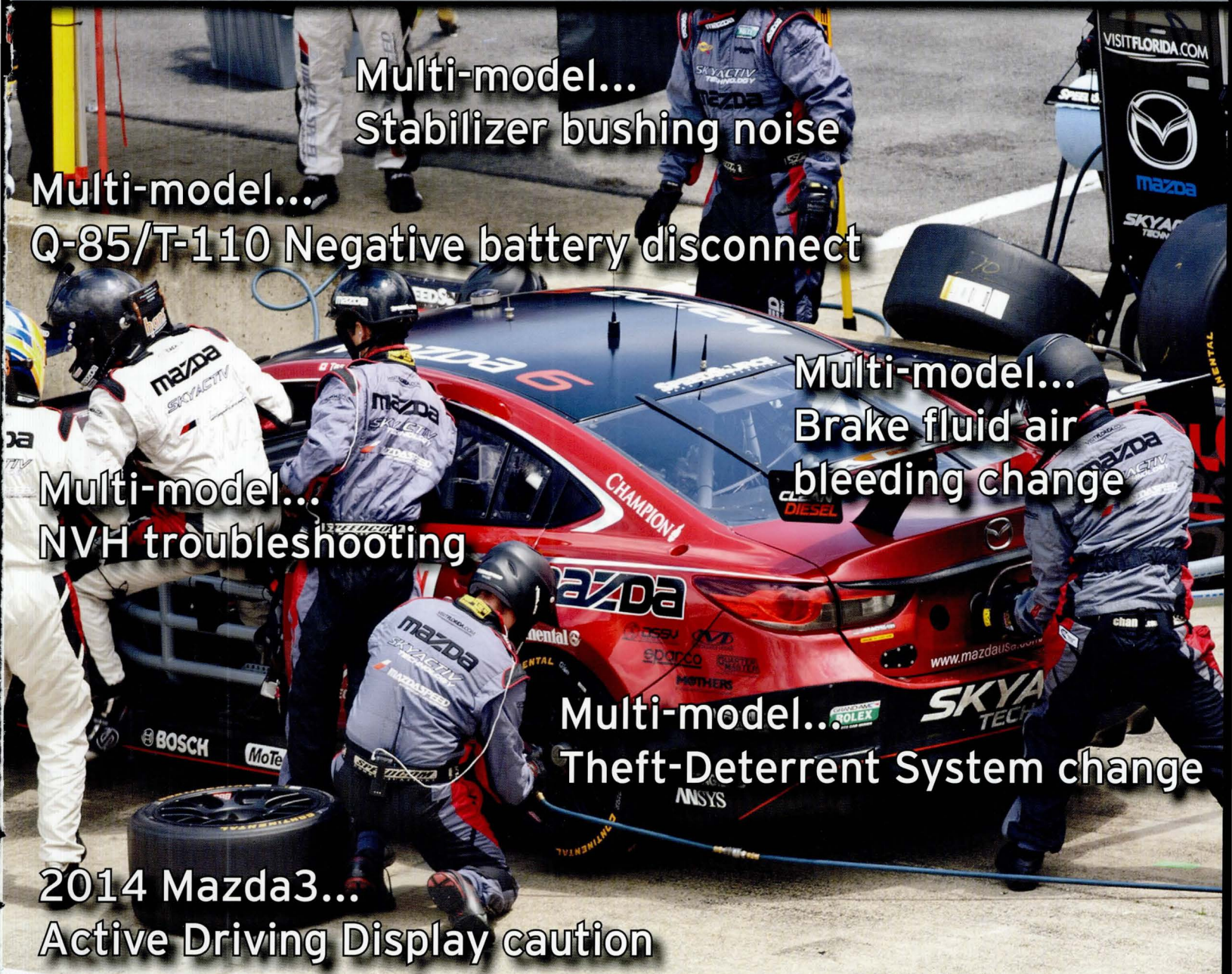


# M-TIPS

UNIQUE REPAIR INFORMATION FOR  
MAZDA TECHNICIANS



Multi-model...  
Stabilizer bushing noise

Multi-model...  
Q-85/T-110 Negative battery disconnect

Multi-model...  
Brake fluid air  
bleeding change

Multi-model...  
NVH troubleshooting

Multi-model...  
Theft-Deterrent System change

2014 Mazda3...  
Active Driving Display caution



## MULTI-MODEL NOISE, VIBRATION, AND HARSHNESS (NVH) TROUBLESHOOTING

Some customers may complain about unusual noises coming from their vehicle. If you duplicate the noise but find it difficult to isolate the cause, try using a diagnostic listening tool.

Two listening tools are available on M-Store:

- **Wireless ChassisEAR - P/N JSP97202**  
This tool enables the technician to listen to gears, bearings, and suspension while under load so NVH concerns can be more accurately pin-pointed.
- **ChassisEAR / EngineEAR II Combo - P/N JSP06608**  
This combination tool kit offers the benefit of listening to noise under the chassis using ChassisEAR and in the engine compartment using EngineEAR.



### Instructions

Place sensors near the suspected area, then use the receiver to identify the sensor with the highest strength.

For additional tool information, refer to [steelmanpro.com/diagnostics.html](http://steelmanpro.com/diagnostics.html)

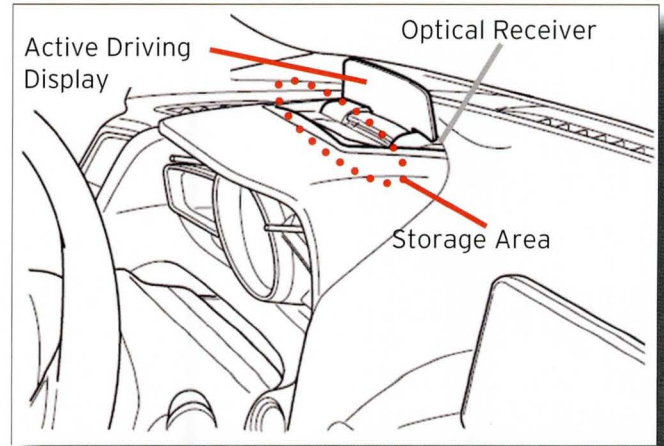
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## 2014 Mazda3 ACTIVE DRIVING DISPLAY CAUTION

Some customers may claim that it is impossible or difficult to view the Active Driving Display, even if the position of the display is adjusted through the Settings screen. This is caused by an incorrectly learned zero-point (closed position) of the Active Driving Display. The main reason this happens is because an object (e.g. gloves, paper, etc.) was placed in the storage area where the mirror and optical receiver are housed.

If an object is detected (i.e., jammed) when the Active Driving Display closes after switching the ignition OFF, the system determines this as abnormal and stops the closing operation, leaving the Active Driving Display in an open position. When the engine is started the next time, correction of the zero-point is automatically performed. If the object is still in the storage area during the correction, the system learns the incorrect position as the zero-point. As a result, the zero-point position largely deviates from the standard position; therefore, it becomes impossible to view the Active Driving Display from the normal view position.



### CAUTION:

- **Do not** turn off the ignition switch with objects placed in the storage area of the Active Driving Display. It will cause incorrect learning of the zero-point (closed position).
- **Do not** force open or close the Active Driving Display manually. If an object is jammed, remove the object, and NEVER force the Active Driving Display closed.

