

GENUINE REMOTE ENGINE START (Part No.: C930 V7 620)

Troubleshooting Manual

If the following problem or error occurs with the aforementioned Genuine Remote Engine Start (hereafter referred to as "RES"), use this manual to troubleshoot the problem or error.



- During RES installation, there is a problem with controller registration even after referring to the "GENUINE REMOTE ENGINE START Registration Procedure Of the Controller."*
*Harness kit included
- During the RES installation, the controller was successfully registered, but then an error occurred during the operation check.
- After replacing or adding a remote control, there was a problem with remote control registration even after referring to the "GENUINE REMOTE ENGINE START Registration Procedure Of the Remote control" (including the spare remote control).
- An error occurs during use, and an inquiry is made to an authorized Mazda dealer by the customer.

[Troubleshooting]

This troubleshooting manual lists a diagnostics guide which is categorized by the following errors or problems. Troubleshoot the problem or error that occurred by referring to the items that correspond to each error or problem listed here.

Problem	Reference
Remote control related problems	
<ul style="list-style-type: none"> • Remote control does not work (remote control display does not appear, or remote control buzzer does not sound) • Remote control operating distance is short 	A1 p.2
Problems related to engine startup operations	
<ul style="list-style-type: none"> • Engine does not start using the remote control • Engine stops after starting it with the remote control • The headlight or taillight turns on when the engine has been started with the remote control • After starting the engine using the remote control, the wipers will not turn on even when the wiper switch is set to the "AUTO" position and it begins to rain. 	A2 p.3
Problems related to engine stop operations	
<ul style="list-style-type: none"> • Engine does not stop using remote control 	A3 p.4
Problems related to warm up time check	
<ul style="list-style-type: none"> • Warm up time check does not work • Warm up time remaining appeared on the LCD monitor of the remote control is different from its actual time. 	A4 p.5
Problems related to vehicle status check	
<ul style="list-style-type: none"> • Vehicle status check does not work • The letter of "E" appears on the LCD monitor of the remote control • RUN mark does not turn on when the engine has been started with the push start switch • Even though the engine starts up normally using the "Engine start operation," the rear defrost mark displays on the remote control. • Even though the engine starts up normally using the "Engine start operation," the rear defrost mark displays on the remote control. • Even though the engine starts up using the "Engine start operation with rear defrost start up," the rear defrost mark does not display on the remote control. 	A5 p.6
Problems related to setting warm up time	
<ul style="list-style-type: none"> • Warm up time settings does not work 	A6 p.8
Problems related to rear defrost force operation	
<ul style="list-style-type: none"> • The rear defrost does not turns on • Even though the engine starts up normally using the "Engine start operation," the rear defrost is activated • The dash light does not turn on when the rear defrost is turned on with the Remote Engine Start 	A7 p.9
Problems related to car find function	
<ul style="list-style-type: none"> • Car find function on the remote control does not work • Even though the car find function is executed while the turn signal lamp is flashing (activated by the vehicle's turn signal switch), the hazards do not flash. 	A8 p.10
Problems related to controller registration	
<ul style="list-style-type: none"> • Controller does not register • Controller buzzer does not sound during registration 	A9 p.11
Problems related to remote control registration	
<ul style="list-style-type: none"> • Remote control does not register • Controller buzzer does not sound during registration 	A10 p.13

Diagnostics Guide

A1

Remote control does not work
(Remote control display does not appear, or the buzzer does not sound)

When operating the remote control, another switch was not accidentally pressed at the same time.

NO

Refer to the basic operation items in the "User's instructions" to perform the remote control operation correctly.

YES

Did you press the remote control switch following the correct procedure, as noted in the "User's instructions?"

NO

Refer to the basic operation items in the "User's instructions" to perform the remote control operation correctly.

YES

The remote control is working correctly
(Refer to **B1**).

Remote control operating distance is short

After performing the remote control operation check (Refer to **B1**), there is no problem or error with the remote control.

NO

Refer to **B1**, and perform the procedure for battery replacement or remote control replacement.

YES

Even after trying to operate the remote control from a better location, or after moving closer (within approximately 300ft of vehicle) to the vehicle when operating the remote control, the vehicle does not respond.

NO

When there is something between the remote control and the vehicle, such as a building, if you move to a better location (with no obstructions), the operating distance becomes shorter.

YES

The harness and controller of the remote engine start are attached to the correct location where are shown in the installation instructions.

NO

Attach the harness and controller to the correct location in the vehicle where are shown in the installation instructions.

YES

The metal parts or other electronic control units except Mazda genuine parts are not attached close to the controller (especially antenna component of it).

