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## Service Information Bulletin

SUBJECT	DATE
Cylinder Block Porosity Repair	February 2020

### Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0194	Medium Duty-DD5 934912(C)	Cylinder Block Porosity Repair	New Procedure
DDC-SVC-MAN-0201	Medium Duty-DD5 934914(S)		
DDC-SVC-MAN-0198	Medium Duty-DD8		



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## 2 Cylinder Block Porosity Repair

Use this procedure to repair oil leaks caused by cylinder block porosity. The low oil pressure, cast areas of the cylinder block can be repaired using this method. J-B Weld is the recommended two-part epoxy for this repair.



**WARNING: PERSONAL INJURY**

To avoid injury before starting and running the engine, ensure the vehicle is parked on a level surface, parking brake is set, and the wheels are blocked.



**WARNING: PERSONAL INJURY**

To avoid injury from hot surfaces, wear protective gloves, or allow engine to cool before removing any component.

1. Shut off the engine, apply the parking brake, chock the wheels, and perform any other applicable safety steps.



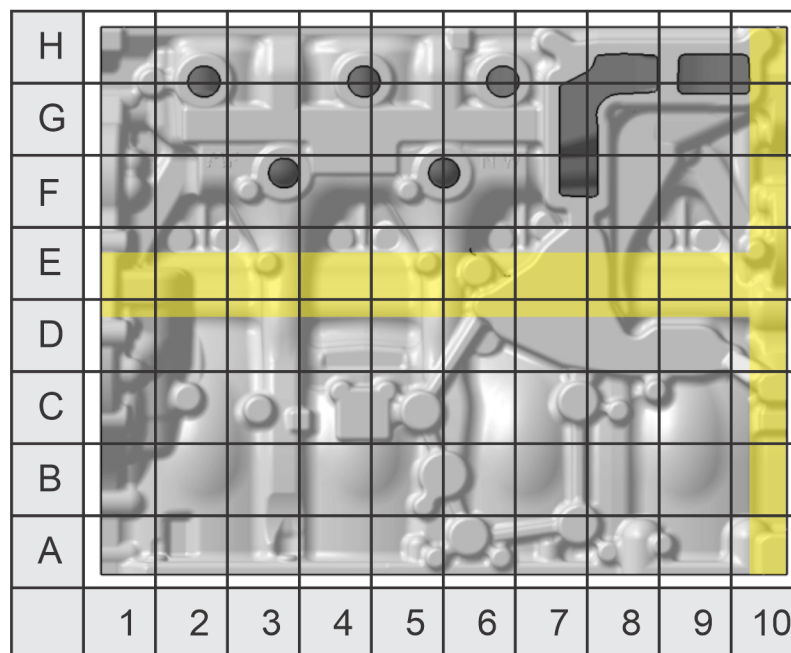
**CAUTION: ELECTRICAL SHOCK**

To avoid injury from electrical shock, use care when connecting battery cables. The magnetic switch studs are at battery voltage.

2. Disconnect the batteries.
3. Open the hood.
4. Remove any necessary components from the engine to gain access to the area leaking oil.

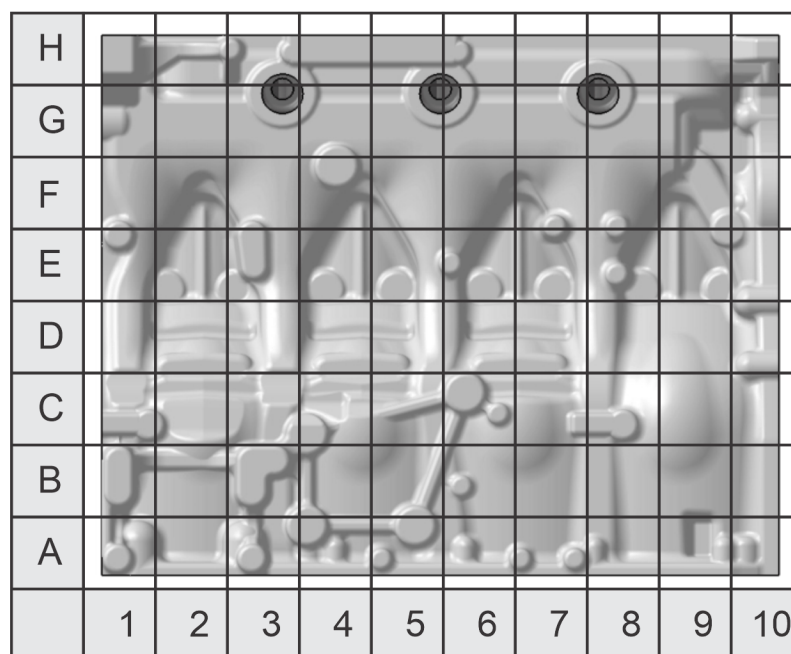
**NOTE:** The origin of the oil leak should have been properly identified during the oil leak troubleshooting.

