

# SERVICE BULLETIN



M-1197

November 8, 2006

## 2006 FLHTCUSE Oil Cooler Assembly

### Purpose

The purpose of this service bulletin is to inform dealers of a running change to the oil cooler and oil cooler adapter found on 2006 FLHTCUSE model motorcycles manufactured after March 31, 2006. This Service Bulletin contains both service procedures and parts information.

The service procedures and parts information for this change are **not** contained in the 2006 FLHTCUSE Service Manual Supplement (Part No. 99500-06) and the 2006 FLHTCUSE Parts Catalog (Part No. 99428-06).

### Motorcycles Affected

2006 FLHTCUSE Screamin' Eagle® Electra Glide® Ultra Classic® motorcycles manufactured after March 31, 2006.

### Customer Notification

None required.

### Required Dealer Action

The following description of operation, service procedures and parts breakout covers the running change.

Insert this information into the 2006 FLHTCUSE Service Manual Supplement (Part No. 99500-06) for reference when servicing the motorcycles affected.

### Service

At initial service and each subsequent 5000 mi (8000 Km) service interval, check the oil cooler assembly for:

- a. Oil line leaks.
- b. Dirt and debris in the cooler fins.

### Oil Cooler Operation

See Figure 1. Under pressure from the engine crankcase (1), oil flows from the crankcase oil filter mount (2) into a passage in the oil cooler adapter (3).

In the adapter, a thermostat controls the oil flow to the oil cooler. The thermostat is located across supply and return ports. It consists of a temperature sensitive element compressed between a spring and a threaded plug.

### Thermostat Open

When oil temperature is below 200° F (93° C), an open thermostat allows the largest percentage of engine oil in the supply port to pass through to the return port and then to the oil filter. A smaller percentage flows through the supply hose to the oil cooler.

#### NOTE

*Regardless of whether the thermostat is open or closed, oil is **always** pressurized in the oil cooler adapter, the supply hose, the oil cooler and the return hose when the engine is running.*

### Thermostat Closed

When oil temperature exceeds 200° F (93° C), operating temperature, the thermostat closes and all the oil flows through the supply port and hose (4) to the oil cooler (5).

The oil circulates through the finned tubes of the cooler to dissipate heat and returns to the oil cooler adapter through the return hose (6). The oil is routed through the oil filter (7) before returning to the crankcase.

#### IMPORTANT NOTE

In the interest of preserving customer safety and satisfaction, always check for outstanding recalls whenever any motorcycle is brought into your dealership for either maintenance or service.

ROUTING	SERVICE MANAGER	SALES MANAGER	PARTS MANAGER	LEAD TECHNICIAN	TECHNICIAN NO.1	TECHNICIAN NO. 2	TECHNICIAN NO. 3	TECHNICIAN NO. 4	RETURN THIS TO
INITIAL HERE									

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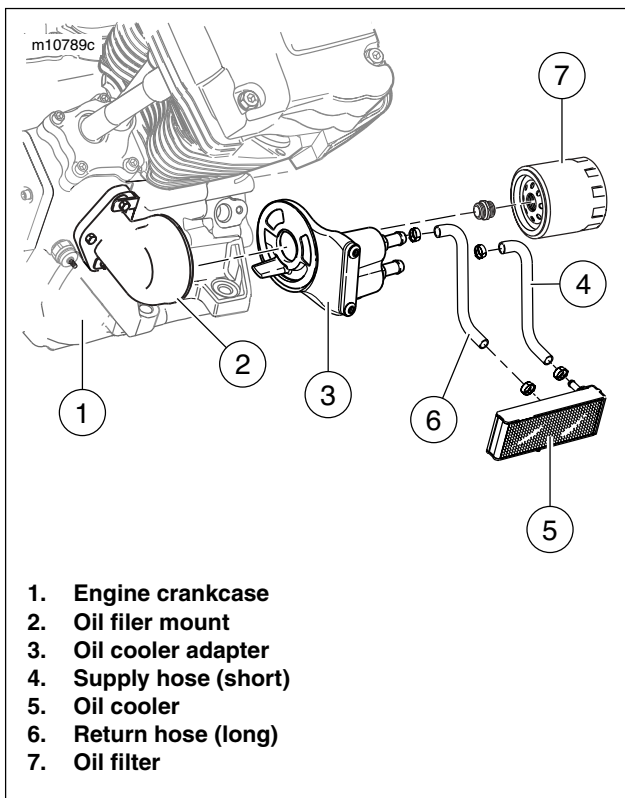


