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Service Information Bulletin

SUBJECT	DATE
Excessive Oil Consumption	September 2016

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0191	GHG17 DD Platform HD	Excessive Oil Consumption	Updated GHG17 HD diagnostic procedures
DDC-SVC-MAN-0084	EPA07/EPA10/ GHG14 DD Platform HD		Updated EPA07/EPA10/GHG14 HD diagnostic procedures

DiagnosticLink users: Please update the troubleshooting guides in DiagnosticLink with this newest version. To update the tool troubleshooting guide, open DiagnosticLink and from the Help – Troubleshooting Guides menu, select the appropriate troubleshooting manual, then click Update.

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2 Check for Excessive Oil Consumption

Check as follows:

1. Complete an Oil Consumption Report. Refer to the "Lube Oil Consumption Report" (http://ddcsn-ddc.freightliner.com/cps/rde/xbcr/ddcsn/DA_94.doc). Is oil consumption excessive?
   a. Yes; Go to step 2.
   b. No; troubleshooting is complete. Release the vehicle.
2. Check first for external oil leaks. Are external oil leaks present?
   a. Yes; repair as needed.
   b. No; Go to step 3.
3. Check for oil contamination in the coolant. Is there oil contamination in the coolant?
   a. Yes; Refer to section "Oil in Coolant".
   b. No; Go to step 4.
4. Perform a crankcase pressure test. Refer to section "Crankcase Pressure Test". Is excessive crankcase pressure found?
   a. Yes; Go to step 5.
   b. No; Go to step 6.
5. Using DiagnosticLink®, perform the Relative Compression test. Refer to section "Relative Cylinder Compression Test". Are the compression test results within specifications?
   a. Yes; Go to step 6.
   b. No; inspect for cause of low compression, based on the Mechanical Cylinder Compression test results.
6. Check the interior of the exhaust S-pipe (Turbo Compound DD15 and DD16) or the exhaust flanged manifold (DD13 and DD15 Asymmetrical Turbo DD15) for oil. Is excessive oil present?
   a. Yes; Go to step 7.
   b. No; Go to step 9.

WARNING: PERSONAL INJURY

To avoid injury, never remove any engine component while the engine is running.

7. Remove the turbocharger and inter-stage duct (if equipped), and inspect for oil in the exhaust manifold. Is oil present in the exhaust manifold?
   For the DD13 and DD15, Refer to section "Removal of the DD13 and DD15 Turbocharger".
   For the DD16, Refer to section "Removal of the DD16 Turbocharger".
   a. Yes; Go to step 11.
   b. No; Go to step 8.
8. Is oil present in the inter-stage duct (DD15), or the exhaust flanged manifold (DD13)?
   a. Yes; Go to step 9.
   b. No; Go to step 10.
9. Inspect the turbocharger for damage. Is there damage to the turbocharger?
   For the DD13 and DD15, Refer to section "Inspection of the DD13 and DD15 Turbocharger".
   For the DD16, Refer to section "Inspection of the DD16 Turbocharger".
   a. Yes; replace the turbocharger.
      For the DD13 and DD15, Refer to section "Removal of the DD13 and DD15 Turbocharger".
      For the DD16, Refer to section "Removal of the DD16 Turbocharger".
   b. No; check for air inlet restrictions.
10. Check pressure output of the Axial Power Turbine (APT) air solenoid using an air pressure gauge. Is the APT air pressure 21 to 48 kPa (3 to 7 psi)?
    a. Yes; replace the APT. Refer to section "Removal of the Axial Power Turbine".
    b. No; if the air pressure is out of specification. Replace the APT air solenoid.

11. Remove the exhaust manifold to determine if the oil is coming from one cylinder or multiple cylinders. Is the oil coming from multiple cylinders?
    For DD13 and DD15: Refer to section "Removal of the DD13 and DD15 Exhaust Manifold"
    For DD16: Refer to section "Removal of the DD16 Exhaust Manifold"
    a. Yes; Go to step 12.
    b. No; Go to step 13.
12. Look in the air inlet and Charge Air Cooler (CAC) pipes for excessive oil. Is excessive oil present?
    a. Yes; clean the oil presence in the CAC . Go to step 14.
    b. No; Go to step 14.
13. Inspect the valve seals, stems, and guides for wear. Is wear found?
    a. Yes; repair as necessary.
    b. No; Go to step 14.
14. Remove the cylinder head and inspect cylinder(s) for damage. Repair as necessary.
    For DD13, Refer to section "Removal of the DD13 Cylinder Head Assembly"
    For DD15 and DD16, Refer to section "Removal of the DD15 and DD16 Cylinder Head Assembly"

