

# 1 9 9 9 H A R L E Y - D A V I D S O N O W N E R ' S M A N U A L

FLHTCUI - ELECTRA GLIDE ULTRA CLASSIC • FLHTCI - ELECTRA GLIDE CLASSIC • FLHRCI - ROAD KING CLASSIC • FLHR - ROAD KING • FLTRI - ROAD GLIDE • FLHT - ELECTRA GLIDE STANDARD • FLSTS - HERITAGE SPRINGER • FLSTC - HERITAGE SOFTAIL CLASSIC • FLSTF - FAT BOY • FXST - SOFTAIL STANDARD • FXSTS - SPRINGER SOFTAIL • FXSTC - SOFTAIL CUSTOM • FXSTB - NIGHT TRAIN • FXDWG - DYNA WIDE GLIDE • FXDS-CONV - DYNA CONVERTIBLE • FXDL - DYNA LOW RIDER • FXD - DYNA SUPER GLIDE • FXDX - DYNA SUPER GLIDE SPORT • XL 1200C - SPORTSTER 1200 CUSTOM • XL 1200S - SPORTSTER 1200 SPORT • XL 1200 - SPORTSTER 1200 • XL 883C - XL 883 CUSTOM • XL 883 HUG - SPORTSTER 883 HUGGER • XL 883 - SPORTSTER 883 • FLHTCUI - ELECTRA GLIDE ULTRA CLASSIC • FLHTCI - ELECTRA GLIDE CLASSIC • FLHRCI - ROAD KING CLASSIC • FLHR - ROAD KING • FLTRI - ROAD GLIDE • FLHT - ELECTRA GLIDE STANDARD • FLSTS - HERITAGE SPRINGER • FLSTC - HERITAGE SOFTAIL CLASSIC • FLSTF - FAT BOY • FXST - SOFTAIL STANDARD • FXSTS - SPRINGER SOFTAIL • FXSTC - SOFTAIL CUSTOM • FXSTB - NIGHT TRAIN • FXDWG - DYNA WIDE GLIDE • FXDS-CONV - DYNA CONVERTIBLE • FXDL - DYNA LOW RIDER • FXD - DYNA SUPER GLIDE • FXDX - DYNA SUPER GLIDE SPORT • XL 1200C - SPORTSTER 1200 CUSTOM • XL 1200S - SPORTSTER 1200 SPORT • XL 1200 - SPORTSTER 1200 • XL 883C - XL 883 CUSTOM • XL 883 HUG - SPORTSTER 883 HUGGER • XL 883 - SPORTSTER 883 • FLHTCUI - ELECTRA GLIDE ULTRA CLASSIC • FLHTCI - ELECTRA GLIDE CLASSIC • FLHRCI - ROAD KING CLASSIC • FLHR - ROAD KING • FLTRI - ROAD GLIDE • FLHT - ELECTRA GLIDE STANDARD • FLSTS - HERITAGE SPRINGER • FLSTC - HERITAGE SOFTAIL CLASSIC • FLSTF - FAT BOY • FXST - SOFTAIL STANDARD • FXSTS - SPRINGER SOFTAIL • FXSTC - SOFTAIL CUSTOM • FXSTB - NIGHT TRAIN • FXDWG - DYNA WIDE GLIDE • FXDS-CONV - DYNA CONVERTIBLE • FXDL - DYNA LOW RIDER • FXD - DYNA SUPER GLIDE • FXDX - DYNA SUPER GLIDE SPORT • XL 1200C - SPORTSTER 1200 CUSTOM • XL 1200S - SPORTSTER 1200 SPORT • XL 1200 - SPORTSTER 1200 • XL 883C - XL 883 CUSTOM • XL 883 HUG - SPORTSTER 883 HUGGER • XL 883 - SPORTSTER 883



THIS MANUAL CONTAINS IMPORTANT INFORMATION ABOUT YOUR NEW HARLEY-DAVIDSON MOTORCYCLE



## IMPORTANT NOTICE!

Statements in this manual preceded by the following words are of special significance:

### **⚠WARNING**

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

### **⚠CAUTION**

**Means there is the possibility of damage to the vehicle.**

### *NOTE*

*Other information of particular importance has been placed in italic type.*

We recommend you take special notice of these items.

This motorcycle is not equipped with a spark arrester and is designed to be used only on the road. Operation off-road in some areas may be illegal. Obey local laws and regulations. This manual should be considered a permanent part of the motorcycle and should remain with the motorcycle when resold.







# YOUR OWNER'S MANUAL

Welcome to the Harley-Davidson Motorcycling Family! Your new Harley-Davidson motorcycle is designed and manufactured to be the finest in its field. Your Harley-Davidson motorcycle conforms to all applicable U.S. Federal Motor Vehicle Safety Standards and U.S. Environmental Protection Agency regulations effective on the date of manufacture.

This manual has been prepared to acquaint you with the operation, care and maintenance of your motorcycle, and to provide you with important safety information. Follow these instructions carefully for maximum motorcycle performance and for your personal motorcycling safety and pleasure.

Your Owners Manual contains instructions for operation and minor maintenance. Major repairs are covered in the Harley-Davidson Service Manual. Such major repairs require the attention of a skilled technician and the use of special tools and equipment. Your Harley-Davidson dealer has the facilities, experience and Genuine™ Harley-Davidson parts necessary to properly render this valuable service. We recommend that any emission system maintenance be performed by an authorized Harley-Davidson dealer.