Figure 1. Oil Cooler Operation

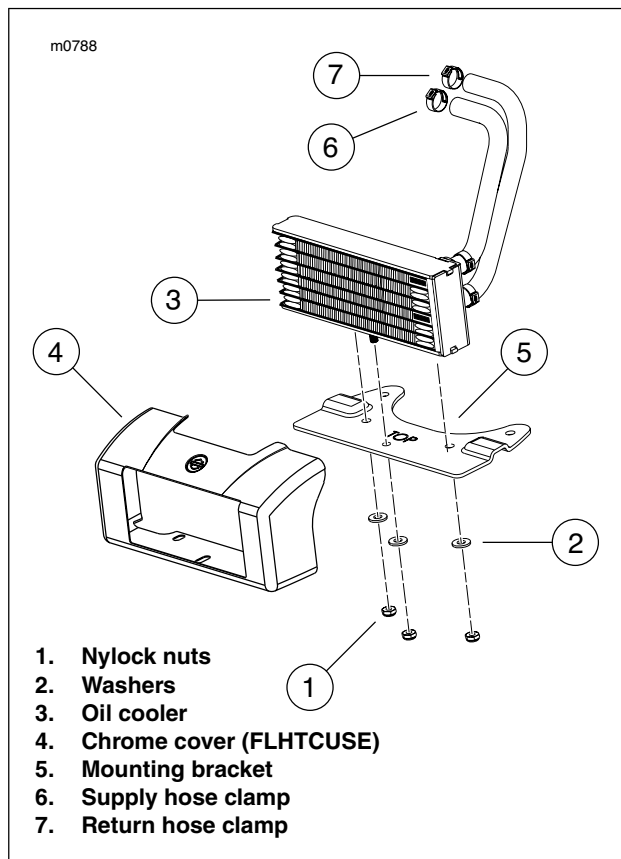


Figure 2. Oil Cooler

## Prepare Motorcycle

1. Raise front of motorcycle to access oil cooler and reduce oil loss.
2. Use a strap to hold steering at full right lock.
3. Remove the right hand fairing lower. See the Touring Models Service Manual.
4. Cover the front fender to protect finish.
5. Place a container under the motorcycle to catch the oil.

### NOTE

Dispose of oil in accordance with local regulations.

## Oil Cooler Replacement

### Remove

1. See Figure 2. Remove the nylock nuts (1) and washers (2) holding the oil cooler (3) to the frame mounting bracket (5). Discard the nylock nuts.
2. Pull the cooler and cover forward.
3. Use the HOSE CLAMP PLIERS (HD-97087-65B) to cut the clamps on the supply (6) and return oil hoses (7) at the oil cooler adapter.
4. Remove the chrome cover (4) with the oil cooler.
5. The oil cooler fins should be inspected for dirt and debris.
6. If replacing hoses, cut the clamps on the supply and return hoses.

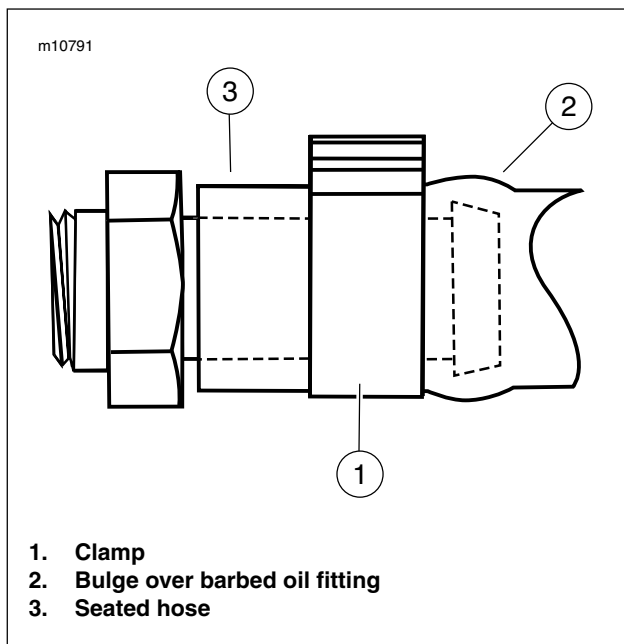
### Install

1. If replacing the hoses, install **new** hose clamps on the ends of the hoses.
2. Push the supply and return hoses over the barbed oil fittings on the oil cooler and seat them against the end of the fitting.
3. Slide the clamps over the bulge in the hose for the barbed oil fittings and pull them back against the bulge.
4. Orient the clamps toward the outside of the core.
5. Use HOSE CLAMP PLIERS (HD-97087-65B), to clamp the hoses to the oil cooler.
6. Fit chrome cover to oil cooler.
7. With **new** nylock nuts, install on mounting bracket. Tighten fasteners to 80-110 **in-lbs** (9.2-12.4 Nm).
8. Slide **new** clamps over the oil hoses.
9. See Figure 3. Push the supply and return hoses over the barbs of the oil line fittings and seat the hoses (3) against the end of the fittings.

