2012 - Mazda6 - Transmission/ Transaxle

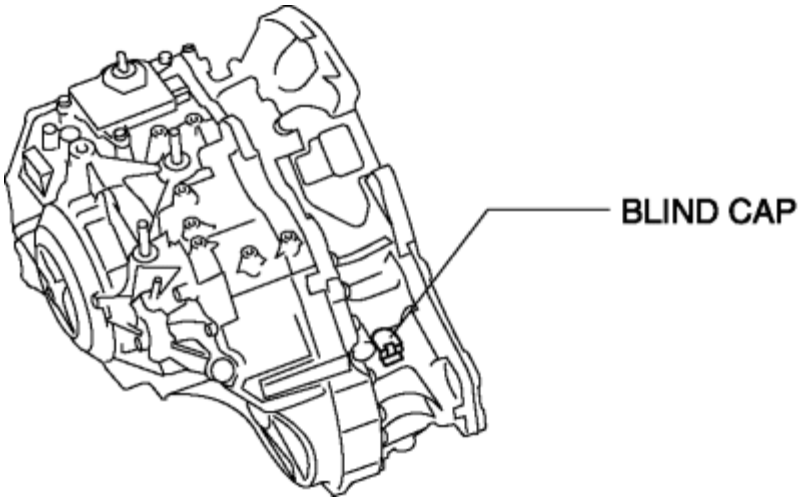
AUTOMATIC TRANSAXLE FLUID (ATF) INSPECTION [AY6A-EL]

WARNING:

- A hot transaxle and ATF can cause severe burns. Turn off the engine and wait until they are cool before changing the ATF.

CAUTION:

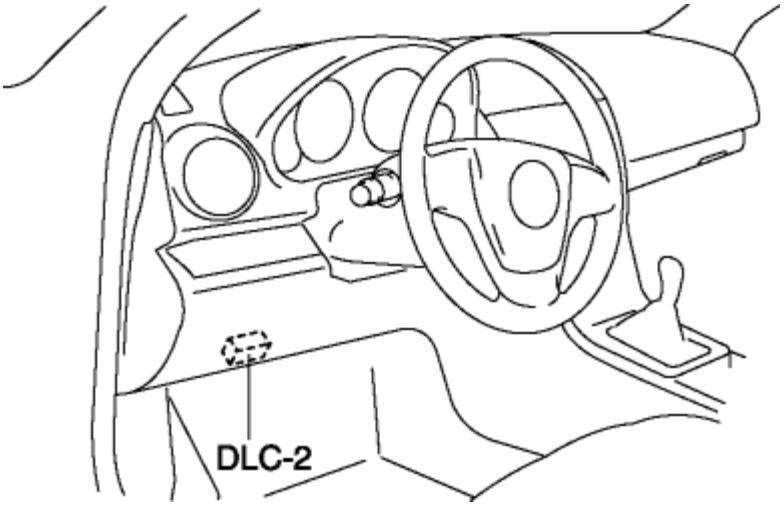
- Do not remove the blind cap because it is not a removable part.



1. Verify the ATF temperature.

   Using M-MDS

   - Connect the M-MDS to the DLC-2.



   - Verify the ATF temperature using the PID/DATA monitor function "TFT". (See **ON-BOARD DIAGNOSTIC SYSTEM DTC INSPECTION [AY6A-EL]**.).

- High temperature (**47 °C { 117 °F}** or more)
- Appropriate temperature (between **37 °C { 99 °F}** and under **47 °C { 117 °F}**)
- Low temperature (less than **37 °C { 99 °F}**)

- Start the engine.
- Warm up the engine while idling it until the ATF temperature reaches the lower limit of **37 °C { 99 °F}** .
- Perform the following procedure.

  NOTE:

  - Perform the following procedure immediately because the ATF temperature will exceed the appropriate temperature (between **37 °C { 99 °F}** and under **47 °C { 117 °F}**).
  - Shift the selector lever to each positions and hold for **2 s** or more.
    - Shift the selector lever in the order of P position→R position→N position→D position.
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    - Shift the selector lever in the order of D position→N position→R position→P position.