5. Is the oil leaking from a machined surface on the cylinder block?
  - a. Yes, replace the engine. Cylinder block machined surfaces cannot be reconditioned or repaired. Refer to section "Removal of the Complete Powertrain Assembly".
  - b. No, Go to step 6.
6. Is oil leaking from an area of the cylinder block, shown in yellow on the illustrations below?
  - a. Yes, replace the engine. High-pressure oil galleries and passages cannot be repaired. Refer to section "Removal of the Complete Powertrain Assembly".
  - b. No, Go to step 7.



d010438

**Figure 1. Right Side of Cylinder Block**



d010439

**Figure 2. Left Side of Cylinder Block**



**WARNING: EYE INJURY**

To avoid injury from flying debris when using compressed air, wear adequate eye protection (face shield or safety goggles) and do not exceed 276 kPa (40 psi) air pressure.

7. Clean the cylinder block surface with a suitable cleaning agent and dry with compressed air.
8. Use a 3M Roloc bristle disc or course sandpaper to remove any loose debris, paint, or surface rust at the porous area of the cylinder block.



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9. Use compressed air to remove any contaminants from the surface of the cylinder block.
10. Inspect the porous area of the cylinder block to ensure the surface is clean and dry. A clean and dry surface is required for proper adhesion of the J-B Weld epoxy.
11. Follow the J-B Weld instructions to mix the two parts of the epoxy.
12. Apply the epoxy mix to the cylinder block. Use enough epoxy to completely cover the porous area.
13. Install the components that were removed from the engine to gain access to the porous area.
14. Allow the epoxy to cure per the J-B Weld instructions.
15. To prevent corrosion, use a high temperature gray engine paint and coat the repaired surface of the cylinder block. Paint is not required if the area is no longer accessible.



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16. Reconnect the batteries.



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- Always start and operate an engine in a well ventilated area.
- If operating an engine in an enclosed area, vent the exhaust to the outside.
- Do not modify or tamper with the exhaust system or emission control system.



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To avoid injury before starting and running the engine, ensure the vehicle is parked on a level surface, parking brake is set, and the wheels are blocked.



**WARNING: ENGINE EXHAUST**

To avoid injury from inhaling engine exhaust, always operate the engine in a well-ventilated area. Engine exhaust is toxic.

