2000 HARLEY-DAVIDSON®

FLT MODELS
SERVICE MANUAL
OFFICIAL FACTORY MANUAL

2000 FL 1450cc 5-SPEED MODELS

SERVICE MANUAL

The maintenance and repair information in this manual applies to all 2000 FL models.

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FOREWORD

This service and repair manual has been prepared with two purposes in mind. First, it will acquaint the reader with the construction of the Harley-Davidson motorcycle and assist him/her in performing basic maintenance and repair work. Secondly, it will introduce the professional Harley-Davidson technician to the latest field-tested and factory-approved repair methods. We hope that this manual makes your association with Harley-Davidson products both pleasant and profitable.

HOW TO USE THIS MANUAL

This manual is divided into nine sections, as identified on the first page of this book. For quick and easy reference, all page numbers are peceded by the section number. Therefore, if looking for the electrical section, simply open up the book to those pages preceded by "8-". If referencing the engine section, flip to those pages begining with "3-," and so on.

NOTE

Carefully read all information on servicing a part or assembly ***before*** *actually starting the repair work. This will save time by preventing needless disassembly.*

PREPARATION FOR SERVICE

Proper preparation is very important for efficient service work. A clean work area at the start of each job will allow you to perform the repair as easily and quickly as possible, and reduce the incidence of misplaced tools and parts. A motorcycle that is excessively dirty should be cleaned before work is begun. Cleaning will often uncover trouble spots or areas that need attention. Gather tools, instruments and parts before work is started. Interrupting a job to collect these items results in needless delay and distraction. Special tools made available for service work are listed in Section 1.

⚠WARNING

Gasoline is extremely flammable and highly explosive. Always stop engine and do not smoke or allow open flame or sparks when refueling or servicing the fuel system.

SERVICE BULLETINS

In addition to the information provided in this Service Manual, Service Bulletins are issued to Harley-Davidson Dealers on a periodic basis. Service Bulletins cover interim engineering changes and supplementary information. Consult the Service Bulletins to keep your product knowledge current and complete.

USE GENUINE REPLACEMENT PARTS

⚠WARNING

When replacement parts are required, use only genuine Harley-Davidson parts, or at least parts with equivalent characteristics, including type, strength and material. Failure to do so may result in product malfunction and possible injury to the operator and/or passenger.

To ensure a satisfactory and lasting repair job, carefully follow the instructions in this manual and use only genuine Harley-Davidson replacement parts. Behind the emblem bearing the words GENUINE HARLEY-DAVIDSON is almost 100 years of design, research, manufacturing, testing and inspecting experience. This is your insurance that the parts you are using will fit right, operate properly and last longer.

PRODUCT REFERENCES

When reference is made in this manual to a specific brand name product, tool or instrument, an equivalent product, tool or instrument may be used in place of the one mentioned.

All tools mentioned in this SERVICE MANUAL with HD or J prefix must be ordered through Kent-Moore.

Direct all mail orders and general correspondence to the address below:

Kent-Moore
28635 Mound Road
Warren, Michigan 48092-3499
Telephone: 1-800-345-2233

Direct all product returns, warranty or otherwise, to the following address:

Kent-Moore
attn: Returned Goods
655 Eisenhower Drive
Owatonna, Minnesota 55060-0995

Loctite Products

Some procedures in this manual call for the use of Loctite products. If you have questions regarding correct use of Loctite products or where to obtain them, please call Loctite Corp. at 1- 800-323-5106.

⚠WARNING

Follow the directions listed on all Loctite products. Read all labels, warnings and cautions carefully before use.

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Photographs and illustrations may not necessarily depict the most current model or component, but are based on the latest production information available at the time of publication.

Harley-Davidson Motor Company reserves the right to change specifications, equipment or designs at any time without notice and without incurring obligation.

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⚠WARNING

For the personal welfare of the rider, be sure to follow all of the listed service and maintenance recommendations, since they can affect the safe operation of the motorcycle. Neglect can adversely affect motorcycle operation and handling, which could result in death or serious injury.

The performance of new motorcycle initial service is required to keep new motorcycle warranty in force and to ensure proper emissions system operation.

After a new motorcycle has been driven the first 1000 miles (1600 km), initial service operations should be performed by an authorized Harley-Davidson dealer.

