



INSTRUCTIONS

-J00715

REV. 4-24-00

Kit Number 62571-77B and 62577-77B

OIL COOLER KIT

General

This Oil Cooler Kit is designed for:

- 1981 and Earlier XL
- 1982 and Later FXR
- 1984-1999 FXST
- 1986-1999 FLST including FLSTF Fat Boy® & FLSTN
- 1977-1985 FX, FXE, FXS
- 1977-1984 FLH
- 1991-1998 FXD Dyna Glide® series model vehicles.

CAUTION

Do not attempt to install this oil cooler(s) on the 1986 1/2 Heritage. It cannot be properly installed on this model.

NOTE

If you install this Oil Cooler Kit on 1984 and Later FXR models with short front forks, and on 1983 and Later FXRT models with engine guards, you must use Oil Cooler Bracket Kit, Part No. 62411-85.

If you install this Oil Cooler Kit on 1986 and Later FLST models, including FLSTF Fat Boy and FLSTN you must use Oil Cooler Bracket, Part No. 62408-87A.

NOTE

For motorcycle operation in temperatures below 50° F., use an oil cooler cover to allow the engine to warm up to normal operating temperature. A recommended alternative to the oil cooler cover is an in-line oil cooler thermostat that can be purchased separately at your Harley-Davidson dealer.

Kit contents:

QTY	DESCRIPTION
3	Bolt, hex head (5/16-24 x 3/4 in.)
1	Bolt, hex head (3/8-16 x 1 in.)
1	Bracket, oil cooler mounting (V-shaped)
6	Clamp, hose
1	Cooler assembly, engine oil (Black finish in P/N 62571-77B kit, chrome in P/N 62577-77B kit)
2	Fitting, hose connector
1	Hose, black rubber (10 foot length)
3	Lockwasher, helical (5/16 in. I.D.)
1	Lockwasher, helical (3/8 in. I.D.)
3	Nut, hex (5/16-24)
1	Nut, hex (3/8-16)
6	Strap, cable
2	Washer, flat (3/8 in. I.D.)

NOTE

Service parts to maintain this kit are listed on page 8.

The instructions (except FXST/FLST) specify using hose connection fitting from this kit as a hose splice. Use only if necessary. There is enough hose supplied in the kit for a direct route from the oil cooler to the oil tank.

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. Contact of oil cooler or oil cooler hoses with front fender during motorcycle operation may result, causing death or serious injury.

WARNING

On FL and FX models, if the V-shaped oil cooler mounting bracket is installed incorrectly, the oil cooler will be improperly positioned. Improperly positioned oil cooler or hoses may contact the front fender during motorcycle operation. Contact of oil cooler or oil cooler hoses with front fender during motorcycle operation may result, causing 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.

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.

NOTE

On oil coolers WITHOUT a built-in thermostat, either side can be inlet/outlet. Be sure you keep track of what you decide is the inlet/outlet. The cooler(s) in this Instruction Sheet do not have a built-in thermostat.

Although the cooler must be in the oil flow return loop, it can be installed either BEFORE or AFTER the oil filter.

Lay-out/measure oil lines carefully BEFORE cutting the bulk oil line in this kit - MEASURE TWICE; CUT ONCE! The approximate lengths given in this Instruction Sheet can vary slightly from bike to bike because of individual variations or accessories.

CAUTION

Connect all oil lines properly or oil loss can cause engine damage.

- 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.
- For motorcycle operation in temperatures below 50° F., use an oil cooler cover to allow the engine to warm up to normal operating temperature.

Oil Cooler Installation - XL; 1981 & Earlier

1. Mount oil cooler on welded bracket at top of frame tubes using two 5/16-24 x 3/4 in. bolts and lockwashers from kit.
2. Tighten bolts to 19 ft-lbs.

Hose Installation - XL; 1981 & Earlier

1. See Figure 1. Remove oil return hose at oil pump. Cut off one inch from the loose end of the hose so there is a new section to connect.

