

# Instruction Sheet

## Oil Cooler Kit



ANAVISTAR COMPANY

1171962R1

### Application

All International® VT 365 Diesel Engines

### Kit Contents

#### Oil Cooler Kit

Description	Quantity
Coolant inlet gasket	1
EGR coolant supply cover seal	1
Oil cooler	1
Oil cooler cover (reservoir) gasket	1
Oil filter mounting gasket	1
O-ring (threaded insert, orange)	1
O-ring seal, size 241	1
O-ring, size 112	1
O-ring, size 218	2
O-ring, size 317 (black)	2
O-ring, size 319 (brown)	2
Instruction sheet	1

### Procedure



**GOVERNMENT REGULATION:** Engine fluids (oil, fuel, and coolant) may be a hazard to human health and the environment. Handle all fluids and other contaminated materials (e.g. filters, rags) in accordance with applicable regulations. Recycle or dispose of engine fluids, filters, and other contaminated materials according to applicable regulations.

**⚠ WARNING:** To prevent personal injury or death, read all safety instructions in the "Safety Information" section of the EGES 235-2 VT365 2002 - 2003 Model Year *Engine Service Manual* or EGES 295-2 VT365 2004 - 2006 Model Year *Engine Service Manual*.

**⚠ WARNING:** To prevent personal injury or death, shift transmission to park or neutral, set parking brake, and block wheels before doing diagnostic or service procedures.

**⚠ WARNING:** To prevent personal injury or death, allow engine to cool before working with components.

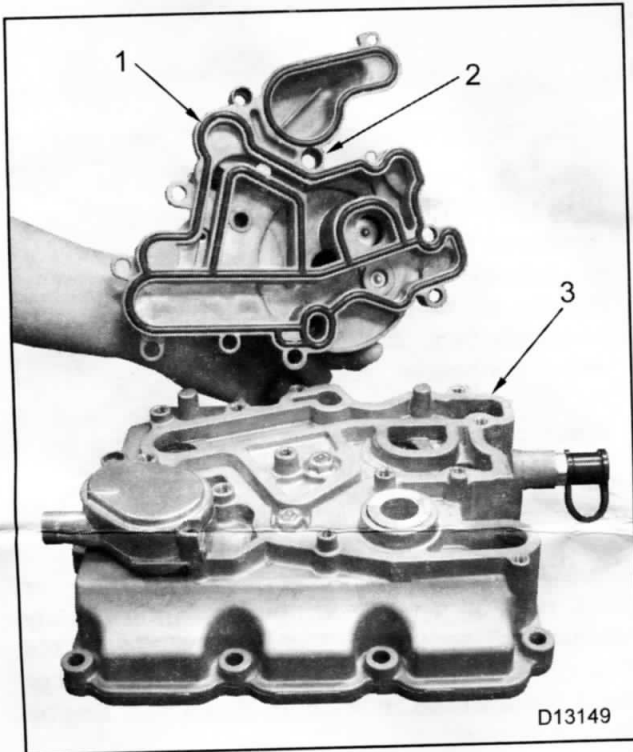
**⚠ WARNING:** To prevent personal injury or death, do not let engine fluids stay on your skin. Clean skin and nails using hand cleaner and wash with soap and water. Wash or discard clothing and rags contaminated with engine fluids.

**Procedure (cont.)**

**⚠ WARNING:** To prevent personal injury or death, wear safety glasses with side shields. Limit compressed air pressure to 207 kPa (30 psi).