CHECK AT FIRST 1000 MILES (1600 km)

After the first 1000 miles (1600 km), a Harley-Davidson dealer should perform the 1000 mile (1600 km) maintenance listed in the Owner's Manual (or see Scheduled Maintenance Table in this section, page 1-28).

SAFE OPERATING MAINTENANCE

Good maintenance means a safe machine. A careful check of certain equipment must be made after periods of storage and frequently between the regular service intervals to determine if additional maintenance is necessary.

Check the following items:

1. Tires for correct pressure, abrasions, cuts and wear.
2. Belt for proper tension.
3. Brakes, steering and throttle for responsiveness.
4. Brake fluid level and condition. Hydraulic lines and fittings for leaks. Also, check brake pads and discs for wear.
5. Cables for fraying or crimping and free operation.
6. Engine oil, primary chaincase and transmission fluid levels. Do not overfill oil pan.
7. Wheel spoke tightness, if applicable.
8. Headlight, taillight and turn signal operation.

REGULAR SERVICE INTERVALS

Regular lubrication and maintenance is required to keep Harley-Davidson motorcycles operating at peak performance levels. In addition, regular maintenance will provide for longer motorcycle life and greater riding pleasure.

NOTE

Any alterations to the emission system components, such as carburetor and exhaust system, may be in violation of federal and state laws.

STORAGE

GENERAL

If the motorcycle will not be operated for several months, such as during the winter season, there are several things which should be done to protect parts against corrosion, to preserve the battery and to prevent the buildup of gum and varnish in the carburetor.

This work should be performed by your local Harley-Davidson dealer or other qualified technician following Service Manual procedures.

⚠WARNING

Gasoline is extremely flammable and explosive under certain conditions. Use care when handling gasoline. Do not store motorcycle having gasoline in tank within the home or garage where open flames, pilot lights, sparks or electric motors are present. Doing so may cause an explosion or fire which could result in death or serious injury.

1. Fill fuel tank and add a gasoline stabilizer. Use one of the commercially available gasoline stabilizers following the manufacturer's instructions. Turn fuel supply valve off. Drain all gasoline from carburetor by loosening fuel bowl drain screw one full turn; gasoline will drain through fuel overflow fitting. Retighten drain screw after all gasoline has been drained from carburetor.

   OR

   Drain all gasoline from the fuel tank. Spray the inside of the fuel tank with one of the commercially available rust preventatives. Follow the manufacturer's instructions.

2. Fill the oil pan with clean engine oil.
3. Remove the spark plugs, inject a few squirts of engine oil into each cylinder and crank the engine 5-6 revolutions. Reinstall spark plugs.
4. Grease wheel bearings and install new seals.

5. Adjust primary chain.
6. Check tire inflation. If the motorcycle will be stored for an extended period of time, securely support the motorcycle under the frame so that all weight is off the tires.
7. Wash painted and chrome-plated surfaces. Apply a light film of oil to exposed unpainted surfaces.

⚠WARNING

Do not apply any oil to brake discs or pads. Oil on discs or pads degrades braking efficiency and can lead to an accident, which could result in death or serious injury.

8. Remove the battery from the motorcycle and fully charge. See CHARGING BATTERY, page 8-58. Charge the battery every month if stored at temperatures below 60° F. (16° C). Charge the battery more frequently if stored in a warm area above 60° F. (16° C).

NOTE

The H-D Battery Tender Automatic Battery Charger (P/N 99863-93TA) may be used to maintain battery charge for extended periods of time without risk of overcharging or boiling.

⚠WARNING

Always unplug or turn OFF the battery charger before connecting the charger clamps to the battery. Connecting clamps with the charger ON could cause a spark resulting in a battery explosion. A battery explosion may rupture the battery case causing a discharge or spray of sulfuric acid that could result in death or serious injury.

⚠WARNING

Store the battery out of the reach of children. Inadequate safety precautions could result in death or serious injury.

9. If the motorcycle is to be covered, use a material that will breathe, such as light canvas. Plastic materials that do not breathe promote the formation of condensation, which then leads to corrosion.

REMOVAL FROM STORAGE

NOTE

After extended periods of storage and prior to starting vehicle, place transmission in gear, disengage clutch, and push vehicle back and forth a few times to ensure proper clutch disengagement.

