

GENERAL

OUTLINE OF CHANGES

The troubleshooting for speedometer has been changed to the method employing simulated vehicle speed signal input check with the MUT-II.

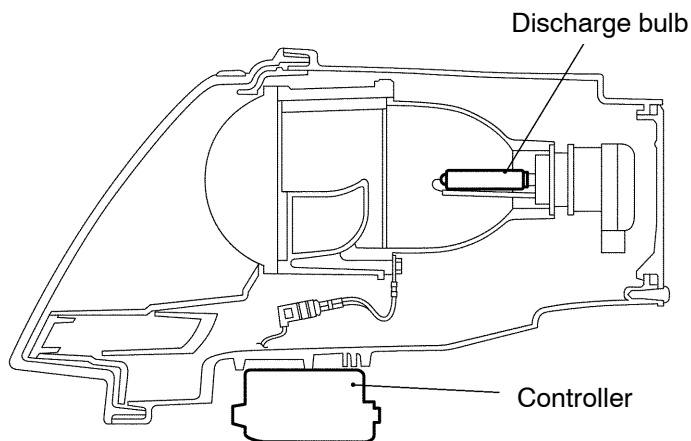
- Due to the option setting of discharge headlamp, the method has been changed to the one utilizing switching between low beam and high beam modes by the movable shade, and the service procedure has been added.
- Due to the adoption of the AM/FM electronic tuning radio with CD player protected by the anti-theft system for the vehicles for Australia, the service procedure has been added.

The service procedures which are not described here are the same as before.

GENERAL INFORMATION

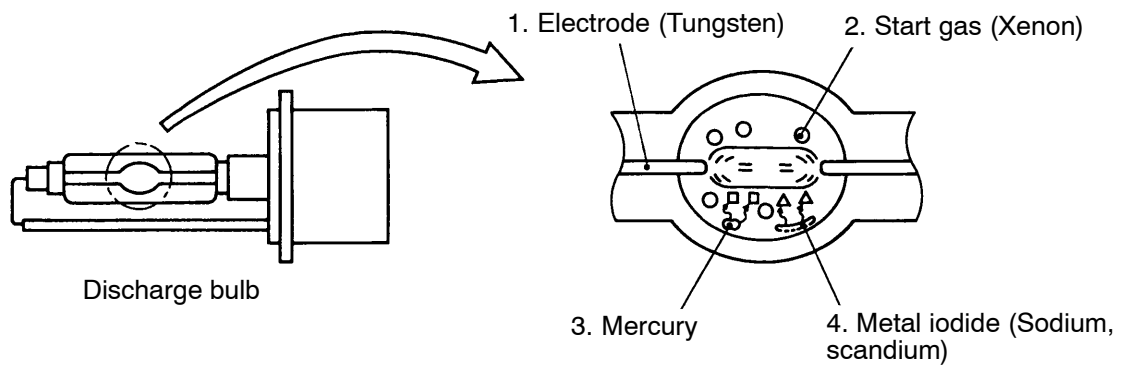
DISCHARGE HEADLAMP

The discharge headlamp is composed of a controller which switches power from the battery to alternate current high voltage and a discharge bulb.