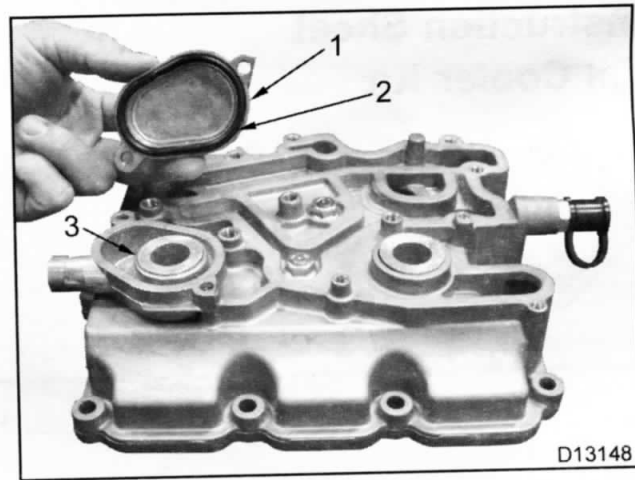
**Removal**

1. See correct *Engine Service Manual* for removal of oil cooler assembly.



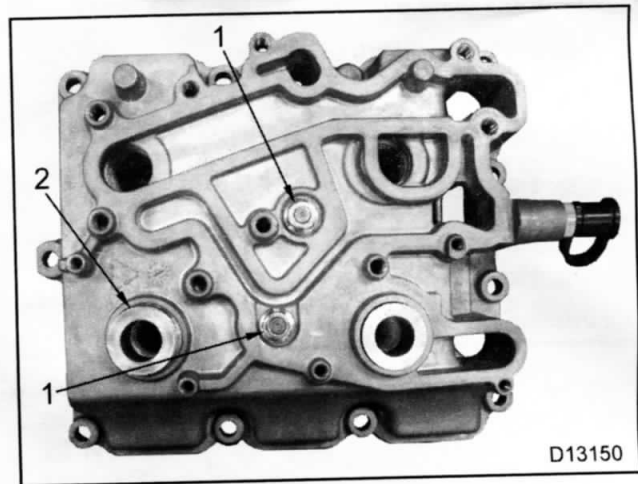
**Figure 1 Oil filter base and oil cooler cover assemblies**

1. Oil filter mounting gasket
  2. Oil filter mounting assembly
  3. Oil cooler cover
2. Remove the mounting hardware securing the oil filter mounting assembly to the oil cooler cover. Do not discard mounting hardware.
  3. Remove oil filter mounting assembly from the oil cooler cover and discard gasket.



**Figure 2 EGR coolant supply cover**

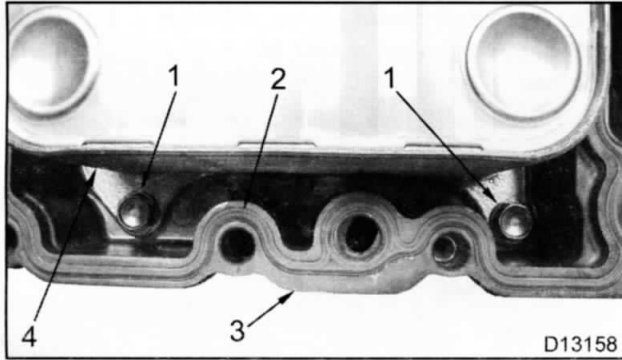
1. EGR coolant supply cover
  2. EGR coolant supply cover seal
  3. EGR coolant supply port
4. Remove two M6 EGR coolant supply cover bolts. Do not discard supply cover bolts.
  5. Remove EGR coolant supply cover from oil cooler cover and discard gasket.
  6. Drain any remaining oil from the oil cooler assembly.



**Figure 3 Oil cooler cover assembly (top)**

1. Oil cooler flange nut (2)
  2. EGR coolant supply port
7. Loosen and remove two flange nuts from the top of the oil cooler cover. Do not discard flange nuts.

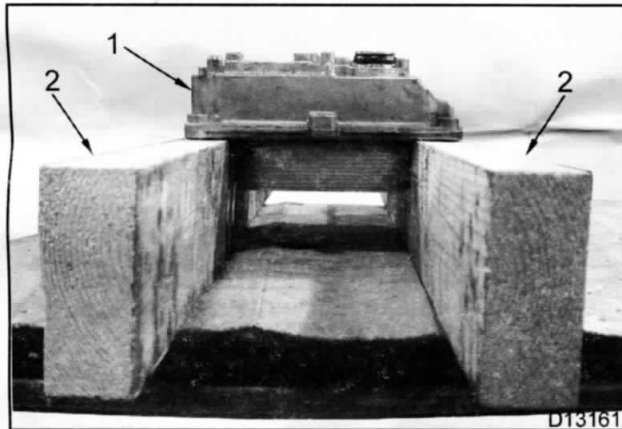
## Removal (cont.)