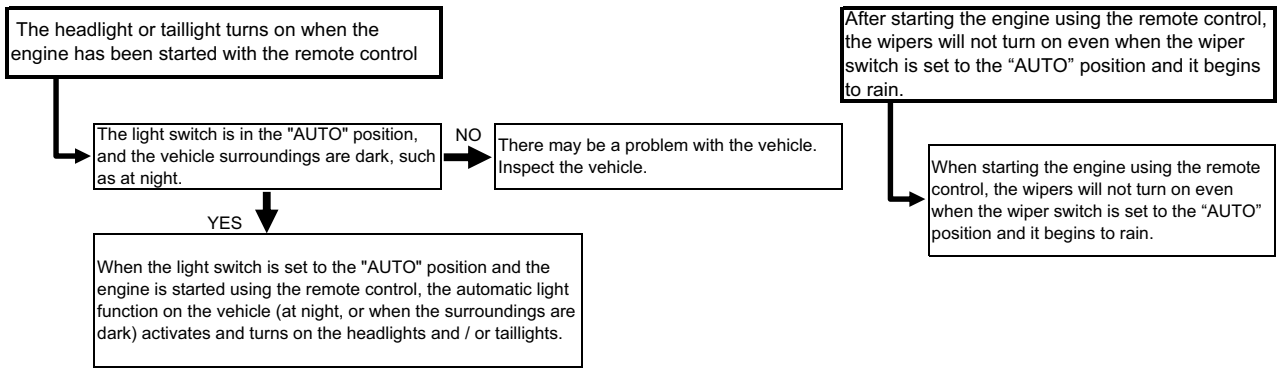
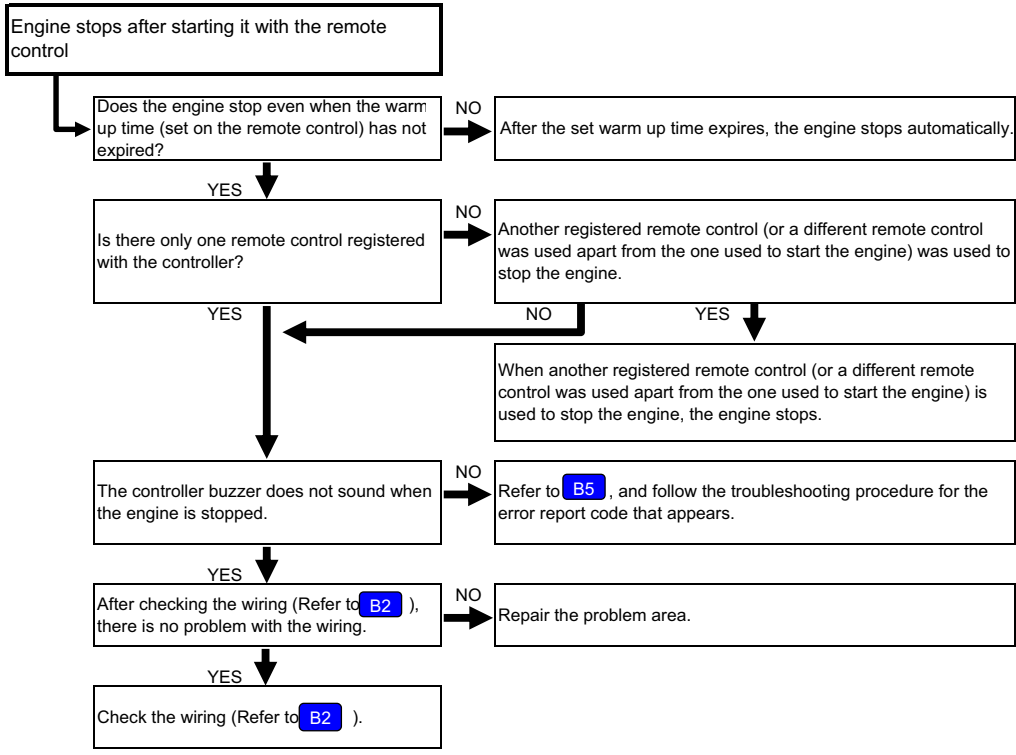
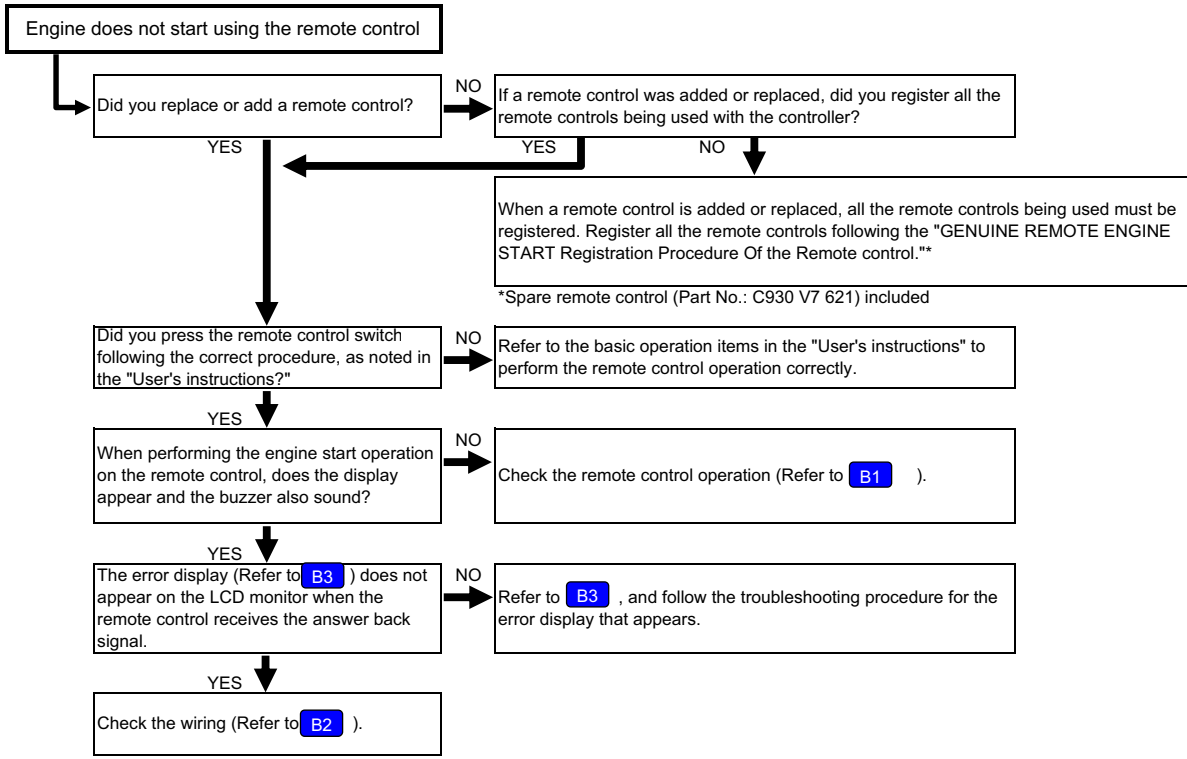
NO

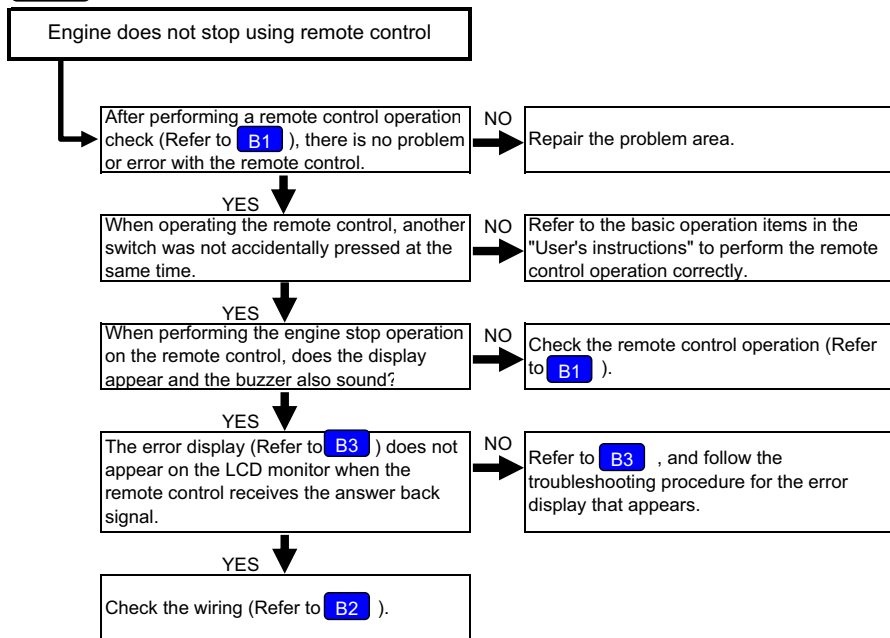
If the metal parts or other electronic control units are attached close to the controller of the remote engine start, the operating distance of the remote engine start may be affected by them.
Do not attach those parts or units close to the controller.