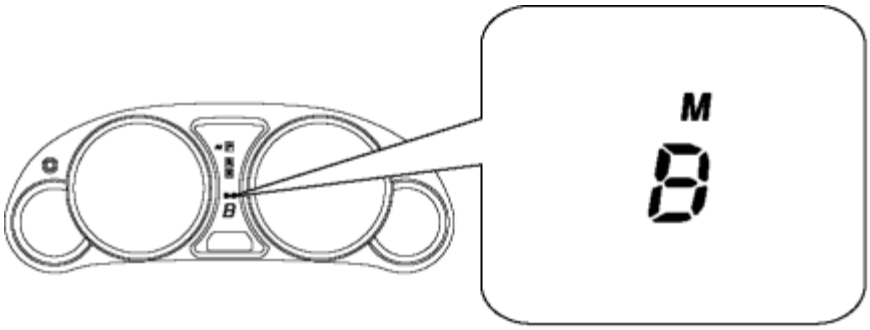
  Using ATF temperature display mode

- Engage the parking brake and use wheel chocks at the front and rear of the wheels.

  NOTE:

  - Perform the procedure for switching to the ATF temperature display mode within **3 min**. If the procedure is not completed within **3 min**, the switching procedure is cancelled.
  - If the flashing of each light cannot be verified as according to the procedure while switching to the ATF temperature display mode, the switching procedure has failed. Repeat the procedure from the beginning.

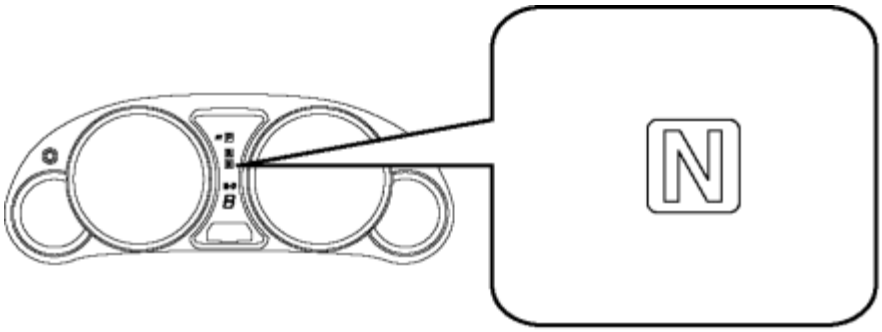
- Perform the following and verify that the gear position indicator light flashes 2 times.



GEAR POSITION INDICATOR LIGHT

- Turn the A/C switch off.
- Depress the brake pedal with the left foot and hold it in that condition (continue to depress the brake pedal until Step 5 is completed).
- Shift the selector lever from the P position to the M position.
- Depress the accelerator pedal with the right foot all the way down and hold it in that condition (continue to depress the brake pedal until Step 4 (3) is completed).
- Shift the selector lever to the M (+) or M (-) and hold it in that condition.
- Switch the ignition ON (engine off).

- Verify that the gear position indicator light flashes 2 times after approx. **5 s**.
- Perform the following procedure and verify that the N position display of the selector indicator light flashes 2 times.

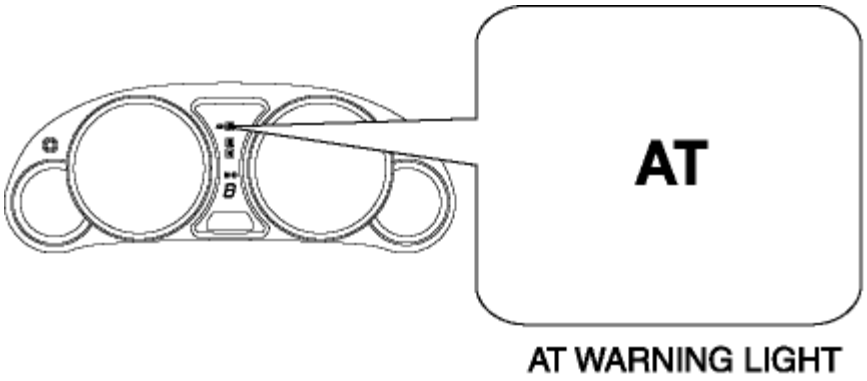


SELECTOR INDICATOR LIGHT
(N POSITION DISPLAY)

NOTE:

- Slowly and firmly shift the selector lever operation.
- Shift the selector lever in the order of M position→D position→N position→R position→P position.
- Shift the selector lever in the order of P position→R position→N position.
- Remove the right foot from the accelerator pedal.
- Verify that the N position display flashes 2 times.