LIGHT EMITTING MECHANISM

A Y2392AU

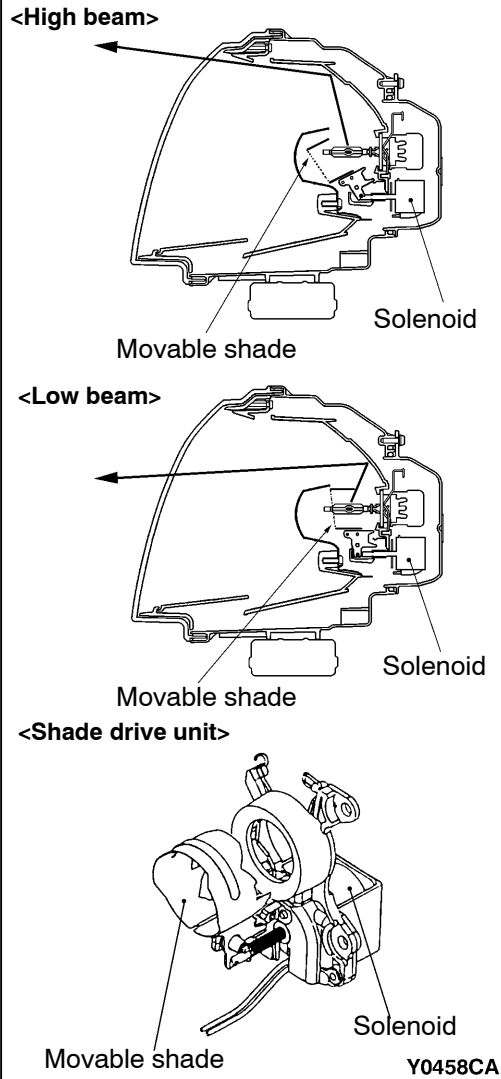


AY2393AU

1. By applying high voltage between electrodes, the start gas (xenon) spark-discharges.
2. The mercury evaporates with the rise in temperature in the pipe and ark-discharges.
3. When the temperature further rises, it decomposes into metal atoms and iodine atoms.
4. The decomposed metal atoms discharge in spectrum specific to metals from heat energy.

**STRUCTURE AND OPERATIONS OF SWITCHING
BETWEEN HIGH BEAM AND LOW BEAM MODES**

- (1) When the headlamp illuminates in a high beam mode, the solenoid forces the movable shade to face downward so that a far area can be lit up with the reflected light from the bulb.
- (2) When the headlamp illuminates in a low beam mode, the solenoid forces the movable shade to face the front so that a nearby area can be lit up with the reflected light from the bulb.

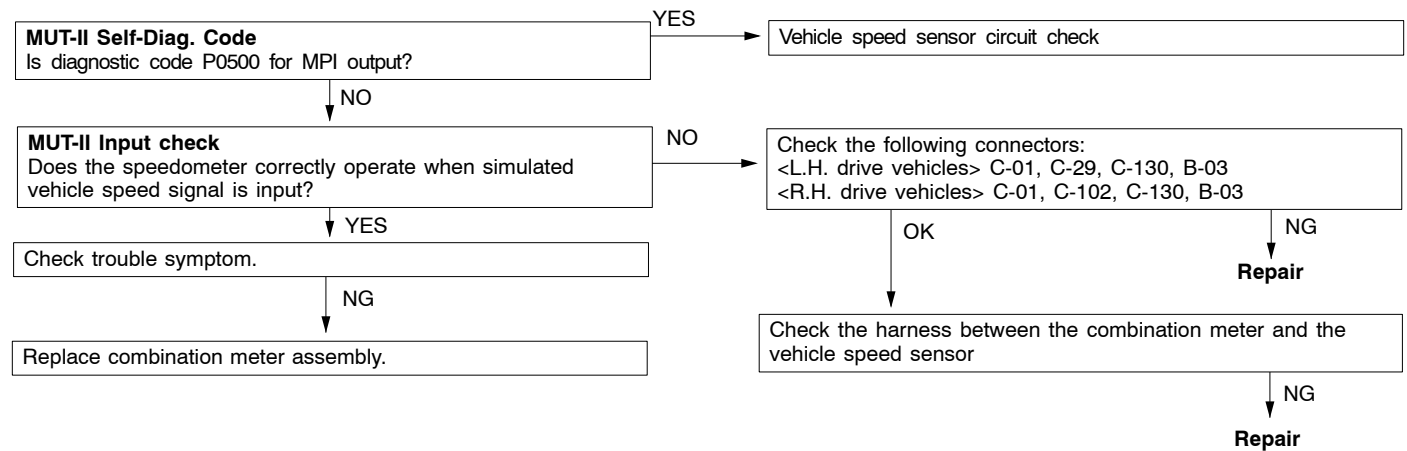


COMBINATION METER

TROUBLESHOOTING

INSPECTION PROCEDURES FOR TROUBLE SYMPTOM

Speedometer inoperative (other meters are operated)	Probable cause
Failure may occur on vehicle speed sensor, harnesses, connectors, meter assembly.	<ul style="list-style-type: none"> • Malfunction of vehicle speed sensor • Malfunction of vehicle harness or connector • Malfunction of combination meter