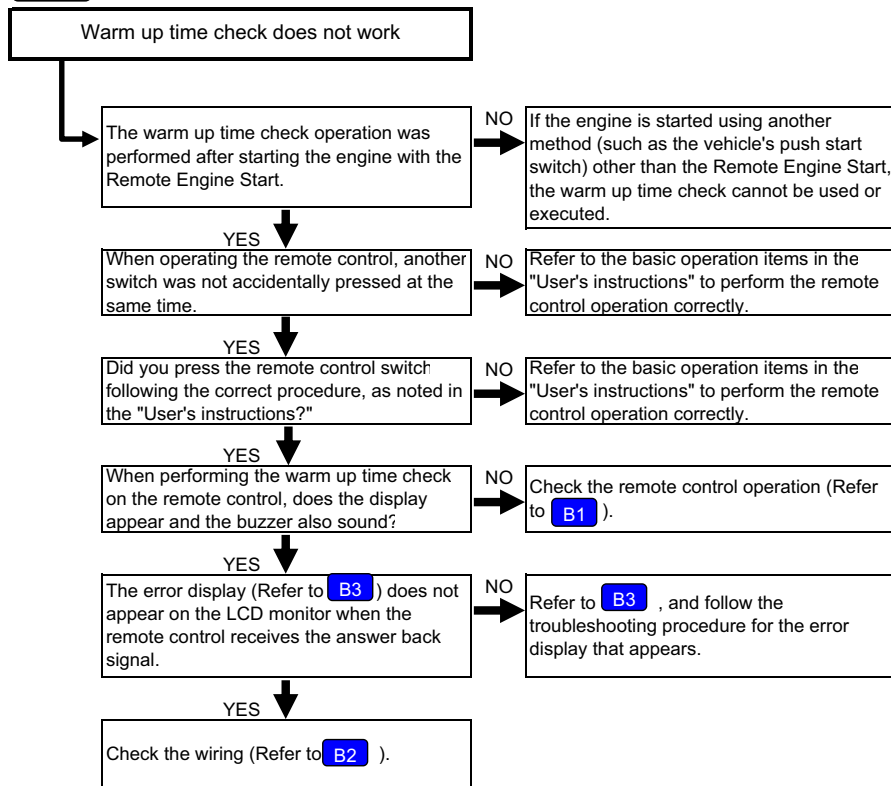
YES

The controller is faulty or defective. Replace the controller.

A2

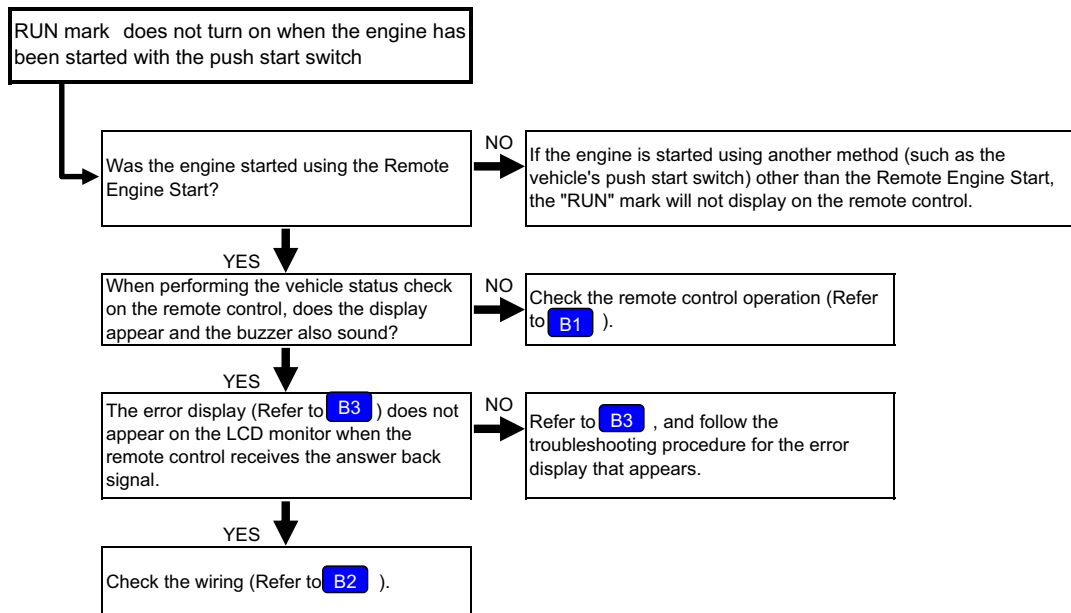
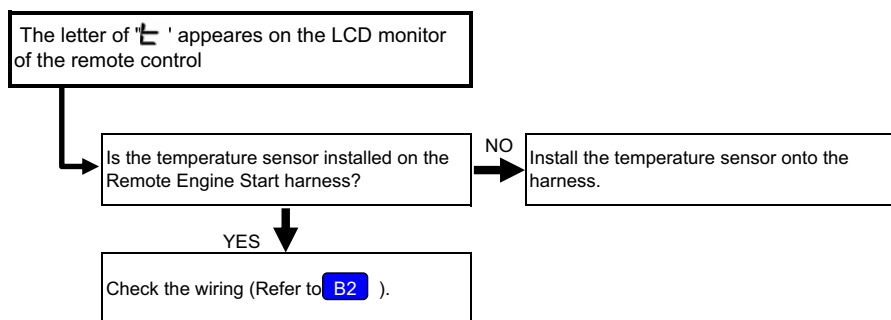
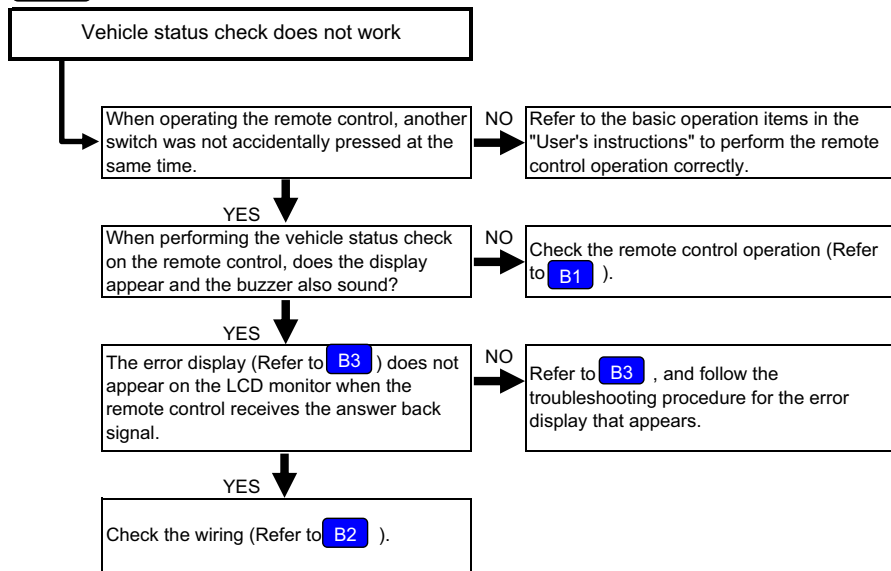


A3

A4

Warm up time remaining appeared on the LCD monitor of the remote control is different from its actual time.

The warm up time is displayed every 2 minutes, so the actual time may vary. (The difference between the actual time remaining and the displayed warm up time shall be no more than approximately 2 minutes.)

A5

Even though the engine starts up normally using the "Engine start operation," the rear defrost mark displays on the remote control.

Was the temperature inside the vehicle cabin less than approximately 5°C when the engine was started?

NO

Check the wiring (Refer to [B2](#)).

YES

Even when the engine is started up normally using the "Engine start operation," if the temperature inside the vehicle cabin is less than 5°C, the rear defrost will be activated automatically. If you perform a vehicle status check operation while the rear defrost is turned on, the rear defrost mark will be displayed on the remote control.

Even though the engine starts up using the "Engine start operation with rear defrost start up," the rear defrost mark does not display on the remote control.

After starting the engine, did you wait more than 15 minutes before performing a vehicle status check?