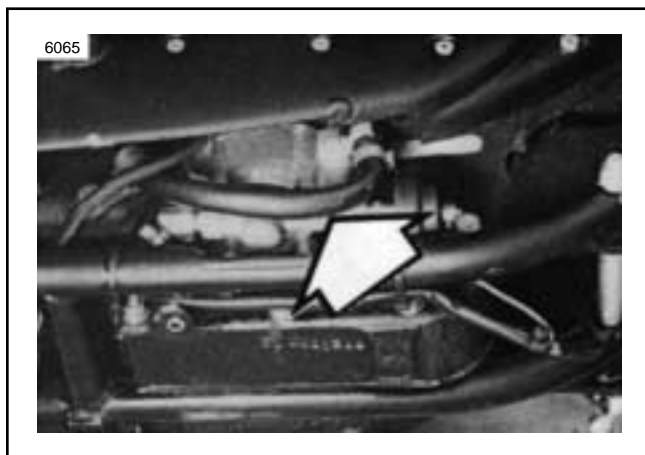


Figure 1. XL Oil Pump Return Hose

2. Cut kit hose into two equal lengths. Attach one length to oil pump return fitting. Secure hose with clamp from kit.
3. Route hose under crankcase, along right frame tube, up right frame downtube to oil cooler inlet. Cut off excess and secure hose to fitting with clamp from kit.
4. Attach one end of other length of hose to oil cooler outlet. Secure hose with clamp from kit. Route hose down left frame downtube to meet original oil return hose.
5. Cut off excess oil cooler outlet hose and connect to loose end of original oil return hose using hose connection fitting and two clamps from kit, or connect directly to tank.
6. Secure hoses to downtube and frame with cable straps from kit.
7. Perform SYSTEM FLOW TEST at end of Instruction Sheet.

Oil Cooler Installation - FLH; 1977-1984

1. Remove top, center mounting bolt from highway bar. Position V-shaped mounting bracket in an upright position between highway bar and frame. Install original bolt and tighten to 19 ft-lbs.
2. Mount oil cooler on V-shaped mounting bracket using two 5/16-24 x 3/4 in. bolts, lockwashers, and nuts from kit. Tighten bolts to 19 ft-lbs.

Hose Installation - FLH; 1977-1984

1. See Figure 2. Remove oil return hose at oil pump. Cut off a one inch length from the loose end of the hose so there is a new section to connect.

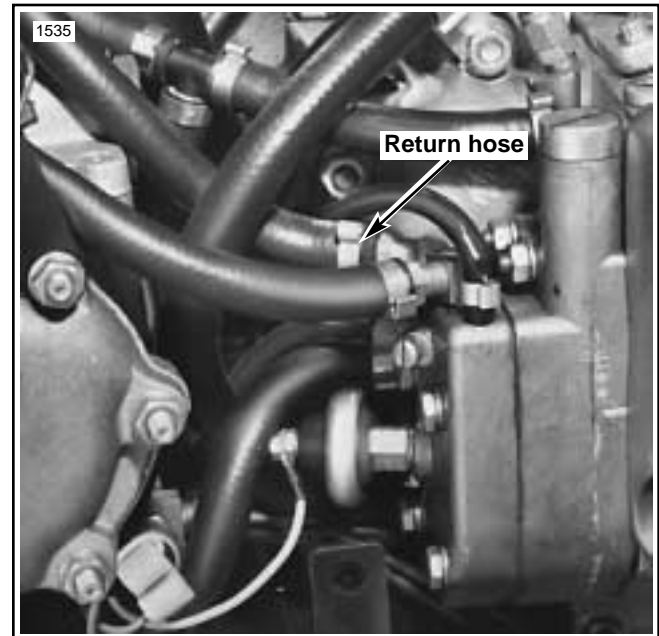


Figure 2. FX, FXR, and FL Oil Pump Return Hose

2. Cut hose from kit into two equal lengths. Attach end of one length to oil pump return fitting. Secure hose with clamp from kit.
3. Route hose under crankcase, forward over front frame crossmember, up right frame downtube, and to oil cooler inlet. Cut off excess and secure hose to fitting with clamp from kit.
4. Attach one end of other length of hose to oil cooler outlet fitting. Secure hose with clamp from kit. Route hose down left frame downtube to meet original oil return hose.
5. Cut off excess oil cooler outlet hose and connect to loose end of original oil return hose using hose connection fitting and two clamps from kit, or connect directly to tank.
6. Secure hoses to downtube and frame with cable straps from kit.
7. Perform SYSTEM FLOW TEST at the end of Instruction Sheet.

Oil Cooler Installation - FX, FXE, FXS; 1977-1985

1. Position V-shaped mounting bracket in an upright position on front frame support. Secure with a 5/16-24 x 3/4 in. bolt, lockwasher, and nut from kit.
2. Tighten bolt to 19ft-lbs.