## WE CARE ABOUT YOU

When enjoying your Harley-Davidson motorcycle, be sure to ride safely, defensively and within the limits of the law. Ride with your headlamp on, always wear a helmet, proper eyewear and protective clothing, and insist your passenger does too. Never ride while under the influence of alcohol or drugs. Know your Harley® and read your Owners Manual cover to cover. Protect your privilege to ride by joining the American Motorcyclist Association.

**Harley-Davidson Motor Company**

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**CMI-1M-08/08**

**Printed in the U.S.A.**



**PERSONAL INFORMATION**

Name \_\_\_\_\_

Address \_\_\_\_\_

Telephone No. \_\_\_\_\_

**VEHICLE INFORMATION**

Vehicle Identification No. \_\_\_\_\_

Ignition Key No. \_\_\_\_\_

This owners manual illustrates and describes features that are standard or available as extra cost options. Therefore, some of the equipment shown in this publication may not be on your motorcycle.



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# NOTES

The Touring section contains the vehicle specifications for the following Harley-Davidson models:

FLHTCU-I.....	Ultra Electra Glide Classic
FLHTC/I .....	Electra Glide Classic
FLHT .....	Electra Glide Standard
FLHR.....	Road King
FLHRC-I.....	Road King Classic
FLTR/I .....	Road Glide

# NOTES

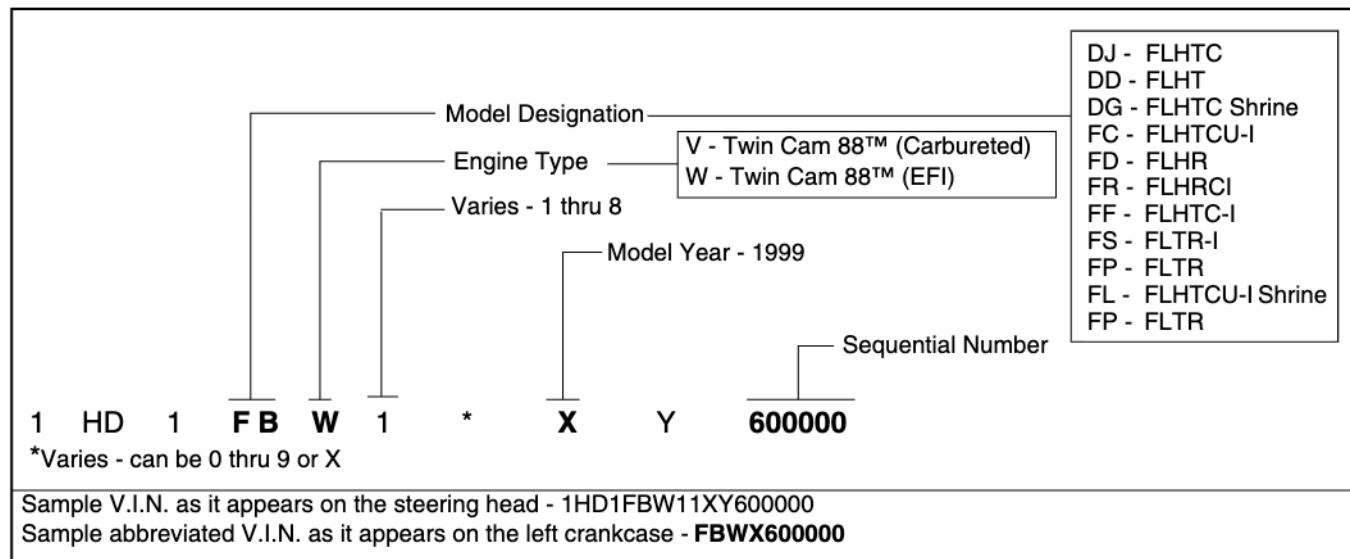


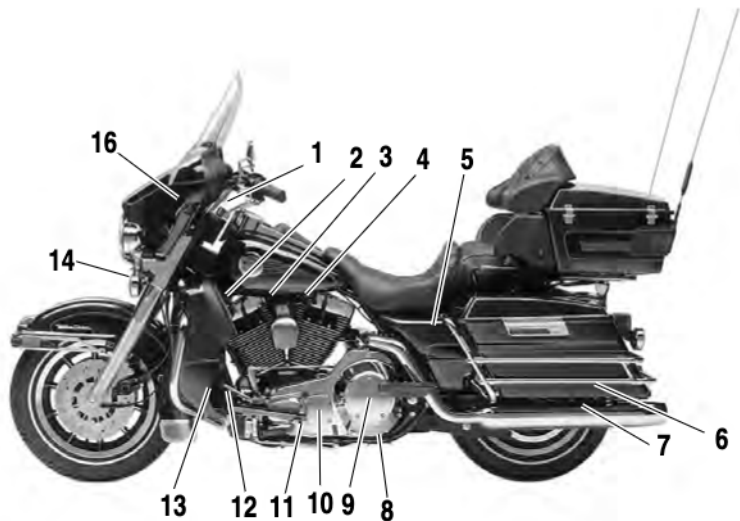
# VEHICLE IDENTIFICATION NUMBER (V.I.N.)

The full 17 digit serial, or Vehicle Identification Number (V.I.N.) is stamped on the steering head and on a label located on the right front frame downtube. An abbreviated V.I.N. is stamped on the left side crankcase above the timing inspection hole plug.

