (or knob) is returned to the LOCK(OFF) position, the buzzer of the ECU will beep once.

7) Perform the engine stop operation by the remote controller.



NG

Go to Troubleshooting B.

If the remote controller is operated correctly, the buzzer of the ECU will beep twice.

OK ↓



Note

If any switch except the engine stop switch is pushed in the above step 7), the registration operation is discontinued. (The Start Mark and Stop Mark stop blinking, and all the marks on display are turned off.)
If the registration operation is discontinued by misoperation, disconnect the (-) terminal of the vehicle's battery once and reconnect it, and then retry the registration procedure from the beginning.

OK ↓

8) Within 10 seconds after the sound of the buzzer in the above step 7), perform the following operations.

- Using the keyless-entry key (or keyless operation key) registered to the vehicle, press the door unlock button 3 times successively.

After the above operation, the door locks should automatically lock and unlock once and then, after several seconds, lock and unlock again.

NG →

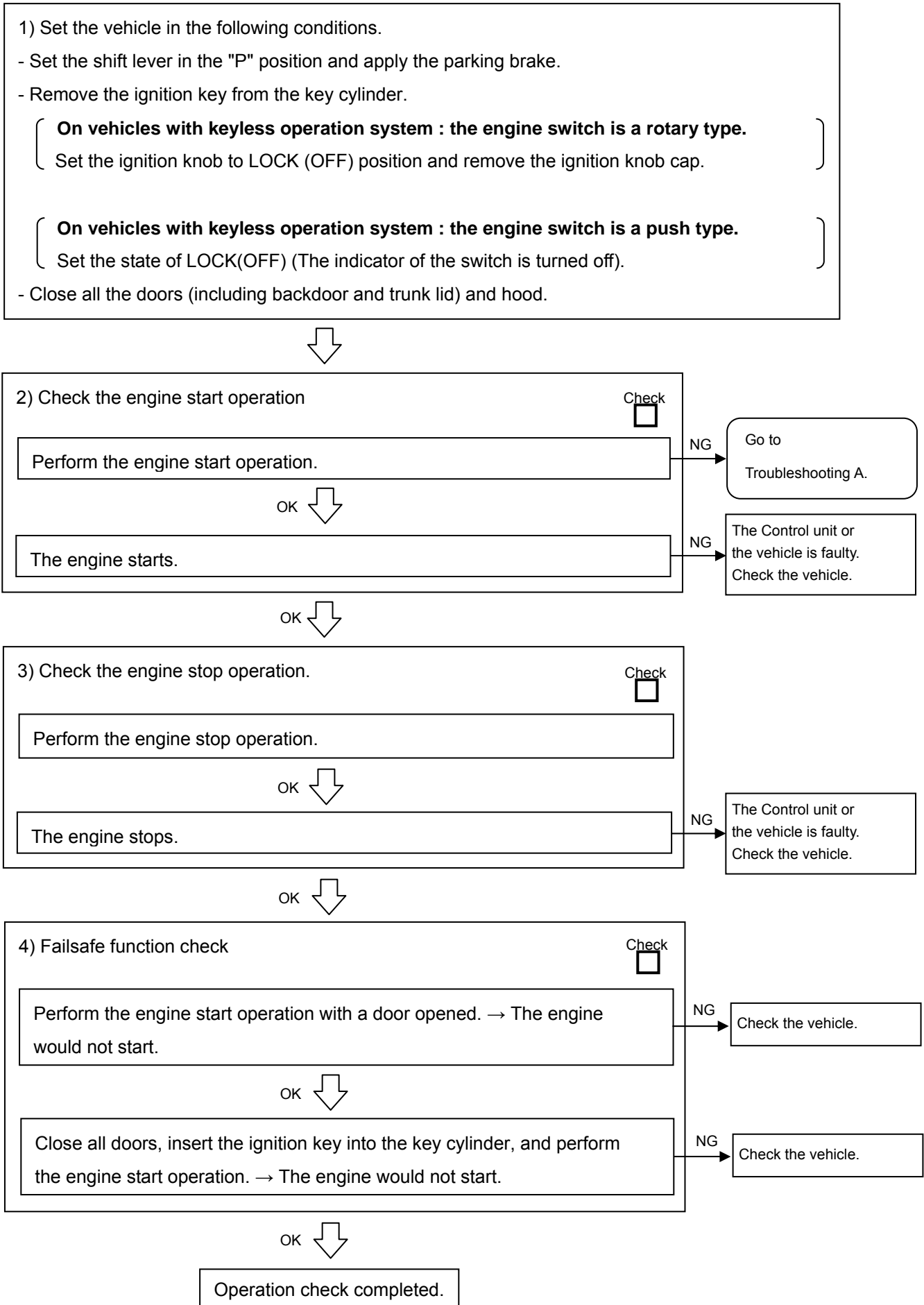
Go to
Troubleshooting C.