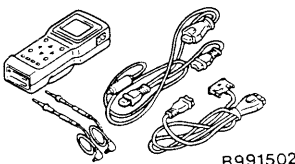



NOTE

When vehicle speed signal is checked with MUT-II in the ETACS-ECU input signal test, drive the vehicle with MUT-II connected to diagnostic connector. When the buzzer sounds, this test is evaluated OK.

HEADLAMP ASSEMBLY

SPECIAL TOOLS

Tools	Number	Name	Use
 B991502	MB991502	MUT-II sub assembly	Checking the ETACS-ECU input signals
 Y0002BY	MB991707	Torx driver	Headlamp cover removal and installation

TROUBLESHOOTING

TROUBLESHOOTING PROCEDURE OF DISCHARGE HEADLAMP

CAUTION:

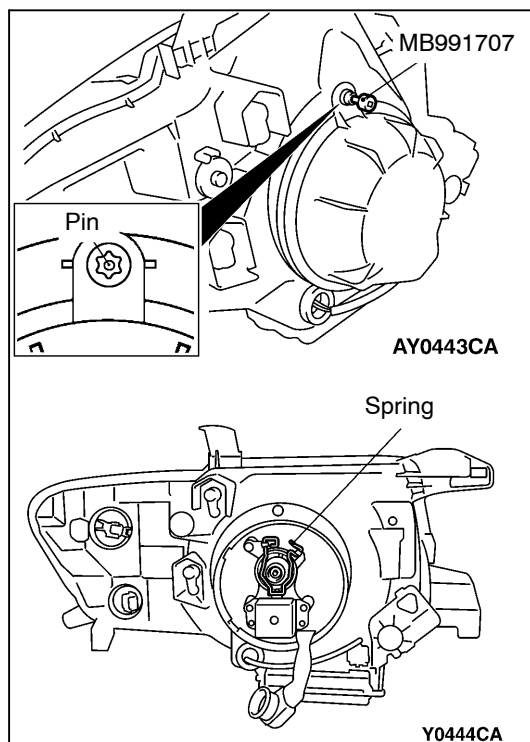
1. Since high voltage electricity is applied to the socket of discharge headlamp, take a caution about handling the device and do not carry out inspection using a tester or other device to prevent a serious accident from happening.
 2. When the headlamp illuminates, be sure that the lamp is installed to the vehicle and is illuminated according to the regular procedure.
 3. When the headlamp illuminates, do not touch the metal areas of harness, controller or etc.
 4. When the service operation is conducted, carry out the operation after removing the battery terminals and connectors of the controller in a humidity-free area. Carry out the operation with well dried hands.
- (1) Check if the connector of each component is securely connected or there is any blown fuse.
 - (2) Carry out troubleshooting in order after the overall inspection contents and procedures are clarified according to the quick-view table classified by trouble symptom.
 - (3) Carry out inspection of each component after disconnecting connectors.

QUICK-REFERENCE TABLE CLASSIFIED BY TROUBLE SYMPTOM

Inspecting item	Trouble symptom		
	The headlamp does not illuminate.	The headlamp flickers.	The headlamp does not fully illuminate.
Fuse	1	—	—
Harness, connector	2	1	—
Column switch	3	—	—
Bulb	4	2	1
Controller	5	3	2
Front ECU	6	4	—

NOTE

- (1) The number in the above-mentioned table indicates the specific procedure required for inspecting items.
- (2) When ETACS-ECU is defective, headlamps can be illuminated only in a low beam mode as fail-safe function.
- (3) Headlamps are controlled smart wiring system (SWS). For troubleshooting, refer to GROUP 54B.



