

# SERVICE MANUAL

FL / FX models 1200 / 1340cc 4-Speed 1978 ½ to 1984



1978½ TO 1984 FL/FX 1200/1340cc 4-SPEED

# SERVICE MANUAL

The information in this manual applies to the 1978½ and later FL/FX 1200/1340cc 4-Speed models manufactured after January 1, 1978 **PRODUCT** 

CHASSIS 2

ENGINE 3

**FUEL SYSTEM 4** 

ELECTRIC STARTER

DRIVE 6

TRANSMISSION 7

**ELECTRICAL** 

8

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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 product and assist him in performing basic maintenance and repair. Secondly, It will introduce to the professional Harley-Davidson mechanic the latest fluid-tested and factory-approved major repair methods. We sincerely believe that this manual will make your association with Harley Davidson products more pleasant and profitable.

### HOW TO USE YOUR SERVICE MANUAL

Your Service Manual is arranged for quick, easy reference. This manual is divided into numbered sections. Sections are then divided into subjects. Use this manual as follows:

- Check the TABLE OF CONTENTS located in the front of each section to find subject desired.
- Page number is listed across from subject. Page number consists of section number and page number.
- Information is presented in a definite order as follows:

Adjustments
Removal
Disassembly
Cleaning, Inspection and Repair
Assembly
Installation

in figure legends, the number following a name of a part indicates the quantity necessary for one complete assembly.

#### NOTE

All Information for servicing a part should be read before repair work is started to avoid 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 mispiaced tools and parts. A motorcycle that is excessively drifty should be cleaned before work starts. Cleaning will occasionally uncover troubs sources. Tools, instruments and is started interrupting a job to locate tools or parts is a needless delay. Spocial tools required for a job are listed at the most of Section 1.

#### WARNING

Gasoline is extremely flammable and highly explosive under certain conditions. 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 given in this Service Manual, Service Builetins are issued to Harley-Davidson Dealers from time to time, which cover interil engineering changes and supplementary information. Service Bulletins should be consulted for complete information on the models covered by this manual.

## USE GENUINE REPLACEMENT PARTS

#### WARNING

When replacement parts are required, use only genuine. Harley-Davidson parts or 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 tasting repair job, follow the manual instructions carefully and use only genuine Harley-Davidson replacement parts. Behind the emblem bearing the words GENUINE HARLEY-DAVIDSON more than three quarters of a century of designing, research, manufacturing, testing and inspecting experience.

This is your insurance that the parts you are using will fit right, operate properly and last longer. When you use genuine Harley-Davidson parts, you use the best.

# 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 preceding the part number must be ordered through:

Kent-Moore Tool Division 29874 Little Mack. Roseville, Michigan 48068

# Loctite Products

The Locitie products listed are designed to increase the reliability of fasteners and to aid in minor repairs.

If you have any further questions, please call Loctite Corp. at 1-203-246-1223.

#### WARNING

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

Application	Product
Lock fender braces, master cylinder bolts, brake anchors, exhaust flanges and general body hardware.	Lock N' Seal* Adhesive
Locking crank pin and flywheel nuts	Retaining Compound RC/620
Secure upper and lower fork assemblies, shock absorber mounts, littings, axie ruts, shift lever screws, cylinder head and crankcase studs, and handle bar clamps.	Stud N' Bearing Mount Adhesive
Lock adjustment screws and assembled parts. Secure foot rests and kick starters.	Wick N° Lock® Adhesive
Retain brake pedal bushings, main shaft sprockets, counter shafts, oil seals, drive train, linkage, clutch hub and sprock- et assemblies.	Retaining Compound No. 601
Bond brake pedal and kick starter pads. Secure loose hand grips. Repair loose windshield moldings, and other rubber, vinyl and plastic parts.	SuperBonder® Adhesive
Seal threaded fuel line fittings, hydraulic brake line fittings and engine plugs.	Pipe Sealant with Tellon*
Make emergency gaskets on- the-spot. Seal crankcase cover, cylinder blocks to crankcase, fuel and oil pumps, and rocker arm covers.	Gasket Eliminator* Sealant
Prevent galling, setzing and cor- rosion on oil drain plugs, spark plugs, front lork and shock as- semblies, swing arm, pivol shaft and axies.	Anti-Seize Lubricant
Dissolve grease, dirt and oil from parts quickly and safely. Prepare mating surfaces for Locitile products.	Cleaning Solvent

<sup>\*</sup>Reg. TM DuPont Corp.