**Figure 4 Oil cooler mounting bolts**

1. M8 x 20 mounting bolt (2)
2. Oil cooler cover (reservoir) gasket
3. Oil cooler cover
4. Oil cooler

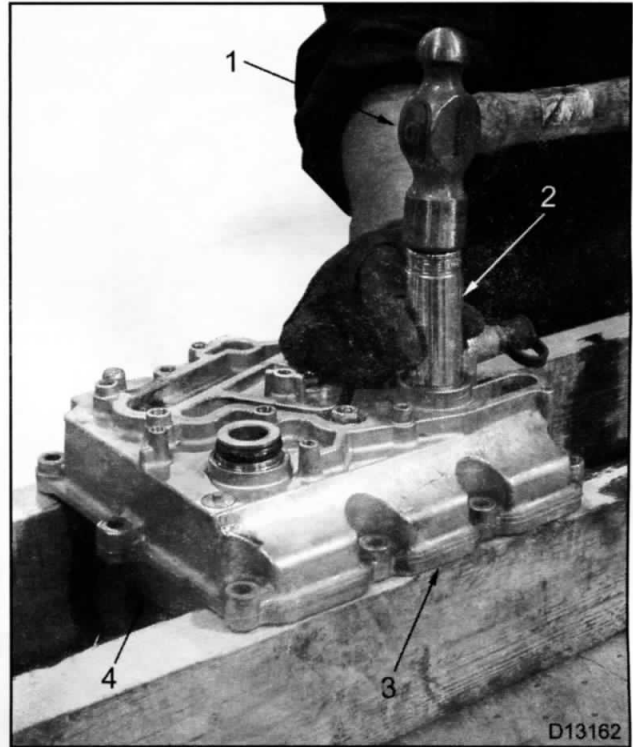
8. Loosen and remove two M8 x 20 bolts. Do not discard bolts.



**Figure 5 Oil cooler module on 2 x 4 inch boards**

1. Oil cooler module
2. 2 x 4 inch wooden boards

9. Place the oil cooler cover on two 2 x 4 inch wooden boards. Allow the oil cooler module to hang in between the boards. See Figure 5.



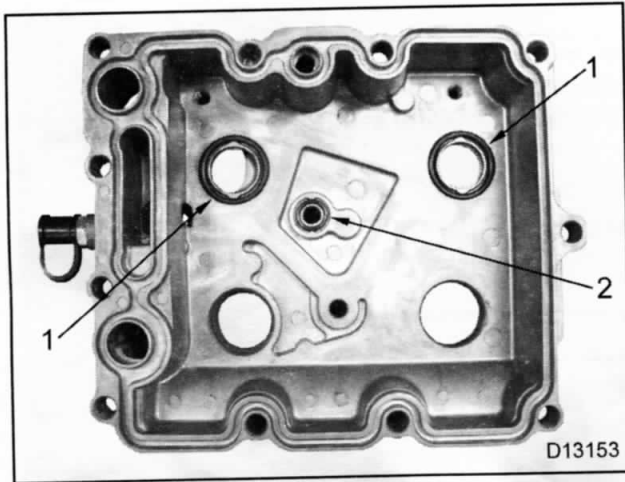
**Figure 6 Removing oil cooler from oil cooler cover**

1. Hammer
2. Socket
3. Oil cooler cover
4. Oil cooler

**NOTE:** Oil cooler cover may be difficult to remove. Do not damage the oil cooler cover as it will be reused during assembly.

10. Place a socket or suitable driver, measuring no more than 29.21 mm (1-3/16 inch) in diameter, over either of the inlet or outlet ports and tap with a hammer. Alternate between the inlet and outlet port until the oil cooler is free from the oil cooler cover.
11. Discard the oil cooler and four O-rings.
12. Remove and discard the blue oil cooler cover (reservoir) gasket from the oil cooler cover.