Hose Installation - FX, FXE, FXS; 1977-1985

Refer to Steps 1 - 7 of HOSE INSTALLATION - FLH Section to complete oil cooler installation.

Oil Cooler Installation - FXR; 1982-1994

1. On 1984 - Later FXR models with short front forks and on 1983 - Later FXRT models with engine guards, use bracket from kit 62411-85 to mount oil cooler. Mount bracket to frame following kit instructions. Use two 5/16-24 x 3/4 in. bolts, lockwashers, and nuts from kit. Tighten bolts to 19 ft-lbs.
2. On all other FXR models, mount oil cooler on welded bracket at top of frame tubes using 3/8-16 x 1 in. bolt and lockwasher from kit. Tighten bolt to 33 ft-lbs.

Hose Installation - FXR; 1982 to 1991

Refer to Steps 1 - 7 of HOSE INSTALLATION - FLH Section to complete oil cooler installation. On FXR models the return hose is connected to the right rear of the oil tank.

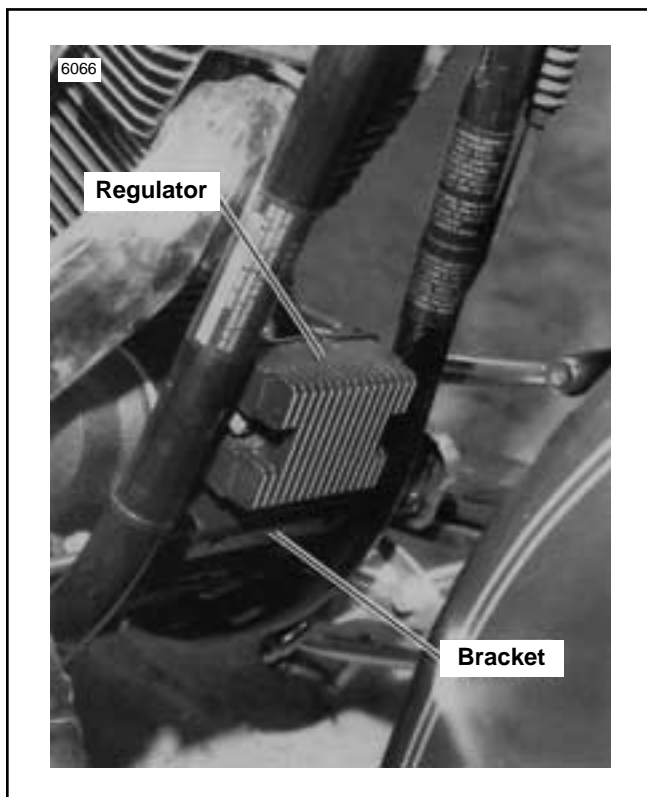


Figure 3. Oil Cooler Bracket

Hose Installation - FXR; 1992-1994

Proceed to "1992 & Later Hose Installation - All 1340cc Models".

Oil Cooler Installation - Softail Models 1984-1986, Excluding 1986-1/2 Heritage

Install oil cooler using FX method. See OIL COOLER INSTALLATION - FX, FXE, FXS; 1977 - 1985.

CAUTION

Do not attempt to install this oil cooler(s) on the 1986 1/2 Heritage. It cannot be properly installed on this model.

Oil Cooler Installation - Softail Models 1987 & Later

1. Remove regulator. Do not discard fastening hardware.

NOTE

- 1987-1989 Softails have welded studs securing the regulator to the frame. The 1990 and later Softails have bolts and nuts securing the regulator to the frame.
- As you remove the regulator hardware, note that there is an internal starwasher under each bolt head and under each nut. The starwashers are necessary to establish a ground for the regulator.

NOTE

See Figure 3. Bracket must be positioned as shown to properly locate the oil cooler.

2. See Figure 4. Place bracket Part No. 62408-87A in position under regulator. Install bracket and regulator using original bolts, starwashers and locknuts.