### NOTE

Verify that the protective cap is in place on the frame stud in the path of the oil hoses.

10. Slide the clamps (1) over the bulge (2) in the hose for the barbed oil line fittings and then pull the clamps back against the bulge.
11. Use HOSE CLAMP PLIERS (HD-97087-65B), to clamp the hoses to the oil cooler adapter.



**Figure 3. Hose Clamped over Fitting**  
(oil cooler adapter - example)

## Oil Cooler Adapter Replacement

### Remove

1. Use the HOSE CLAMP PLIERS (HD-97087-65B) to cut the clamps on the supply and return oil hoses at the oil cooler adapter.
2. Remove oil filter. See Touring Models Service Manual.
3. See Figure 4. Use a hex or a T-55 Torx® driver to remove the oil filter adapter (1), the oil cooler adapter (2) and gasket (3).
4. If necessary, remove the oil pressure switch.

### Inspect and Clean

1. See Figure 6. Inspect the oil filter mount mating surface (4) and, if necessary, remove old gasket (2) material.
2. Remove the inspection cover (1) and cover gasket.
3. If necessary, remove the two oil cooler line fittings.

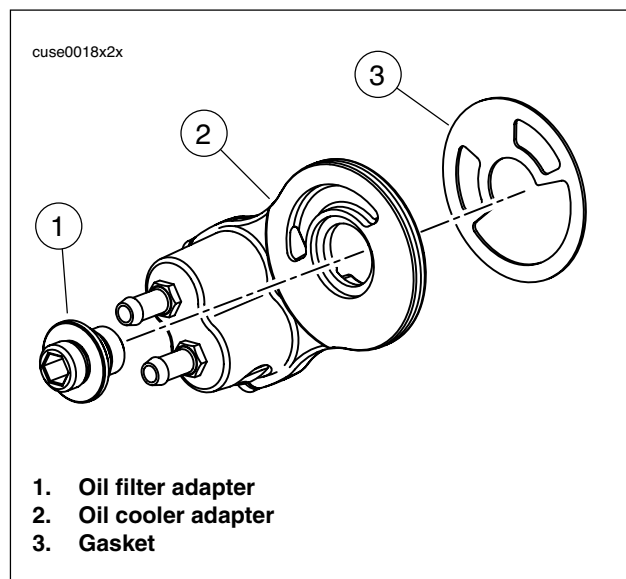
#### NOTE

*Replace the oil cooler adapter if the thermostat is not functioning.*

4. Clean the oil filter mount surface of filter gasket material.
5. Clean the oil passages in solvent.
6. Inspect the oil passages and the oil cooler mount.

### Assemble

1. Assemble a **new** gasket with the inspection cover.
2. Install the inspection passage gasket and cover.
3. Apply one drop Loctite 246 Threadlocker Medium Strength/High Temperature to the fasteners and tighten to 90-120 **in-lbs** (10.2-13.6 Nm).
4. See Figure 7. If removed, install the taper thread supply (1) and return (2) port oil line fittings.
  - a. Finger tighten.
  - b. From finger tight, wrench 2-3 turns.



**Figure 4. Oil Cooler Adapter**

## Install

### CAUTION

To avoid cross threading tapped holes, exercise care when starting oil filter adapter.

1. See Figure 6. Fit the gasket (2) to the filter mount surface of the oil cooler adapter.
2. Match the positioning tab (3) on the adapter to the supply port in the oil filter mount.

### NOTE

See Figure 5. The oil cooler adapter will fit flush to the filter mount with the positioning tab in the mount's supply port (1).

3. Holding the adapter in place, thread the oil filter adapter with pre-coated threads through the oil cooler adapter into the oil filter mount.

### NOTE

When reusing adapter, apply Loctite® 246 (blue) Thread-locker Medium Strength/High Temperature to the threads. Leave the lead thread free of adhesive to start the threads.