NO

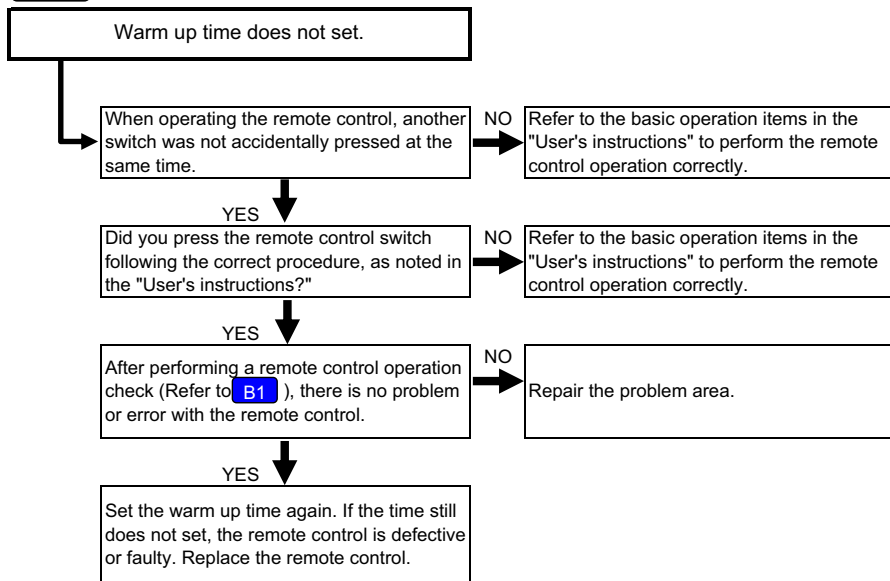
The remote control or the controller is faulty or defective.

YES

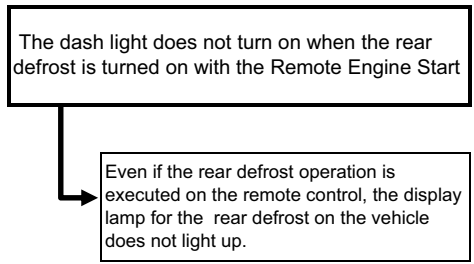
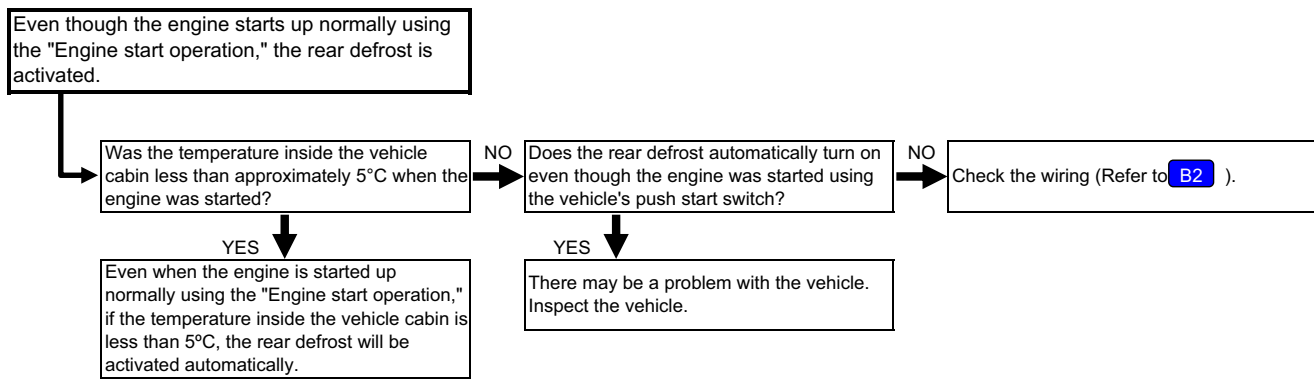
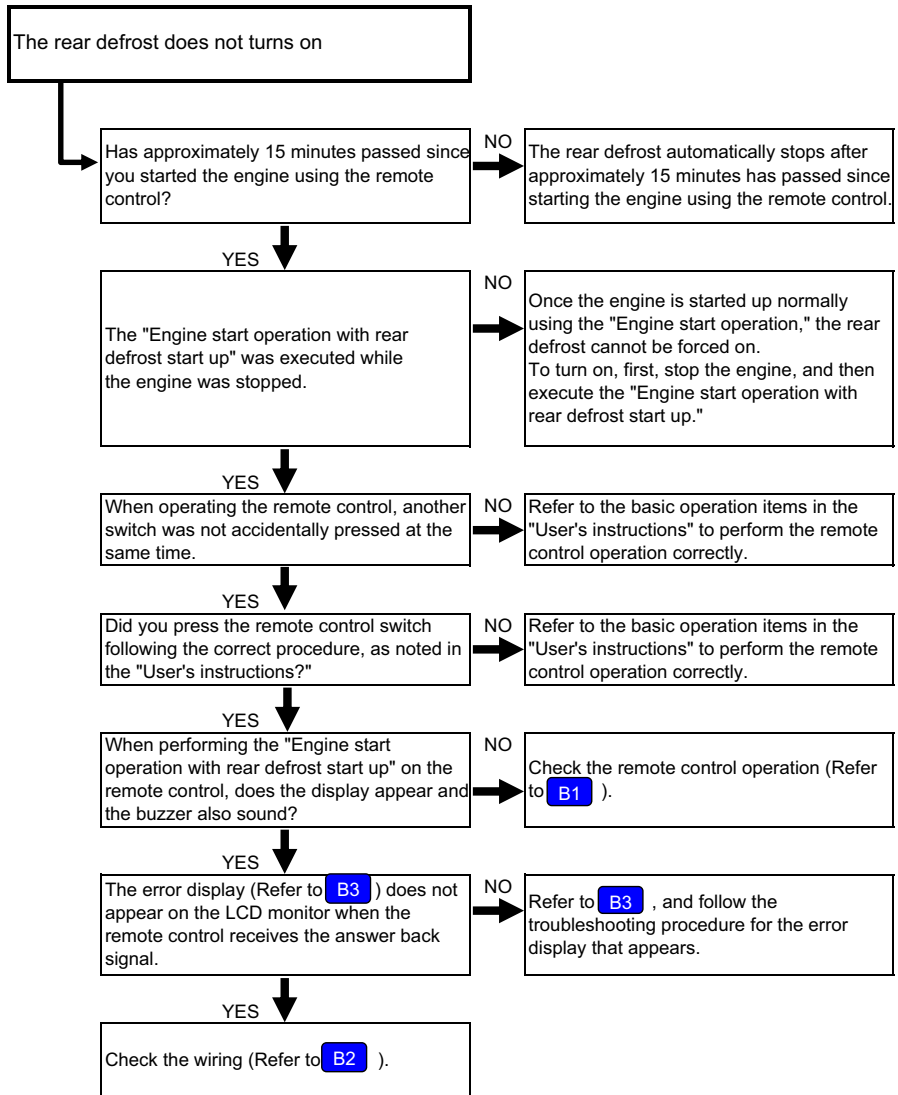
The rear defrost will automatically stop after approximately 15 minutes from the engine startup. If you use the vehicle status check operation after 15 minutes has elapsed, the rear defrost mark will not display.

When the engine starts up normally using the "Engine start operation" and then the "Engine start operation with rear defrost start up" is executed but the rear defrost mark does not display on the remote control.