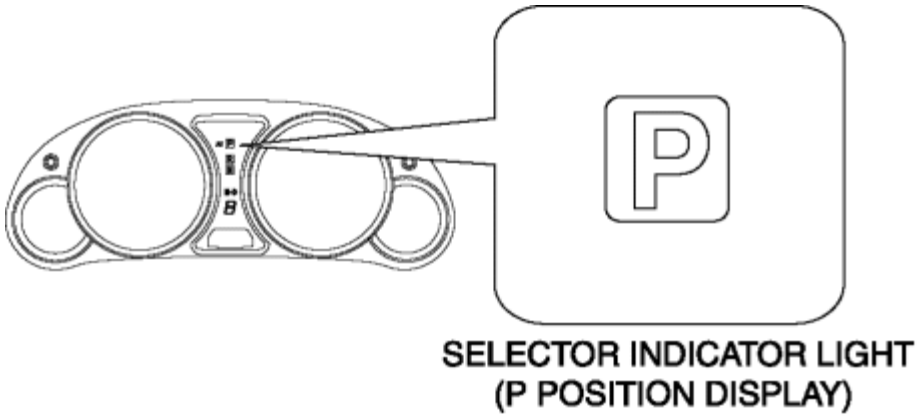
- Perform the following procedure and verify that the AT warning light flashes 2 times.



AT WARNING LIGHT

    - Start the engine.
    - Shift the selector lever quickly between the N position and the D position for **6 s** or more.
    - Verify that the AT warning light flashes 2 times.

- Perform the following procedure and verify that the P position display flashes.



SELECTOR INDICATOR LIGHT
(P POSITION DISPLAY)

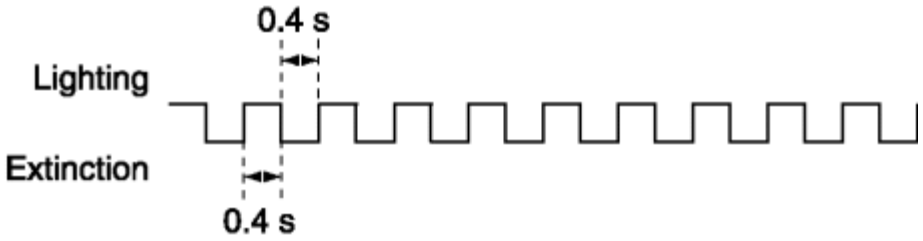
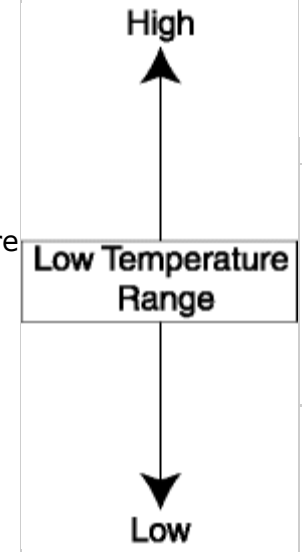
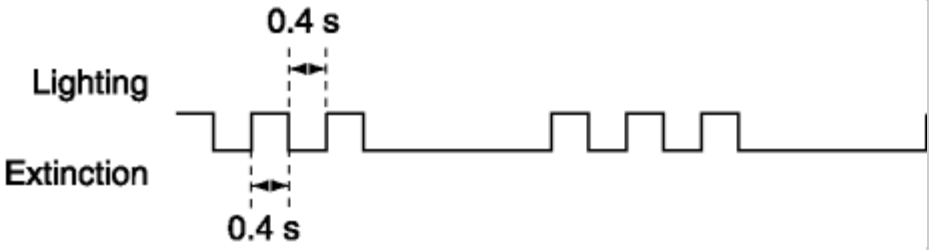
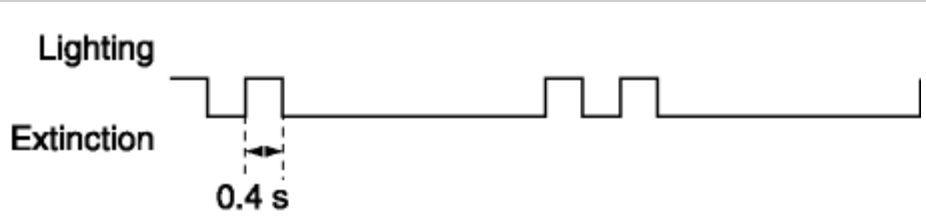
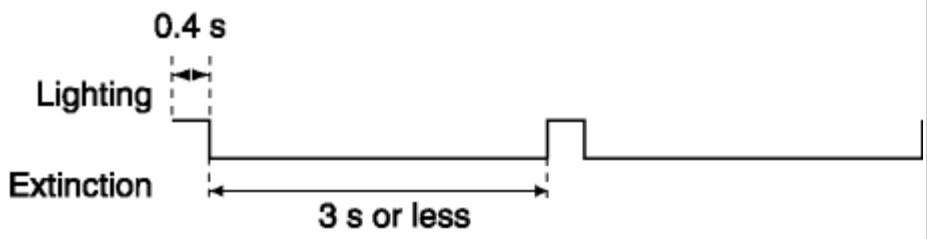
NOTE:

- Shift the selector lever to each positions and hold for **2 s** or more.
    - Shift the selector lever to the P position.
    - Shift the selector lever in the order of D position→N position→R position→P position.
    - Shift the selector lever in the order of P position→R position→N position→D position.
    - Shift the selector lever in the order of P position→R position→N position→D position.
    - Shift the selector lever in the order of D position→N position→R position→P position.
    - Verify that the TCM switches to the ATF temperature display mode via the P position display flashing.

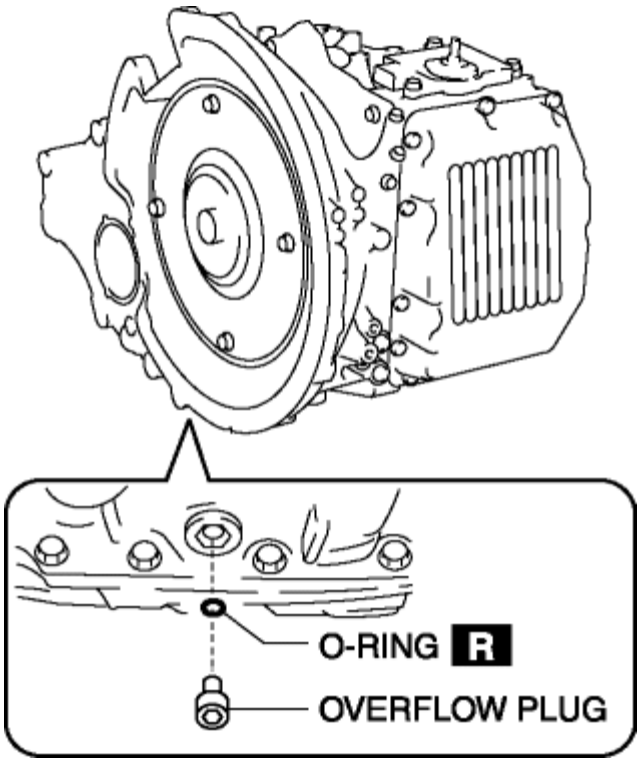
- Verify the ATF temperature using the P position display flashing pattern.

  NOTE:

  - Finish the "ATF temperature display mode" when any one of the following conditions is met:
    - Switch the ignition to ACC or off
    - Vehicle speed is **3 km/ h { 2 mph} or more**
    - Malfunction occurs in transaxle

ATF temperature	Selector indicator light (P position display) flashing pattern
High temperature (**47 °C { 117 °F}** or more)	
Appropriate temperature (between **37 °C { 99 °F}** and under **47 °C { 117 °F}**)	
Low temperature (less than **37 °C { 99 °F}**) 	
	
	

