



# INSTRUCTIONS

-J01434

REV. 5-2-2001

Kit Number 62868-99A

## OIL COOLER KIT

### General

This oil cooler kit is designed to fit 1997 through 2002 Evolution 1340 or Twin Cam 88 carbureted and fuel injected FLHT, FLHTC, FLHR, FLHRC, FLHTCU, and FLTR model motorcycles.

(This kit does not fit with Display Stand, Part No. 99002-97)

See Service Parts illustration for kit contents.

#### NOTE

A Service Manual for your motorcycle is available at your Harley-Davidson Dealership.

#### CAUTION

All oil coolers and lines are installed in the part of the oil flow loop that RETURNS engine oil to the oil tank. The oil cooler OUTLET must direct oil flow into the RETURN to the oil tank. Failure to direct oil flow into the RETURN to the oil tank will result in oil carry over and possible oil leakage.

#### CAUTION

Installing oil cooler system will require adding 1/2 to 1 pint of oil. Check oil supply before operating motorcycle. Fill up to, but not above, upper mark on dipstick. Inadequate oil supply can result in loss of oil pressure leading to severe engine damage.

#### WARNING

Immediately after installing oil cooler on any model vehicle, check to be sure there is adequate clearance between oil cooler and hoses and front fender when front suspension is fully compressed. If oil cooler or oil cooler hoses contact front fender during motorcycle operation, rider could lose control which could result in death or serious injury.

#### CAUTION

Hoses must be routed so that they do not contact or interfere with any hot or moving parts. Do not install hoses so they become crimped or oil flow can be restricted. Hoses must be routed above the bottom of the frame tubes to prevent damage if the frame contacts the pavement or an obstacle.

#### WARNING

To protect against shock and accidental start-up of vehicle, disconnect the battery cables, negative cable first, before proceeding. Inadequate safety precautions could result in death or serious injury.

#### WARNING

Always disconnect the negative battery cable first. If the positive battery cable should contact ground with the negative cable installed, the resulting sparks may cause a battery explosion which could result in death or serious injury.