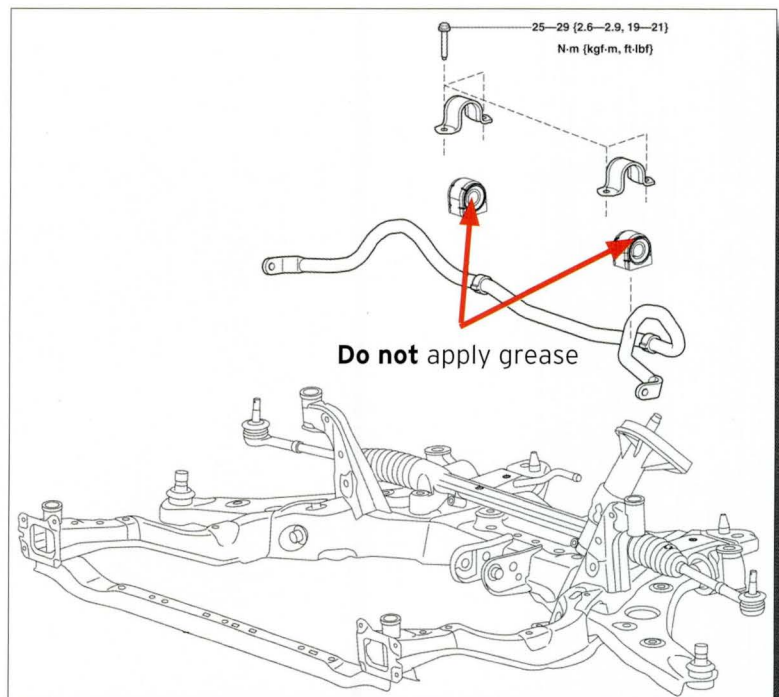
### Repair:

Start the engine again to automatically correct and learn the zero-point.

## 2014 Mazda3, 2014 Mazda6, 2013-2014 CX-5 STABILIZER BUSHING NOISE

Grip-type bushings are installed on both front and rear stabilizers to reduce noise.

**Do not** apply grease on the bushings. If grease is applied, a squeak-type noise may occur.





## MXCONNECT TEMPORARY INTERNET FILES (UPDATE)

The Mazda MXConnect website is a valuable resource of technical information. New information and revisions are uploaded daily. To take advantage of these changes, Temporary Internet Files and History Settings must be set correctly. Below is an example using Microsoft Internet Explorer:

1. Select Internet Explorer "Tools," then select "Internet Options."

2. From the General Folder, select Browsing history "Settings."

Temporary Internet Files and History Settings

### Temporary Internet Files

Internet Explorer stores copies of webpages, images, and media for faster viewing later.

Check for newer versions of stored pages:

- Every time I visit the webpage
- Every time I start Internet Explorer
- Automatically
- Never

Disk space to use (8-1024MB)  
(Recommended: 50-250MB)

50

Current location:

C:\Users\dgonzale\AppData\Local\Microsoft\Windows\Temporary Internet Files\

Move folder... View objects View files

### History

Specify how many days Internet Explorer should save the list of websites you have visited.

Days to keep pages in history:

20

OK

Cancel

3. Select "Every time I visit the webpage."

4. Select OK.



## 2014 Mazda3, 2014-15 Mazda6, 2013-15 CX-5 THEFT-DETERRENT SYSTEM CHANGE

The theft-deterrent system operation condition has been changed on vehicles produced on and after May 8, 2013. These vehicles are equipped with rear BCM part number KD45-67-5Y0G or later.

### New Condition:

(Rear BCM KD45-67-5Y0G)

If the front door key cylinder is unlocked by the mechanical key while the theft-deterrent system is in "armed" mode (stand-by), the system changes to "alert" mode and the theft-deterrent system operates (i.e., alarm goes off).