2. Remove the overflow plug, and the O-ring.



3. Verify the color and odor of the ATF dripping from the overflow plug.

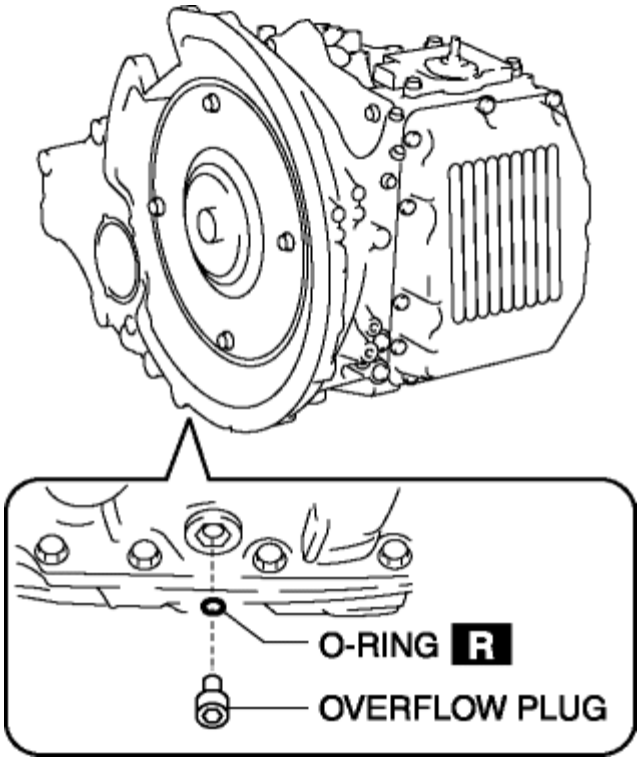
4. Inspect the ATF for the following to determine whether the transaxle should be disassembled.

- The ATF is muddy.
- The ATF smells strange or unusual.

Condition		Possible cause
Clear dark red	Normal	—
Light red (pink)	Contaminated	• Damaged oil cooler • Poor filler tube installation: Problem could occur to parts inside the transaxle due to

		with water	water contamination. If necessary, replace the transaxle.
Reddish brown	Has burnt smell and metal particles are found	Deteriorated ATF	Defective powertrain components inside the transaxle: Particles cause wide range of problems by clogging the oil pipe, control valve body and oil cooler. • A large amount of metal particles are found. If necessary, replace the transaxle. • Flush the system due to possible clogging of the oil pipe or oil cooler.
	Has no burnt smell	Normal	• Discoloration by oxidation

5. Install a new O-ring and overflow plug.



Tightening torque

1. 5.9—8.8 N·m {61—89 kgf·cm, 53—77 in·lbf}

6. Stop the engine.

< Previous Next >

Back to Top

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CAUTION:

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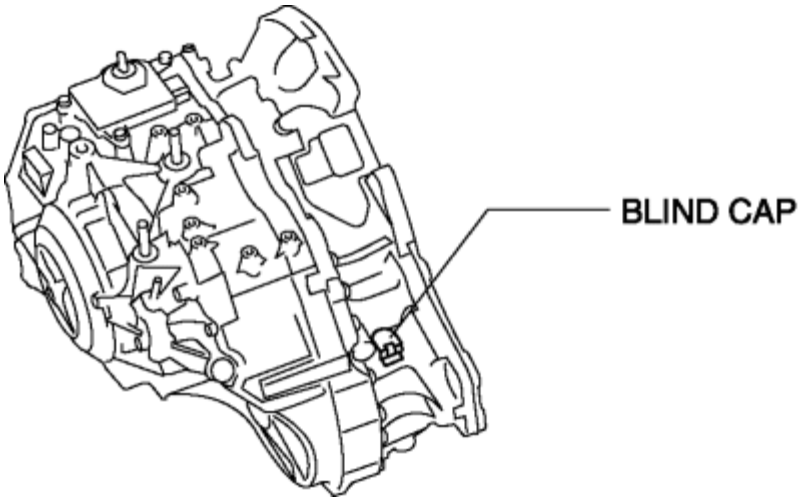