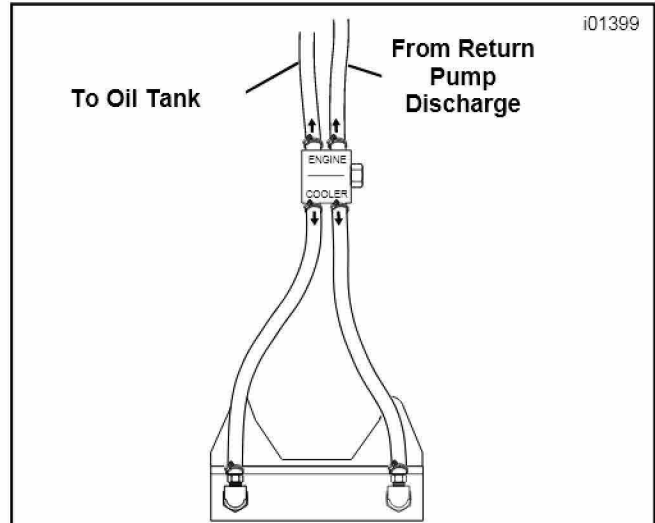


Figure 1. Oil Cooler Schematic

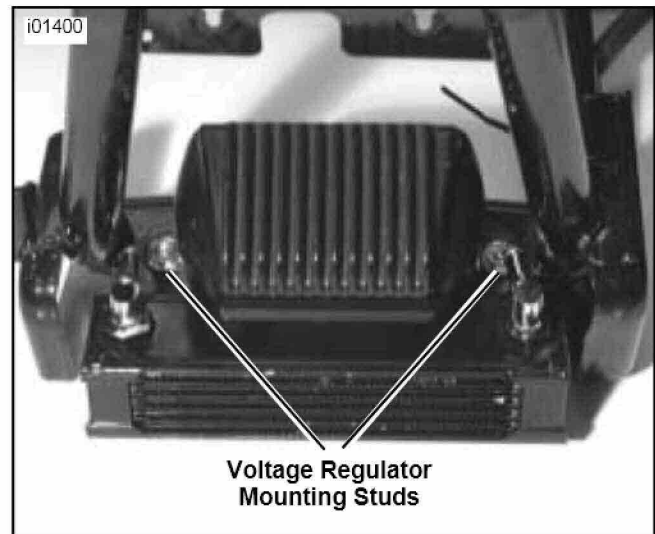


Figure 2. Heat Exchanger Mounting Location

### Installation - 2001 and Earlier Models

#### NOTE

For proper function, thermostat must be installed correctly, as shown in schematic (Figure 1) so that when thermostat is open, flow will be straight through. Flow through heat exchanger can be either way. If not installed correctly, heat exchanger will not work properly.

1. Remove seat and disconnect battery, negative cable first.
2. Remove voltage regulator mounting nuts, washers, and starwashers. Save for reinstallation.

- Remove voltage regulator from mounting studs. Place heat exchanger on voltage regulator mounting studs. See Figure 2. Replace voltage regulator on studs over heat exchanger using hardware removed in Step 2, but do not tighten completely.

**CAUTION**

Make sure regulator wires are routed so that they do not pinch or rub against moving components. Wires that rub or are pinched may cause regulator failure.

- Align oil cooler and voltage regulator and tighten nuts to 7-10 ft-lbs (10-14Nm).

**NOTE**

Do not cut hose. Hose will be routed as a single loop initially. Both ends of the hose will be routed along the left frame tube and cut to length in subsequent steps.

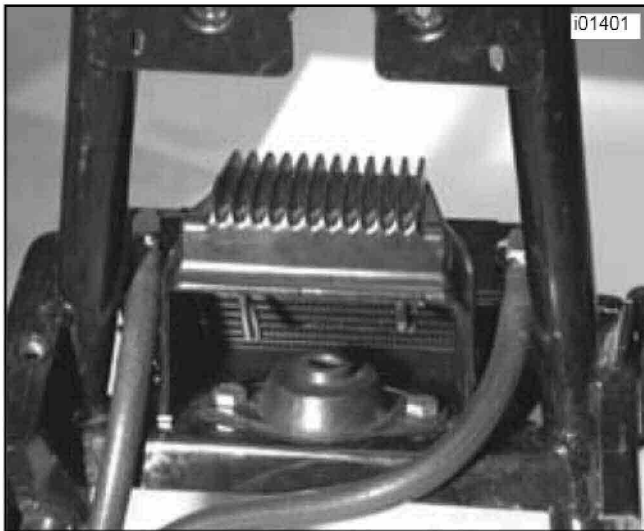


Figure 3. Hose routing (view behind front of frame)

- See Figure 3. Route one end of hose from kit between voltage regulator and left downtube as shown. From the left side of the motorcycle, route the other end of the hose under the front engine mount behind frame crossmember. Continue to route hose between the voltage regulator and right down tube as shown. Leave hose uncut for now.
- Slide hose clamps from kit over both hose ends. Push hose ends onto cooler nipples and tighten clamps.
- Route both hoses along left side of frame back to engine-transmission joint as shown in Figure 4. Cable strap hose in place.

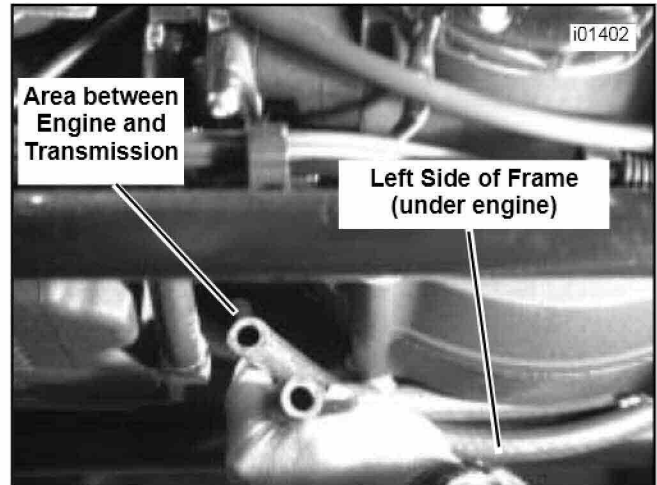


Figure 4. Hose Routing

- See Figure 4. Route hoses under the engine at this area (near oil drain plug) through the gap between the engine and transmission.