## Removal (cont.)



**Figure 7 Underside of oil cooler cover**

1. O-ring, size 218 (2)
2. O-ring, size 112

13. Remove and discard the three O-rings from underneath the oil cooler cover.



**Figure 8 Removing threaded insert for oil cooler cover**

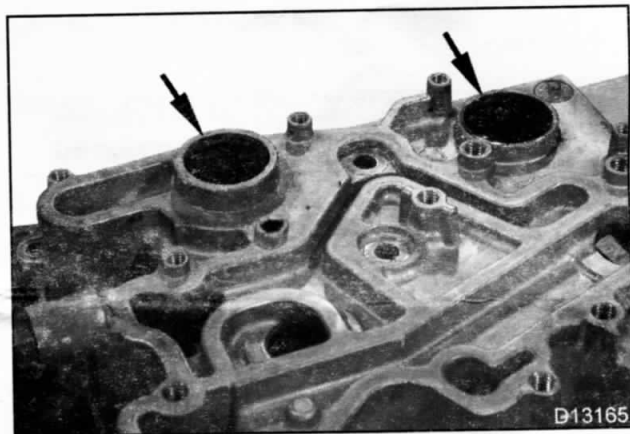
1. Oil cooler cover
2. Threaded insert

**NOTE:** Not all oil cooler covers will have a threaded insert, some will have a cast boss. If the oil cooler cover has a threaded insert, the O-ring needs to be replaced.

14. If the oil cooler cover has a threaded insert, remove threaded insert from cover by pushing down on insert from top of oil cooler cover. Discard O-ring but do not discard threaded insert.

## Inspection

1. Inspect for damage and clean the sealing surfaces of the oil filter base assembly.
2. Inspect for damage and clean the sealing surfaces of the EGR cooler coolant supply cover.



**Figure 9 Oil cooler cover outlet and inlet ports**

3. Inspect oil cooler cover sealing surfaces and threads for damage. Inspect to insure the O-ring seal bores of the oil cooler cover were not damaged during oil cooler removal. Clean the oil cooler cover. Check for any scale deposits and remove with a wire brush.

## Inspection (cont.)

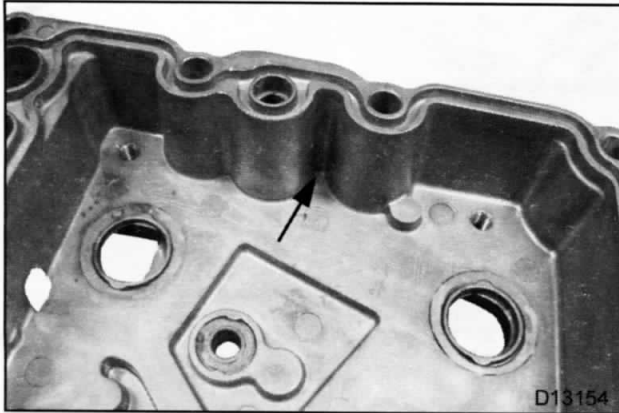


Figure 10 Oil cooler cover vent hole

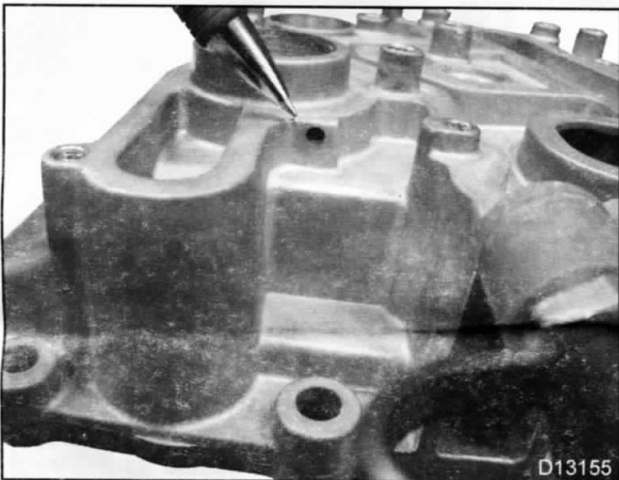


Figure 11 Oil cooler cover drain hole

**! WARNING:** To prevent personal injury or death, wear safety glasses with side shields. Limit compressed air pressure to 207 kPa (30 psi).

4. Use compressed air and make sure the small vent hole underneath the oil cooler cover and the drain hole on top of the oil cooler cover are clear of any debris.

