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Subject: HEAVY STEERING EFFORT WITH POWER STEERING MALFUNCTION INDICATOR LAMP ON AND DTC C1099	Bulletin No: 06-002/09
	Last Issued: 07/10/2009

BULLETIN NOTE

- This bulletin supersedes the previous bulletin issued on 07/02/09. The APPLICABLE MODEL(S)/VINS has been revised.
- Changes are noted below in Red beside the change bar.

APPLICABLE MODEL(S)/VINS

2007-2009 Mazda3 vehicles (NOT including Mazdaspeed3) with VINs below (produced between April 1, 2007 and November 4, 2008)

- 2007 JM1BK***** 742201 - 774382
- All 2008
- 2009 JM1BK***** 187372 - 251982

2007-2009 Mazda5 vehicles with VINS JM1CR***** 155672 - 349055 (produced between April 1, 2007 and November 4, 2008)

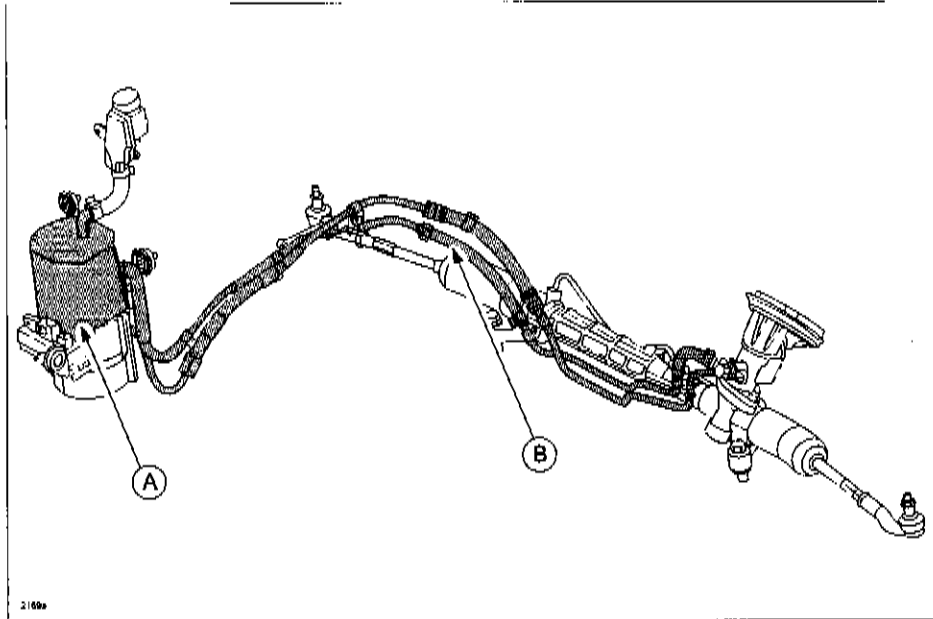
DESCRIPTION

Some customers may feel that the steering effort is hard or heavy with power steering malfunction indicator lamp illumination and DTC C1099 [ELECTRO HYDRAULIC POWER ASSIST STEERING (EHPAS)] stored in memory. This problem is caused by contamination of the system from such things as corrosion getting inside the power steering line, sticking in the power steering pump, and lowering the revolution speed. The system then goes into a fail safe function.

Customers having this concern should have their vehicle repaired using the following repair procedure.

REPAIR PROCEDURE OUTLINE

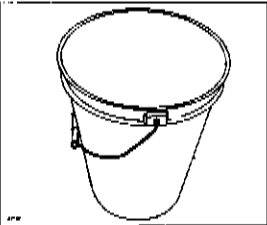
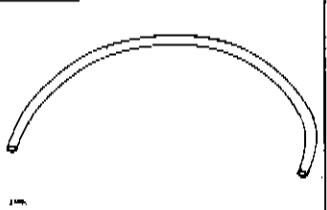
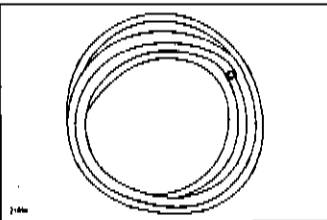
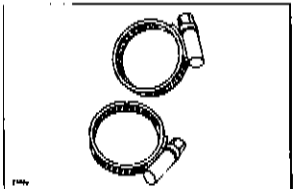
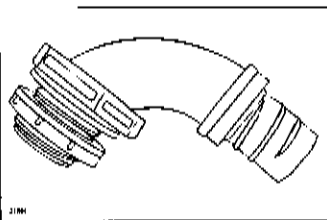
1. Verify customer concern.
2. Clean the steering gear box by flushing all fluid lines with 10 quarts of fluid.
3. Remove the electric power steering oil pump assembly (A) and pipe assembly (B).