#### CONTENTS

All 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.

Since product improvement is our continual goal, Harley-Davidson Motor Co., Inc. reserves the right to change specifications, equipment, or designs at any time without notice and without incurring obligation.

#### WARNINGS AND CAUTIONS

Statements in this manual preceded by the words WARNING or CAUTION and printed in bold face are very important.

#### WARNING

Means there is the possibility of personal injury to yourself or others.

#### CAUTION

Means there is the possibility of damage to the vehicle.

We recommend you take special notice of these items.

#### WARNING

Proper service and repair is important for the safe, retiliable operation of all mechanical products. The service procedures recommended and described in this Service Manual are effective methods for performing service operations. Some of these service operations require the use of tools specially designed for the purpose. These special tools should be used when and as recommended.

It is important to note that some warnings against the use of specific service methods which could damage the motorcycle or render if unsate are stated in this Service Manual. However, please remember that these warnings are not all inclusive. Since Harley-Davidson could not possibly know, evaluate and advise this service of the possible hazardous consequences of one or of the possible hazardous consequences of each way, we have not undertaken any such proceedure and the processing of the processing the process

Harley-Davidson products are manufactured under one or more of the following patents: U.S. Patents — 2986162, 2987934, 2998909, 3116089, 3144631, 3144860, 3226994, 3229792, 3434687, 3559773, 3673359, 3709317, Des. 225 626.

<sup>\*</sup> Reg. TM Loctite Corp.

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# **PRODUCT**

# SERVICE

# SERVICING A NEW MOTORCYCLE

#### WARNING

For the rider's personal welfare, all the listed service and maintenance recommendations should be followed, because they may affect the safe operation of the motorcycle.

Service Operations to be performed before delivery to customer are specified in the Motorcycle Set-Up Manual, Part No. 99946-84. Also, the Important Instructions included with each new motorcycle.

The performance of new motorcycle initial service is reguired to keep warranty in force, and to ensure proper emissions systems operation.

After a new motorcycle has been driven its first 500 miles and again at approximately 2500 miles, a Harley-Davidson dealer should perform the following initial service operations.

# CHECK AT FIRST 500 MILES

- 1. Change engine oil.
  - 2. Replace oil filter.
  - 3. Clean tappet oil screen.
  - 4. Clean primary chain housing magnetic drain plug."
  - 5. Inspect air cleaner and service as required.
- Check and adjust chains/belts.
- 7. Check battery electrolyte level. Check and clean connections.
- 8. Check rear brake pedal adjustment and free play.
- 9. Inspect brake pad linings and discs for wear.
- 10. Check brake fluid level and condition.
- 11. Check clutch adjustment.
- 12. inspect fuel valve, lines and fittings for leaks.
- 13. Inspect oil lines and brake system for leaks.
- 14. Oil the following: front brake handlever, throttle control cables, choke control cable, clutch control

- cable and handlever, seat suspension bushings"; seat post roller and bolt."
- Grease the following: foot shift lever bearings", seat bar bearings", seat post", rear fork pivol bear-
- 16. Check tightness of all fasteners.
- 17. Check fire pressure and inspect tread.
- 18. Check engine low and fast idle speed adjustment. 19. Check operation of throttle and choke controls.
- 20. Check operation of all electrical equipment and switches.
- Check wheel spoke tightness.\*
- 22. Lubricate rear chain if required.\*
- 23. Check primary case vacuum.\* 24. Change transmission oil and clean magnetic drain
- 25 Clean fuel tank filter screen.\*
- 26. Check front and rear fork bearing adjustment. 27. Road test.
- \* If applicable to equipment.

# 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.

The following items should be checked:

- Tires for correct pressure, abrasions or cuts.
- 2. Chain/belt for proper tension and lubrication. Brakes, steering and throttle for responsiveness.
  - Brake fluid level and condition, Hydraulic lines and fittings for leaks. Also, check brake pads and discs for wear.
- Cables for fraying or crimping and free operation.
- Engine oil and transmission fluid levels.
- Wheel spoke tightness, if applicable
- Headlight, taillight and directional light operation.

# REGULAR SERVICE INTERVALS

#### IMPORTANT

The following chart outlines recommended Maintenance and Lubrication intervals after performance of service on a new motorcycle and the initial break-in period. To prevent over-greasing, use hand grease gun on all grease fittings.