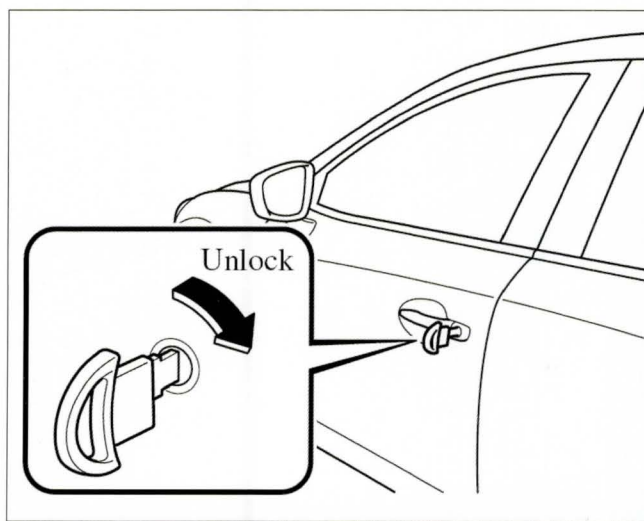
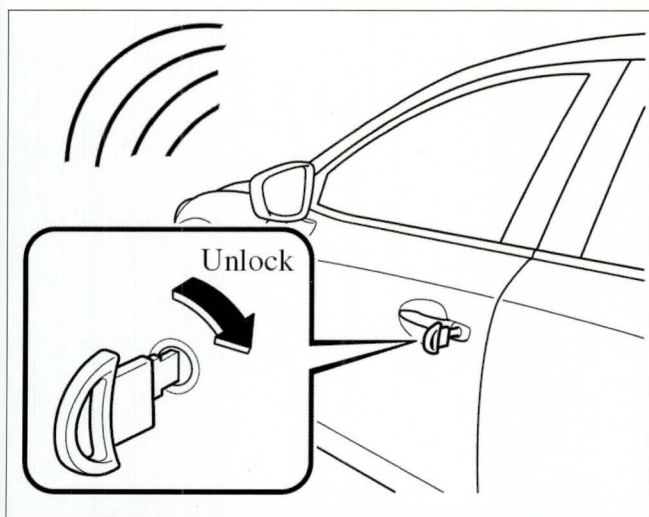
(Vehicles built on and after May 08, 2013. See note below for affected vehicles.)

### Previous Condition:

(Rear BCM KD45-67-5Y0A through KD45-67-5Y0F)

If the front door key cylinder is unlocked by the mechanical key while the theft-deterrent system is disarmed (i.e., "stand-by" mode is cancelled), the alarm does not go off. Other operating conditions are the same.

(Vehicles built on and before May 07, 2013)



### NOTE:

Rear BCM with P/N KD45-67-5Y0A through KD45-67-5Y0F supersedes to KD45-67-5Y0G. Therefore, the alarm operating condition will change if the rear BCM is replaced on vehicles built on and before May 7, 2013. Customers will need to be notified of this change. Do not perform any warranty repairs related to this change.

- The theft-deterrent system operation has been changed on 2014 Mazda6 vehicles during production. Those produced on and after May 8, 2013 are equipped with rear BCM (P/N KD45-67-5Y0G or later) and use the new condition. All 2015 Mazda6 vehicles use the new condition.
- The 2014-15 CX-5 and 2014 Mazda3 vehicles (US spec) are not impacted by this change because there is no Theft-Deterrent System option.
- The 2014-15 CX-5 and 2014 Mazda3 vehicles (Canada spec) has a theft-deterrent system option. This change began with the start of production and uses the new condition.
- The 2013 CX-5 (US and Canada spec) has a theft-deterrent system option. These vehicles are equipped with Rear BCM P/N KD45-67-5Y0A through KD45-67-5Y0F and use the previous condition.

## 2014 Mazda3, 2014 Mazda6 BRAKE FLUID AIR BLEEDING CHANGE

Additional steps have been added to the process for brake fluid air bleeding. Air bubbles may remain in the rear calipers if the additional steps are not performed. These additional steps can be found in the Workshop Manual section 04-11.

### BRAKE FLUID AIR BLEEDING

1041102819320

#### Caution

- Brake fluid will damage painted surfaces. Be careful not to spill any on painted surfaces. In addition, if there is any brake fluid on the wiring harness, the wire insulation may corrode causing a malfunction such as a short circuit. If brake fluid gets on a painted surface or wiring harness, wash and flush it off completely with water immediately.

