

Tech Tip No:	TT-14-032
Group:	11-Engine
Issue Date:	10/31/2014

TECH TIP

11MY-14MY Conventional-Combustor Igniter Replacement Guidelines

SUBJECT VEHICLES:

2011MY-2014MY Conventional trucks

Note: This technical tip is provided as technical information and is not authorization for a warrantable repair.

OVERVIEW:

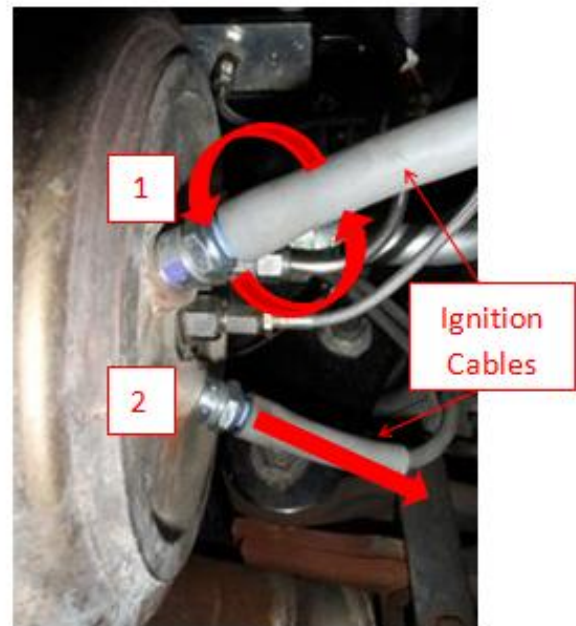
During diagnosis of the exhaust aftertreatment system, the technician may find that the combustion chamber igniter plugs are covered in soot or appear to be excessively worn. If the igniters are dirty or have some wear, this alone does not justify replacement. No service of the igniters is recommended unless an issue with the spark between them is confirmed during a spark test. If, during the spark test the arc between the igniters does not function properly, it is recommended to first clean the igniters, and then check the air gap using the following procedure prior to replacement of the igniters.

INSPECTION PROCEDURE:

1. Remove the ignition cables from the igniter plugs. Grasp the ignition cables' rubber boot near the igniter and use a twisting motion to break the rubber boot loose from the igniter. Once the boot twists independently from the igniter, gently pull the boot off of the igniter.

NOTICE: Use caution not to break the ignition cables during removal. The ignition cables are fragile and can break if excessive force is used. Do not pull on the cable until the rubber boot will rotate independently from the igniter.

NOTE: The ignition cables are not a maintenance item. They do not require replacement unless they have damage.



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2. Remove both igniters from the combustion chamber. Remove any soot buildup on the igniters using brake cleaner and a rag.

NOTICE: Do not use a wire brush or other abrasive tools to clean the igniters.



3. Inspect for cracks in the porcelain of the igniters. If there are any cracks or damage to the igniter, the igniter must be replaced. Note the wear on the tip of the igniter. Some wear is normal and does not justify replacement if the gap specification is met during the following steps, below.



4. Reinstall both igniter plugs and tighten to the specified torque.

Specified Torque: 22.0 lb-ft (29.8 Nm).

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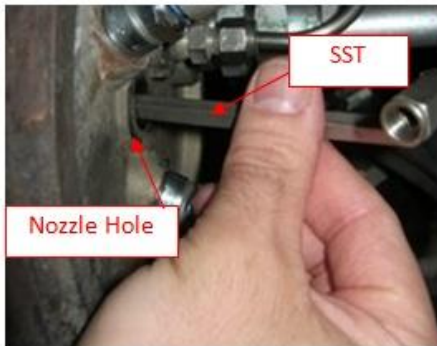
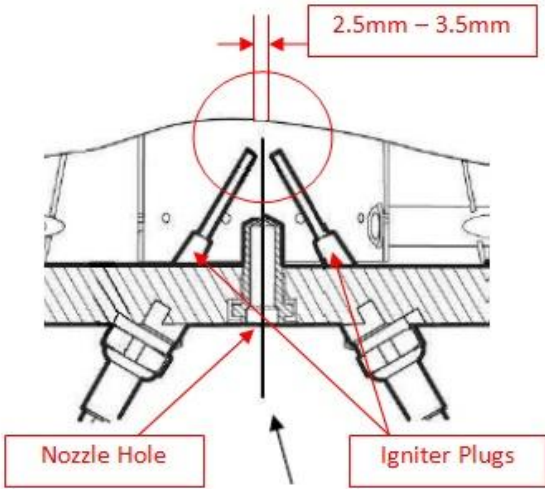
5. Remove the atomization nozzle as outlined by the Burner System section (EN-10) of the Engine Workshop Manual.

6. Reference the photographs and diagrams below. Using SST US09992-001, does the igniter gap fall within the specification?

- **Yes.** Proceed to step 9.

- **No.** Proceed to step 7.

Igniter Gap Specification: 2.5mm – 3.5mm.

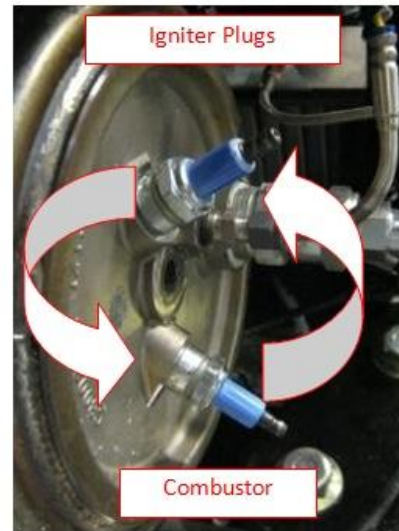


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7. Remove the 2 igniter plugs and switch positions side to side. Reinstall both igniters and tighten to the specified torque.

Specified Torque: 22.0 lb-ft (29.8 Nm)



8. Using the SST, does the igniter gap now fall within the specification?

- **Yes.** Proceed to step 9.

- **No.** Replace the igniter plug that appears to have the most wear on the tip. Reinstall the replacement igniter into the combustor and tighten to the specified torque. Confirm the igniter gap meets the specification and proceed to step 9.

Igniter Gap Specification: 2.5mm-3.5mm

Specified Torque: 22.0 lb-ft (29.8 Nm)

NOTE: It is not usually necessary to replace *both* igniters to obtain the correct gap. Only replace both igniters if the gap is still above the specification after replacing the first igniter.

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9. Install the ignition cables onto the igniters following the procedure in the Burner System section (EN-10) of the Engine Workshop Manual. Use the DXII to perform a spark test from the BCU (burner control unit) Data Monitor and Active Test menu. Validate that there is a strong arc between the tips of both igniters while the ignition coil is energized for at least 2 minutes. Validate that the arc does not jump to other areas within the combustion chamber or to the metal base of the igniter. If the igniter is arcing to the base, replace the effected igniter as needed.

10. Install the atomization nozzle using a new copper washer as outlined by the Burner System section (EN-10) of the Engine Workshop Manual.