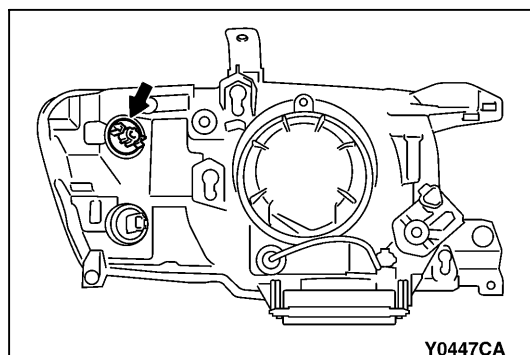
ON-VEHICLE SERVICE

DISCHARGE HEADLAMP BULB REPLACEMENT

1. Remove the headlamp connector.
2. Use the special tool to remove the socket cover.
3. Unhook the bulb retaining spring, and pull out the bulb.
4. Replace the bulb, and then engage the connector securely.

Caution

Do not touch bulb surface bare-handed or with dirty gloves. If dirt is attached on glass surface of the bulb, immediately use alcohol or thinner to remove dirt, and install the bulb after well dried.

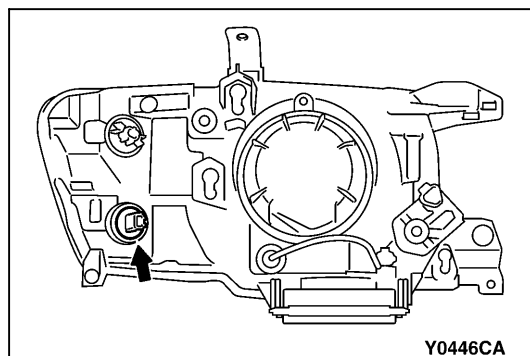


POSITION LAMP BULB REPLACEMENT

1. Remove the splash shield.
2. Remove the socket assembly.
3. Replace the bulb, and then engage the connector securely.

Caution

Do not touch bulb surface bare-handed or with dirty gloves. If dirt is attached on glass surface of the bulb, immediately use alcohol or thinner to remove dirt, and install the bulb after well dried.



FRONT TURN-SIGNAL LAMP BULB REPLACEMENT

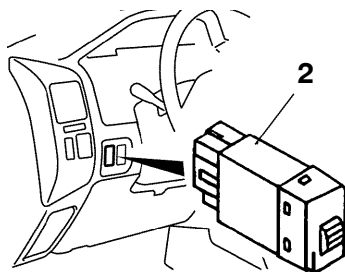
1. Remove the splash shield.
2. Remove the socket assembly.
3. Replace the bulb, and then engage the connector securely.