4. With a hex or Torx® driver, tighten oil filter adapter to 18-22 ft-lbs (24.4-27.3 Nm).
5. Slide **new** clamps over hoses.
6. See Figure 3. Push the supply and return hoses over the barbed oil fittings to seat the hoses (3) against the ends of the fittings.
7. Slide clamps over bulge in the hose (2) for the barbed oil fittings and pull the clamps back against the bulge.
8. Orient the clamps to the angle of the adapter.
9. With HOSE CLAMP PLIERS (HD-97087-65B), tighten clamps.
10. Install oil filter. See Touring Models Service Manual.



Figure 5. Oil Filter Mount



Figure 6. Oil Cooler Adapter (filter mount face)

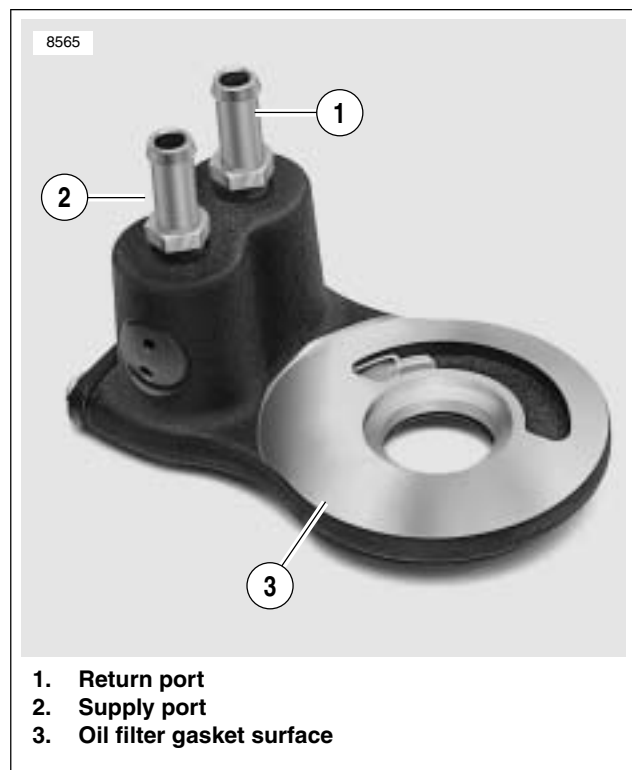


Figure 7. Oil Line Fittings on Adapter

# Oil Filter Mount Replacement

## Remove

1. Remove oil filter. See Touring Models Service Manual.
2. Remove oil cooler adapter. See Oil Cooler Adapter Replacement.
3. See Figure 8. Bend lockplate (1) tabs from bolt heads.
4. Remove oil filter mount lockplate fasteners (2) and washers (3). Discard lockplate.
5. Remove bolt (4) with washer (5) and oil filter mount (6).
6. Remove and discard o-rings (7).

## Install

1. Install **new** o-rings into grooves in oil filter mount.

### NOTE

See Figure 5. Before installing a new oil filter mount (Part No. 26325-99), remove the OE oil filter adapter.

2. Place flat washers in top and bottom recessed bolt holes.
3. Apply LOCTITE 243 (blue) (HD-99642-97) to fastener threads.
4. Align holes in **new** lockplate with holes in flat washers and slide fasteners through lockplate, flat washers and filter mount flange.

### CAUTION

To avoid cross threading tapped holes, exercise care when starting hex head bolts in crankcase.

5. Align holes in filter mount flange with holes in crankcase and tighten bolts until snug.
6. Install flat washer on remaining fastener, apply LOCTITE 243 (blue) (HD-99642-97) to threads and install in middle hole of mount flange.
7. See Figure 9. Tighten the fasteners in sequence to 130-150 **in-lbs** (14.7-16.9 Nm).
8. Bend the ends of the lockplate to capture the bolt heads.
9. Install oil cooler adapter. See Oil Cooler Adapter Replacement.
10. Install oil filter. See Touring Models Service Manual.

## Final Assembly

### CAUTION

Oil level cannot be accurately measured on a cold engine. For pre-ride inspection, with motorcycle leaning on jiffy stand on level ground, oil should register on dipstick between arrows when engine is cold. Do not add oil to bring the level to the **FULL** mark on a **COLD** engine. (00185a)

1. Install the fairing lower. See the Touring Models Service Manual.
2. Perform an oil level **COLD CHECK**. See the Touring Models Service Manual.

### CAUTION

Do **NOT** operate the engine when the oil level is below the add mark on the dipstick at operating temperature. Engine damage will result. (00187a)

3. Start engine and check for oil leaks.
4. When engine is at operating temperature, preform an oil level **HOT CHECK**. See the Touring Models Service Manual.