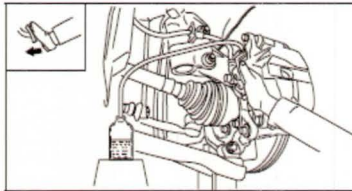
#### Note

- Keep the fluid level in the brake fluid reserve tank at 3/4 full or more during the air bleeding.
- Begin air bleeding with the brake caliper that is furthest from the master cylinder.

#### Brake fluid type

SAE J1703 or FMVSS116 DOT-3

1. Remove the cap from the brake fluid reserve tank and add brake fluid.
2. Remove the bleeder cap on the brake caliper, and attach a vinyl tube to the bleeder screw.
3. Place the other end of the vinyl tube in a clear container and fill the container with fluid during air bleeding.
4. Working with two people, one should pump the brake pedal several times and depress and hold the pedal down.
5. While the brake pedal is depressed, the other person should loosen the bleeder screw using a commercially available flare nut wrench, drain out any fluid containing air bubbles, and tighten the bleeder screw.



#### Tightening torque

Front: 9—12 N·m (92—122 kgf·cm, 80—106 in·lbf)

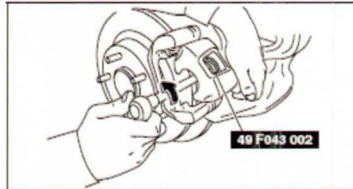
Rear: 6.9—9.8 N·m (71—99 kgf·cm, 62—86 in·lbf)

6. Repeat Steps 4 and 5 until no air bubbles are seen.
7. Perform air bleeding as described in the above procedure for all brake calipers.

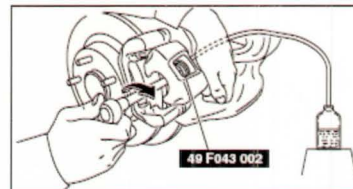
8. After performing normal air bleeding, perform air bleeding again for the right and left rear calipers using the following procedure:
  - (1) Remove the rear caliper installation bolt shown in the figure and lift up the rear caliper.



- (2) Slowly rotate the piston counterclockwise approx. 180° using the SST.
- (3) Loosen the bleeder screw.



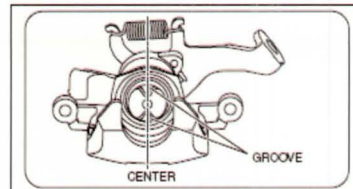
- (4) Rotate the piston clockwise slowly using the SST and push the piston inwards completely to bleed air.
- (5) Tighten the bleeder screw.



**Tightening torque**  
6.9—9.8 N·m (71—99 kgf·cm, 62—86 in·lbf)

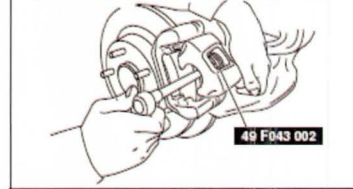
- (6) Repeat the procedure from Steps 1 to 5 until no air bubbles are seen.

- (7) Place the piston groove in the position shown in the figure using the SST.
- (8) Return the rear caliper to the original position and install the rear caliper installation bolt.



**Tightening torque**  
30—39 N·m (3.1—3.9 kgf·m, 23—28 ft·lbf)

9. Clean the brake calipers.
10. After air bleeding, inspect the following:
  - Brake operation
  - Fluid leakage
  - Fluid level