4. Replace the power steering oil pump unit (shaded part of A) on the pump assembly with oil pump kit.
5. Install the repaired power steering oil pump assembly and new pipe assembly.
6. Fill the pump reservoir with ATF MIII and remove air from the line.

REQUIRED PARTS

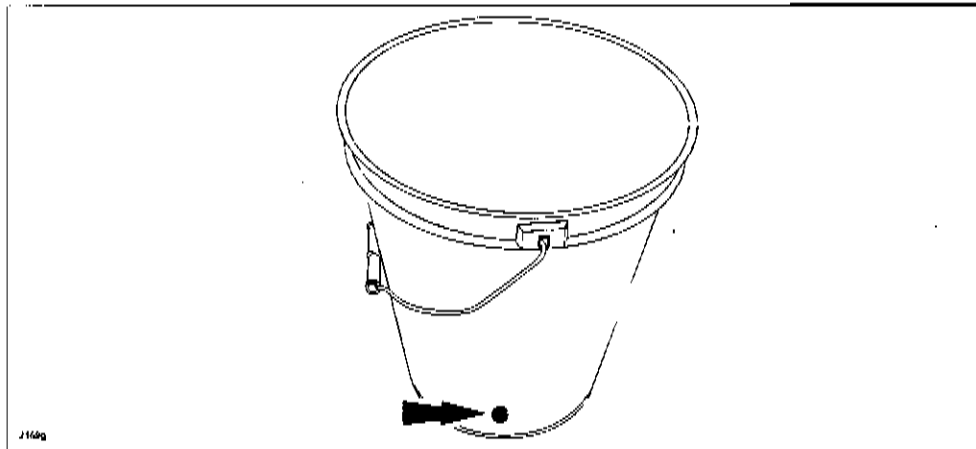
Although there are no special tools required for the flushing procedure, some locally sourced parts and fabrication are necessary. These parts are commonly found at large home improvement centers or hardware stores.

<p>1</p>	<p>(2) Clean plastic buckets (with lid if possible) capable of holding at least 10 fluid quarts (a common 5 gallon bucket works well) or (1) bucket and container to drain 10 fluid quarts of waste oil into.</p> <p>NOTE: To prevent contamination of the power steering system, verify the bucket is clean inside before every use.</p>	
<p>2</p>	<p>(1) piece of clear vinyl tubing 31 inches in length, 3/4" OD, 5/8" ID (suction hose).</p> <p>NOTE: To prevent contamination of the power steering system, verify the hose is clean inside before every use.</p>	
<p>3</p>	<p>(1) piece of clear vinyl tubing 8 feet in length, 5/8" OD, 1/2" ID (drain hose).</p> <p>NOTE: To prevent contamination of the power steering system, verify the hose is clean inside before every use.</p>	
<p>4</p>	<p>(2) Hose clamps (5/16"-7/8" range)</p>	
<p>5</p>	<p>(1) Fluid fitting with one end having a 1/2" fitting for a hose attachment and the other end threaded with a backing nut and sealing washer. [Example: A Carlon brand "ENVIROFLEX" 1/2" water tight electrical conduit connector (Model # LN20DA-CTN)]</p> <p>NOTE: To prevent contamination of the power steering system, verify the connector is clean inside before every use.</p>	