## Installation

1. Lubricate the four new oil cooler O-rings with clean engine oil. The two smaller O-rings are black and the two larger O-rings are brown.

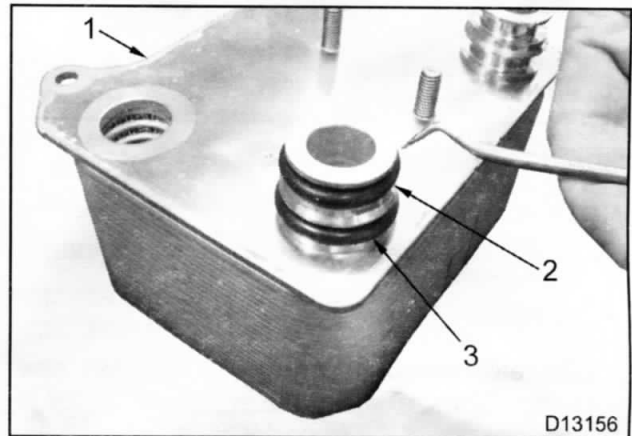
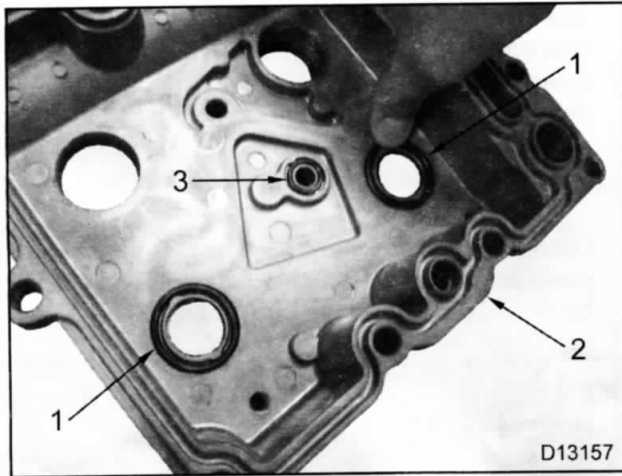


Figure 12 Oil cooler port O-rings

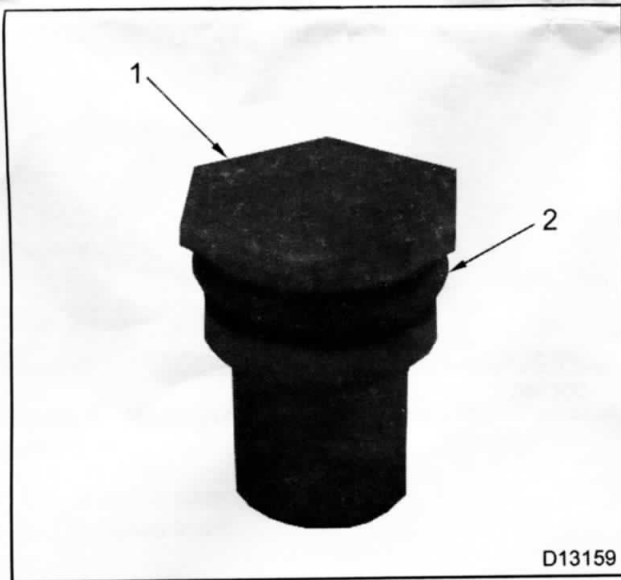
1. Oil cooler
  2. Smaller O-ring (black) (2)
  3. Larger O-ring (brown) (2)
2. Install the two new larger O-rings (brown) into the bottom slots of the inlet and outlet tubes of the new oil cooler.
  3. Install the two new smaller O-rings (black) into the top slots of the inlet and outlet tubes of the new oil cooler.

## Installation (cont.)



**Figure 13 Under oil cooler cover O-rings**

1. O-ring, size 218 (2)
  2. Oil cooler cover
  3. O-ring, size 112
4. Lubricate new O-ring, size 112 and two new O-rings, size 218 with clean engine oil. Install in the underside of the oil cooler cover.

