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Engine Injector and Sleeve, Replacement (Conical) Checklist MP7, MP8, MP10

Engine Injector and Sleeve, Replacement (Conical) Checklist



CAUTION

This checklist is not a substitute for Service Bulletin 237-60 dated 9.2013. The service bulletin describes important tools and procedure for engine injector and injector sleeve replacement. These tools and procedure replace all existing tools and procedures for conical engine injector and stainless steel sleeve replacement. If the procedure in the service bulletin is not followed exactly, damage to the engine may result.

Note: Failure to follow the Service Bulletin 237-60 procedure exactly may result in warranty claim denial.

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Service Procedures

2379-03-02-08

Engine Injector and Sleeve, Replacement (Conical) Checklist

Special tools: 9990006, 9990013, 9996049, 9998249, 9998250, 9998251, 85112740, 88800014, 88800457, 88800460, 88800387, 88880056, 88880099, J42885, PT2900, 2815-2V700

Engine Injector and Sleeve, Replacement (Conical) Checklist



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Note: Failure to follow the Service Bulletin 237-60 procedure exactly may result in warranty claim denial.

You must read and understand the precautions and guidelines in Service Information, Function Group 20, "Engine Safety Practices" before performing this procedure. If you are not properly trained and certified in this procedure, ask your supervisor for training before you perform it.

Check off each item in the list as it is performed during conical engine injector and sleeve replacement. The step numbers in parenthesis next to each item are the step numbers in Service Bulletin 237-60.

1

Drain fuel from the cylinder head. (Step 4)

2

Thoroughly clean area around the injectors that are to be removed. (Step 9)

3

Install the protective plug into the injector bore of the cylinder head after injectors have been removed. (Step 12)

9998251

4

Using compressed air, clean out the injector hold down bolt holes. (Step 12)

5

Install two sealing rings to prevent dirt from entering the fuel gallery when the injector sleeve is removed. (Step 17)

9998250

6

Install the extractor and puller into the sleeve and remove the injector sleeve. (Steps 19 and 20)

88800387, 88800460, 88800099

7

Remove the two sealing rings from the fuel passage and install the injector bore sealing tool, J-42885-25. (Steps 22 and 23)

J-42885-25

8

Using the cleaning kit, J42885, clean the injector sleeve seat of the cylinder head. All remaining sealing compound (1161059) **MUST BE REMOVED AND SURFACE COMPLETELY DRY.** (Steps 24-27)

J42885-1, J42885-2, J42885-3, J42885-4, J-42885-25

9

Measure swedging bit:

Length_____ mm

Diameter_____ mm

(Step 33)

88880054

10

Apply Loctite spray activator 7649 to the bottom surface of the sleeve where sealing compound is to be applied and allow to completely dry. (Step 31)

11

When activator is dry, apply a 2-3 mm bead of Mack approved sealing compound (part number 1161059) to the bottom of the injector sleeve. (Step 31)

12

Lubricate a new injector sleeve O-ring with clean coolant or soapy water. Install the O-ring on the injector sleeve and lubricate again with clean coolant or soapy water. (Step 32)

13

Use the injector hold down yoke and bolt 8192804 to hold the tool in position. To ensure that the sleeve is bottomed in the cylinder head, tighten the bolt to 80 ± 5 Nm (60 ± 4 ft-lb). (Step 36)

88800457

14

Before installing the new or reused injector, install a new upper O-ring (large diameter, violet) on the top injector groove only. If new injectors have O-rings installed on both top and bottom locations of the injector, remove the lower O-ring. Lubricate the O-ring with clean engine oil. (Steps 39 and 40)

15

Wipe the injector conical area with a lint free paper shop towel to remove any residue before applying the graphite paste. Use a finger tip to apply a thin layer of graphite sealant paste (part number 85134750) all around the injector cap nut cone. (Step 42)

16

Note: If available, use an electronic digital torque wrench for the tightening procedure

Install NEW injector hold down bolt and follow five step tightening procedure:

- 1 Tighten 20 +5-0 Nm (15 +4-0 ft-lb).
- 2 Tighten 180 ±5 degrees angle of tightening.
- 3 Loosen the hold down bolt until torque is 10 to 15 Nm (7.0 to 11.0 ft-lb).

Note: This should be achieved by loosening with an angle of 100-110 degrees. Do not completely loosen the bolt to prevent components from moving after the previous seating process.

- 4 Tighten 20 +5-0 Nm (15 +4-0 ft-lb).
- 5 Tighten 90 ±5 degrees angle of tightening.

(Step 43)

17

Adjust **all** of the valves and injectors. Refer to Group 214 for service procedures. (Step 47)

18

When replacing injectors, the engine control module (ECM) must be programmed with the new injector's trim codes. The code is printed on top of the injector electrical connector. The programming is performed using Tech Tool and is necessary to ensure that engine timing and emission levels are correct. (Step 44)

19

Perform a "Learn Data Reset". (Step 44)