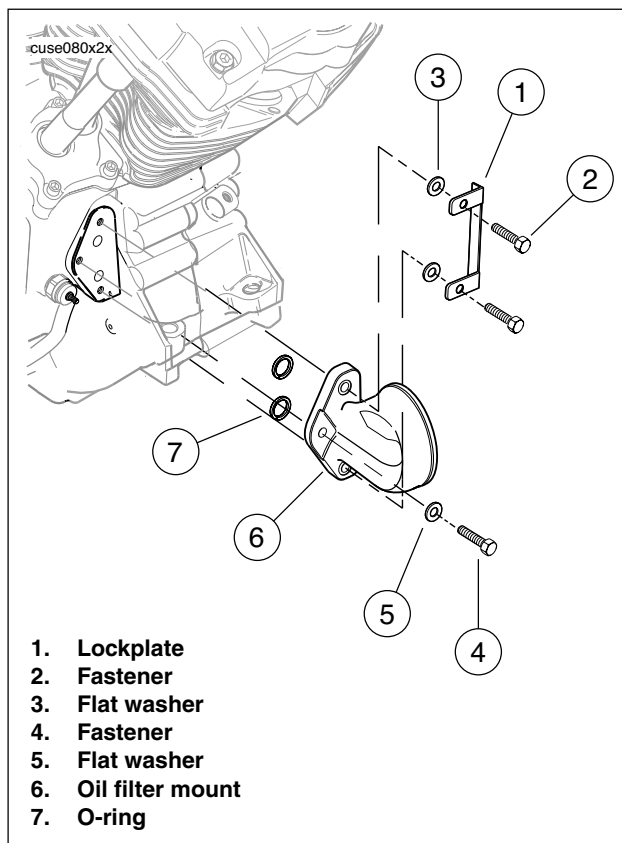


Figure 8. Oil Filter Mount Components

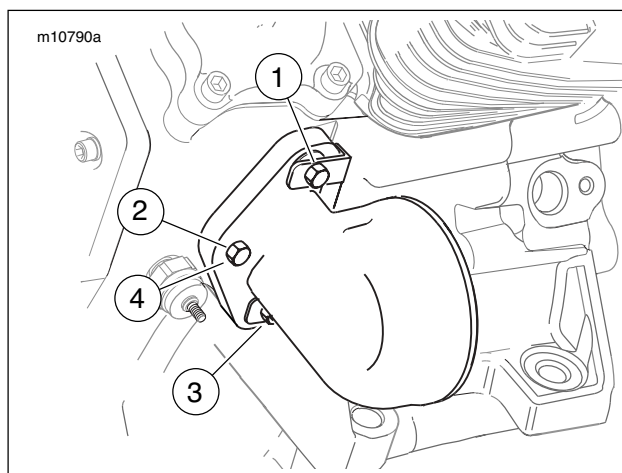
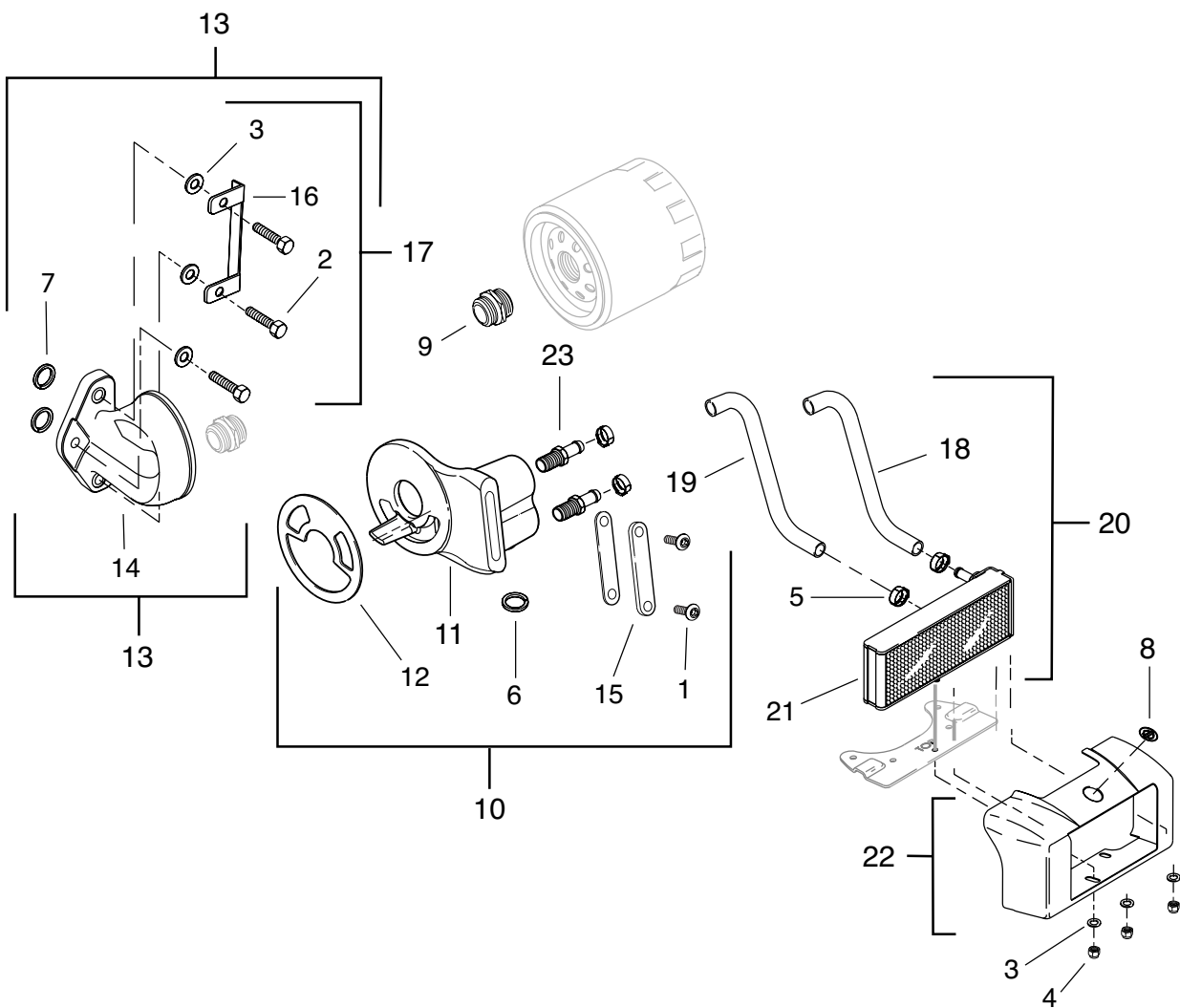