NOTE

You **MUST** use the starwashers to ensure proper regulator ground. On 1987 - 1989 models, place a starwasher under

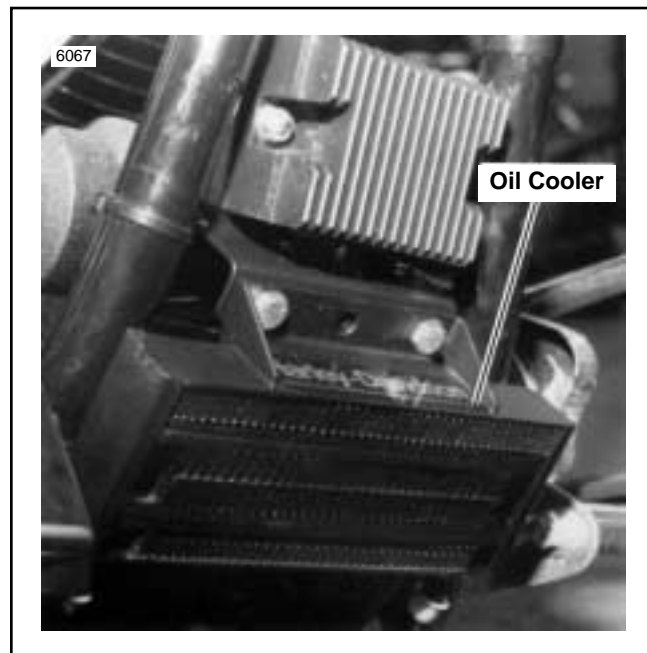


Figure 4. Oil Cooler Bracket and Oil Cooler

each nut. On 1990 and later models, place a starwasher under each bolt head and under each nut.

3. Use 3/8-24 x 3/4 in. bolts and nuts to fasten oil cooler to regulator bracket.
4. Install hoses. See HOSE INSTALLATION procedure appropriate for your model year vehicle.

left downtube, over frame crossmember, under engine, up rear of crankcase, and to return fitting on oil tank. Cut off excess hose and secure with clamp.

3. Secure hoses to downtube and frame with cable straps from kit.
4. Perform SYSTEM FLOW TEST at the end of this Instruction Sheet.

Hose Installation - All Softail Models To 1991

1. See Figure 5. Cut a three foot length from kit hose. Attach one end to the outlet fitting on oil filter mount. Route other end up right downtube to oil cooler inlet fitting. Cut off excess hose and secure with clamp.
2. Attach one end of remaining hose to oil cooler outlet fitting and secure with clamp from kit. Route hose along