17. Start engine and visually inspect for oil leaks.
18. Close the hood.

### 3 Cylinder Block Porosity Repair

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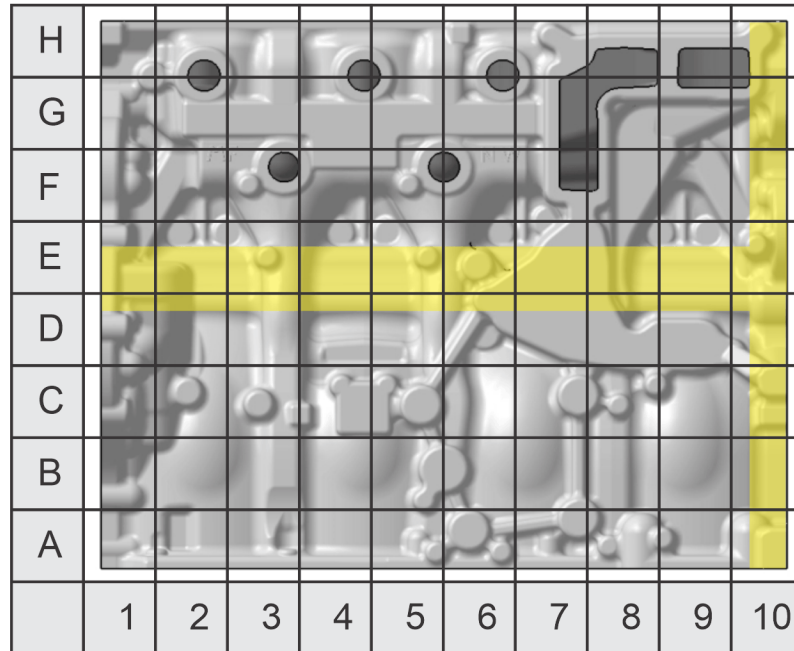
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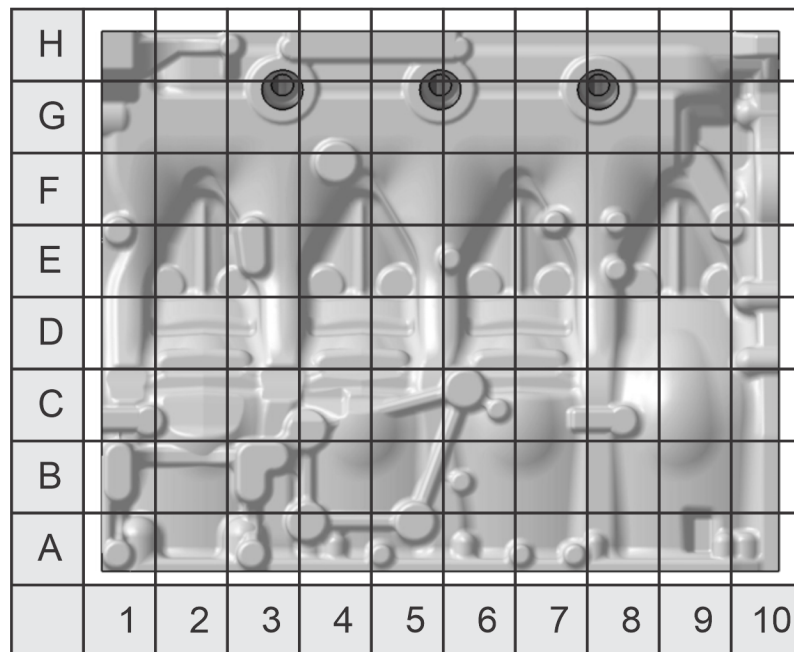
**NOTE:** The origin of the oil leak should have been properly identified during the oil leak troubleshooting.

5. Is the oil leaking from a machined surface on the cylinder block?
  - a. Yes, replace the engine. Cylinder block machined surfaces cannot be reconditioned or repaired. Refer to section "Removal of the Complete Powertrain Assembly".
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d010438