OK ↓

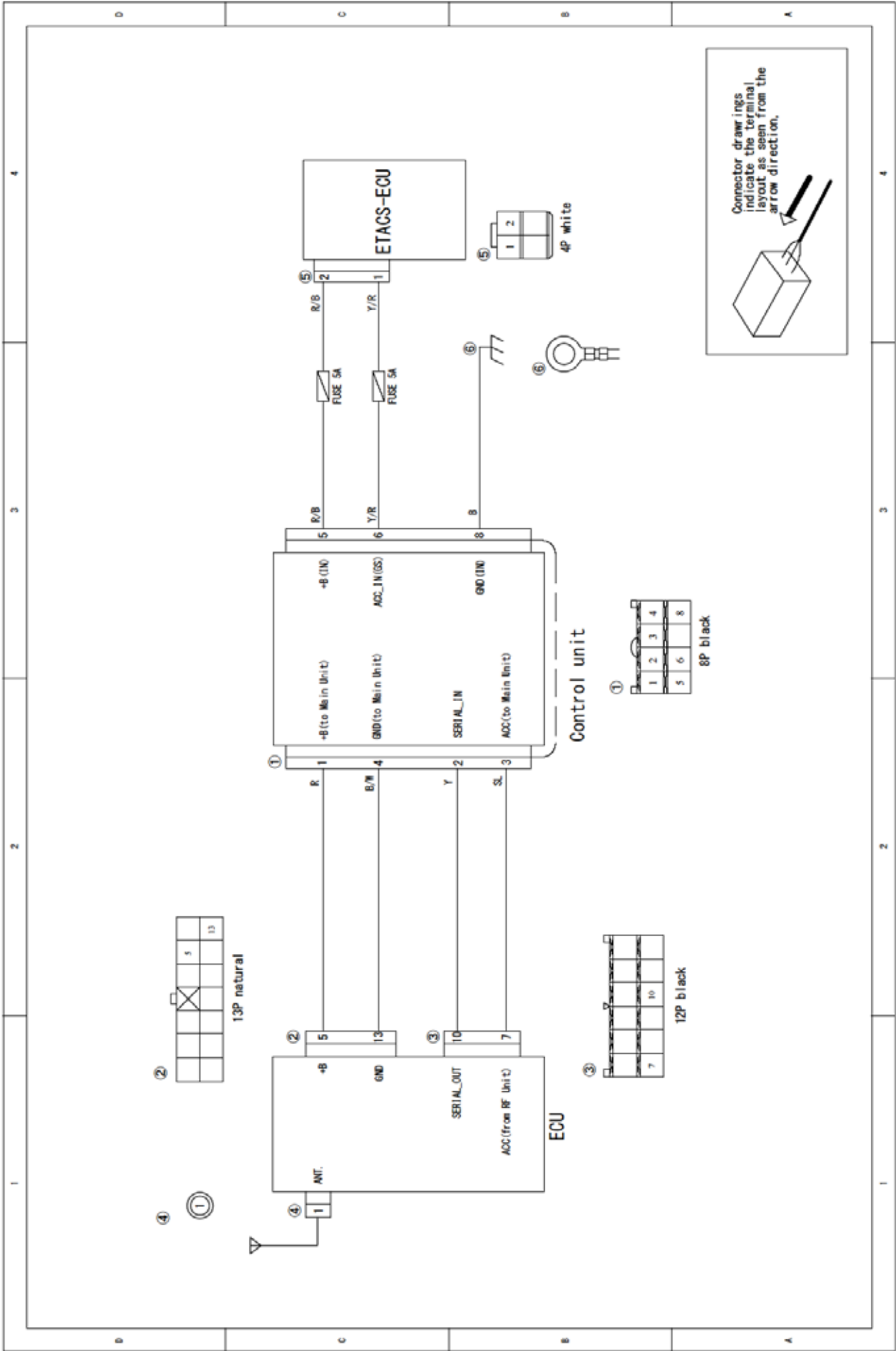
Registration is completed

(3) Operation check

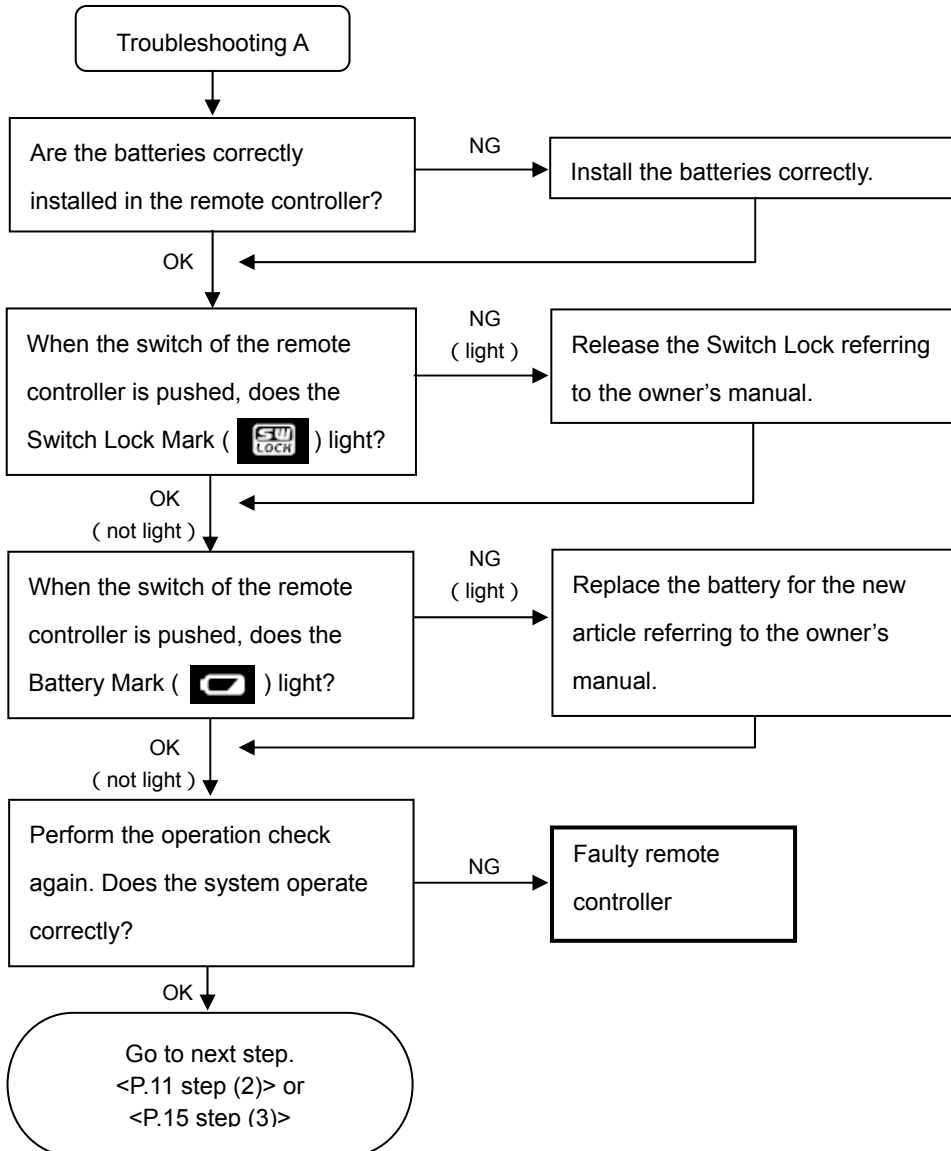
Perform the operation check in the following procedure while referring to the owner's manual.