Caution

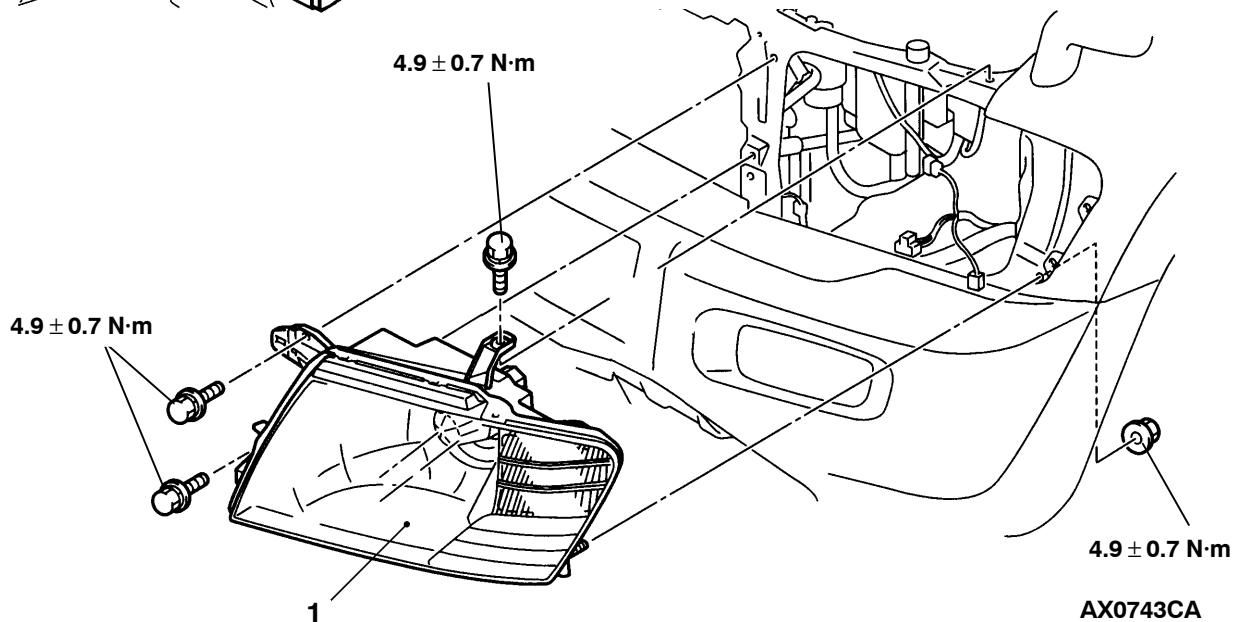
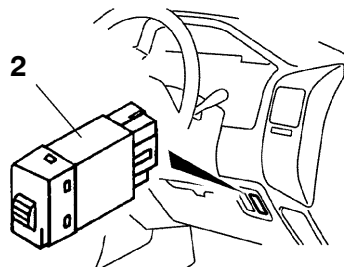
Do not touch bulb surface bare-handed or with dirty gloves. If dirt is attached on glass surface of the bulb, immediately use alcohol or thinner to remove dirt, and install the bulb after well dried.

HEADLAMP ASSEMBLY**REMOVAL AND INSTALLATION**

L.H. Drive vehicles



R.H. Drive vehicles

**Headlamp removal steps**

- Radiator grille
(Refer to GROUP 51 - Front Bumper)
1. Headlamp assembly

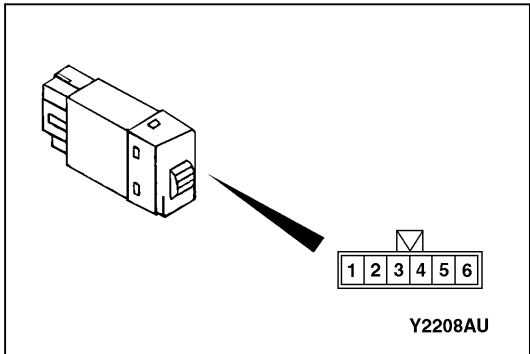
Headlamp leveling switch removal

2. Headlamp leveling switch

NOTE

For service point, refer to Basic Manual





INSPECTION

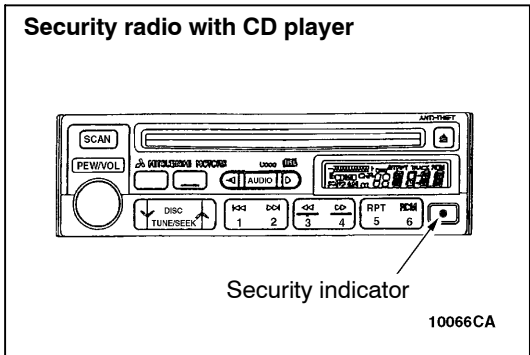
HEADLAMP LEVELING SWITCH CONTINUITY CHECK

Switch position	Resistance between the terminal 4 and 5 (W)
0	120
1	300
2	620
3	1.1 k
4	2 k

RADIO WITH CD PLAYER

ON-VEHICLE SERVICE

PROCEDURE FOR INPUT OF ANTI-THEFT CODE FOR ANTI-THEFT SYSTEM



The radio with CD player do not work under the following conditions:

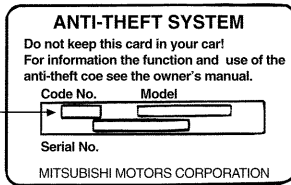
If the ignition key is removed, the security indicator of this radio with CD player flickers to prevent theft from happening.