**Figure 3. Right Side of Cylinder Block**



d010439

**Figure 4. Left Side of Cylinder Block**

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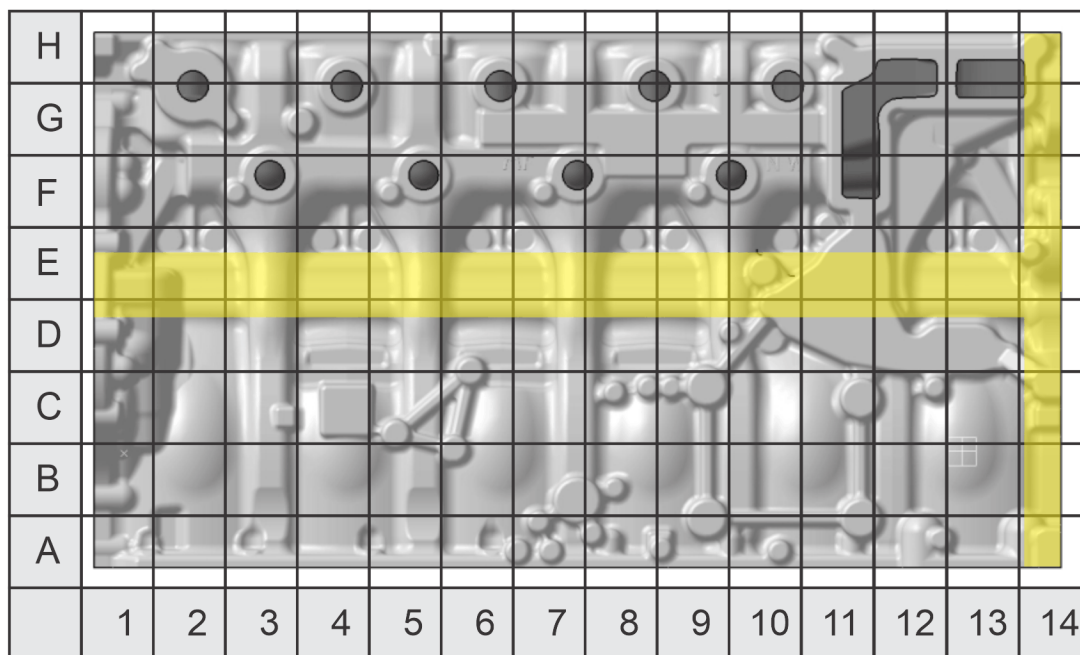
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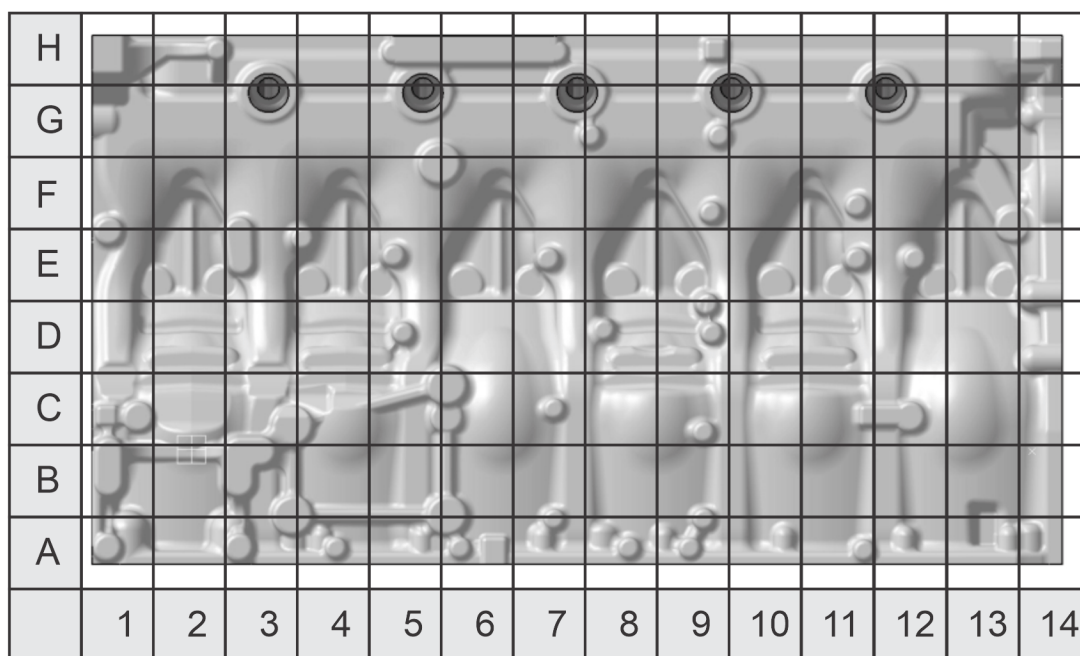
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  - b. No, Go to step 7.



d010441

**Figure 5. Right Side of Cylinder Block**



d010440

**Figure 6. Left Side of Cylinder Block**



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