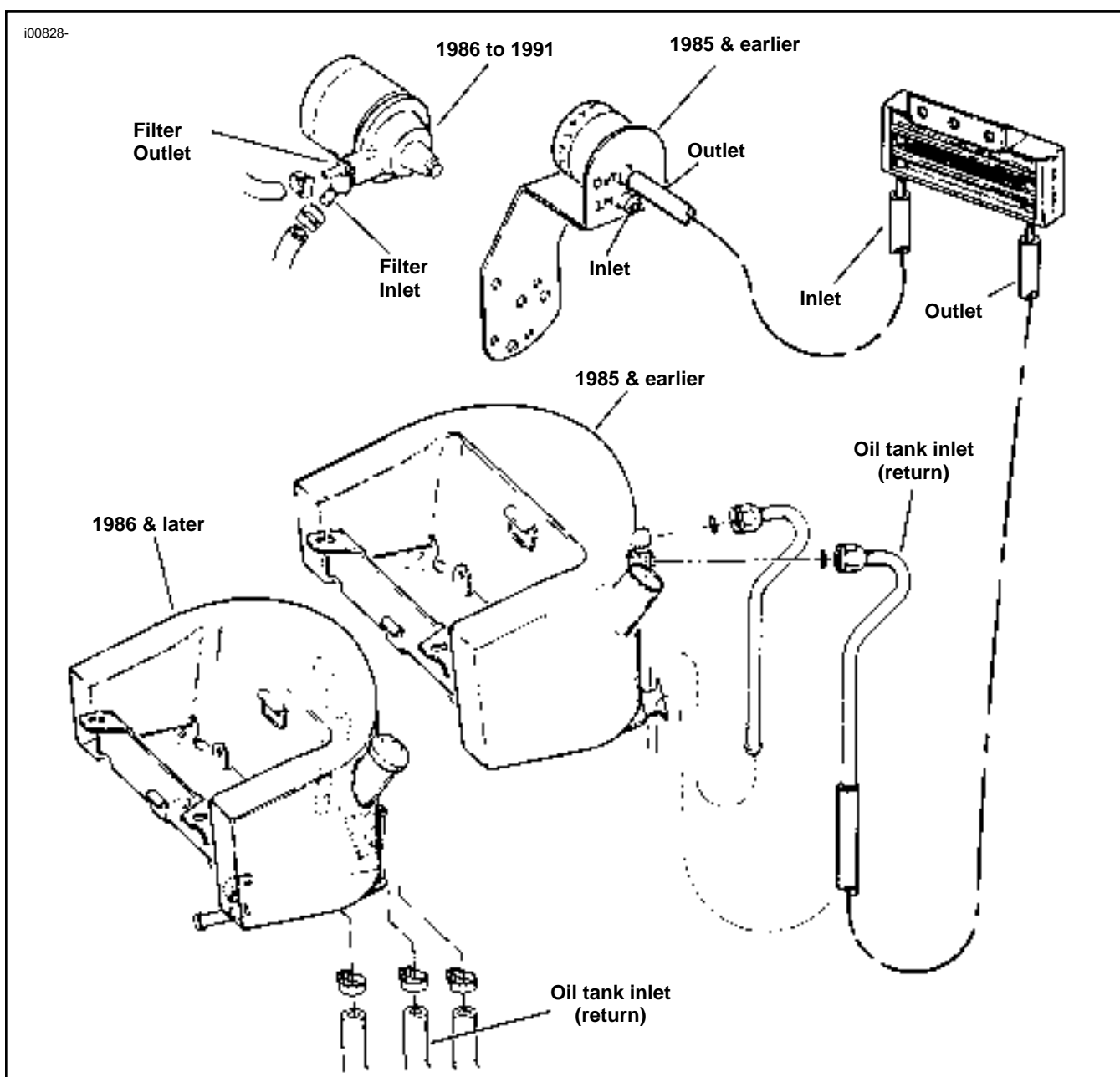


Figure 5. FXST/FLST Oil Cooler Hose Routing

Hose Installation - All Softail Models; 1992 & Later

Proceed to "1992 & Later Hose Installation - All 1340cc Models".

Oil Cooler Installation - FXD (Dyna Glide®); 1994 & Later

NOTE

On 1994 and later Dyna Glide models the clutch cable must be relocated from the front of the left frame downtube to the rear of the left frame downtube. The following procedure covers how to relocate the clutch cable. **If the oil cooler is being installed on a 1993 or earlier FXD go to "Oil Cooler Installation - FXD; All Years".**

1. Refer to applicable Service Manual and remove clutch cable at clutch lever.
2. Remove clutch cable from plastic cable retainers attached to T-studs on front of left frame downtube.
3. See Figures 6 and 7. Reroute clutch cable to back side of left front frame downtube and then up between headlamp and left fork tube.
4. Install two cable straps from kit as shown in Figure 7.
5. Do not tighten cable straps so they collapse adjuster boot or restrict movement of clutch cable.
6. Reinstall clutch cable to lever and check cable adjustment in accordance with applicable Service Manual.



Figure 6. Relocated Clutch Cable, Upper End

Oil Cooler Installation - FXD; All Years

1. See Figure 8. Position oil cooler on upper frame crossmember. If there is clearance between oil cooler mounting bracket and frame crossmember, eliminate clearance by inserting one or two 3/8 in. I.D. flat washers between mounting bracket and crossmember.
2. When oil cooler is secured, be sure there is no contact between oil cooler and frame downtubes.
3. Secure oil cooler with 3/8-16 x 1 in. bolt inserted through oil cooler mounting bracket center hole. Install 3/8 in. I.D. lockwasher and 3/8-16 in. nut from kit. Tighten bolt to 33 ft-lbs. Remove plastic end caps from oil cooler fittings.

Hose Installation - FXD (Dyna Glide); 1991

NOTE

If Engine Guard Kit (Part No. 49007-90) is installed, the engine guard upper mounting plate must be positioned between the oil cooler mounting bracket and the frame crossmember.

1. See Figure 8. Remove existing oil return hose from outlet fitting on oil filter mounting flange. Cut off a one inch length so there is a new section to connect. Connect existing oil return hose to new kit hose using hose connection fitting and two clamps from kit.



