

GENERAL

The clutch is hydraulically actuated. The hand lever actuated master cylinder creates pressure in the clutch fluid line that activates a secondary clutch actuator mounted in the clutch release cover. The secondary clutch actuator piston extends and contacts a pushrod which releases the clutch.

CAUTION

D.O.T. 4 hydraulic brake fluid is used in the hydraulic clutch. Do not use other types of fluids as they are not compatible and could cause equipment damage. (00353a)

CHECKING AND CORRECTING CLUTCH FLUID LEVEL

Even though a clear sight glass in the reservoir cover indicates a low clutch fluid, it is also possible to remove the cover to verify fluid level.

WARNING

D.O.T. 4 brake fluid will damage painted and molded-in color surfaces it comes in contact with. Always use caution and protect surfaces from spills whenever brake work is performed. Failure to comply can result in cosmetic damage. (00239a)

WARNING

Do NOT allow dirt or debris to enter the clutch master cylinder reservoir. Dirt or debris in the reservoir can cause improper operation of the clutch and equipment damage. (00205a)

WARNING

Direct contact of D.O.T. 4 brake fluid with eyes can cause irritation. Avoid eye contact. In case of eye contact flush with large amounts of water and get medical attention. Swallowing large amounts of D.O.T. 4 brake fluid can cause digestive discomfort. If swallowed, obtain medical attention. Use in well ventilated area. KEEP OUT OF REACH OF CHILDREN. (00240a)

1. Stand motorcycle upright (not leaning on jiffy stand) on a level surface. Turn handlebars to the right if necessary, so top of clutch master cylinder reservoir is level.
2. See [Figure 1-1](#). Remove two screws (4), clutch master cylinder reservoir cover (2) and cover gasket (3).

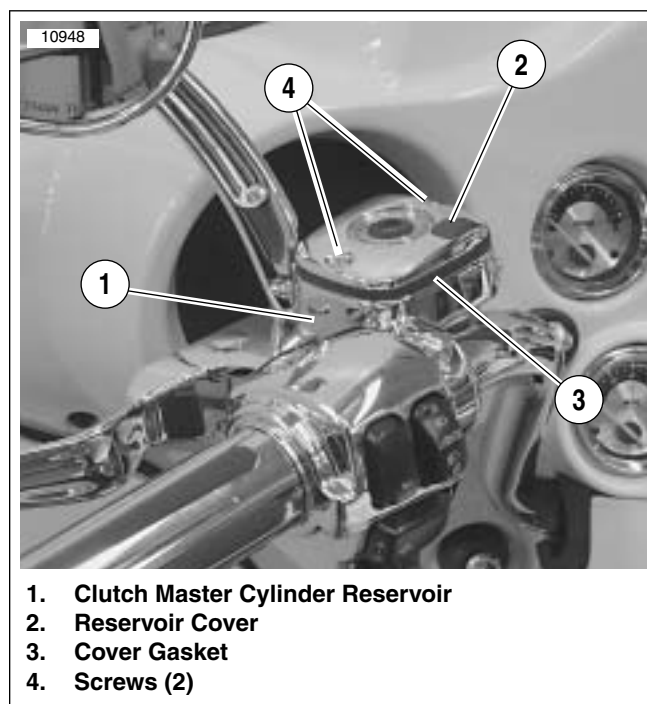


Figure 1-1. Clutch Master Cylinder Reservoir

3. See [Figure 1-2](#). Verify fluid level in the clutch master cylinder is at FILL LEVEL mark at top of ledge on rear inside wall of reservoir.



Figure 1-2. Fill Level (reservoir cover removed as viewed from front of motorcycle)

CAUTION

Clutch fluid volume in reservoir actually increases with clutch wear. Do NOT overfill reservoir.

4. If necessary, add D.O.T. 4 HYDRAULIC BRAKE FLUID, (Part No. 99953-99A) to master cylinder reservoir. Fluid level should not exceed FILL LEVEL.
5. See [Figure 1-1](#). Carefully place cover gasket (3) and reservoir cover (2) on clutch master cylinder reservoir and secure with two screws (4).
6. Tighten screws to 6-8 **in-lbs** (0.68-0.90 Nm).

GENERAL

Your motorcycle comes equipped with Screamin' Eagle SYN3 Synthetic Motorcycle Lubricant. If SYN3 is not available and addition of motor oil is required, the first choice would be to add H-D® 360 SAE 20W50 to the SYN3 for engine lubrication. Although H-D 360 is compatible with SYN3, we suggest the mixture of the fluids be changed as soon as possible.

If H-D 360 is not available, the second choice would be to add an acceptable diesel engine oil. We again suggest the mixture of the fluids be changed as soon as possible. **DO NOT** add diesel engine oil to the primary chaincase or transmission.

To switch lubricant to H-D 360, completely drain the SYN3 before filling with H-D 360. A residual amount of fluid will remain. It is not required to flush out the residual fluid.