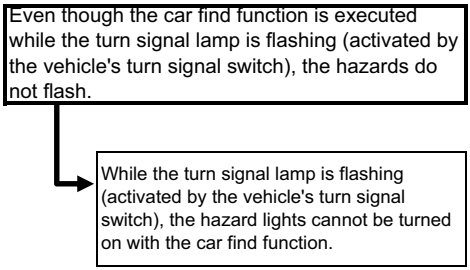
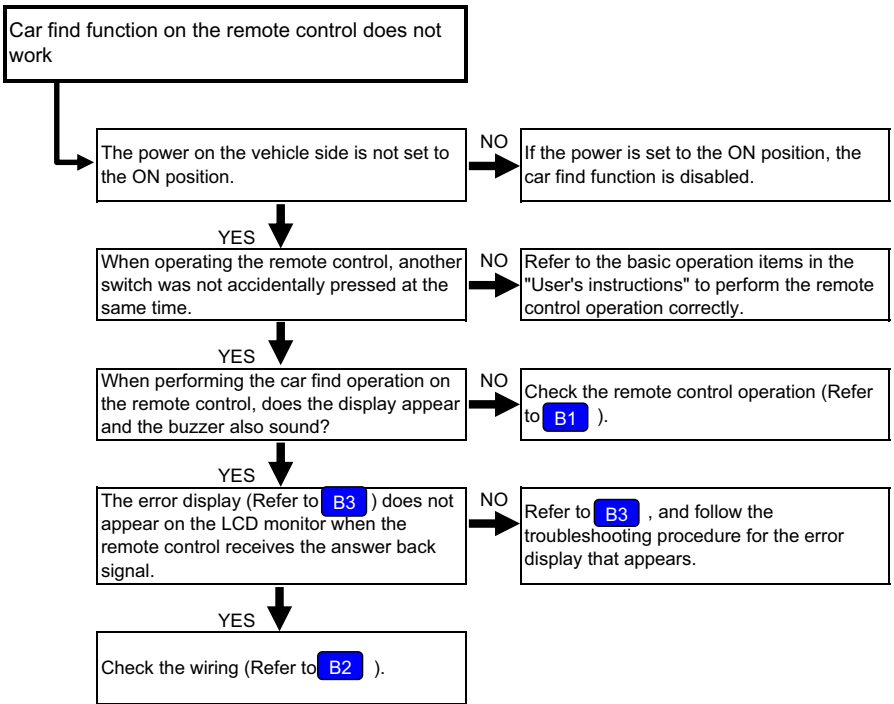
Once the engine is started up normally using the "Engine start operation," the rear defrost cannot be forced on. To turn on, first, stop the engine, and then execute the "Engine start operation with rear defrost start up."



A7



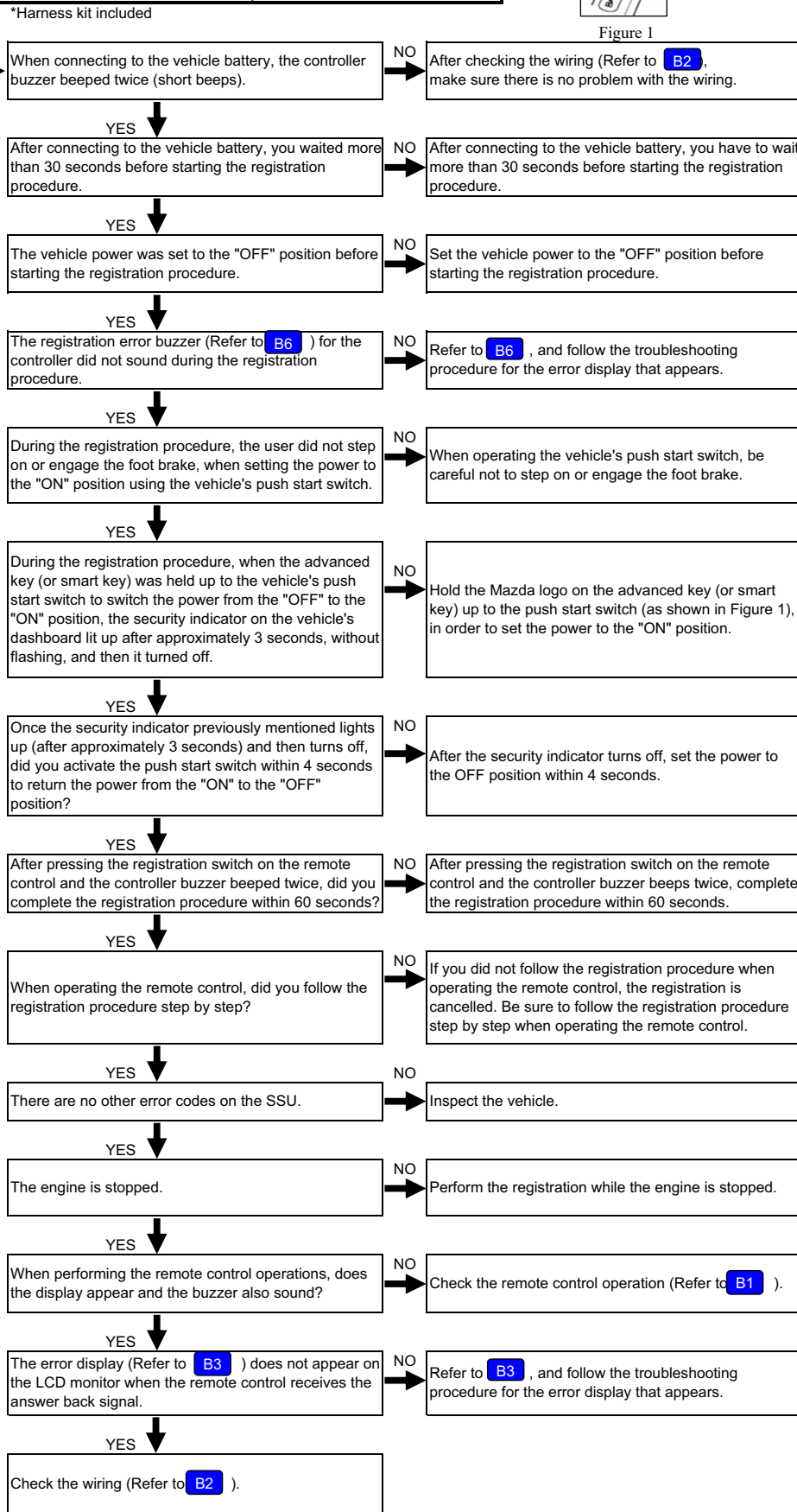
A8



Controller does not register
(Refer also to a separate manual "GENUINE REMOTE ENGINE START
Registration Procedure Of the Controller.")