Figure 7. Relocated Clutch Cable, Lower End

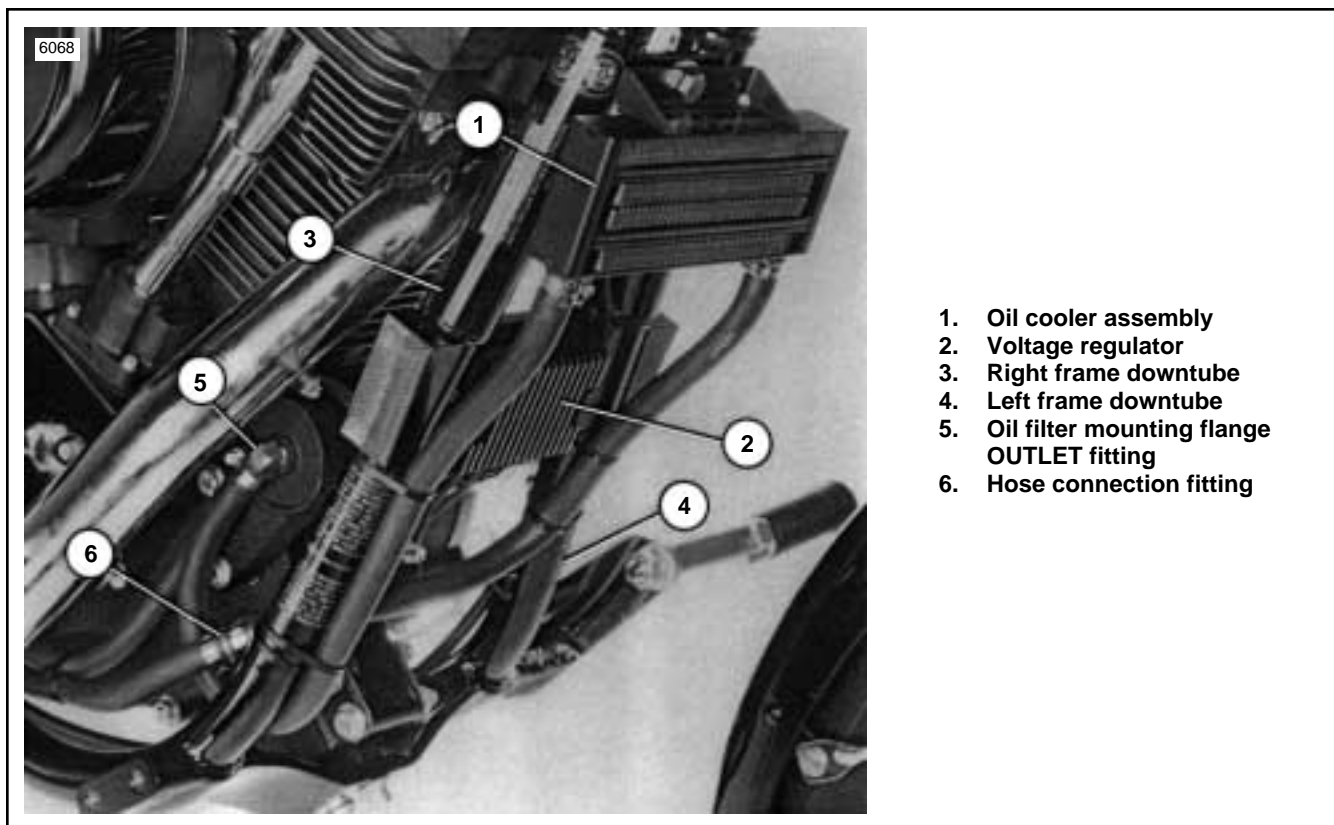


Figure 8. FXD Oil Cooler Installation (right footpeg removed for photograph)

NOTE

See Figure 9. If you plan to install new hose between oil cooler and oil tank, remove existing oil return hose from outlet fitting on oil filter mounting flange and from inlet fitting on top of oil tank. Use new hose from kit to replace original hose.

2. Route new hose to inside of right frame downtube, crossing below voltage regulator, to left frame downtube. Continue up front side of left downtube to oil cooler outlet fitting. Cut off excess hose, connect hose to fitting, and secure hose with clamp from kit.
3. Attach one end of remaining kit hose to oil filter mounting flange outlet fitting and secure with clamp from kit. Route hose to inside of right frame downtube and up front side of right downtube to oil cooler inlet fitting. Cut off excess hose, connect hose to fitting, and secure hose with clamp from kit.
4. Secure hoses to downtubes and frame, as required, with cable straps from kit.
5. Perform SYSTEM FLOW TEST at the end of Instruction Sheet.