CAUTION

Prolonged or repeated contact with used motor oil may be harmful to skin and could cause skin cancer. Promptly wash affected areas with soap and water.

CAUTION

If swallowed, do not induce vomiting. Contact a physician immediately. In case of contact with eyes, immediately flush with water. Contact a physician if irritation persists.

CAUTION

Do not switch lubricant brands indiscriminately because some lubricants interact chemically when mixed. Use of inferior lubricants can damage the engine. (00184a)

Refer to [Table 1-1](#). If it is necessary to add oil and Screamin' Eagle® SYN3 Synthetic Motorcycle Lubricant is not available, use an oil certified for diesel engines.

Acceptable diesel engine oil designations include:

- CF-4
- CG-4
- CH-4
- CI-4

The preferred viscosities for the diesel engine oils, in descending order are:

- 20W50
- 15W40
- 10W40

At the first opportunity, see a Harley-Davidson dealer to change back to 100 percent Harley-Davidson oil.

Table 1-1. Recommended Engine Oils

HARLEY-DAVIDSON TYPE	VISCOSITY	HARLEY-DAVIDSON RATING	LOWEST AMBIENT TEMPERATURE	COLD WEATHER STARTS BELOW 50° F (10° C)
Screamin' Eagle® SYN3 Synthetic Motorcycle Lubricant	SAE 20W50	HD 360	Above 40° F (4° C)	Excellent
HD Multi-grade	SAE 10W40	HD 360	Below 40° F (4° C)	Excellent
HD Multi-grade	SAE 20W50	HD 360	Above 40° F (4° C)	Good
HD Regular heavy	SAE 50	HD 360	Above 60° F (16° C)	Poor
HD Extra heavy	SAE 60	HD 360	Above 80° F (27° C)	Poor

INSPECTION

Inspect critical fasteners, except head bolts:

Refer to [Table 1-2](#). Tighten all critical fasteners, except head bolts, to service manual specifications. Replace any damaged or missing hardware.

Table 1-2. Critical Fasteners

COMPONENT	FASTENER	TORQUE	
Axle	Front axle nut	50-55 ft-lbs	68-75 Nm
	Rear axle cone nut	95-105 ft-lbs	129-142 Nm
Brakes	Banjo bolts	17-22 ft-lbs	23.1-29.8 Nm
	Brake bleeders	80-100 in-lbs	9.1-11.3 Nm
	Front brake disc mounting screws	16-24 ft-lbs	21.7-32.5 Nm
	Front brake caliper mounting bolts	28-38 ft-lbs	38.0-51.6 Nm
	Brake caliper pad pins	180-200 in-lbs	20.4-22.6 Nm
	Rear brake disc mounting screws	30-45 ft-lbs	40.7-61.1 Nm
	Rear master cylinder mounting nut	30-40 ft-lbs	40.7-54.3 Nm
	Reservoir cover screws	6-8 in-lbs	0.68-0.90 Nm
Front forks	Axle holder nuts	132-180 in-lbs	14.9-20.4 Nm
Hand controls	Clutch master cylinder/handlebar clamp	60-80 in-lbs	6.8-9.0 Nm
	Brake master cylinder/handlebar clamp screws	60-80 in-lbs	6.8-9.0 Nm
	Upper/lower switch housing screws	35-45 in-lbs	4.0-5.1 Nm
Handlebars	Lower clamp (riser) bolts	30-40 ft-lbs	40.7-54.3 Nm
Pivot shaft	Locknuts	40-45 ft-lbs	54.3-61.1 Nm
	Swingarm bracket bolts	34-42 ft-lbs	46.1-57.0 Nm
Engine	Engine mounting bracket to cylinder head bolts	35-40 ft-lbs	47.5-54.3 Nm
	Top stabilizer link to top engine mounting bracket bolt	18-22 ft-lbs	24.4-29.9 Nm
	Top stabilizer link to frame weldment bolt	18-22 ft-lbs	24.4-29.9 Nm
	Front stabilizer link to frame weldment bolt	18-22 ft-lbs	24.4-29.9 Nm
	Front stabilizer link to front engine mounting bracket bolt	18-22 ft-lbs	24.4-29.9 Nm
	Center front engine mounting bracket to rubber mount bolt	15-20 ft-lbs	20.4-27.1 Nm
	Front engine mount to frame crossmember bolts	15-20 ft-lbs	20.4-27.1 Nm
	Engine to front engine mounting bracket bolts	33-38 ft-lbs	44.8-51.6 Nm
	Engine to transmission bolts	30-35 ft-lbs	40.7-47.5 Nm
Clutch	Banjo bolts	17-22 ft-lbs	23.1-29.9 Nm
	Clutch fluid line flare nut	80-115 in-lbs	9.0-13.0 Nm
	Secondary actuator bleeder valve	80-100 in-lbs	9.0-11.3 Nm
	Reservoir cover screws	6-8 in-lbs	0.68-0.90 Nm