## NOTE

*Always give the full 17 digit Vehicle Identification Number when ordering parts or making any inquiry about your motorcycle.*



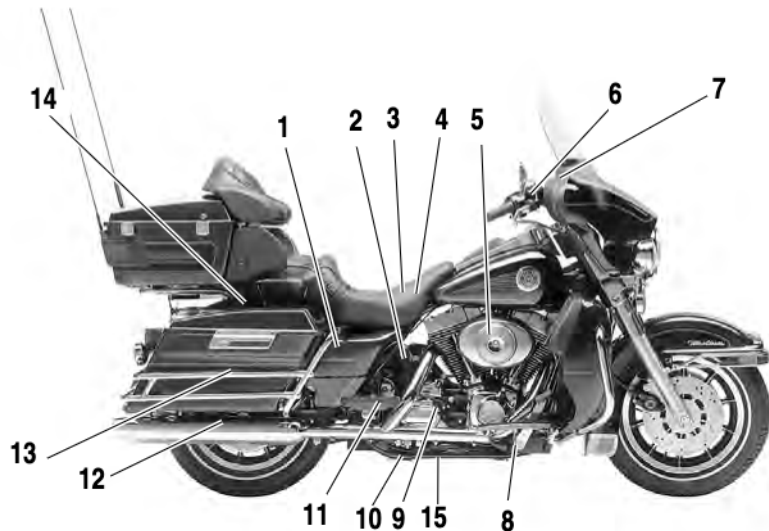


1. Ignition/light switch/fork lock
2. Ignition coil
3. Enrichener knob (Carb. only)
4. Fuel supply valve (Carb. only)
5. Fuses

6. Rear axle adjuster
7. Rear sprocket and drive
8. Primary drain plug
9. Clutch inspection cover
10. Primary chain inspection cover

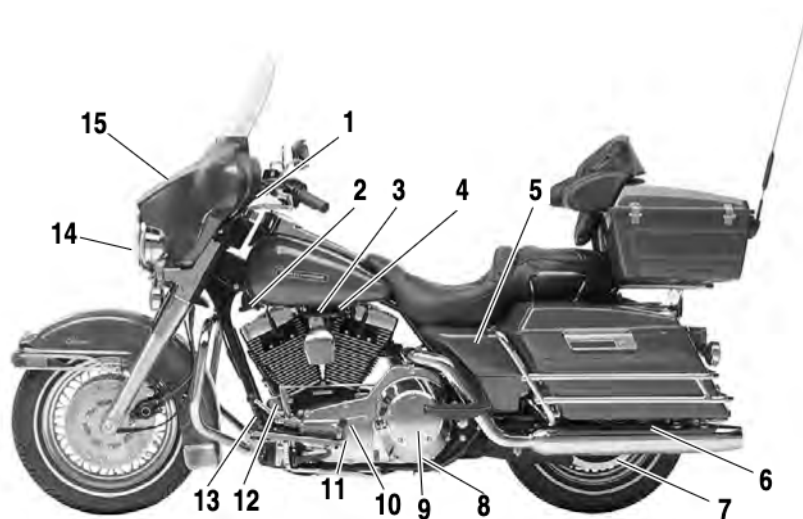
11. Primary chain cover
12. Engine oil filter
13. Voltage regulator
14. Passing/Fog lamps
15. Turn signal module

Ultra Electra Glide Classic (FLHTCU-I) - Left Side View



- |  |  |                                     |
|--|--|-------------------------------------|
| 1. Ignition module/ECM                       | 6. Front brake master cylinder reservoir | 11. Engine oil fill plug & dipstick |
| 2. Electric starter motor                    | 7. Speedometer/tachometer                | 12. Rear axle adjuster              |
| 3. Battery/main circuit breaker (under seat) | 8. Rear brake master cylinder            | 13. Shock absorber(s)               |
| 4. Acc. connector (under seat)               | 9. Transmission fill plug                | 14. Front/rear suspension air valve |
| 5. Air cleaner                               | 10. Engine oil tank drain                | 15. Transmission drain plug         |

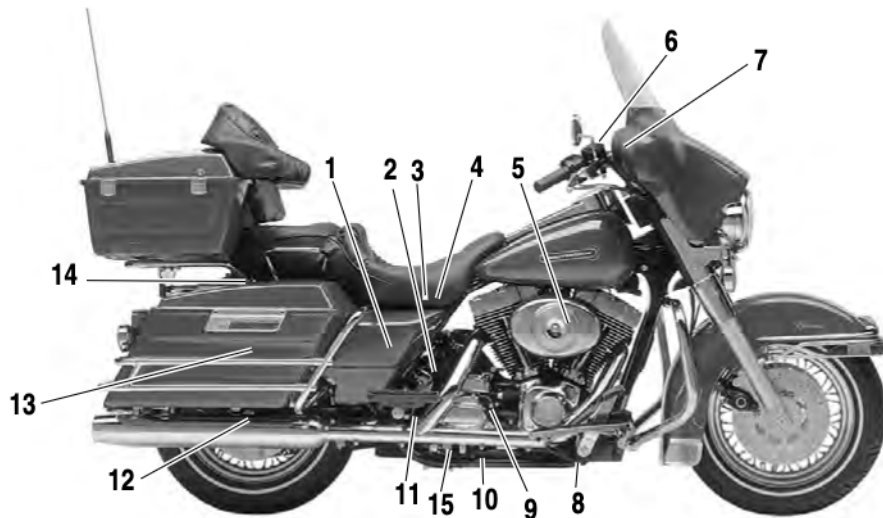
Ultra Electra Glide Classic (FLHTCU-I) - Right Side View