3 Check for Excessive Oil Consumption

Check as follows:

1. Complete an Oil Consumption Report. Refer to the “Lube Oil Consumption Report” (http://ddcsn-ddc.freightliner.com/cps/rde/xbcr/ddcsn/DA_94.doc). Is oil consumption excessive?
   a. Yes; Go to step 2.
   b. No; troubleshooting is complete. Release the vehicle.
2. Check first for external oil leaks. Are external oil leaks present?
   a. Yes; repair as needed.
   b. No; Go to step 3.
3. Check for oil contamination in the coolant. Is there oil contamination in the coolant?
   a. Yes; Refer to section "Oil in Coolant".
   b. No; Go to step 4.
4. Perform a crankcase pressure test. Refer to section "Crankcase Pressure Test". Is excessive crankcase pressure found?
   a. Yes; Go to step 5.
   b. No; Go to step 6.
5. Using DiagnosticLink®, perform the Relative Compression test. Refer to section "Relative Cylinder Compression Test". Are the compression test results within specifications?
   a. Yes; Go to step 6.
   b. No; inspect for cause of low compression, based on the Mechanical Cylinder Compression test results.
6. Check the interior of the exhaust S-pipe (Turbo Compound DD15 and DD16) or the exhaust flanged manifold (DD13 and GHG14 DD15 Asymmetrical Turbo DD15) for oil. Is excessive oil present?
   a. Yes; Go to step 7.
   b. No; Go to step 9.

WARNING: PERSONAL INJURY

To avoid injury, never remove any engine component while the engine is running.

7. Remove the turbocharger and inter-stage duct (if equipped), and inspect for oil in the exhaust manifold. Is oil present in the exhaust manifold?
   For the DD13, Refer to section "Removal of the DD13 Turbocharger".
   For the DD15 and DD16, Refer to section "Removal of the DD15 and the DD16 Turbocharger".
   a. Yes; Go to step 11.
   b. No; Go to step 8.
8. Is oil present in the inter-stage duct (DD15), or the exhaust flanged manifold (DD13)?
   a. Yes; Go to step 9.
   b. No; Go to step 10.
9. Inspect the turbocharger for damage. Is there damage to the turbocharger?
   For the DD13, Refer to section "Inspection of the DD13 Turbocharger".
   For the DD15 and DD16, Refer to section "Inspection of the DD15 and DD16 Turbocharger".
   a. Yes; replace the turbocharger
      For the DD13, Refer to section "Removal of the DD13 Turbocharger".
      For the DD15 and DD16, Refer to section "Removal of the DD15 and the DD16 Turbocharger".
   b. No; check for air inlet restrictions.
10. Check pressure output of the Axial Power Turbine (APT) air solenoid using an air pressure gauge. Is the APT air pressure 21 to 48 kPa (3 to 7 psi)?
    a. Yes; replace the APT. Refer to section "Removal of the DD15 and DD16 Axial Power Turbine".
    b. No; if the air pressure is out of specification. Replace the APT air solenoid.

11. Remove the exhaust manifold to determine if the oil is coming from one cylinder or multiple cylinders. Is the oil coming from multiple cylinders? Refer to section "Removal of the Exhaust Manifold".
    a. Yes; Go to step 12.
    b. No; Go to step 13.
12. Look in the air inlet and Charge Air Cooler (CAC) pipes for excessive oil. Is excessive oil present?
    a. Yes; clean the oil presence in the CAC . Go to step 14.
    b. No; Go to step 14.
13. Inspect the valve seals, stems, and guides for wear. Is wear found?
    a. Yes; repair as necessary.
    b. No; Go to step 14.
14. Remove the cylinder head and inspect cylinder(s) for damage. Repair as necessary.
    For DD13, Refer to section "Removal of the DD13 Cylinder Head Assembly".
    For DD15 and DD16, Refer to section "Removal of the DD15 and DD16 Cylinder Head Assembly".