### NOTE:

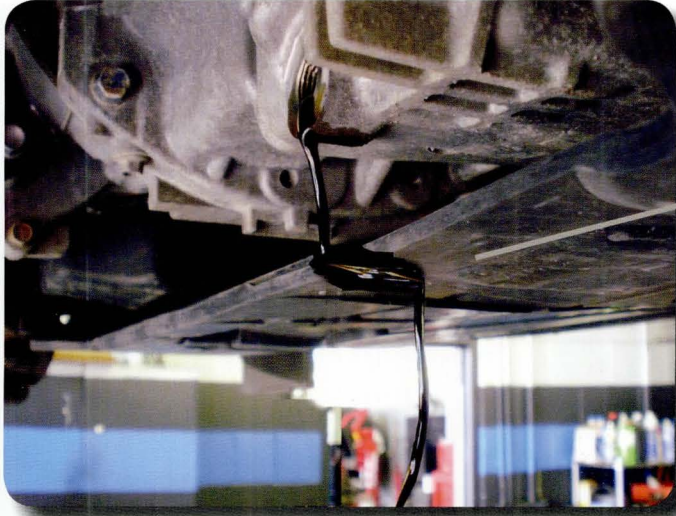
Workshop Manual updates are uploaded daily. Check MS3 at the time of the repair for latest Workshop Manual revisions.

Additional steps for  
brake fluid air bleeding.



## MULTI-MODEL ENGINE OIL DRAIN TECH TIP

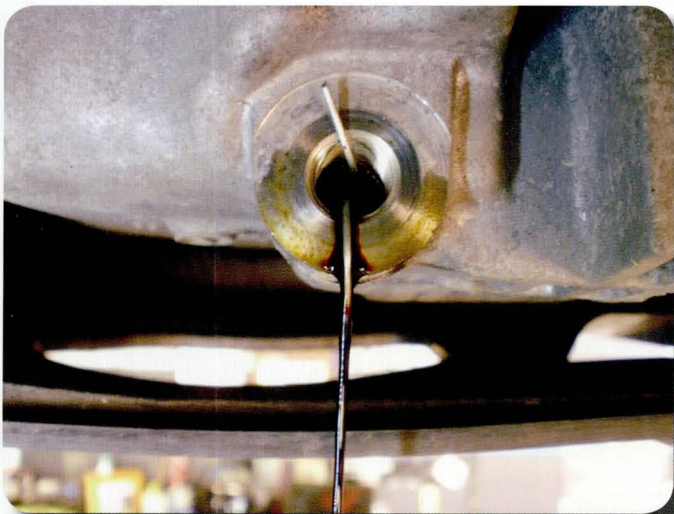
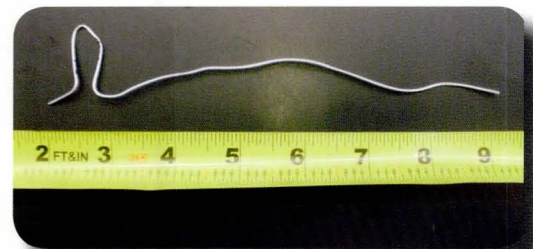
When draining motor oil, the oil flows in a steady stream after removing the drain plug. Just before the drain ends, the oil flow changes direction. On some vehicles, such as the 2012 Mazda3, this change may cause the motor oil to land on the engine undercover, creating an oily mess. Valuable time is wasted for engine undercover cleanup.



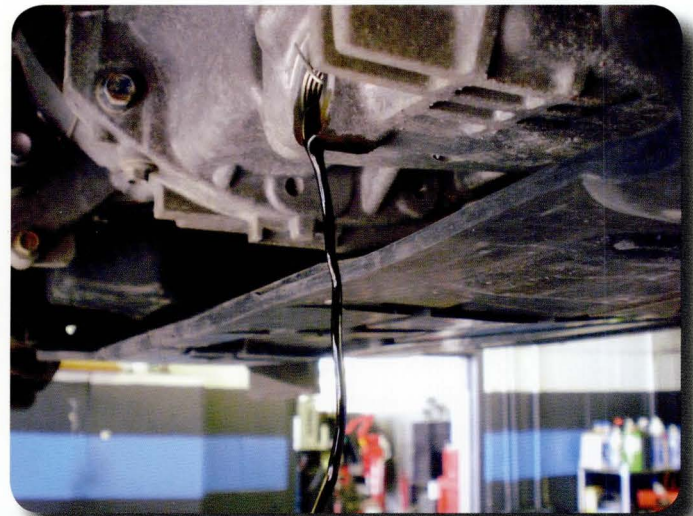
Engine undercover

Engine undercover cleanup is necessary.