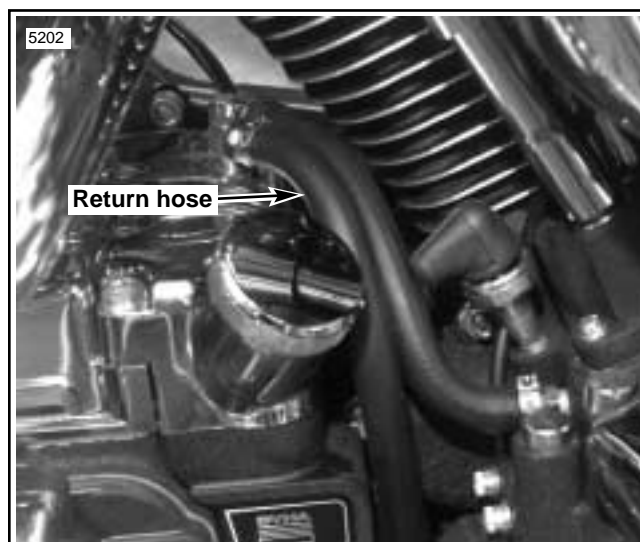


Figure 9. FXD Oil Filter Return Hose

Hose Installation - FXD (Dyna Glide); 1992 & Later

Proceed to "1992 & Later Hose Installation - All 1340cc Models".

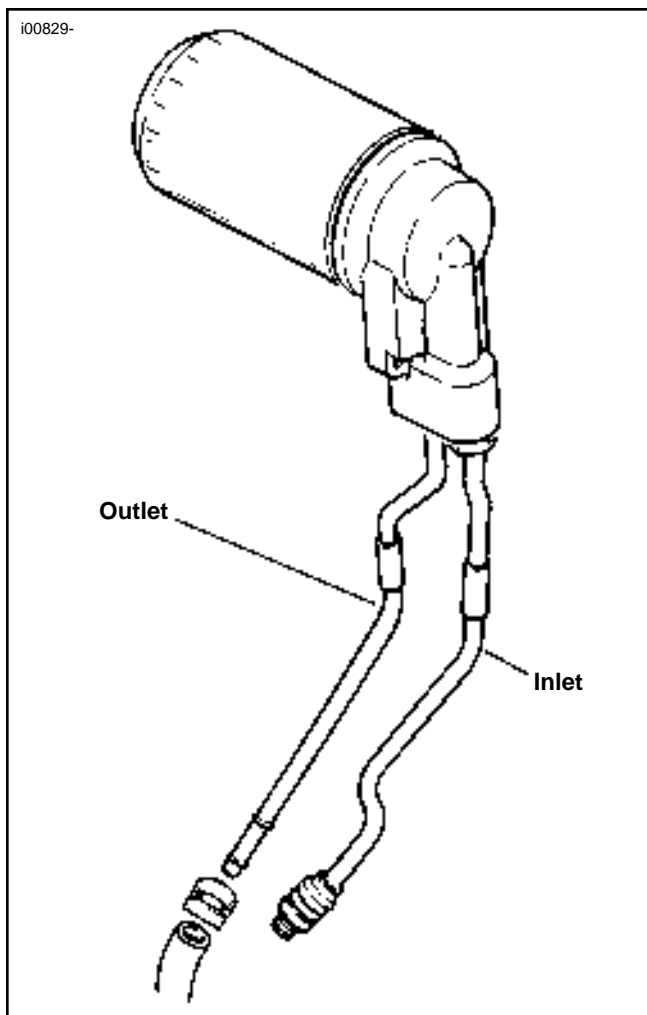


Figure 10. Oil Filter Mount, all 1992 & Later 1340cc models

1992 Hose Installation - All 1340cc Models

Install oil cooler according to OIL COOLER INSTALLATION instructions preceding this section.

1. See Figure 10. Locate the point on the oil 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.
2. Route hose over the frame crossmember, to the left side of the vehicle. Make a large enough loop in the hose that the hose will not crimp. Use a cable strap to fasten the hose to the inner, upper side of the frame tube.
3. Lead the hose up the inside of the frame tube to the oil cooler INLET, securing it periodically with cable straps.
4. Cut the hose to length and install it with a hose clamp.
5. Install the remainder of the hose on the oil cooler OUTLET, using another hose clamp.
6. Lead the outlet hose down the inside of the right frame tube to the oil tank return hose you removed from the steel line. Periodically secure it with cable straps.
7. Cut the outlet hose to length and join it to the return hose, using the connector and one hose clamp for each side. Tighten hose clamps.