- |                                    |                                    |                         |
|------------------------------------|------------------------------------|-------------------------|
| 1. Ignition/light switch/fork lock | 6. Rear axle adjuster              | 11. Primary chain cover |
| 2. Ignition coil                   | 7. Rear sprocket and drive         | 12. Engine oil filter   |
| 3. Enrichener knob (Carb. only)    | 8. Primary drain plug              | 13. Voltage regulator   |
| 4. Fuel supply valve (Carb. only)  | 9. Clutch inspection cover         | 14. Passing/Fog lamps   |
| 5. Fuses                           | 10. Primary chain inspection cover | 15. Turn signal module  |

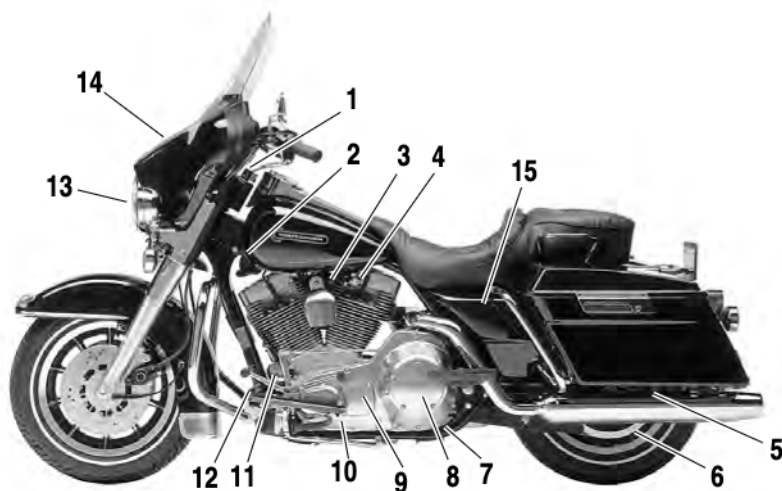
Electra Glide Classic (FLHTC/I) - Left Side View





- |  |  |                                     |
|--|--|-------------------------------------|
| 1. Ignition module/ECM                       | 6. Front brake master cylinder reservoir | 11. Engine oil fill plug & dipstick |
| 2. Electric starter motor                    | 7. Speedometer/tachometer                | 12. Rear axle adjuster              |
| 3. Battery/main circuit breaker (under seat) | 8. Rear brake master cylinder            | 13. Shock absorber(s)               |
| 4. Acc. connector (under seat)               | 9. Transmission fill plug                | 14. Front/rear suspension air valve |
| 5. Air cleaner                               | 10. Engine oil tank drain                | 15. Transmission drain plug         |

Electra Glide Classic (FLHTC/I) - Right Side View

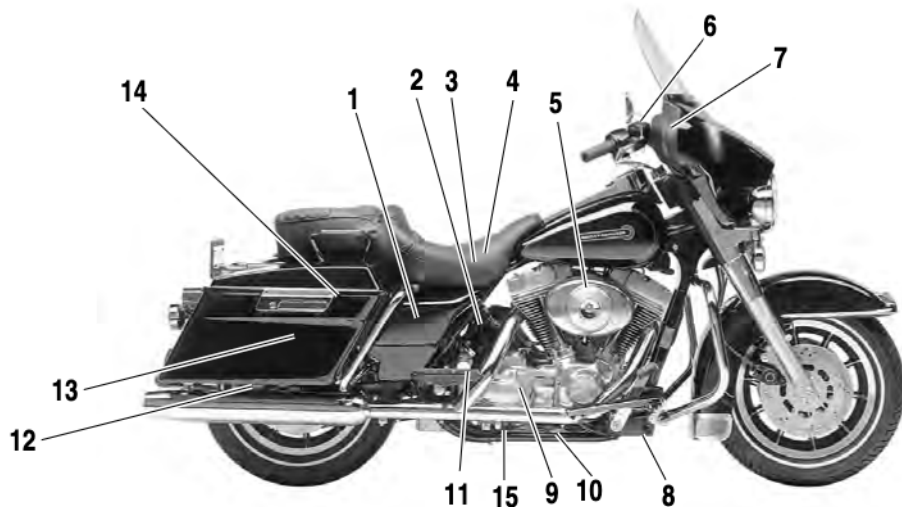


- 1. Ignition/light switch/fork lock
- 2. Ignition coil
- 3. Enrichener knob
- 4. Fuel supply valve
- 5. Rear axle adjuster

- 6. Rear sprocket and drive
- 7. Primary drain plug
- 8. Clutch inspection cover
- 9. Primary chain inspection cover
- 10. Primary chain cover

- 11. Engine oil filter
- 12. Voltage regulator
- 13. Passing/Fog lamps
- 14. Turn signal module
- 15. Fuses

**Electra Glide Standard (FLHT) - Left Side View**

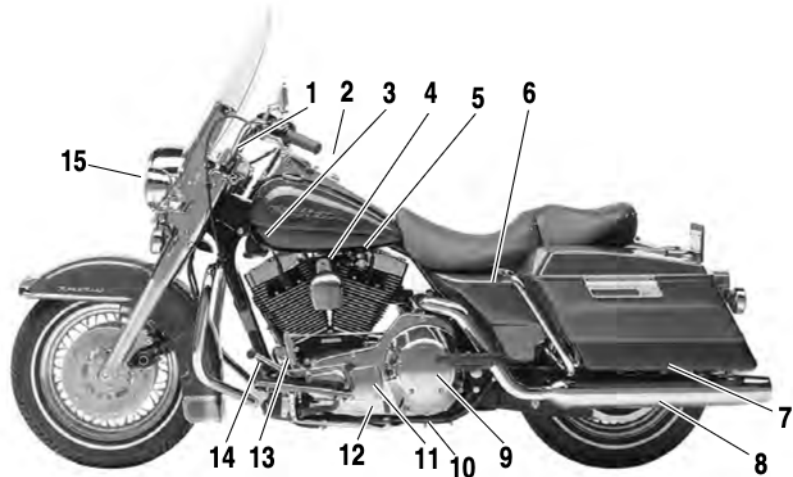


1. Ignition module
2. Electric starter motor
3. Battery/main circuit breaker (under seat)
4. Acc. connector (under seat)
5. Air cleaner