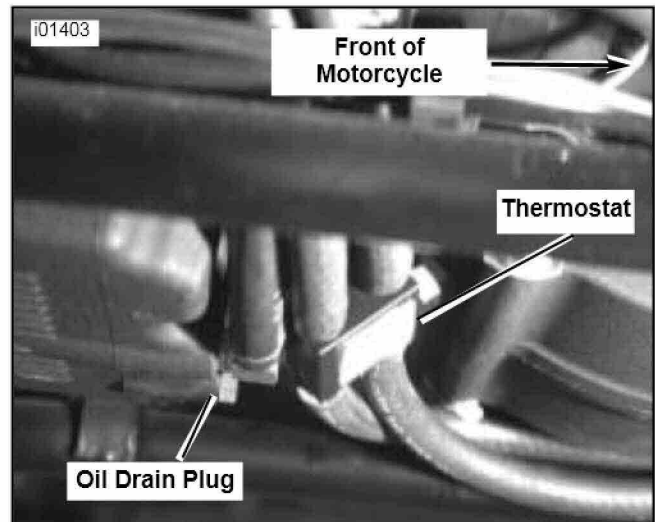


Figure 5. Thermostat Mounting Location

- See Figure 5. The thermostat will be installed in this area. When cutting the hoses, make sure the thermostat will not be positioned where it blocks the oil drain plug. Cut the lines, slide the clamps over the hoses and slide the hoses over the thermostat nipples. Tighten clamps securely. Continue installation at the appropriate section, 1340 (Evolution) or Twin Cam for your model motorcycle.