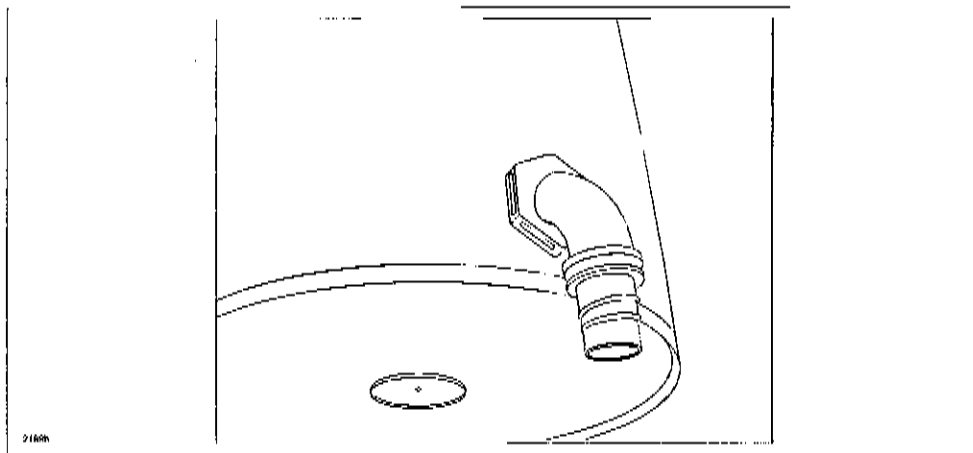
FLUSHING PARTS PREPARATION (required one time)

1. Drill a hole for the appropriate sized fluid fitting through the side of the bucket within a 1/2" of the bottom, then clean the shavings out of the bucket.

NOTE: If using the "CARLON ENVIROFLEX" 1/2" fluid fitting drill a 3/4" diameter hole.



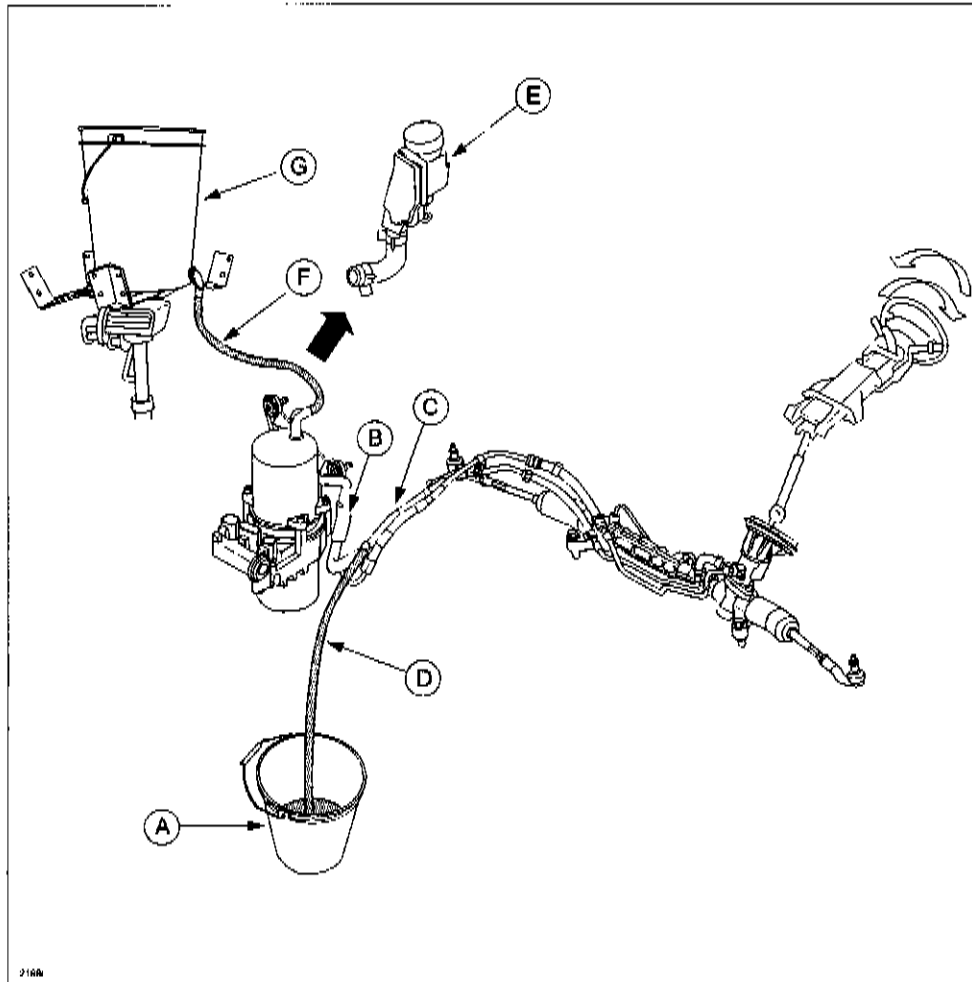
2. Insert fluid fitting into bucket as shown.