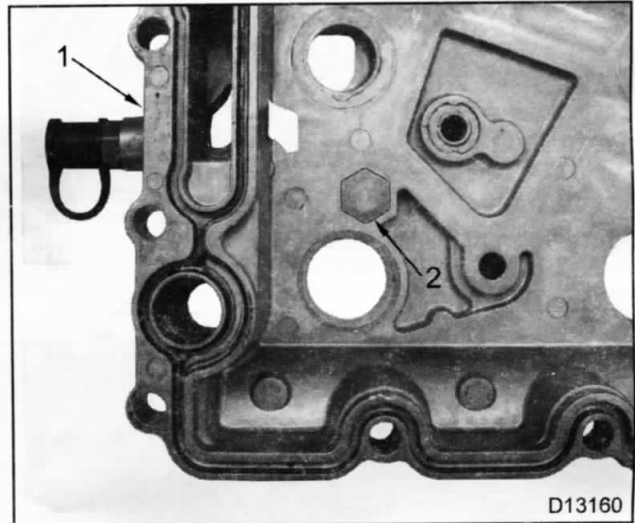


**Figure 14 Threaded insert with O-ring**

1. Threaded insert
2. O-ring

**NOTE:** If the oil cooler cover is equipped with a threaded insert, ensure the threaded insert is well seated before placing oil cooler cover onto oil cooler.

5. If equipped, install a new orange O-ring onto threaded insert. Lubricate with clean engine oil.



**Figure 15 Seated threaded insert**

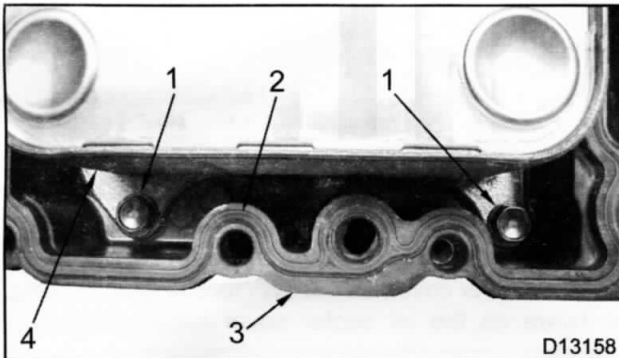
1. Oil cooler cover
  2. Threaded insert
6. Install threaded insert into oil cooler cover. Be sure threaded insert is well seated as it is held in place when oil cooler cover is installed and secured to the oil cooler with mounting hardware.
7. Install a new blue oil cooler cover (reservoir) gasket onto the oil cooler cover.

## Installation (cont.)



**Figure 16** Installing oil cooler cover on to oil cooler

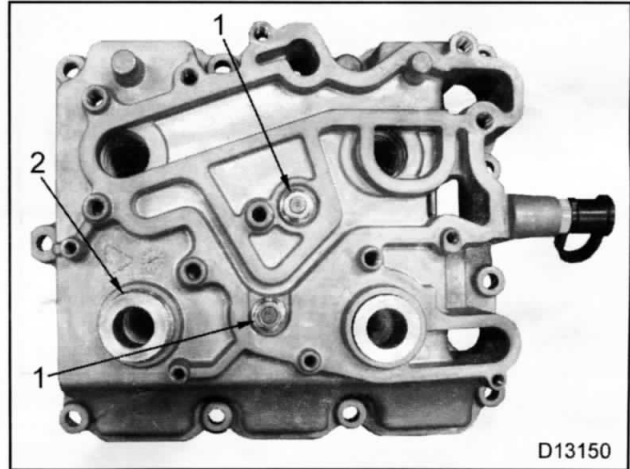
8. Place new oil cooler on flat clean surface with oil cooler ports facing up.
9. Place and align the oil cooler cover onto the oil cooler. Press down firmly on the two corners of the cover, which are inline with the oil cooler ports, until the O-rings are fully seated into the oil cooler cover.