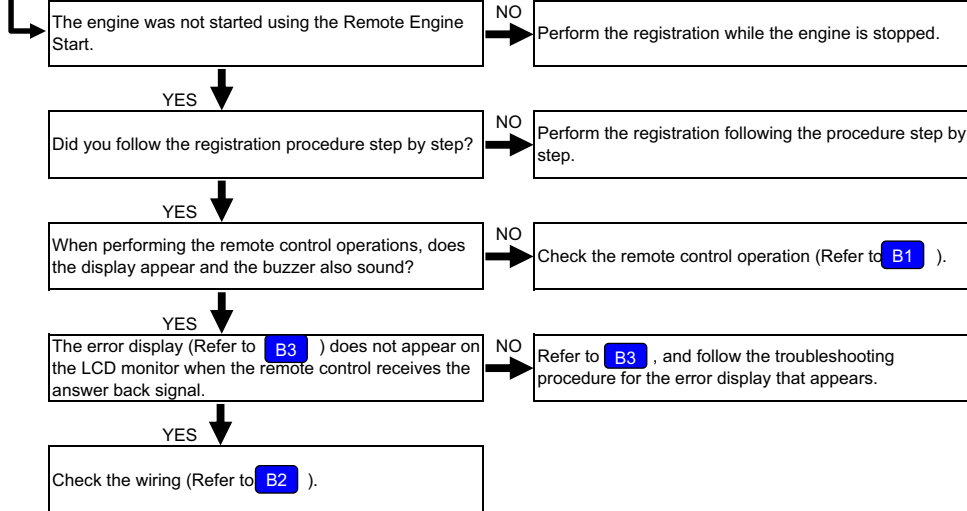
Figure 1



A9 (Continued from previous page)

Controller does not register
(Refer also to a separate manual "GENUINE REMOTE ENGINE START
Registration Procedure Of the Controller."*)

*Manuals provided to authorized Mazda dealers



Remote control does not register
 [Refer also to a separate manual "GENUINE REMOTE ENGINE START Registration Procedure Of the Remote control"* (or the procedure below).]

*Spare remote control (Part No.: C930 V7 621) included

When connecting to the vehicle battery, the controller buzzer beeped twice (short beeps).

NO

After checking the wiring (Refer to [B2](#)), make sure there is no problem with the wiring.

YES

The registration error buzzer (Refer to [B7](#)) for the controller did not sound during the registration procedure.

NO

Refer to [B7](#) , and follow the troubleshooting procedure for the error display that appears.

YES

Registration Procedure in manual
 After the minus terminal was disconnected from the vehicle battery in step 1, did you wait more than 10 seconds before reconnecting the minus terminal on the battery?

NO

After the minus terminal is disconnected from the vehicle battery, reconnect the minus terminal on the battery within 10 seconds.

YES

Registration Procedure in manual
 The foot brake was not stepped on or was not engaged, when operating the vehicle's push start switch in step 3.

NO

When operating the vehicle's push start switch, be careful not to step on or engage the foot brake.

YES

Registration Procedure in manual
 After connecting the minus terminal on the vehicle battery in step 2, did you perform step 3 within 30 seconds after the controller buzzer beeped twice (short beep)?

NO

After connecting the minus terminal on the vehicle battery in step 2, perform step 3 within 30 seconds.

YES

Registration Procedure in manual
 After switching the vehicle power "ON"→"OFF"→"ON" in step 3, did you perform step 4 within 10 seconds after the controller buzzer beeped once?

NO

After switching the vehicle power "ON"→"OFF"→"ON" in step 3, perform step 4 within 10 seconds.

YES

Registration Procedure in manual
 After completing step 4 on the remote control, did you perform the next step within 20 seconds after all the display marks appeared on the LCD monitor?

NO

After completing step 4 on the remote control, perform the next step within 20 seconds after all the display marks appear on the LCD monitor.

YES

Registration Procedure in manual
 After switching the vehicle power "ON"→"OFF"→"ON" in step 3, did you leave the power in the "ON" position until the registration was completed?

NO

After switching the vehicle power "ON"→"OFF"→"ON" in step 3, leave the power in the "ON" position until the registration is completed.

YES

When operating the remote control, did you follow the registration procedure step by step?

NO

If you did not follow the registration procedure when operating the remote control, the registration is cancelled. Be sure to follow the registration procedure step by step when operating the remote control.

YES

There are no other error codes on the SSU.

NO

Inspect the vehicle.

YES

The controller registration was already completed on the vehicle.

NO

The controller is registered to the vehicle during installation, following the "GENUINE REMOTE ENGINE START Registration Procedure Of the Controller."* Once registered to the vehicle, even if the vehicle battery is removed and re-attached, the registration information does not get deleted. If the controller is not registered to the vehicle, the remote control registration cannot be performed.
 *Manuals provided to authorized Mazda dealers

YES

When performing the remote control operations, does the display appear and the buzzer also sound?

NO

Check the remote control operation (Refer to [B1](#)).

YES

The error display (Refer to [B3](#)) does not appear on the LCD monitor when the remote control receives the answer back signal.

NO

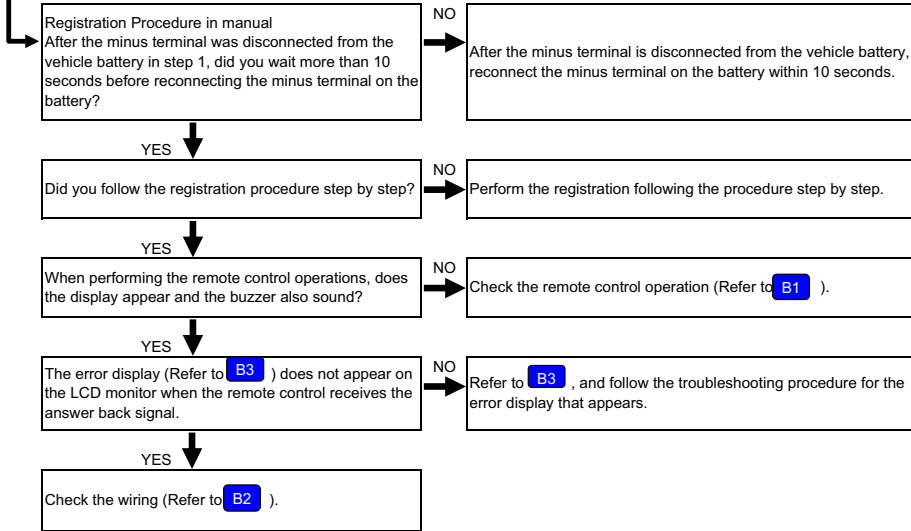
Refer to [B3](#) , and follow the troubleshooting procedure for the error display that appears.

YES

Check the wiring (Refer to [B2](#)).

Controller buzzer does not sound during registration
 (Refer also to a separate manual "GENUINE REMOTE ENGINE START Registration Procedure Of the Remote control.**")

*Spare remote control (Part No.: C920 V7 620) included



Remote control operation check

To prevent the vehicle from accidentally moving due to remote control operation, first, disconnect the minus terminal on the vehicle battery and then perform the follow diagnostics check.

Are the remote control batteries correctly inserted?
(Refer to the "User's instructions")

NO → Insert the batteries correctly.

YES

This mark does not light up.
When performing the "Vehicle status check" operation on the remote control, the "Battery mark" does not light up on the upper right hand corner of the LCD monitor.



NO → If there is a mark, replace the remote control batteries with new ones (CR2032 × Qty.2).
If the problem still does not improve, the remote control is defective or faulty. Replace the remote control.

YES







This mark does not light up.
When performing the "Vehicle status check" operation on the remote control, the "Send error mark (BUSY)" does not light up on the upper right hand corner of the LCD monitor.



NO → If there is a mark, the send operation from the remote control is restricted due to the transmission conditions in the area.
Wait until the display mark turns off before performing the "Vehicle status check" again on the remote control.

YES


When performing the following remote control operations, a "Receive error (Er)" displays on the LCD monitor as answer back signal and the buzzer beep (short beep).