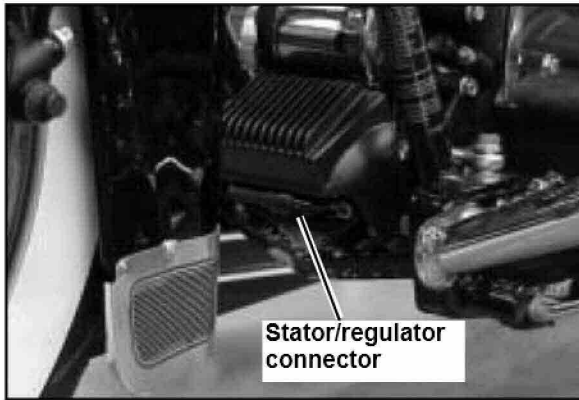


Figure 6. Remove stator/regulator connector

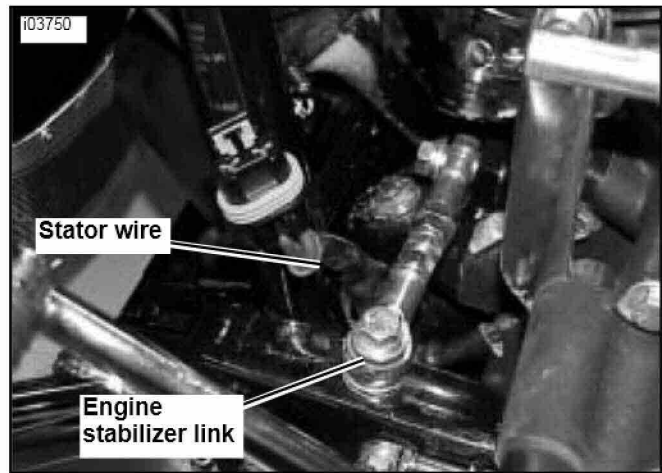


Figure 8. Route stator wire under engine stabilizer link

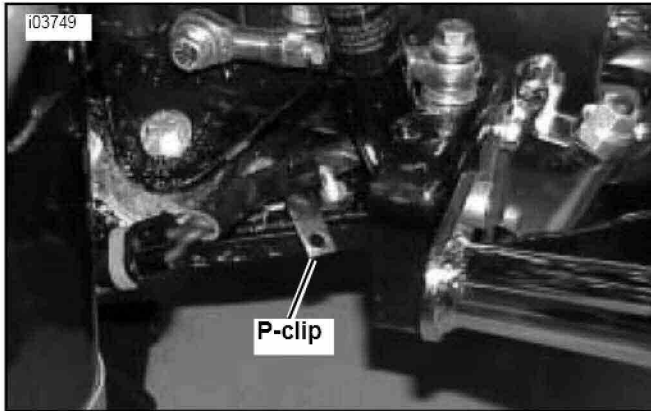
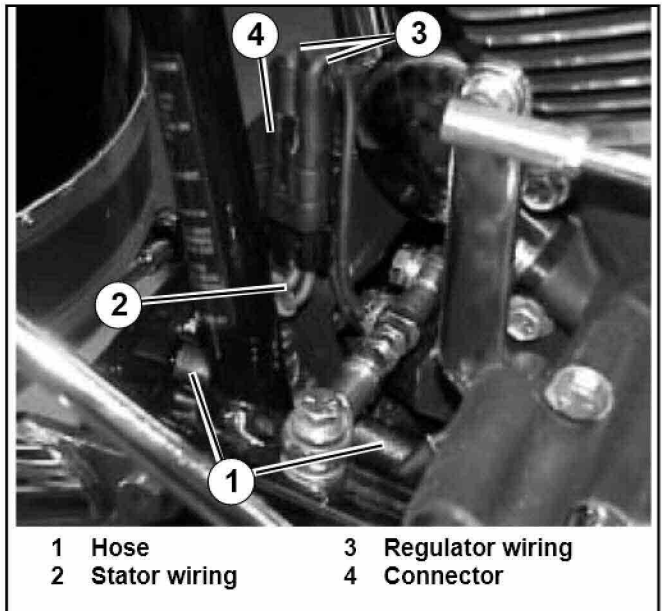


Figure 7. Remove P-Clip from left side of vehicle



1 Hose  
2 Stator wiring  
3 Regulator wiring  
4 Connector

Figure 9. Secure regulator wiring with cable straps

## Installation - 2002 and Later Models

### NOTE

For proper function, thermostat must be installed correctly, as shown in schematic (Figure 1) so that when thermostat is open, flow will be straight through. Flow through heat exchanger can be either way. If not installed correctly, heat exchanger will not work properly.

1. Remove seat and disconnect battery, negative cable first.
2. See Figure 6. Remove and disconnect the stator/regulator connector from the bracket on the bottom of the voltage regulator.
3. Remove voltage regulator mounting nuts, washers, and starwashers. Save for reinstallation.
4. Remove voltage regulator from mounting studs.
5. See Figures 7 and 8. Remove and discard the P-clip from the stator wiring on left side of vehicle. Verify that the stator wiring is routed underneath the engine stabilizer link. Leave the end of the stator wiring out near the left frame downtube as shown.
6. Place heat exchanger on voltage regulator mounting studs. See Figure 2. Replace voltage regulator on studs over heat exchanger using hardware removed in Step 3, but do not tighten completely.
7. See Figure 9. Route the regulator wiring that connects to stator wiring out the rear of the voltage regulator and drape it out by the left frame downtube. Be sure wiring is installed through the P-clip on the right side of the voltage regulator if it was removed during disassembly.

### CAUTION

Make sure regulator wires are routed so that they do not pinch or rub against moving components. Wires that rub or are pinched may cause regulator failure.

8. Align oil cooler and voltage regulator and tighten nuts to 7-10 ft-lbs (10-14Nm).

### NOTE

Do not cut hose. Hose will be routed as a single loop initially. Both ends of the hose will be routed along the left frame tube and cut to length in subsequent steps.