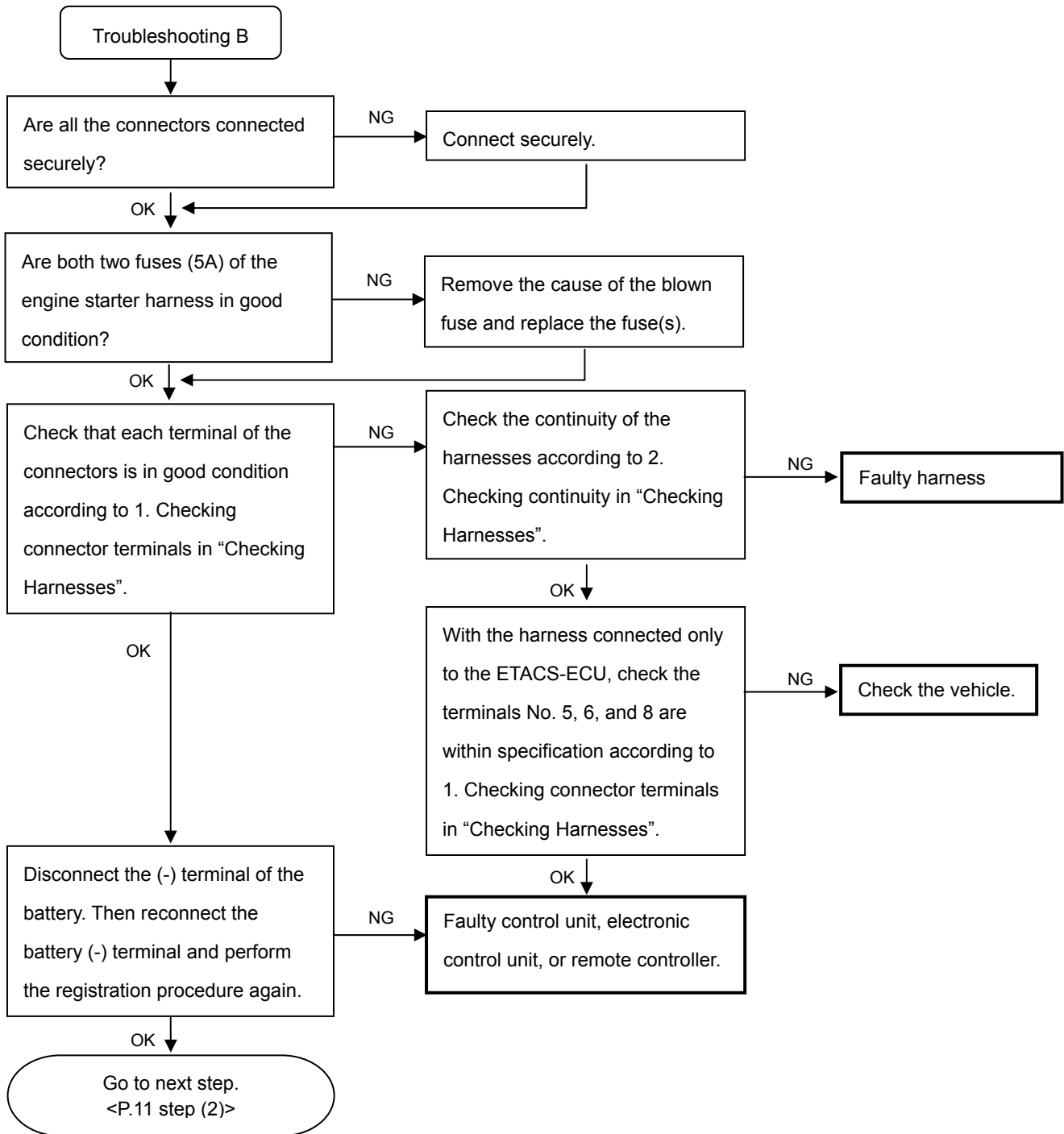


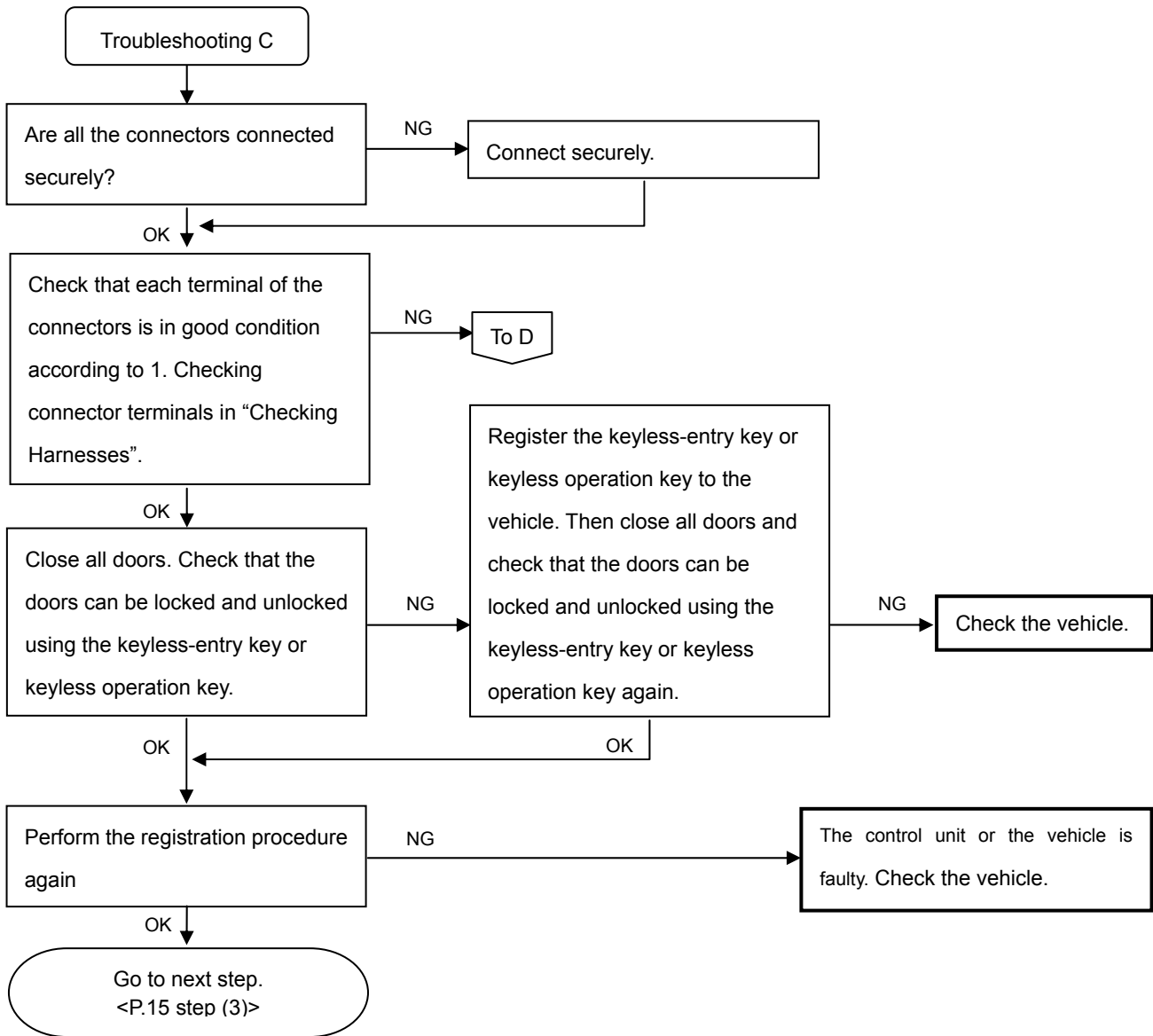
Circuit Diagram



Troubleshooting

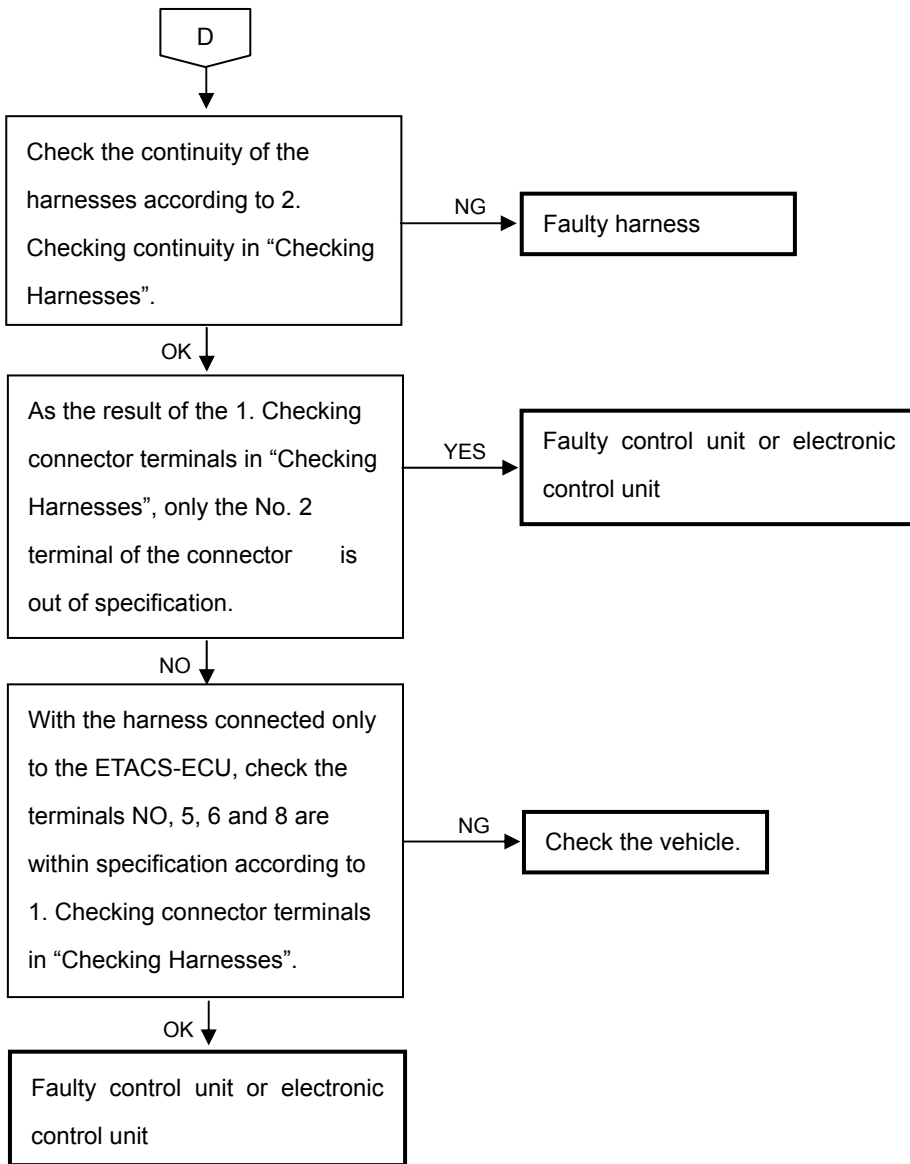






Note

Refer to the workshop manual for the registration of the keyless-entry key or keyless operation key.



Checking Harnesses

Note

The probes of the multimeter must be applied from the harness side of the connector.

1. Checking connector terminals

While referring to the circuit diagram, check each terminals of the connector (8-pin, black) connected to the control unit in accordance with the following table using a multimeter.

Connector No.	Terminal No.	Item	Check condition	Specification	Check
	1	Voltage between the terminal and the body ground	Any time	10 to 14V	
	2	Voltage between the terminal and the body ground	Within approx. 4 seconds after performing the engine stop operation in step 7) of the registration procedure.	Varies between 2.7 to 3.5V 0V	
			other than above	2.7 to 3.5V	
	3	Voltage between the terminal and the body ground	Ignition key position "OFF" → "ACC"	2.7 to 3.5V→0V	
	4	Continuity between the terminal and the body ground	Any time	Continuity exists.	
	5	Voltage between the terminal and the body ground	Any time	10 to 14V	
	6	Voltage between the terminal and the body ground	Ignition key position "OFF" → "ACC"	0V→10 to 14V	
	8	Continuity between the terminal and the body ground	Any time	Continuity exists.	

2. Checking continuity

While referring to the circuit diagram, check the continuity of harness in accordance with the following table.

(+) probe of multimeter to be connected		(-) probe of multimeter to be connected		Check
Connector No.	Terminal No.	Connector No.	Terminal No.	
	1		5	
	4		13	
	2		10	
	3		7	
	5		2	
	6		1	
	8		-	