6. Front brake master cylinder & reservoir
7. Speedometer/tachometer
8. Rear brake master cylinder
9. Transmission fill plug
10. Engine oil tank drain

11. Engine oil fill plug & dipstick
12. Rear axle adjuster
13. Shock absorber(s)
14. Front/rear suspension air valve
15. Transmission drain plug

Electra Glide Standard (FLHT) - Right Side View

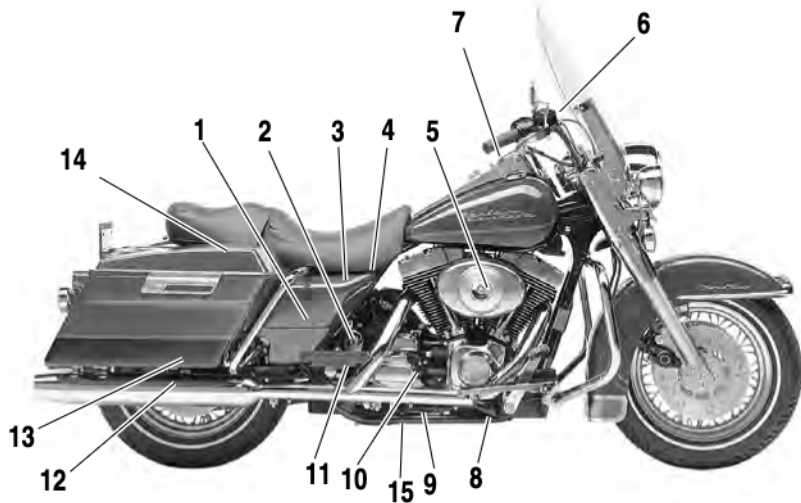


1. Fork lock
2. Ignition/light switch
3. Ignition coil
4. Enrichener knob
5. Fuel supply valve

6. Fuses
7. Rear axle adjuster
8. Rear sprocket and drive
9. Clutch inspection cover
10. Primary drain plug

11. Primary chain inspection cover
12. Primary chain cover
13. Engine oil filter
14. Voltage regulator
15. Passing lamps

Road King (FLHR) - Left Side View



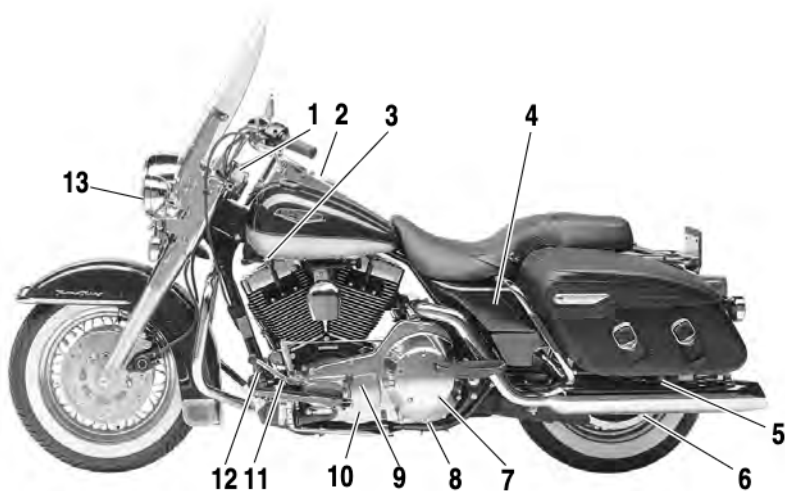
1. Ignition module/ECM
2. Electric starter motor
3. Battery/circuit breakers  
(under seat)
4. Acc. connector (under seat)
5. Air cleaner

6. Front brake master cylinder &  
reservoir
7. Speedometer
8. Rear brake master cylinder
9. Engine oil tank drain
10. Transmission fill plug

11. Engine oil fill plug & dipstick
12. Rear axle adjuster
13. Shock absorber(s)
14. Front/rear suspension air valve
15. Transmission drain plug

Road King (FLHR) - Right Side View



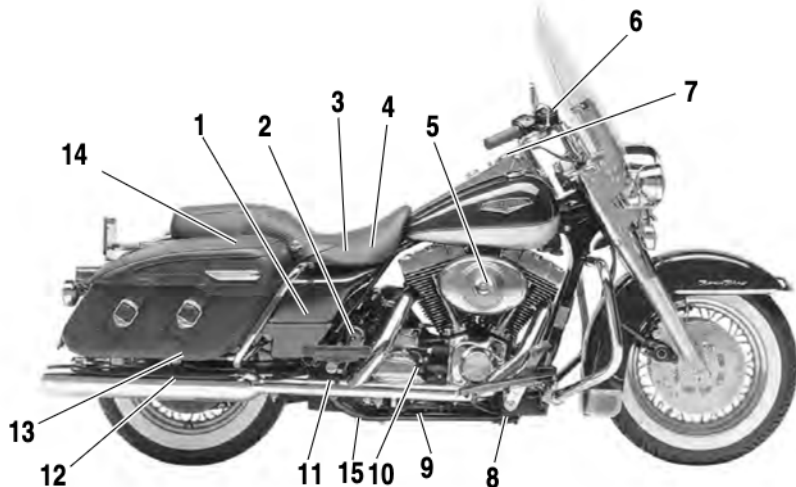


1. Fork lock
2. Ignition/light switch
3. Ignition coil
4. Fuses

5. Rear axle adjuster
6. Rear sprocket and drive
7. Clutch inspection cover
8. Primary drain plug
9. Primary chain inspection cover