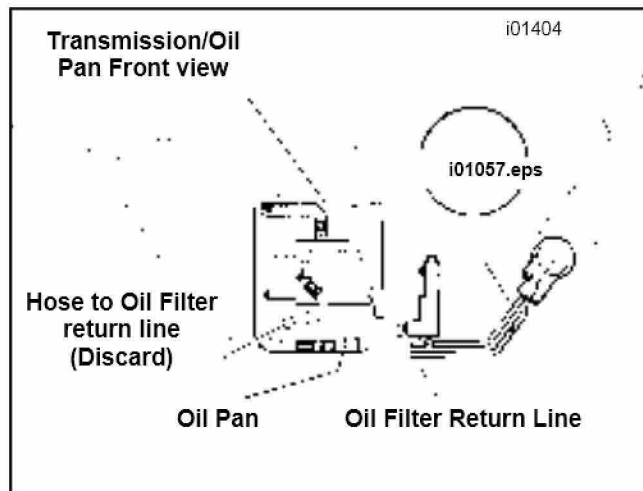
9. See Figures 3 and 9. Route one end of hose from kit between voltage regulator and left downtube as shown. The stator wiring must be routed outside of the hose and regulator wiring must be routed inside of the hose.

From the left side of the motorcycle, route the other end of the hose under the front engine mount behind frame crossmember. Continue to route hose between the voltage regulator and right down tube as shown. Leave hose uncut at this time.



**Figure 10. Secure regulator wiring with cable straps**

10. Slide hose clamps from kit over both hose ends. Push hose ends onto cooler nipples and tighten clamps.
11. Reconnect stator and regulator wiring connector. Position plug parallel with left frame downtube so that regulator wiring is coming out the top of the connector.
12. See Figure 10. Route regulator wiring to inside of the connector and secure with two cable straps as shown. Check the wiring to be certain it is not being pinched and that it doesn't have excessive tension in it. If it does, adjust wire appropriately and then cut off excess length of cable strap as shown.
13. Route both hoses along left side of frame back to engine-transmission joint as shown in Figure 4. Cable strap hose in place.
14. See Figure 4. Route hoses under the engine at this area (near oil drain plug) through the gap between the engine and transmission.
15. See Figure 5. The thermostat will be installed in this area. When cutting the hoses, make sure the thermostat will not be positioned where it blocks the oil drain plug. Cut the lines, slide the clamps over the hoses and slide the hoses over the thermostat nipples. Tighten clamps securely. **Continue installation at the Twin Cam section of this instruction sheet.**



**Figure 11. Oil Filter Return Line**

### 1340 (EVOLUTION) MODELS ONLY

1. See Figure 11. Locate the point on the oil filter return line (to oil tank) where the steel/chrome line joins the rubber hose. Remove the clamp. Remove the hose from the steel line. Use a pan to catch the oil which may spill. Disconnect other end of hose from fitting on reservoir and discard hose.

*NOTE*

*In the following steps measure oil lines carefully before cutting the bulk oil line in this kit.*

2. Measure from steel/chrome oil filter return tube to thermostat nipple. Cut remaining hose to length. Slide clamps over hose and tighten both ends securely.
3. Measure from oil tank fitting to thermostat nipple. Cut hose to length. Slide clamps over hose and tighten clamps securely. Proceed to ALL MODELS section of installation.

## TWIN CAM 88 MODELS ONLY

1. See Figure 12. Remove oil line cover to access oil return hose.
2. Remove oil return hose (top hose) from oil pump discharge fitting and oil tank inlet fitting.

### CAUTION

When performing the next two steps, do not let thread sealant get into engines oiling system, or engine damage may occur.

3. Remove scavenging oil pump discharge fitting. Obtain 45 degree fitting (P/N 16302-81) from kit. See Figure 13. Place 565 Thread Sealant (P/N 99818-97) on threads and install in pump discharge. Thread until tight with nipple oriented downward. Do NOT overtighten.
4. Remove tank inlet fitting. See Figure 13. Obtain straight fitting (P/N 25259-93) and place 565 Thread Sealant on threads. Install straight fitting.
5. Measure hose required between tank inlet and thermostat nipple fitting. Cut remaining hose to length. Place clamps over oil hose and install lines between thermostat and oil tank inlet as indicated on thermostat. Tighten both clamps.

