File in Section: -
Bulletin No.: PIC5119C
Date: February, 2014

Service Bulletin

PRELIMINARY INFORMATION

Subject: **Power Steering Pump Whine At Slow Vehicle Speeds**

Models: **2007-2011 Chevrolet Impala**

This PI was superseded to remove admin details and add keywords.
Please discard PIC5119B.

The following diagnosis might be helpful if the vehicle exhibits the symptom(s) described in this PI.

Condition/Concern

Some customers may comment on a whine or growl noise coming from the power steering.

The Impala power steering pump has a pressurized cap with a two way valve designed to control the air pressure inside the reservoir.

As the system temperature is getting hot during the normal vehicle operation the power steering fluid will expand and compress the air inside the reservoir.

At a certain air pressure the cap valve will open to allow the air to escape through the cap.

On the other side, when the vehicle is stopped and system temperature is going down the power steering fluid will contract resulting in a negative pressure inside the reservoir.

This will cause the valve to open and allow the outside air to enter the reservoir.

For the pump noise issue, the air bubbles need to be thoroughly removed from the power steering fluid.

This process is more challenging and time consuming on Impalas.

The reason is with the design and length of Impala power steering hoses and lines.

The overall length of the Impala power steering lines is approximately one and a half times longer than on other vehicles.

Recommendation/Instructions

Important: DO NOT REPLACE THE POWER STEERING PUMP OR RACK/GEAR.

Fill and bleed the power steering system using the following procedure:

Power Steering System Bleed Procedure Using J 42485 (MityVac) (or equivalent)

Important: Before following the bleed procedure below, verify the power steering lines are not grounding out.

Important: Maintain the fluid level throughout the bleed procedure.

1. Fill the fluid reservoir to the FULL COLD level. Leave the cap off.
2. Raise the front wheel off the ground.
3. Attach the J 43485 (Adapter) to the J 23738 (Mityvac), or equivalent. Place the J 43485 on/in the pump reservoir filler neck (refer to graphic). Apply a vacuum of 20 in Hg MAXIMUM.

Note: If the J 43485 (adapter) is not available, an equivalent can be made using a rubber seal/stopper and brass fitting.

Important: An assistant is needed for the next step.

4. Apply vacuum while turning the steering wheel lock to lock a minimum of 20 times. One lock to lock revolution means to move the steering wheel from the center, to full left, to full right, then back to center. Maintain 20 in Hg while turning. Using a clear line will allow you to see bubbles evacuating from the system. Stop when no more bubbles are seen and you have gone lock to lock at least 20 times.
5. Wait five minutes. Typically vacuum drop is 2-3 in Hg. Verify the fluid level. If the fluid level is low, fill to the full line.
6. Reinstall the cap. Start and idle the engine.

7. Turn the engine off. Verify the fluid level. If the fluid level drops, add fluid. Repeat Steps 4 and 5 until the fluid level stabilizes.
8. Start and idle the engine. Turn the steering wheel 180°-180° in both directions five times. DO NOT TURN TO LOCK.
9. Switch the ignition off. Verify the fluid level.
10. Install the cap.

The bleed procedure is complete.

Warranty Information

For vehicles repaired under warranty use:

Labor Operation	Description	Labor Time
7480078*	Bleed Power Steering System to Correct Noise Concern	0.7 hr
* This is an unique labor operation for bulletin use only. This will not be published in the Labor Time Guide.		

Please follow this diagnostic or repair process thoroughly and complete each step. If the condition exhibited is resolved without completing every step, the remaining steps do not need to be performed.