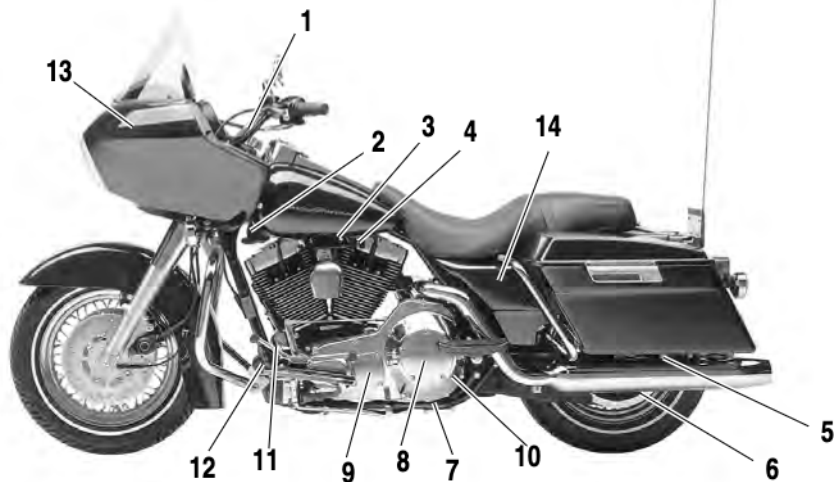
10. Primary chain cover
11. Engine oil filter
12. Voltage regulator
13. Passing/Fog lamps

Road King Classic (FLHRC-I) - Left Side View



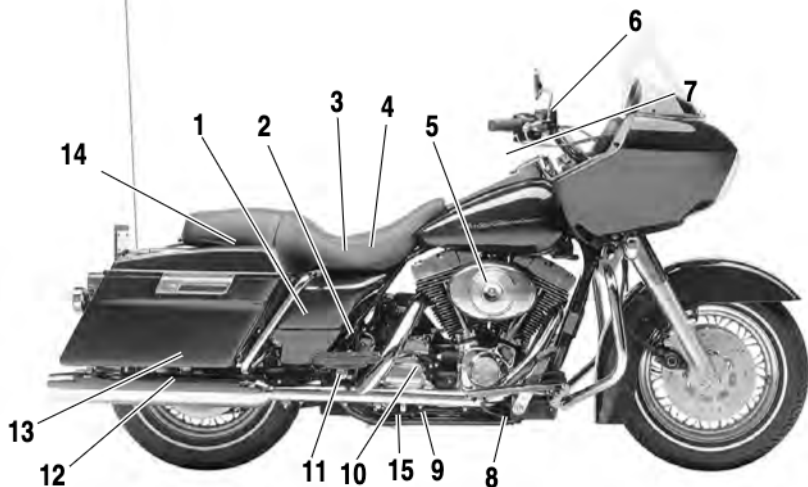
- |   |  |                                     |
|---|--|-------------------------------------|
| 1. Ignition module/ECM                      | 6. Front brake master cylinder & reservoir | 11. Engine oil fill plug & dipstick |
| 2. Electric starter motor                   | 7. Speedometer                             | 12. Rear axle adjuster              |
| 3. Battery/circuit breakers<br>(under seat) | 8. Rear brake master cylinder              | 13. Shock absorber(s)               |
| 4. Acc. connector (under seat)              | 9. Engine oil tank drain                   | 14. Front/rear suspension air valve |
| 5. Air cleaner                              | 10. Transmission fill plug                 | 15. Transmission drain plug         |

Road King Classic (FLHRC-I) - Right Side View



- |                                    |                                   |                        |
|------------------------------------|-----------------------------------|------------------------|
| 1. Ignition/light switch/fork lock | 6. Rear sprocket and drive        | 11. Engine oil filter  |
| 2. Ignition coil                   | 7. Primary drain plug             | 12. Voltage regulator  |
| 3. Enricher knob (Carb. only)      | 8. Clutch inspection cover        | 13. Turn signal module |
| 4. Fuel supply valve (Carb. only)  | 9. Primary chain inspection cover | 14. Fuses              |
| 5. Rear axle adjuster              | 10. Primary chain cover           |                        |

Road Glide (FLTR/I) - Left Side View



- |  |  |                                     |
|--|--|-------------------------------------|
| 1. Ignition module/ECM                       | 6. Front brake master cylinder & reservoir | 11. Engine oil fill plug & dipstick |
| 2. Electric starter motor                    | 7. Speedometer                             | 12. Rear axle adjuster              |
| 3. Battery/main circuit breaker (under seat) | 8. Rear brake master cylinder              | 13. Shock absorber(s)               |
| 4. Acc. connector (under seat)               | 9. Engine oil tank drain                   | 14. Front/rear suspension air valve |
| 5. Air cleaner                               | 10. Transmission fill plug                 | 15. Transmission drain plug         |