CAUTION: Extreme care must be taken to avoid contamination of the ATF and the bucket since just a fraction of contamination (about 40-50 micron) might damage the pump. Take proper care when storing or using the ATF and the bucket by placing a lid or cover on them.

FLUSHING PROCEDURE

1. Raise the car on a hoist and remove the right front wheel.
2. Remove the undercover and right side splash shield.
3. Set the waste bucket or container (A) near the power steering pump.



4. Remove the return hose (B) from the return pipe (C) and connect a drain hose (D) to the return pipe with a hose clamp, then plug or clamp the return hose.
5. Lower the vehicle (It is not necessary to set the tires on the floor).
6. Remove the reservoir and hose (E) from the pump and connect the suction hose (F) from the bucket (G) to the top of the pump unit.

NOTE: Secure the suction hose with hose clamps to avoid it from disconnecting.

7. Fill the bucket with 10 quarts of new fluid and place above the power steering pump.
Power steering fluid specification: ATF M-III or equivalent

NOTE: The power steering fluid is going to be gravity fed, so place the bucket above the pump. Suggest placing it on a transmission jack.

8. Start the engine and turn the steering wheel back and forth to move the fluid through the gear box and the pipe assemblies. Stop the engine as soon as all 10 quarts of fluid has been used up, which can be seen through the clear vinyl suction hose.

NOTE: The pump will draw 10 quarts of fluid in about 2 minutes. Within 2 minutes, turn the steering lock to lock at least 6 times, or until the fluid is gone from the bucket. A continuous flow of 10 quarts of fluid is required for best results.

CAUTION: DO NOT turn the steering wheel if the fluid is gone from the bucket - no fluid is shown in the suction hose. Otherwise, the steering gear and linkage could be damaged.

9. Recycle the waste oil according to local regulations.

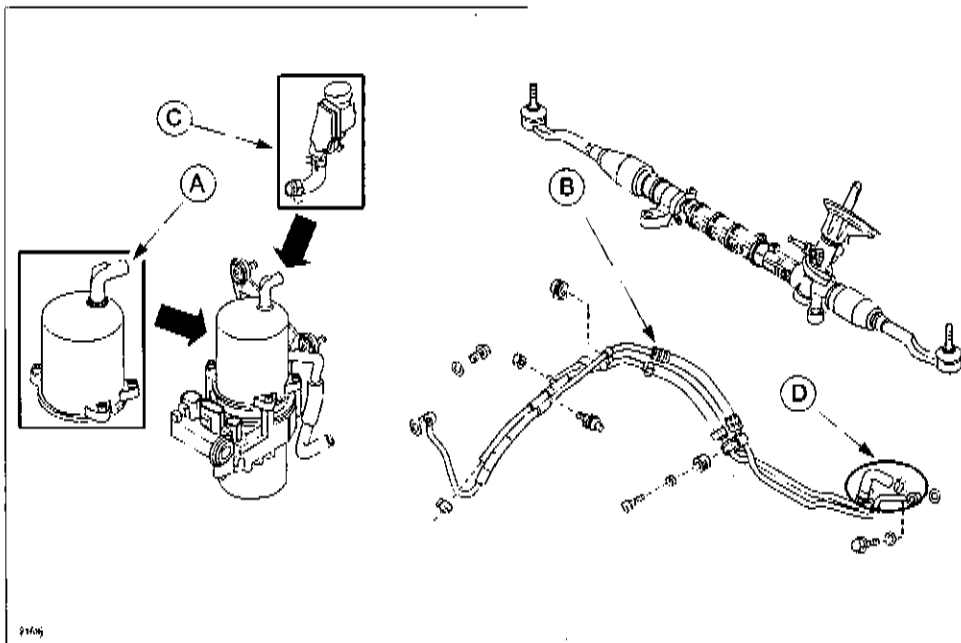
PUMP AND PIPE REPLACEMENT PROCEDURE

1. Remove the electric power steering oil pump assembly and pipe assembly. Refer to MS3 online instructions or the Workshop Manual section 06-14.

NOTE: The Workshop Manual procedure may have you remove the front bumper and washer tank, but it is NOT necessary.