Power supply to the radio with CD player has been suspended for more than an hour continuously by removing the cable from the battery terminal or disconnecting the harness connectors. The power supply to the radio with CD player has been suspended for more than an hour due to a blown fuse or discharged battery.

If the radio with CD player does not work for these conditions, enter the security code as follows:

The radio with CD player has been replaced.

CARD

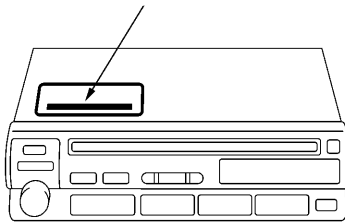


Security code

10062CA

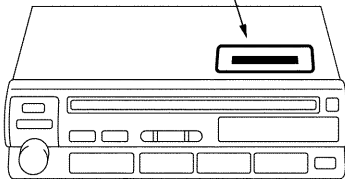
Typical name card

Serial Number



10067CA

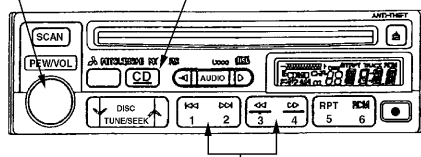
Card



10068CA

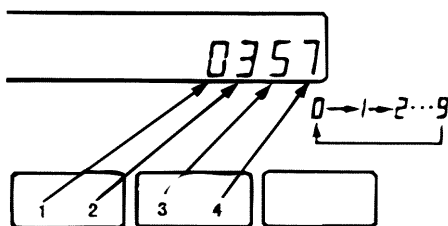
PWR button

CD button



Memory select button (1 to 4)

10064CA



10063CA

1. Confirm the security code using any of the following methods.

- (1) Use the security code indicated on the cards retained in the vehicle.

- (2) If the security code is unknown owing to the owner's loss of the card:

- a. Remove the radio with CD player.
- b. Read the serial number stamped on the radio with CD player.
- c. Look up the security code (anti-theft code table) corresponding to the serial number.

- (3) When the radio with CD player is replaced: Use the security code on the cards attached to the upper surface of the replacement radio with CD player.

NOTE

Deliver the two cards to the owner.

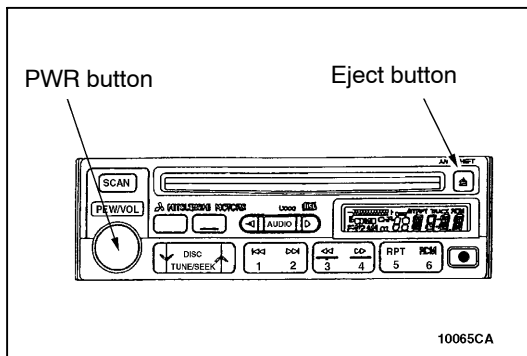
2. Connect the radio to the vehicle harness.
3. Turn the ignition key to the "ACC" or "ON" position.
4. Press the "PWR" button, and "CODE" will be displayed.

5. Press number 1 through number 4 memory select button to set the four-digit security code shown on the card. Every time each digit key is pressed, the figure changes as follows: 0 to 1 to 2 to 3 to 4 to 5 to 6 to 7 to 8 to 9 to 0
6. Press the "CD" button, and a beep will be heard. If entered correctly, the radio and tape player will work.

7. If the security code is not accepted, "ERR" is displayed. In a few seconds, it will change to "CODE." Then repeat steps 5 and 6.

NOTE

1. The second error is displayed as "2 ERR." When the third error is made, "3 ERR" is displayed and then the display changes to "OFF." If this should occur, the unit will not work any more.
2. To input the security code again, turn the ignition switch to the "ACC" or "ON" position and wait for one hour when "OFF" is displayed. After "OFF" disappears on the display, press the "PWR" button and "CODE" will be displayed. The security code can be input again.

**Three-minute operation mode**

To facilitate replacement or check, the radio with CD player can be operated for three minutes without inputting the security code.

1. Press the "PWR" button and "EJECT" button together to operate the radio with CD player.
2. In three minutes the unit will not be able to work. Then the radio with CD player will be switched off.