Road Glide (FLTR/I) - Right Side View

# NOTES

**DIMENSIONS (IN.)**

	FLHT/C/U/I	FLHR/C-I	FLTR-I
Wheel Base.....	63.50	63.50	63.50
Overall Length.....	93.70	93.70	93.70
Overall Width.....	39.00	34.45	35.75
Road Clearance.....	5.12	5.12	5.12
Overall Height.....	61.00	55.06	55.00
Saddle Height.....	28.00	28.20	28.40

**WEIGHT (LBS.)**

	FLHT/C/U/I	FLHR/C-I	FLTR-I
<b>DRY WEIGHT</b>			
(as shipped from the factory).....	758/776/788	723/710	731
GVWR.....	1179	1179	1179
GAWR - Front.....	410	410	410
GAWR - Rear.....	769	769	769

**NOTE**

*Gross Vehicle Weight Rating (GVWR) (maximum allowable loaded vehicle weight) and corresponding Gross Axle Weight Ratings (GAWR) are given on a label located on the frame down tube.*

**CAPACITIES (U.S.)**

	FLHT/C/U/I	FLHR/C-I	FLTR-I
<b>Fuel Tank</b>			
(Gallons) Total.....	5	5	5
Reserve.....	0.9	0.9	0.9
<b>Oil Tank</b>			
(Quarts) w/filter.....	4	4	4
<b>Transmission</b>			
(Ounces, approx.).....	20-24	20-24	20-24
<b>Front Fork</b>			
Each (Ounces, wet).....	7.75	7.75	7.75
<b>Primary Chaincase</b>			
(Ounces, approx.).....	32	32	32

**IGNITION SYSTEM**

Timing Setting.....	Non-adjustable
Battery.....	12 Volt, 30 amp. hr.

**Spark Plugs**

Type.....	HD-6R12
Size.....	12mm
Gap.....	0.038-0.043 in. (0.97-1.09 mm)



## ENGINE - Twin Cam 88™

Number of Cylinders .....	2
Type .....	4-Cycle, 45 Degree V-Type, air cooled
Compression Ratio .....	9 to 1
Bore in.(mm) .....	3.75 (95.3)
Stroke in.(mm) .....	4.00 (102)
Displacement cu.in (cc).....	88 (1450)
Torque .....	86.0 ft-lbs @ 3500 RPM

## TRANSMISSION

Type .....	Constant Mesh, Foot Shift
Speeds.....	5 Forward

## NUMBER OF SPROCKET TEETH

Engine (EFI Domestic/ All others).....	24/25
Clutch (EFI Domestic/ All others).....	37/36
Transmission.....	32
Rear Wheel .....	70

## OVERALL GEAR RATIOS

Gear	EFI Domestic	All others
1st (Low)	10.81	10.11
2nd	7.45	6.96
3rd	5.29	4.95
4th	4.13	3.86
5th	3.37	3.15

## TIRE DATA



- For your personal safety, tires, rims and air valves must be correctly matched to wheel rims. See your Harley-Davidson dealer. Mismatching tires, tubes, rims and air valves may result in damage to the tire bead during mounting or may allow the tire to slip on the rim, possibly causing tire failure and/or personal injury.
- In addition, using tires other than those specified may adversely affect motorcycle stability.
- Tubeless tires fitted with the correct size inner tubes may be used on all Harley-Davidson laced (wire spoked) wheels. Protective rubber rim strips must be used with tubeless tires (fitted with correct size inner tubes) when mounted on laced (wire spoked) wheels.

- Inner tubes must not be used in radial tires and radial tires must not be used on laced (wire spoked) wheels.
- Tubeless tires are used on all Harley-Davidson cast and disc wheels.
- Tire sizes are molded on the tire sidewall. Inner tube sizes are printed on the tube.

** WARNING**

- Dunlop® front and rear tires for Harley-Davidson motorcycles are not the same. They are not interchangeable. Use the front tire **ONLY** for a front tire. **DO NOT** put a rear tire on the front of a vehicle. Failure to follow this warning could result in personal injury.
- Maximum inflation pressure must not exceed specification on tire sidewall. Failure to follow this warning could cause tire failure possibly resulting in personal injury.

**Tire Pressure**

1999 VEHICLES DUNLOP® TIRES ONLY	TIRE PRESSURE PSI (COLD)	
	Front	Rear
Solo Rider FLHT/C/Ultra/ FLHR/C-I, FLTR/I	36	36
Rider & One Passenger FLHT/C/Ultra/ FLHR/C-I, FLTR/I	36	40

## FUEL

Use a good quality unleaded gasoline. Twin Cam 88™ equipped vehicles require at least 91 octane gasoline. Octane rating is usually found on the pump.

### WARNING

**Remove fuel filler cap slowly. Fill fuel tank slowly to prevent spillage. Do not overfill. Do not fill above the bottom of the filler neck insert. Leave air space to allow for fuel expansion. Expansion can cause an overfilled tank to overflow gasoline through the filler cap onto surrounding areas. After refueling, be sure fuel filler cap is securely tightened. Failure to follow this warning could result in an explosion and/or fire possibly resulting in personal injury.**

### CAUTION

- **Using gasoline that has an alcohol additive, such as methanol, may cause fuel system rubber components' failure and/or engine damage.**
- **Gasohol spills can stain the paint on your Harley-Davidson.**

Today's service station pumps are increasingly of the higher capacity variety. With the high flow of gasoline into a motorcycle tank, air entrapment and pressurization is a possibility. The pressurized air may force gasoline to escape through whatever opening is available within the filler tube.