Outline of this procedure: Replace the pump unit (A) of the electric power steering oil pump assembly and pipe assembly (B), reusing the reservoir (C) and return hose (D).

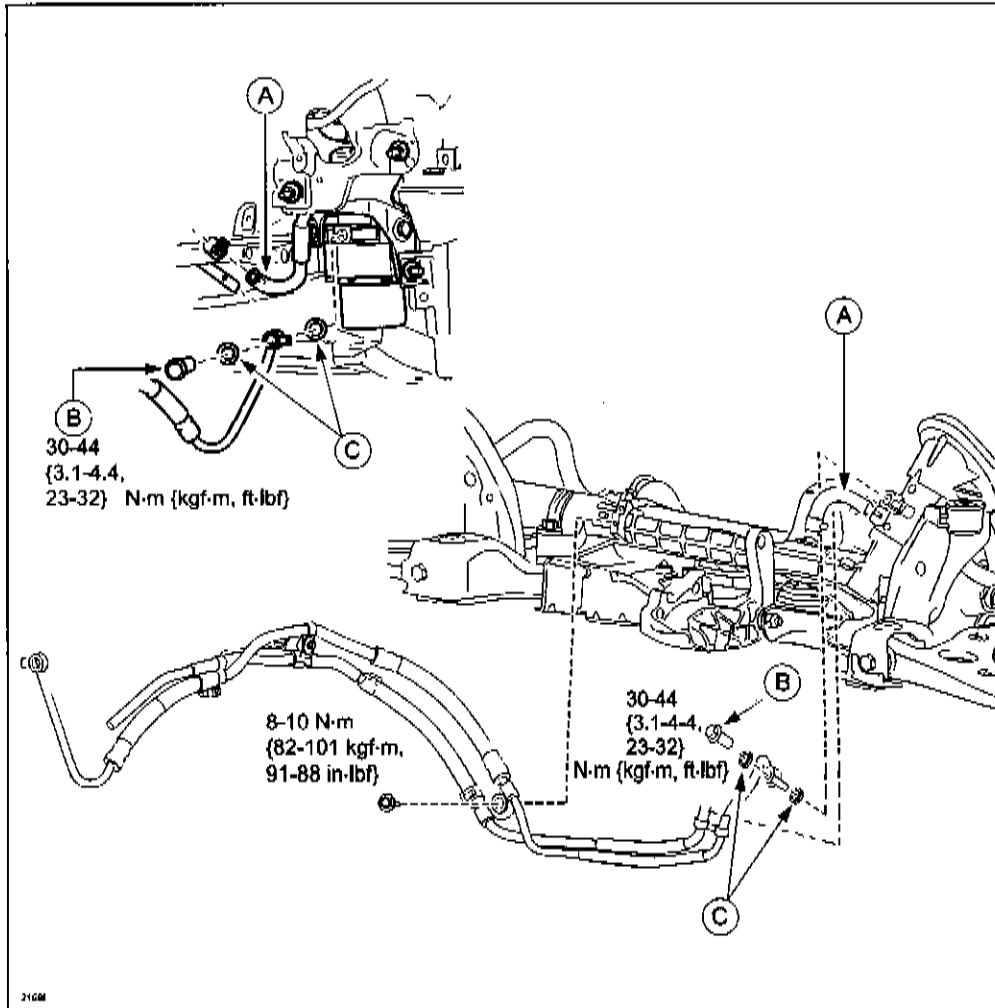
NOTE: If a new return hose comes with the pipe assembly, use the new return hose.



NOTE:

- It is not necessary to perform "Programmable Module Installation (PMI)" when using the Oil Pump Service Kit because the control module is not being replaced.
- Steps 2-4 are for replacement of the oil pump of the electric power steering oil pump assembly. Before performing the steps, inspect the EHPAS control module and motor visually, and replace the electric power steering oil pump assembly if a malfunction or damage is found.

6. Install the new pipe assembly, connecting the return hoses (A) and installing the connecting bolts (B) with new gaskets (C).



7. Refill the reservoir with power steering fluid.
Power steering fluid specification: ATF M-II or equivalent
8. Bleed air from the system. Refer to MS3 online instructions or Workshop Manual section 06-14.
NOTE: It is not necessary to perform "Programmable Module Installation (PMI)" when using the Oil Pump Service Kit because the control module is not being replaced.
9. Verify repair.
10. Install the undercover and the right side splash shield.