1. Fully charge battery. See CHARGING BATTERY, page 8-58. Install battery in motorcycle.
2. Remove and inspect the spark plugs. Replace if necessary.
3. Clean the air cleaner element.
4. If fuel tank was drained, fill fuel tank with fresh gasoline.
5. If oil feed line was pinched off or plugged, unplug it and reconnect.
6. Start the engine and run until it reaches normal operating temperature.
7. Check engine oil level. Check the transmission lubricant level. Fill to proper levels with correct fluids, if required.
8. Perform all of the checks in the PRE-RIDING CHECKLIST in the Owner's Manual.

FLUID REQUIREMENTS

GENERAL

United States System

Unless otherwise specified, **all fluid volume measurements in this Service Manual are expressed in United States (U.S.) units-of-measure.** See below:

- 1 pint (U.S.) = 16 fluid ounces (U.S.)
- 1 quart (U.S.) = 2 pints (U.S.)
- 1 gallon (U.S.) = 4 quarts (U.S.)

British Imperial System

Fluid volume measurements in this Service Manual do not include the British Imperial (Imp.) system equivalents. The following conversions exist in the British Imperial system:

- 1 pint (Imp.) = 20 fluid ounces (Imp.)
- 1 quart (Imp.) = 2 pints (Imp.)
- 1 gallon (Imp.) = 4 quarts (Imp.)

Although the same unit-of-measure terminology as the U.S. system is used in the British Imperial (Imp.) system, the actual volume of each British Imperial unit-of-measure differs from its U.S. counterpart. The U.S. fluid ounce is larger than the British Imperial fluid ounce. However, the U.S. pint, quart, and gallon are smaller than the British Imperial pint, quart, and gallon, respectively. Should you need to convert from U.S. units to British Imperial units (or vice versa), refer to the following:

- fluid ounces (U.S.) x 1.042 = fluid ounces (Imp.)
- pints (U.S.) x 0.833 = pints (Imp.)
- quarts (U.S.) x 0.833 = quarts (Imp.)
- gallons (U.S.) x 0.833 = gallons (Imp.)
- fluid ounces (Imp.) x 0.960 = fluid ounces (U.S.)
- pints (Imp.) x 1.201 = pints (U.S.)
- quarts (Imp.) x 1.201 = quarts (U.S.)
- gallons (Imp.) x 1.201 = gallons (U.S.)

Metric System

Fluid volume measurements in this Service Manual include the metric system equivalents. In the metric system, 1 liter (l) =1,000 milliliters (ml). Should you need to convert from U.S. units- of-measure (or vice versa), refer to the following:

- fluid ounces (U.S.) x 29.574 = milliliters
- pints (U.S.) x 0.473 = liters
- quarts (U.S.) x 0.946 = liters
- gallons (U.S.) x 3.785 = liters
- milliliters x 0.0338 = fluid ounces (U.S.)
- liters x 2.114 = pints (U.S.)
- liters x 1.057 = quarts (U.S.)
- liters x 0.264 = gallons (U.S.)

SILICONE BRAKE FLUID

Use only D.O.T. 5 SILICONE HYDRAULIC BRAKE FLUID, Harley-Davidson Part No. 99902-77 (12 ounce bottle).

FRONT FORK OIL

Use only HYDRAULIC FORK OIL TYPE "E", Harley-Davidson Part No. 99884-80 (16 ounce bottle).

ENGINE OIL

Use proper grade of oil for the lowest temperature expected before next oil change as follows:

Harley-Davidson Type	Viscosity	Harley-Davidson Rating	Lowest Ambient Temperature	Cold Weather Starts Below 50°F (10°C)
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

FUEL

Use a good quality leaded or unleaded gasoline (87 pump octane or higher). Pump octane is the octane number usually shown on the gas pump.

CAUTION

Using gasolines that have alcohol additives (such as methanol) may cause failure of rubber components in the fuel system and/or internal engine damage.

Transmission Lubricant

Use Harley-Davidson TRANSMISSION LUBRICANT, Part No. 98853-96 (quart) or Part No. 98852-96 (gallon).

Primary Chaincase Lubricant

Use Harley-Davidson PRIMARY CHAINCASE LUBRICANT, Part No. 99887-84 (quart) or Part No. 99886-84 (gallon).