#### Regular Maintenance Intervals — FL/FX

Co	MILEAGE INTERVALS						
SERVICE TO BE PERFORMED	Every 300	First 500	Every 2500	Every 5000	Every 7500	Every 10,000	Every Spring or Fall
Change engine till		X.	×	×	X	×	X
Replace oil filter		X	X	×	- X	×	×
Sheck lappid oil screen		X	×	×	×	ж-	
Clean primary housing magnetic drain plug*		X	X	X	X.	×	
inspect air cleaner and service as required		X	X	X	X-	X	
Check and adjust chains/belts		×	X	X	×	X	
Check battery electrolyte level; check and clean connections		Х	×	X	×	X	×
Check rear brake pedal adjustment and free play		×	X-	×	×	X	
Chack brake pag linings and discs for wear		×	X	X	- 00	×	
Check brake fluid level and condition		X	×	×	X	× .	*
Check clutch adjustment		×	×	×	- 8	X	
Inspect fuel value, lines and littings for leaks		×	×	ж	×	×	
Inspect oil lines and brake system for leaks		×	×	×	×	×	
Oil the tollowing: front brake handlever, throttle control cables, choke control cable, clustin control cable and handlever, seat suspension bushings*, seat post roller and boilt*		×	×	×	×	×	
Check tightness of all fasteriers (Except head boilts)		×	X	X	X	8	
Check tire pressure and inspect fread		×	- 8	8	8	*	×
Check engine low and fast idle speed adjustment		×	×	X	X	×	
Check operation of Inrotile and choke controls		×	.×	×	. 8	8	
Check operation of all electrical equipment and switches		- ×	- 8	×	×	X	
Check wheel spoke tightness*		X	×	×	×	×	
Lubricale rear chain if required*	×	×	× .	Х	×	×	
Check ignition timing and vacuum hose			×	X	X	×.	
Check condition of spark plugs and replace if necessary			×		×		
Replace spark plugs				X		X	
Check transmission oil level			X	-	×		
Change transmission oil		.x		X		×	×
Check primary case vacuum*		X					
Clean fuel tank filter screen		X	×	X.	X	X	
Check front and rear fork bearing adjustment		X		X		×	
Check condition of rear shock absorber rubber bushing				×		8	
Lubricate the following: foot snift lever bearing*, seat bar bearings*, seat post*, rear fork pivot bearings.		×	×	ж-	×	x.	
Lubricate (hrottle control grip steeve and speedometer cable				×		×	
Change front fork oil				×		×	Х.
Repack wheel bearings with grease						8	Х.
Lubricate the belt drive compensating sprocket rubber dampers with Harley-Davidson POLY-OIL**						×	
Road test		×	×	×.	*	- 8	
Date Completed:							

<sup>&</sup>quot;If applicable to equipment



- 1. Tail/stop lamp
- 2. Oil filter 2A. Oil filter - 1982 & earlier
- 3. Carburetor air cleaner
- Hydraulic fork
- 5. Rear chain/belt adjuster
- 6. Brake master cylinder
  - 7. Engine serial number 8. Oil pump and pressure switch
  - 9. Starter motor and relay
  - 10. Transmission oil filler plug 11. Battery
- 12. Hydraulic shock absorber 13. Adjustable passenger tootrest
  - 14. Brake pedal 15. Choke knob
  - 16. Ignition-light switch

Figure 1-1, FLH Right Side View



- 1. Turn signal lamps 2. Headlamp
- 3. Carburetor choke knob
- 4. Gas tank valve
- 5. Ignition coll
- 6. Rear sprocket and chain/belt
- 7. Oil tank drain plug
- 8. Oil tank fill plug and dipstick
- 9. Clutch inspection cover 10. Front chain inspection cover
- 11. Jiffy stand
- 12. Timing inspection hole plug
- 13. Rectifier, regulator module
- 14. Steering lock
- 15. Shifter

Figure 1-2. FLH Left Side View

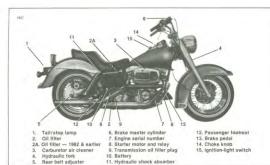
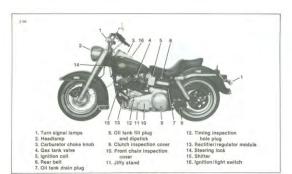


Figure 1-3. FLHS Right Side View



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