### NOTE

In the following steps measure oil lines carefully before cutting the bulk oil line in this kit.

6. Measure hose required between scavenging pump outlet and thermostat. Cut remaining hose to length. Place clamps over hose and install between thermostat and pump. Tighten both clamps. Proceed to ALL MODELS section of installation.

## ALL MODELS

1. Recheck all lines to make sure there are no kinks and they are properly fastened to frame tubes with wire ties.

### WARNING

Always connect the positive battery cable first. If the positive cable should contact ground with the negative cable installed, the resulting sparks may cause a battery explosion which could result in death or serious injury.

2. Reconnect battery, positive cable first.
3. Install seat.

### WARNING

After installing seat, pull upward on front of seat to be sure it is locked in position. If seat is loose, it could shift position during vehicle operation, resulting in loss of control of vehicle and death or serious injury.

4. Start engine and allow to warm up. Check for leaks.
5. Shut off engine and allow to cool. Retighten all clamps. Check oil for proper level.

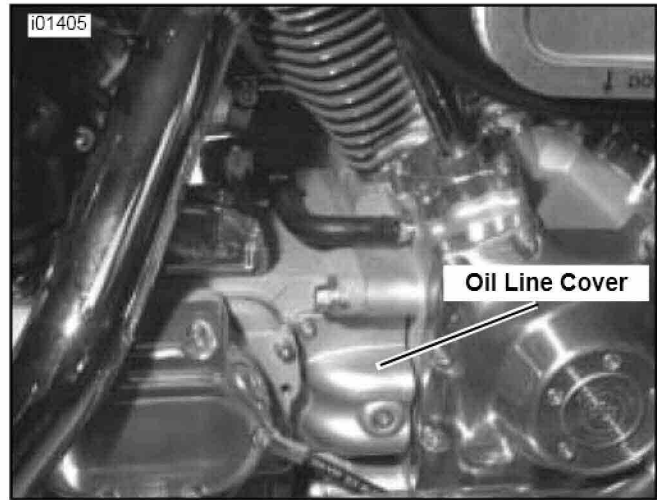


Figure 12. Oil Line Cover

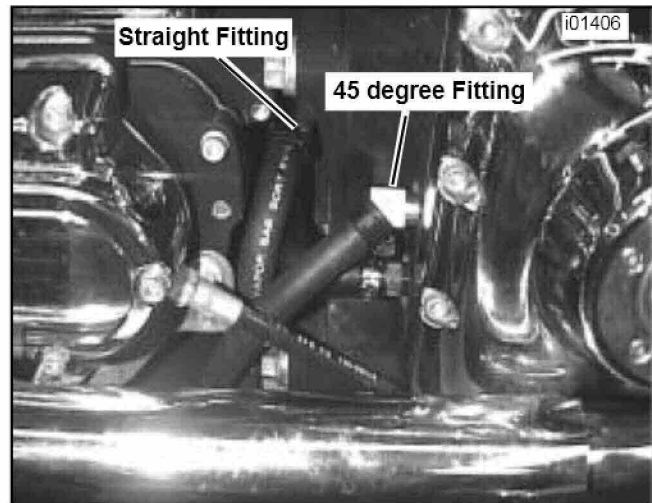


Figure 13. Twin Cam 88 Fittings

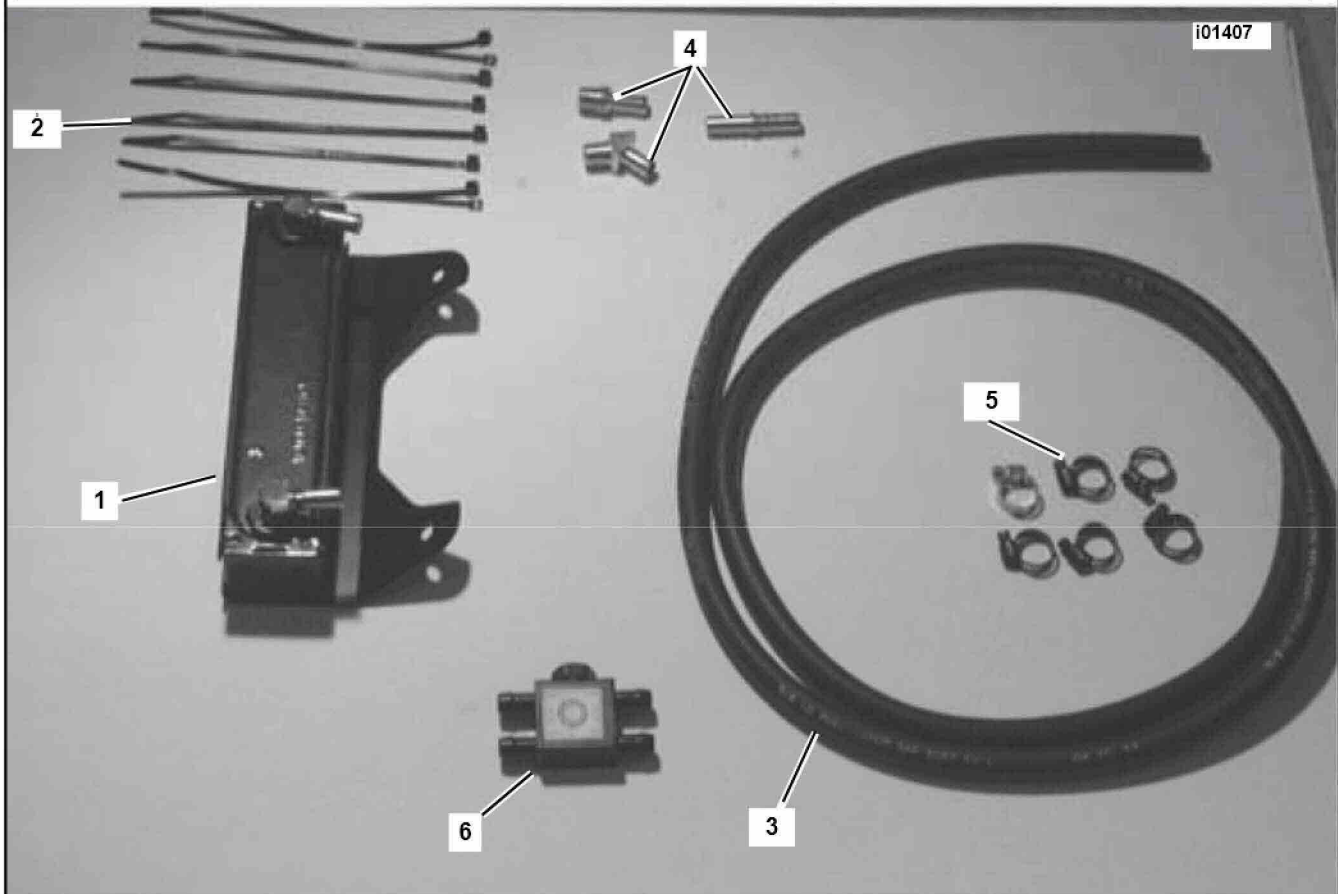


# Service Parts

Part No. 62868-99A

Date 4-01

## Oil Cooler and Thermostat Kit



Item	Description	Part No.	Item	Description	Part No.
1	Heat Exchanger/bracket	62869-99	5	Clamp, worm drive #4 (6)	Not sold separately
2	Cable strap zip lock (8)	Not sold separately	6	Thermostat	62878-99
3	Hose, Rubber, oil 3/8" 120 in.	Not sold separately			
4	Fitting Kit, includes: hose mending hose fitting 1/4"-18 NPT male to 3/8" barb hose fitting 45 degree 1/4"-18 NPT male to 3/8" barb	62870-99			