Cable Lubricant

Use Harley-Davidson SUPER OIL, Part No. 94968-85TV, to lubricate clutch and throttle cables.

Electrical Contact Grease

Use Harley-Davidson ELECTRICAL CONTACT GREASE, Part No. 99861-90 (2 ounce tube), on any unsealed connectors.

FASTENER TORQUE VALUES

Torque specifications for specific components are listed in each section at the point of use. When converting to Newton-meters, use the formulas given under the metric chart. For all other fasteners, use the values listed in one of the tables below. In the English table, torque figures are listed in ft-lbs, except those marked with an asterisk (*), which are listed in in-lbs. In the metric table, figures are listed in Newton-meters.

⚠WARNING

The fasteners used on Harley-Davidson motorcycles have specific strength, finish and type requirements to perform properly in the assembly and operating environment. Use only genuine Harley-Davidson replacement fasteners tightened to the proper torque. Substitution can cause fastener failure, which could result in death or serious injury.

ENGLISH

FASTENER	TYPE	MINIMUM TENSILE STRENGTH	MATERIAL	BODY SIZE OR OUTSIDE DIAMETER																
				# (number)							in. (inches)									
				2	3	4	5	6	8	10	1/4	5/16	3/8	7/16	1/2	9/16	5/8	3/4	7/8	1
	SAE 2 STEEL	74,000 PSI	LOW CARBON								6	12	20	32	47	69	96	155	206	310
	SAE 5 STEEL	120,000 PSI	MEDIUM CARBON HEAT TREAT						14*	22*	10	19	33	54	78	114	154	257	382	587
	SAE 7 STEEL	133,000 PSI	MEDIUM CARBON ALLOY								13	25	44	71	110	154	215	360	570	840
	SAE 8 STEEL	150,000 PSI	MEDIUM CARBON ALLOY								14	29	47	78	119	169	230	380	600	900
	SAE 8 STEEL	150,000 PSI	MEDIUM CARBON ALLOY								14	29	47	78	119	169	230	380	600	900
	SOCKET SET SCREW	212,000 PSI	HIGH CARBON QUENCHED TEMPERED					9*	16*	30*	70*	140*	18	29	43	63	100	146		
	STUDS			Use SAE 2, 5 and 8 values when grade is known, with nut of sufficient strength.																

*These marked torque values are listed in **in-lbs.**

EQUIVALENTS FOR ENGLISH FASTENERS

FASTENER	TYPE	MINIMUM TENSILE STRENGTH	MATERIAL	BODY SIZE OR OUTSIDE DIAMETER																
				# (number)							mm (millimeters)									
				2	3	4	5	6	8	10	6.4	7.9	9.5	11.1	12.7	14.3	15.9	19.1	22.2	25.4
	SAE 2 STEEL	5,202 kg/cm^2	LOW CARBON								8.3	16.6	27.7	44.3	65.0	95.4	132.8	214.4	283.5	428.7
	SAE 5 STEEL	8,436 kg/cm^2	MEDIUM CARBON HEAT TREAT						1.6	2.5	13.8	26.3	45.6	74.7	107.9	157.7	213.0	355.4	528.3	811.8
	SAE 7 STEEL	9,350 kg/cm^2	MEDIUM CARBON ALLOY								18.0	34.6	60.8	98.2	152.1	213.0	297.3	497.9	788.3	1161.7
	SAE 8 STEEL	10,545 kg/cm^2	MEDIUM CARBON ALLOY								19.4	40.1	65.0	107.9	164.6	233.7	318.1	525.5	829.8	1220.0
	SAE 8 STEEL	10,545 kg/cm^2	MEDIUM CARBON ALLOY								19.4	40.1	65.0	107.9	164.6	233.7	318.1	525.5	829.8	1220.0
	SOCKET SET SCREW	14,904 kg/cm^2	HIGH CARBON QUENCHED TEMPERED					1.0	1.8	3.4	8.1	16.1	24.9	40.1	59.5	87.1	138.8	201.9		
	STUDS			Use SAE 2, 5 and 8 values when grade is known, with nut of sufficient strength.																

foot-pounds **(ft-lbs) x 1.356 =** Newton-meters **(Nm)**

inch-pounds **(in-lbs) x 0.113 =** Newton-meters **(Nm)**

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