**Figure 17** Oil cooler mounting bolts

1. M8 x 20 mounting bolt (2)
2. Oil cooler cover (reservoir) gasket
3. Oil cooler cover
4. Oil cooler

10. Install and hand tighten two M8 x 20 bolts through the oil cooler and into the oil cooler cover.

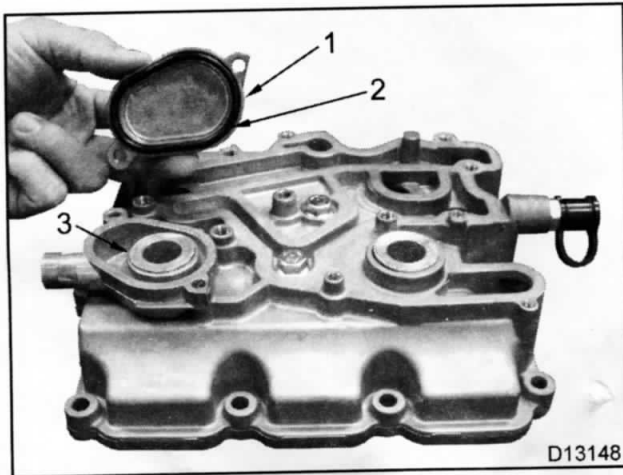


**Figure 18** Oil cooler cover assembly (top)

1. Oil cooler flange nut (2)
2. EGR coolant supply port

11. Install and hand tighten two flange nuts onto the oil cooler cover.
12. Tighten the two M8 x 20 bolts and two flange nuts to 22 N·m (16 lbf·ft).

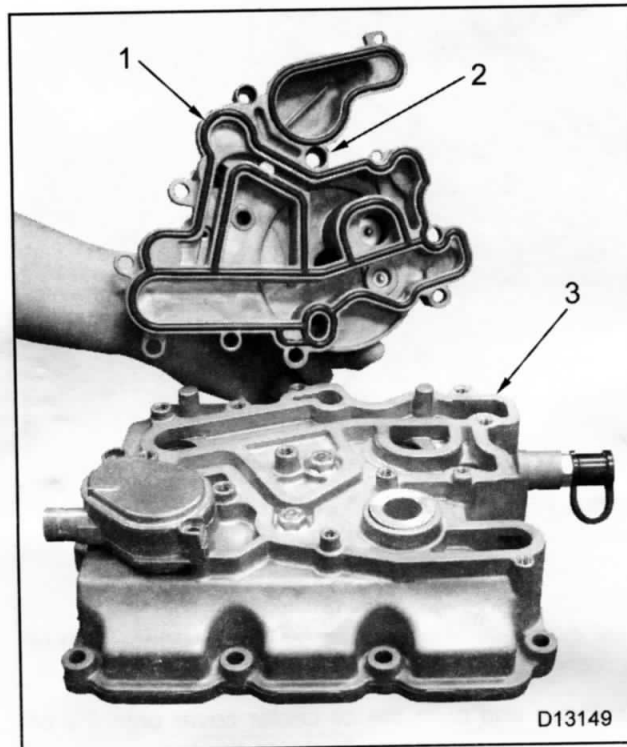
## Installation (cont.)



**Figure 19 EGR coolant supply cover**

1. EGR coolant supply cover
2. EGR coolant supply cover seal
3. EGR coolant supply port

13. Lubricate a new EGR coolant supply cover seal with clean engine oil and insert in to the EGR coolant supply cover.
14. Place the oil cooler assembly on a clean flat surface and install the EGR coolant supply cover onto the oil cooler cover. Secure with two M6 bolts and tighten to 10 N·m (85 lbf·in).



**Figure 20 Oil filter base and oil cooler cover assemblies**

1. Oil filter mounting gasket
2. Oil filter mounting assembly
3. Oil cooler cover

15. Lubricate a new oil filter mounting assembly gasket with clean engine oil and insert in to the oil filter mounting assembly.

**NOTE:** When securing the oil filter mounting assembly to the oil cooler cover, do not over torque the mounting hardware as the oil cooler cover has self tapping threads.

16. Secure the oil filter mounting assembly to the oil cooler cover. Tighten the mounting bolts to 22 N·m (17 lbf·ft). See correct *Engine Service Manual* for special torque values.
17. Install oil filter return tube gasket and oil filter return tube. See the correct *Engine Service Manual* for procedure to install gasket and oil filter return tube.
18. Install oil cooler assembly, see the correct *Engine Service Manual* for procedure to install the oil cooler assembly.