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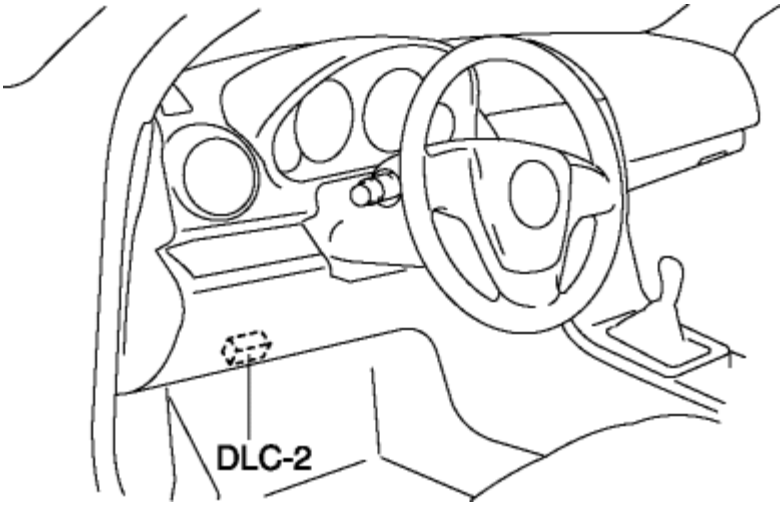

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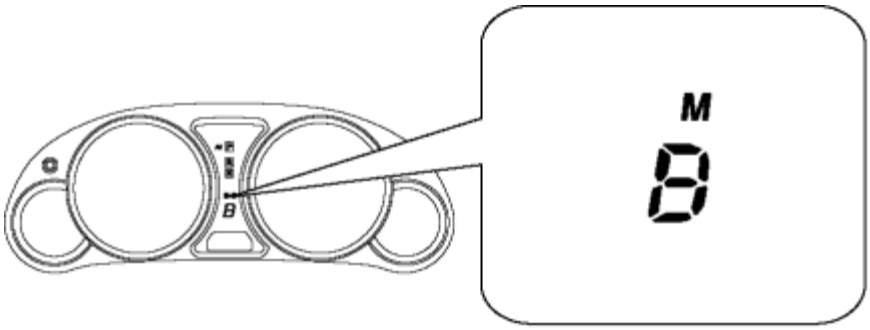

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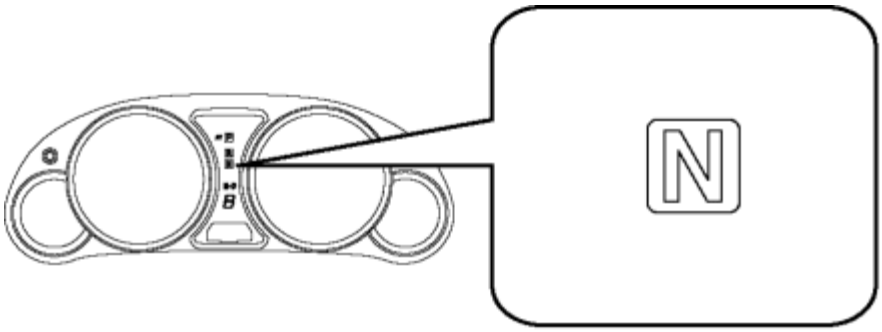

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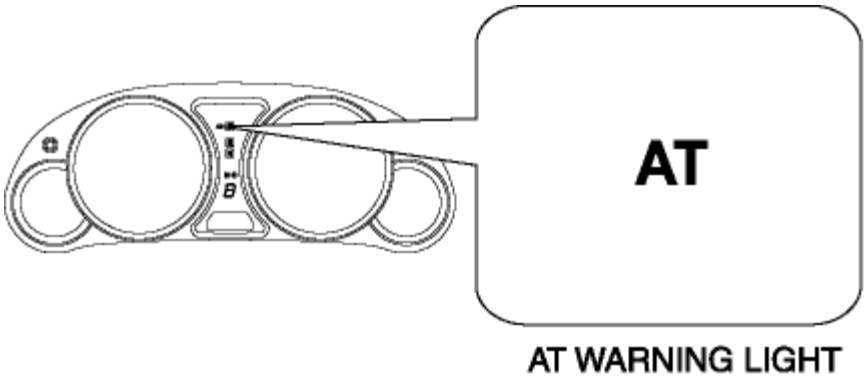