System Flow Test - All Models

NOTE

Installing oil cooler will require the addition of 1/2 - 1 pint of oil to the engine lubrication system. Check oil level after the engine has run for a few minutes. Fill up to, but not above, full mark on dipstick.

1. Start engine. Examine all hose connections for leaks. If there is no leakage, allow engine to warm up and proceed to Step 2.
2. Verify that temperature of oil cooler core increases when engine reaches normal operating temperatures. If oil cooler remains cool after engine has warmed up, there may be an oil obstruction. Turn off engine and check system for source of obstruction.



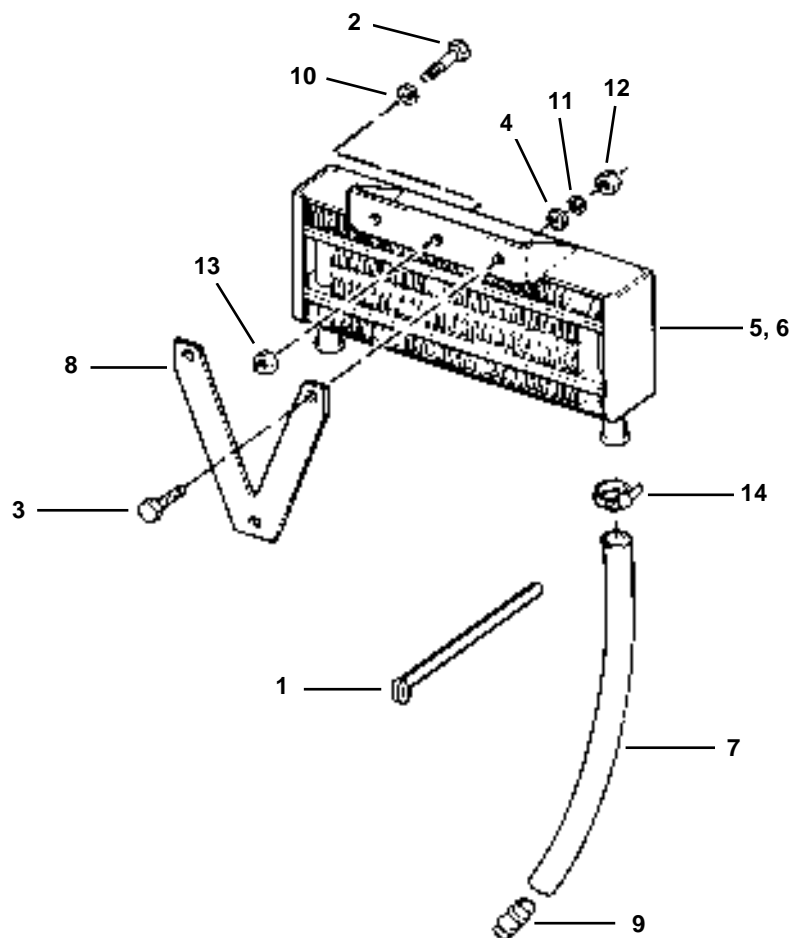
Service Parts

Part No. See Below

Date 12/94

Oil Cooler Kits

sp62571



62571-77B & 62577-77B

ITEM	DESCRIPTION	PART NO.	ITEM	DESCRIPTION	PART NO.
1	Cable strap, long	10006	8	Bracket, oil cooler mounting	62574-77
2	Bolt, 3/8-16 x 1 in.	2879W	9	Hose fitting	63792-77A
3	Bolt, 5/16-24 x 3/4 in.	3974HW	10	Lockwasher, 3/8 in.	7038
4	Washer, 5/16 x 15/16 in.	6026	11	Lockwasher, 5/16 in.	7041
5	Oil cooler, black	Not sold	12	Nut, 5/16-24	7753
6	Oil cooler, chrome	Not sold	13	Nut, 3/8-16	7783
7	Oil hose, 3/8 in. I.D., 10 ft.	62573-77	14	Hose clamp, worm drive	9946