Figure 9. Oil Filter Mount Torque Sequence

# OIL COOLER ASSEMBLY



<b>INDEX NO.</b>	<b>PART NO.</b>	<b>DESCRIPTION</b>	<b>MODELS</b>
1	924	HEX SOCKET SCREW (2)	FLHTCUSE
2	4271	SCREW (3)	FLHTCUSE
3	6099	WASHER (3)	FLHTCUSE
4	7671	LOCK NUT (3)	FLHTCUSE
5	10198	CLAMP (4)	FLHTCUSE
6	11290	O-RING (1)	FLHTCUSE
7	11293	O-RING (2)	FLHTCUSE
8	14448-94	LOGO, Bar & Shield	FLHTCUSE
9	26041-05A	OIL FILTER ADAPTER	FLHTCUSE
10	26067-05A	ADAPTER ASSEMBLY, oil cooler, w/924, 11290, 26356-05A, 63533-41A, oil cooler adapter, cover gasket, thermostat element, spring, & cover	FLHTCUSE
11	26068-05A	OIL COOLER ADAPTER	FLHTCUSE
12	26138-05	GASKET, oil cooler adapter	FLHTCUSE
13	26274-99	OIL FILTER MOUNT ASSEMBLY, w/26352-95A	FLHTCUSE
14	26325-99	OIL FILTER MOUNT, silver w/11293	FLHTCUSE
15	26356-05A	COVER, oil port	FLHTCUSE
16	35061-99	PLATE, lock tab	FLHTCUSE
17	35071-99A	LOCK TAB KIT, oil cooler, w/4271, 6099, 11293 & 35061-99	FLHTCUSE
18	62629-05	HOSE, short	FLHTCUSE
19	62641-05	HOSE, long	FLHTCUSE
20	63067-07	OIL COOLER ASSEMBLY, w/10198, 62629-05, 62641-05, & 63068-07	FLHTCUSE
21	63068-07	CORE, oil cooler	FLHTCUSE
22	63071-07	CHROME COVER, oil cooler w/14448-94	FLHTCUSE
23	63533-41A	FITTING, w/sealant (2)	FLHTCUSE

## NOTES