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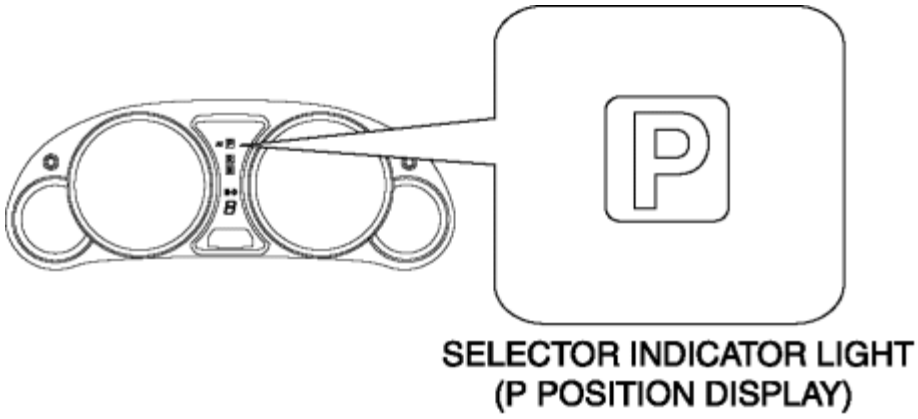

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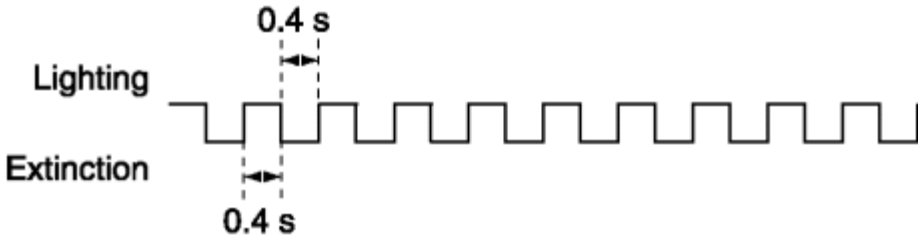
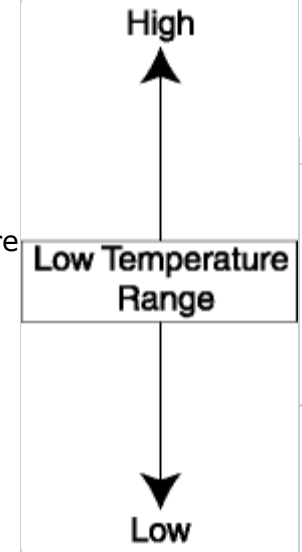
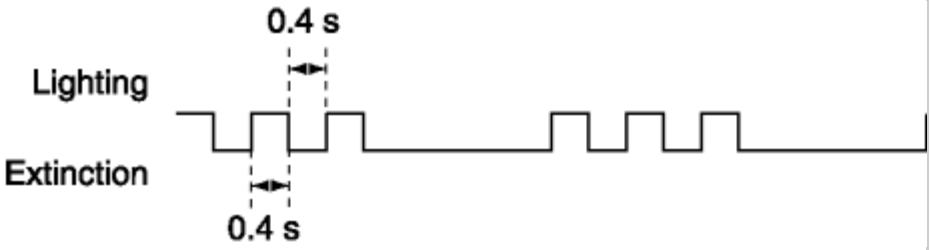
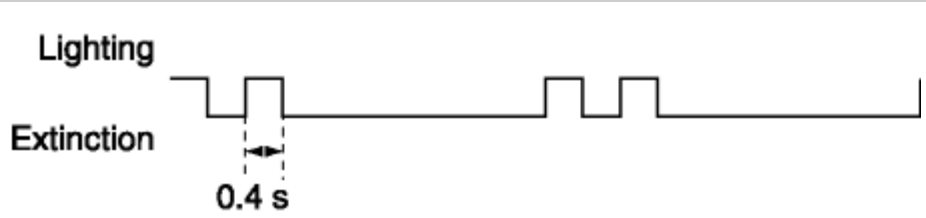
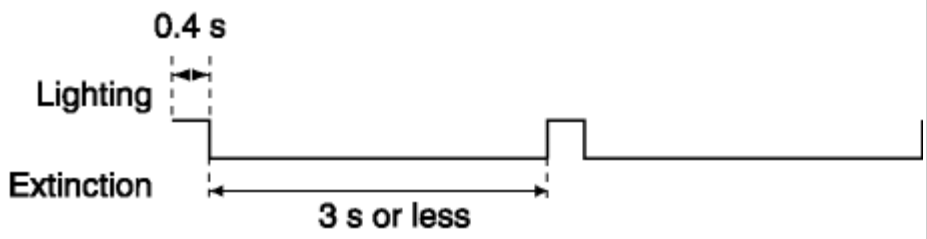
Appropriate temperature (between **37 °C { 99 °F}** and under **47 °C { 117 °F}**)	
Low temperature (less than **37 °C { 99 °F}**) 	
	