When performing an "Engine start operation"		→	
When performing an "Engine stop operation"		→	
When performing a "Car find" operation		→	

NO → When the battery power is almost completely gone, the "Battery mark" will not light up.
Replace the remote control batteries with new ones (CR2032 × Qty.2), and perform a remote control operation check again.
If these steps do not help improve or solve the problem, the remote control is faulty or defective. Replace the remote control.
(Spare remote control) Part No.: C930 V7 621

YES

When performing the following remote control operation, the vehicle mark displays on the LCD monitor.

When pressing the  switch

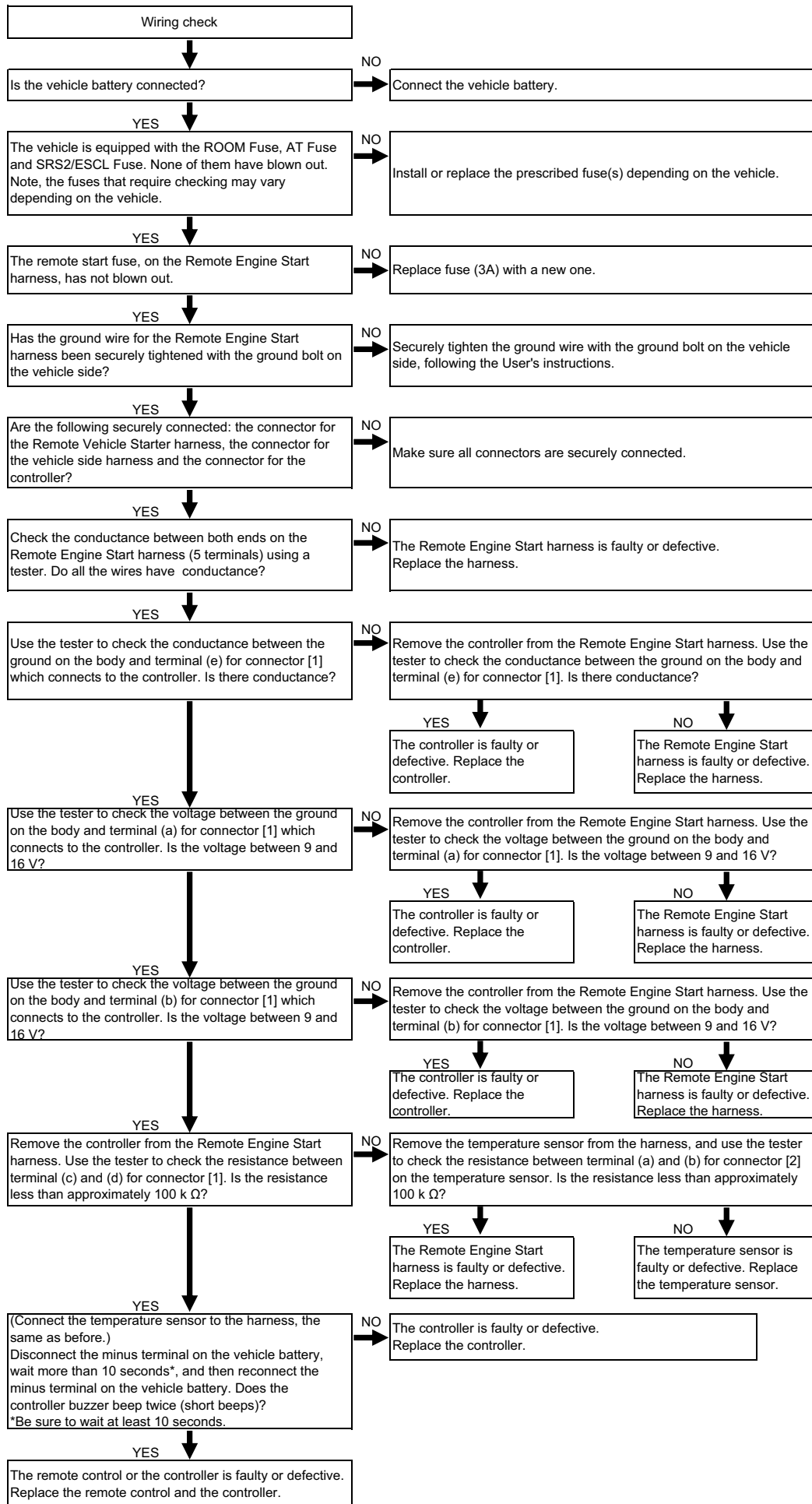


NO → When the battery power is almost completely gone, the "Battery mark" will not light up.
Replace the remote control batteries with new ones (CR2032 × Qty.2), and perform a remote control operation check again.
If these steps do not improve its condition, the remote control is faulty or defective. Replace the remote control.
(Spare remote control) Part No.: C930 V7 621

YES

There is no problem with the remote control operation.
Reconnect the minus terminal on the vehicle battery.
Return to the previous page and finish conducting the diagnostics check.

Note: When using a tester to check, refer to the circuit diagram in the next page and the User's instructions. When using the tester, make contact from the harness side of the connector. If contact is made on the connecting side (of the connector), the connector may become damaged.



<Circuit diagram>

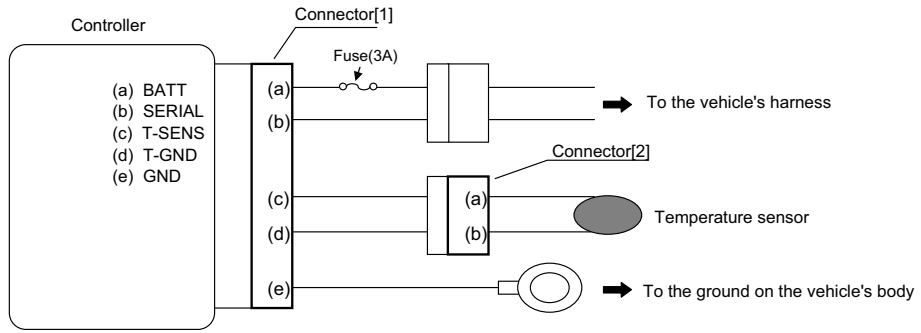
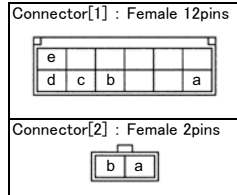


Fig. Connectors viewed from harness side



Remote control error display



When one or more of the error displays listed below appears on the LCD monitor of the remote control, refer to the troubleshooting procedure that corresponds to that error display. When there are multiple errors that occur at the same time, the main error will only display. In this case, after troubleshooting the main error that was displayed, if you operate the remote control again, any secondary or remaining errors will display. Follow the troubleshooting steps for the error(s).