This oily mess can be avoided by using a mechanic's wire (approx. 9 inches) to guide the oil flow away from the engine undercover. Install the mechanic's wire just before draining ends.



Mechanic's wire installed.



Mechanic's wire guides oil flow away from engine undercover and avoids an oily mess.

**Special thanks to master technician Bob Bloodgood from Royal Mazda** in Bloomington, Indiana. Bob has been rewarded a \$50 American Express Gift Cheque for submitting this valuable technical information. Refer to page 8 for information on how to submit an M-Tip and be considered for a \$50 American Express Gift Cheque.



## 2014 Mazda3, 2014-2015 Mazda6 WITH I-ELOOP Q-85 / T-110 NEGATIVE BATTERY DISCONNECT

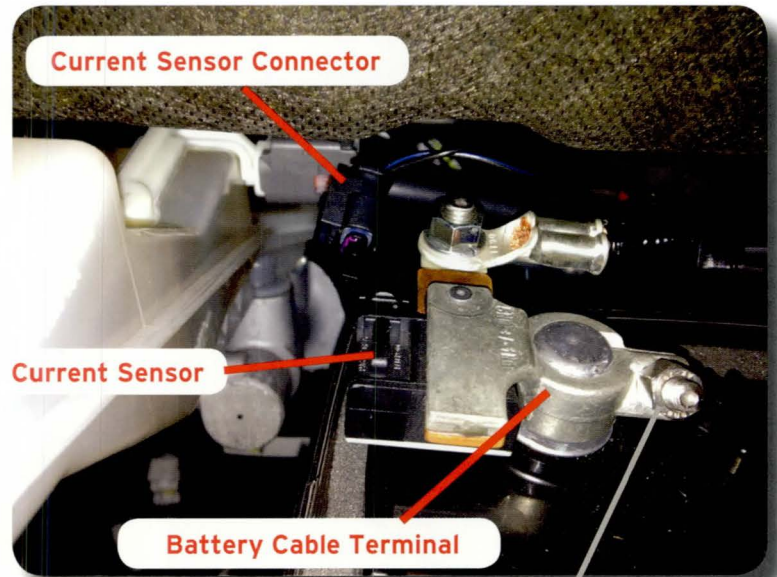
If a Q-85/T-110 battery requires removal or terminal disconnect, use the following Workshop Manual procedures. DTC(s) may be stored in the PCM memory if these procedures are not performed.

### Q85/T110 NEGATIVE BATTERY CABLE DISCONNECT

Step	Action
1	Record audio memory.
2	Switch the ignition OFF.
3	Disconnect the current sensor connector from the current sensor.
4	Disconnect the negative battery cable terminal.

### Q85/T110 NEGATIVE BATTERY CABLE CONNECTION

Step	Action
1	Connect the negative battery cable terminal.
2	Connect the current sensor connector to the current sensor.
3	Switch the ignition ON.
4	Perform the power window system initial setting.
5	Perform the sunroof system initial setting.
6	Set clock.
7	Set audio memory.
8	Perform the tire pressure monitoring system (TPMS) initialization.



Torque: 36-53 in lbf (4-6 N m)

#### NOTE

Failure to perform these procedures after battery removal or terminal disconnection may cause:

- DTC(s) to be stored in the PCM memory
- TPMS warning light ON
- Power window customer complaint
- Sunroof operation customer complaint
- Audio and clock setting customer complaint

## Submit Your Own M-Tip Article!

If you have a valuable repair tip that you would like to submit for consideration in the next M-Tips Newsletter, please send by e-mail to [mtips@mazdausa.com](mailto:mtips@mazdausa.com) or by FAX to (949) 442-6599.

If we select your repair tip, you will receive a \$50 American Express Gift Cheque for your efforts.

Daniel Gonzalez - Editor (949) 442-6526

