DETROIT DIESEL

A DaimlerChrysler Company

No.: 04 TS - 06
February 5, 2004

TO: All Distributors/Dealers and Their Branches
U. S., Canada and Mexico

ATTN.: Service Managers

FROM: Evandro Silva

SUBJECT: **MBE4000 – Head & Block Leak Test Tool Kit**

The MBE4000 – Head & Block Leak Test Tool Kit (tool number J-45982) was released last year as part of the MBE4000 Essential Tools for overhaul distributors and dealers.

A test procedure was shipped with the tool. This test procedure explains how to install the testing kit and run the leak test.

Attached to this letter you can find the leak test procedure for your reference.

If you have any questions, please feel free to contact the Technical Support Team

Evandro Silva
MBE4000 Technical Support

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Instructions

J-45982 Head and Block, Coolant and Fuel Leak Test Kit

NOTE:
For additional safety precautions, refer to the MBE4000 Service Manual (6SE412) – General Information – page 15.

Fuel System Leak Test

This procedure can be done with the engine installed or removed from the truck.

1. Remove all 6 injector unit pumps from the engine block, as per MBE4000 – Service Manual (6SE412) – Section 2.1.1 – page 2-3.

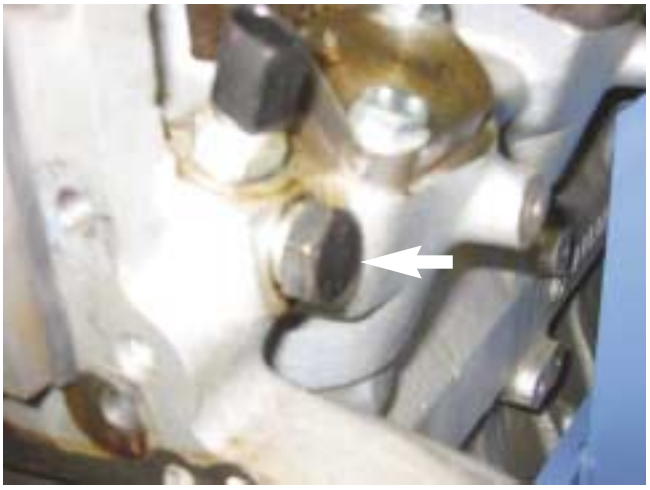
2. Install all 6 dummy unit pumps from the test leak kit (part number) J-45982-6-1. See picture 1.

Picture 1

NOTICE:
One of the dummy unit pumps has a fitting for pressure gauge installation (see picture 2) and it must be installed at the easiest position for the gauge installation.

Picture 2

3. Block the fuel gallery inlet (see picture 3) and outlet (see picture 4) with the special plugs.



Picture 3

Picture 4

4. Install the pressure gauge assembly (pressure gauge, pressure regulator and shut off valve) – see picture 5.

Picture 5

5. Connect a compressed air supply to the pressure gauge assembly.

CAUTION:

To avoid injury from flying debris when using compressed air, wear adequate eye protection (face shield or safety goggles) and do not exceed 40 PSI (2.7 bar) air pressure.

6. Pressurize the system with 30 PSI (2 bar). Use the pressure regulator to set up the pressure.

7. Check for leaks around the dummy unit pumps and inlet/outlet plugs using soap foam.

8. Close the shut off valve.

9. Watch the pressure for 30 seconds. If the pressure holds at 30 PSI (2 bar), the fuel gallery is properly sealed. In case of a pressure drop, check the engine block for porosity or cracks.

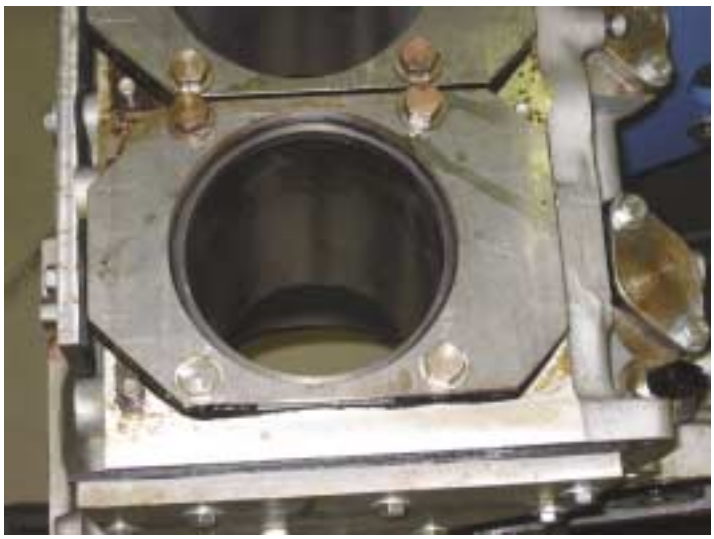
Coolant System Leak Test

This procedure can only be done with the engine removed from the truck and using only the engine block with the liners installed.

1. Place the engine block with liners installed on the engine stand.

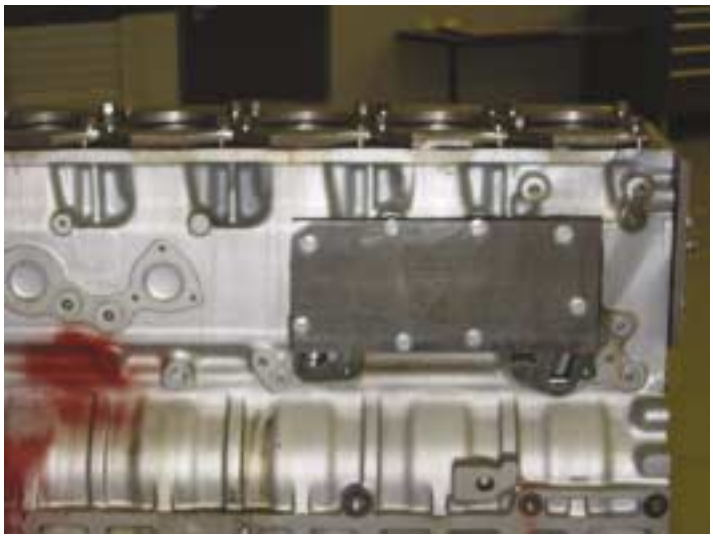
2. Install all 6 top block cover plates from the leak test kit J-45982-1 using the special bolts supplied. See picture 6 for the complete set and picture 7 for details.

Picture 6



Picture 7

3. Install the oil cooler/filter housing cover plate on the right hand side of the engine block using supplied hardware. See picture 8.



Picture 8

4. Install the water pump cover plate on the front of the engine using supplied hardware. See picture 9.

Picture 9

NOTICE:
The water pump cover plate has a fitting for installing the supplied pressure gauge (see picture 10).

Picture 10

5. Block the air compressor coolant inlet and outlet from the engine block (see picture 11) with the special plugs and copper washers as supplied.

Picture 11

6. Install the pressure gauge assembly (pressure gauge, pressure regulator and shut off valve) – see picture 12.

Picture 12

7. Connect a compressed air supply to the pressure gauge assembly.

CAUTION:

To avoid injury from flying debris when using compressed air, wear adequate eye protection (face shield or safety goggles) and do not exceed 40 PSI (2.7 bar) air pressure.

8. Pressurize the system with 30 PSI (2 bar). Use the pressure regulator to set up the pressure.

9. Check for leaks around the all cover plates and plugs using soap foam.

10. Close the shut off valve.

11. Watch the pressure for 30 seconds. If the pressure holds at 30 PSI (2 bar), the coolant system is properly sealed. In case of a pressure drop, the engine block must be inspected for cracks or porosity.