

GENERAL

There are three varieties of hydraulic forks:

- All FLSTC, FLSTF/B and FLSTN models use the type shown in Figure 2-69.
- All FXST models use the type shown in Figure 2-70.
- All FXS models use the type shown in Figure 2-71.

Use the following information to service the models listed above.

REPLACING FORK OIL

FASTENER	TORQUE VALUE	
Fork drain screw	52-78 in-lbs	5.9-8.9 Nm
Fork tube cap	60-70 ft-lbs	81.3-95.0 Nm

NOTE

At the specified fork oil change service interval, inspect the front fork assembly. Look for oil leakage past the seals and excessive wear on slider tubes. Disassemble, clean and repair or replace components as necessary.

1. Support the motorcycle so the front wheel is off the floor and the forks are fully extended.

WARNING

Wear safety glasses or goggles when servicing fork assembly. Do not remove slider tube caps without relieving spring preload or caps and springs can fly out, which could result in death or serious injury. (00297a)

NOTE

The FLSTC and FLSTF/B models have a preloaded fork spring.

2. See Figure 2-67. Remove the fork tube caps.
3. Drain fork oil. See Figure 2-68. Remove and discard the drain screws and washers from each fork and drain the fork oil.
4. Install **new** drain screws and washers. Tighten drain screws to 52-78 in-lbs (5.9-8.9 Nm).

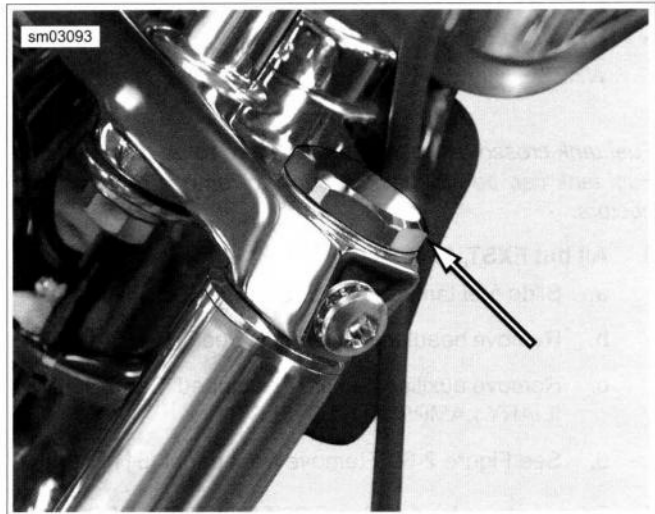


Figure 2-67. Fork Tube Cap

5. Fill the fork with Harley-Davidson TYPE E FORK OIL. Refer to Table 2-17.
6. Tighten fork tube caps to 60-70 ft-lbs (81.3-95.0 Nm).

Table 2-17. Type E Fork Oil Amounts

MODEL	OZ	CC	IN	MM
FLSTC, FLSTN, FLS, FLSTF/B	13.4	395	4.41	112.0
FXST,	12.5	370	6.69	170.0
FXS	13.5	398	5.20	132.0

NOTE

Fork oil amounts can be measured two ways. Refer to Table 2-17.

- Use oz./cc measurement if fork is left in frame.
- Use in./mm measurement if fork is disassembled. In this case, oil level is measured from top of fork tube, with spring removed and fork fully compressed.



Figure 2-68. Fork Drain Screw: (Left Side Shown)

REMOVAL

1. Support the motorcycle so the front wheel is off the ground and the forks are fully extended.
2. Remove front wheel and brake caliper. See 2.4 FRONT WHEEL.

NOTE

Fuel tank crossover hose does not need to be disconnected. Fuel tank can be slid back enough to remove required connectors.

3. **All but FXST, FXS:**
 - a. Slide fuel tank rearward. See 4.6 FUEL TANK.
 - b. Remove headlamp assembly. See 7.15 HEADLAMP.
 - c. Remove auxiliary lamps, if equipped. See 7.18 AUXILIARY LAMPS: FLSTC, FLSTN.
 - d. See Figure 2-69. Remove front panel (51).
4. Remove front fender. See 2.26 FRONT FENDER.
5. **All but FXS:** see Figure 2-69 or Figure 2-70.
 - a. Remove slider tube cap (1).
 - b. Remove spacer (2) and oil seal (3).
6. **FXS:** see Figure 2-71. Loosen upper fork bracket pinch bolts.
7. Loosen fork stem bracket pinch bolt(s) (4) and pull each slider and tube assembly from brackets.

DISASSEMBLY

WARNING

Wear safety glasses or goggles when servicing fork assembly. Do not remove slider tube caps without relieving spring preload or caps and springs can fly out, which could result in death or serious injury. (00297a)

1. See Figure 2-69, Figure 2-70, or Figure 2-71. Remove the fork tube plug (5) and O-ring (6). Pull spring (7) out of slider tube (8).
2. Remove drain screw (9) and washer (10) to drain the fork.
3. **FXST:** See Figure 2-70. Remove dust cover (23) and dust shield (47).
4. **FXS:** See Figure 2-71. Remove dust cover (23) and dust shield (24).

5. See Figure 2-69, Figure 2-70, or Figure 2-71. Compress retaining ring (11) and remove the clip from the internal groove at the top of slider (12).

NOTE

Since there is little resistance to rotation when removing socket screw (13), the job is done more easily with an air impact wrench.

6. Remove socket head screw (13) with washer (14) from the bottom end of fork slider (12). This will free damper tube (15) and fork slider tube (8) from slider.
7. The upper slider tube bushing (16) is a slight interference fit in slider (12). The upper bushing, seal spacer (17) and slider oil seal (18) are removed together. Use the fork tube and lower slider bushing (19) as a slide hammer. Pull the fork tube in a quick continuous stroke. Continue this slide hammer action until the components are freed.
8. Push the damper tube (15) and damper tube spring (20) free of slider tube (8) by inserting a small diameter rod through the opening in the bottom of tube.
9. Remove lower stop (21) from the lower end of damper tube (15).
10. Damper tube ring (22) can now be removed from the grooves at the top end of damper tube (15). Do not remove lower slider bushing (19) unless it requires replacement. When replacing lower slider bushing (19), expand the **new** split bushing only enough to fit over slider tube (8). Slide bushing into the bushing groove.

CLEANING AND INSPECTION

Thoroughly clean and inspect each part. If inspection shows that any parts are bent, inoperative or damaged, those parts should be replaced.

1. Inspect damper tube rings (22) on damper tube (15) and replace if worn excessively or damaged.
2. Replace either of the springs (7 or 20) if damaged.
3. Inspect small hole(s) in lower end of slider tube (8) and be sure it is not obstructed.
4. Be sure fork tube plug O-ring (6) is in good condition, without irregularities, and that it provides proper sealing when in place.
5. Install **new** screw (9) and washer (10).
6. Install **new** screw (13) and washer (14).
7. Replace bent or damaged slider tube (8).