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Case Number: S2418000006

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Symptom/Vehicle Issue: MIL/CEL is on with Excessive Vibration / Lack or Loss of Power / Engine Misfire.

Customer Complaint/Technician Observation: Customer's concern may include MIL/CEL on with excessive vibration / lack or loss of power / engine misfire. Upon further investigation, DTC's may be set in the Powertrain Control Module (PCM). DTC's may include: P0038, P0058, P0300, P0301, P0302, P0303, P0304, P0305, P0306, P0307, P0308 and/or P0420, P0430.

Discussion: If any of the above symptoms are observed accompanied by any of the above DTC's, please perform the repair procedure below. If P0420 and/or P0430 are set in the PCM also, perform the repair procedure below AND inspect the catalytic converters for damage, making repairs as necessary.

Repair Procedure: Re-gap all spark plugs to 0.60mm (0.024in) Spec is 0.55-0.65mm (0.022-0.025in) using the following procedure below.

NOTE: Extra care needs to be taken when handling the spark plugs and re-gapping so as not to damage the electrodes.

This document does not authorize warranty repairs. This communication documents a record of past experiences. STAR Online does not provide any conclusions about what is wrong with the vehicle. Rather, it captures all previous cases known that appear to be similar or related to the vehicle symptom / condition. You are the expert, and you are responsible for deciding on the appropriate course of action.

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NOTE: This procedure is a step-by-step instruction on how to reduce the gap of the spark plug. If at any point the gap is lower than what is specified, scrap the plug and start again – do not adjust. If at any point, the spark plug is dropped, start again with a new plug.

CAUTION:

- Spark plug re-gapping should be done very carefully to ensure that the electrodes and the precious metal tips do not get damaged during the re-gapping process.
- Pin gauges or feeler gauges are recommended to measure spark plug gaps.
- If at any point the spark plug gets dropped, please discard the plug and use a new one (dropped plugs should never be re-used). Start the re-gap procedure again.
- If at any point the gap is lower than 0.55mm (0.022in), please scrap the plug and use a new plug (plug gap should not be opened up again). Start the re-gap procedure again.

Procedure:

- The re-gap spec for this spark plug is 0.55-0.65mm (0.022-0.025in), with 0.60mm (0.024in) being nominal.
- While re-gapping, use the nominal gap of 0.60mm (0.024in) as the target to be set.
- Measure the spark plug gap with pin or feeler-style gauges. If smaller than 0.55mm (0.022in), replace spark plug with a new one and re-start the re-gapping procedure. If larger than 0.65mm (0.025in), continue with the re-gapping procedure.
- Hold the spark plug with the terminal on the top side and electrode on the bottom side. Lightly tap the electrode (once) against a hard surface to reduce the gap.

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- After tapping, measure with a 0.60mm (0.024in) pin or feeler gauge to measure the gap. The correct pin or feeler gauge should pass through the gap. The “next-size-up” (larger) pin or feeler gauge should not pass (for example, if the pin or feeler gauge that measures 0.65mm (0.025in) passes through the gap but the consecutive larger pin or feeler gauge 0.66mm (0.026in) does not pass through the gap, then your gap is 0.65mm (0.025in)).
- After the first initial tap, if the measurement shows that the gap is not yet within the required specification, continue tapping and measuring until the specification is reached.
- Before installing the re-gapped plug in the engine, put a BLUE dot on the hex (Fig.1) with a paint pen or marker to indicate the plug has been re-gapped.
- When re-installing spark plugs after gapping, torque to 30 Nm (22 ft/lbs).



Fig. 1

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