	

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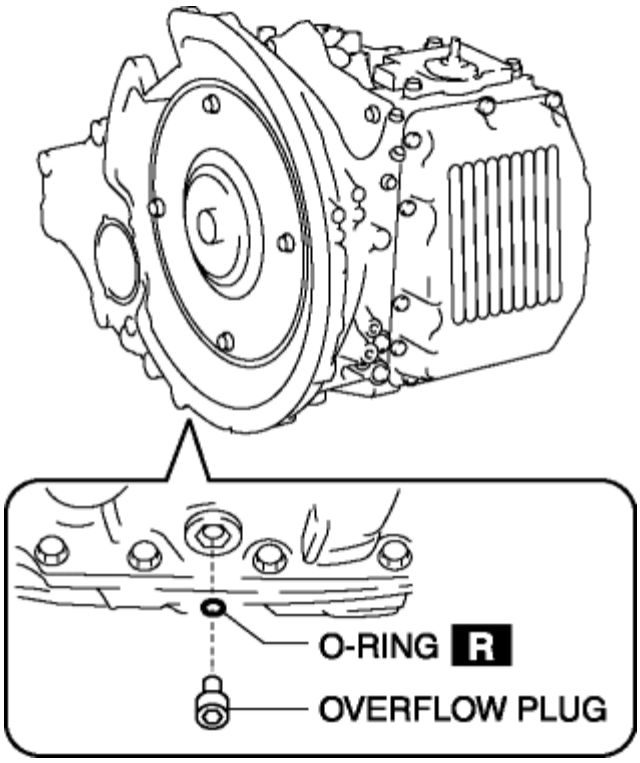

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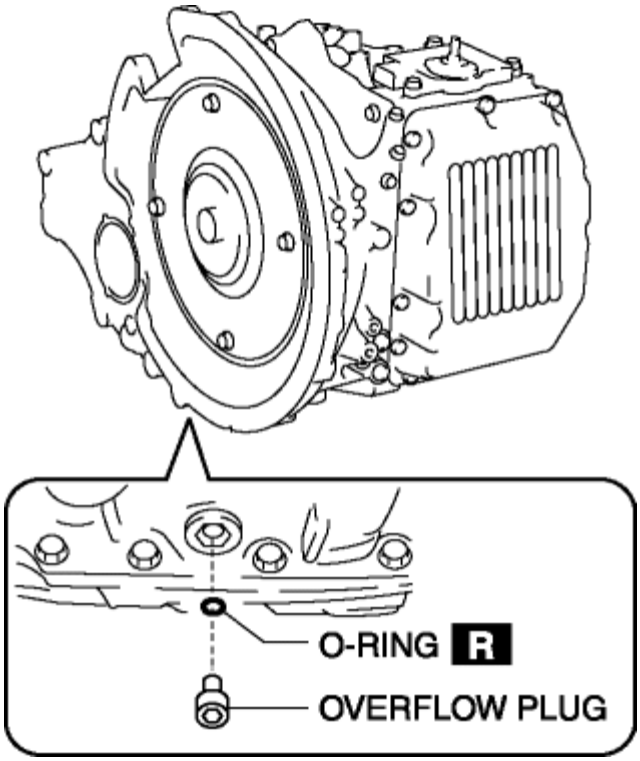

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< Previous Next >

Back to Top