Error Display	Description	Troubleshooting Procedure
E-	Receive operation error	Perform a diagnostics check for B4 . If there is no problem, return to the previous page and finish conducting the diagnostics check.
A1	Vehicle transmission error	Refer to B2 , and check the wiring. • Make sure there are no other error codes remaining on the SSU.
A2	Remote Engine Start registration error	Register the controller to the vehicle following the "GENUINE REMOTE ENGINE START Registration Procedure Of the Controller."
A3	Remote Engine Start authentication error	• Register the controller to the vehicle following the "GENUINE REMOTE ENGINE START Registration Procedure Of the Controller." • Make sure there are no other error codes remaining on the SSU.
A4	Vehicle side error	• Make sure there are no other error codes remaining on the SSU. • Check for any CAN communication system errors or faults. • Check whether the advanced key (or smart key) is inside the vehicle cabin.
E	Power position set to ACC or ON	Set the vehicle power to the "OFF" position.
E	Engine rotation error	After the engine startup, make sure the engine rpm is not greater than 4,000 due to the accelerator pedal being engaged inadvertently, etc.
EC	Engine does not start	The vehicle battery or gas level may be low. Check the battery voltage or the fuel gauge.
H	Hood is open	• Check whether the hood is open. • Check for any failure or disconnection on the hood switch.
HC	Steering lock is not engaged	Be sure that the steering lock is engaged.
S	Push start switch is pressed	Check whether the vehicle's push start switch has been pressed.
SC	There is an advanced key (or smart key) inside the vehicle cabin.	• Check whether there is an advanced key (or smart key) inside the vehicle cabin. • Make sure there are no other error codes remaining on the SSU.
D	A door is open	Close all doors (including the rear gate) all the way.
DC	Burglar alarm has been tripped	Check whether the burglar alarm has been tripped.
P	Shift lever is not in the "P" position	Put the shift lever in the "P" position.
PC	Foot brake is engaged	Check whether the foot brake is engaged.
E	Temperature sensor out of position	• Check whether the temperature sensor is out of position. • Refer to B2 , and check the wiring.

B4

The error display "Er" appears on LCD monitor for the remote control.

YES

The vehicle does not respond to the remote control operation.
(Ex: Even after executing the engine start operation on the remote control, the engine does not start, and "Er" is displayed on the remote control.)

NO

When a send operation from the controller is restricted due to the transmission conditions in the area, the "Er" display appears.

YES

Even when operating the remote control near the vehicle, the vehicle does not respond.

NO

Move and try operating the remote control from a better location, or move closer to the vehicle when operating the remote control.

YES

Check the wiring (Refer to **B2**).

The controller buzzer sounds and the engine stops after starting the engine with the remote control.



When an error or fault is detected on the Remote Engine Start, or when the safety detection function is activated due to an open door, etc., the controller buzzer notifies the user of the error description through the type (short or long) and number of beeps, as shown in the table below, and the engine is automatically stopped. In this situation, refer to the troubleshooting procedure that corresponds to the buzzer's sound pattern (beep) as shown in the table below.

Buzzer Sound Pattern		Description	Troubleshooting Procedure
Long Beep	Short Beep		
3 times	1 time	Data receive error from vehicle	Refer to B2 , and check the wiring. • Make sure there are no other error codes remaining on the SSU.
3 times	2 times	Data send error to vehicle	Refer to B2 , and check the wiring.
3 times	4 times	Vehicle side error	• Make sure there are no other error codes remaining on the SSU. • Check for any CAN communication system errors or faults. • Check whether the advanced key (or smart key) is inside the vehicle cabin.
		Engine rotation error	After the engine startup, make sure the engine rpm is not greater than 4,000 due to the accelerator pedal being engaged inadvertently, etc.
		Engine does not start	The vehicle battery or gas level may be low. Check the battery voltage or the fuel gauge.
		Hood is open	• Check whether the hood is open. • Check for any failure or disconnection on the hood switch.
		Push start switch was pressed	Check whether the vehicle's push start switch has been pressed.
		A door is open	Check if one of the door signals (Lift gate / Hatch back / Trunk) indicates an open door.
		Burglar alarm has been tripped	Check whether the burglar alarm has been tripped.
		Shift lever moved from the "P" position	Put the shift lever in the "P" position.
		Foot brake is engaged	Check whether the foot brake is engaged.
3 times	5 times	CAN communication error	Check for any other error codes remaining on the SSU.

The controller buzzer sounds and the registration procedure is cancelled during the controller registration.



When an error or fault is detected on the Remote Engine Start and a registration error occurs during the controller registration, the controller buzzer notifies the user of the error description through the type (short or long) and number of beeps, as shown in the table below, and the registration is cancelled. In this situation, refer to the troubleshooting procedure that corresponds to the buzzer's sound pattern (beep) as shown in the table below.
(Refer also to a separate manual "GENUINE REMOTE ENGINE START Registration Procedure Of the Controller."*)

*Manuals provided to authorized Mazda dealers

Buzzer Sound Pattern		Description	Troubleshooting Procedure
Long + Short Beep	Short Beep		
2 times	1 time	Procedure error	<ul style="list-style-type: none"> • Make sure that the power is turned to the "OFF" position when starting the registration procedure. • Do not start the engine during the registration procedure. • Follow and perform the manual's registration procedure step by step. • Do not open or close the lift gate, the hood or any doors and do not operate the shift lever during the registration procedure. • For step 5 in the manual's registration procedure, do not hold the advanced key (or smart key) up to the push start switch.
2 times	2 times	Advanced key (or smart key) not registered	Register the advanced key (or smart key) to the vehicle.
2 times	3 times	Maximum RES controllers registered	The maximum number of controllers (Qty. 3) has been already registered. Use the service tool (M-MDS) to delete (advance key code / erase) one of the advanced keys and register (program / additional / advanced key) the advanced key to be used again. Note, when deleting one of the advanced keys, all of the advanced keys that are registered will no longer be able to start the engine. As a result, make sure to have all the other (at least 2) advanced keys on hand and ready for registration.
2 times	4 times	SSU conditions NG	<ul style="list-style-type: none"> • Check for any other error codes remaining on the SSU. • Check for any CAN communication system errors or faults on the vehicle. • Make sure that the advanced keyless system and the immobilizer system registration has been completed. • Make sure that the SSU configuration has been completed. • When trying to re-register a controller that was registered already, this error notification will be issued regardless, even though there is no problem.
2 times	5 times	Timeout error and other	<ul style="list-style-type: none"> • Perform steps 2 through 5 in the manual's registration procedure within approximately 60 seconds. • Do not perform any other operation on the remote control that is not shown in the procedure.
3 times	1 time	Data receive error from vehicle	<ul style="list-style-type: none"> • Refer to B2, and check the wiring. • Make sure there are no other error codes remaining on the SSU.
3 times	2 times	Data send error to vehicle	Refer to B2 , and check the wiring.

The controller buzzer sounds and the registration procedure is cancelled during the remote control registration.



When an error or fault is detected on the Remote Engine Start and a registration error occurs during the remote control registration, the controller buzzer notifies the user of the error description through the type (short or long) and number of beeps, as shown in the table below, and the registration is cancelled. In this situation, refer to the troubleshooting procedure that corresponds to the buzzer's sound pattern (beep) as shown in the table below.
 (Refer also to a separate manual "GENUINE REMOTE ENGINE START Registration Procedure Of the Remote control.**")

*Spare remote control (Part No.: C930 V7 621) included

Buzzer Sound Pattern		Description	Troubleshooting Procedure
Long Beep	Short Beep		
3 times	0 times	Procedure error	<ul style="list-style-type: none"> • Perform steps 3 to 7 in the manual's registration procedure within the prescribed time period. • Make sure the power is set to the ON position when performing steps 4 to 7 in the manual's registration procedure. • Do not perform any other operation on the remote control that is not shown in the procedure.
3 times	1 time	Data receive error from vehicle	Refer to B2 , and check the wiring. • Make sure there are no other error codes remaining on the SSU.
3 times	2 times	Data send error to vehicle	Refer to B2 , and check the wiring.