This may not only soil clothing, but may create a potential fire hazard.

## GASOLINE BLENDS

Your motorcycle was designed to obtain the best performance and efficiency using unleaded gasoline. Some fuel suppliers sell gasoline/alcohol blends as a fuel. The type and amount of alcohol added to the fuel is important.

- **DO NOT USE GASOLINES CONTAINING METHANOL.** Using gasoline/methanol blends will result in starting and driveability deterioration and damage to critical fuel system components.
- Gasolines containing METHYL TERTIARY BUTYL ETHER (MTBE): Gasoline/MTBE blends are a mixture of gasoline and as much as 15% MTBE. Gasoline/ MTBE blends can be used in your motorcycle.
- ETHANOL (Grain alcohol) is a mixture of 10% ethanol and 90% unleaded gasoline. It is identified as "gasohol", "ethanol enhanced", or "contains ethanol." Gasoline/ethanol blends can be used in your motorcycle.
- REFORMULATED OR OXYGENATED GASOLINES (RFG): "Reformulated gasoline" is a term used to describe gasoline blends that are specifically designed to burn cleaner than other types of gasoline, leaving fewer "tailpipe" emissions. They are also formulated to evaporate less when you are filling your tank. Reformulated gasolines use additives to "oxygenate" the gas.

Your motorcycle will run normally using this type of gas and Harley-Davidson recommends you use it when possible, as an aid to cleaner air in our environment.

Because of their generally higher volatility, these blends may adversely affect the starting, driveability and fuel efficiency of your motorcycle. If you experience these problems, Harley-Davidson recommends you operate your motorcycle on straight, unleaded gasoline.

## CATALYTIC CONVERTERS

California carbureted and all HDI motorcycles are equipped with catalytic converters.

### CAUTION

- **Do not operate catalytic converter-equipped vehicle with engine misfire or a non-firing cylinder. If you operate the vehicle under these conditions, the exhaust will become abnormally hot, which can cause vehicle damage, including emission control loss.**
- **You must use ONLY unleaded fuel in California and HDI model catalytic converter-equipped motorcycles. Using leaded fuel will damage the emissions control system.**

## BULB CHART - FLHT/C/ULTRA/I, FLHR/CI, FLTR/I

LAMP DESCRIPTION ALL LAMPS 12 VOLT	NUMBER OF BULBS (REQUIRED)	CURRENT DRAW (AMPERAGE)	HARLEY-DAVIDSON PART NUMBER
Headlamp FLTR/I	2	4.58(Lo),5.0(Hi)	67697-81
FLHT/C/ULTRA/I, FLHR/I	1	4.58(Lo),5.0(Hi)	67697-81
Position Lamp (HDI)	1	0.32	53438-92
Tail and Stop Lamp	1 (Ultra - 3)		
Tail Lamp		0.59	68168-89
Stop Lamp		2.25	
Tail Lamp (HDI)		0.42	68169-90
Stop Lamp (HDI)		1.75	
Passing Lamp	2	2.5	68674-69
Fog Lamp (HDI)	2	2.92	68847-98
Turn Signal Lamp			
Front/Running	2	2.25/0.59	68168-89
Front (HDI)	2	1.75	68163-84
Rear	2	2.25	68572-64B
Rear (HDI)	2	1.75	68163-84
Tour-Pak Side Lamps - FLHTC/ULTRA/I	4	0.30	53439-79
Fender Tip Lamps	2	0.30	53439-79
License Plate Lamp (HDI)	1	0.37	53436-97

## BULB CHART - FLHT/C/ULTRA/I, FLHR/CI, FLTR/I

LAMP DESCRIPTION ALL LAMPS 12 VOLT	NUMBER OF BULBS (REQUIRED)	CURRENT DRAW (AMPERAGE)	HARLEY-DAVIDSON PART NUMBER
Instrument Panel Lamps - FLHT/C/U, FLTR/I, FLHR/I*			
High Beam Indicator	1	0.15	68024-94
Oil Pressure Indicator	1	0.15	68024-94
Neutral Indicator	1	0.15	68024-94
Turn Signal Indicators	2	0.15	68024-94
Gauge Lamps - FLHR/I			
Speedometer *			
Odometer *			
Fuel Gauge	1	0.19	67136-85
Engine (FLHR-I only) *			
Gauge Lamps - FLHT/C/ ULTRA/I, FLTR/I			
Speedometer	2	0.12	75048-96
Tachometer	1	0.24	75045-96
Voltmeter	1	0.24	75045-96
Oil Pressure Indicator (FLHTC/U, FLTR/I)	1	0.24	75045-96
Air Temp. Gauge (FLHTC/U, FLTR/I)	1	0.24	75045-96
Fuel Gauge	1	0.24	75045-96

\* Illuminated with LEDs

# NOTES



The Custom section contains the vehicle specifications for the following Harley-Davidson models:

FLSTS .....	Heritage Springer
FLSTC .....	Heritage Softail Classic
FXSTC .....	Softail Custom
FXSTS .....	Springer Softail
FLSTF .....	Fat Boy
FXST .....	Softail Standard
FXSTB.....	Nightrain
FXDWG .....	Dyna Wide Glide
FXDL .....	Dyna Low Rider
FXDS-CONV .....	Dyna Convertible
FXD .....	Dyna Super Glide
FXDX.....	Dyna Super Glide Sport

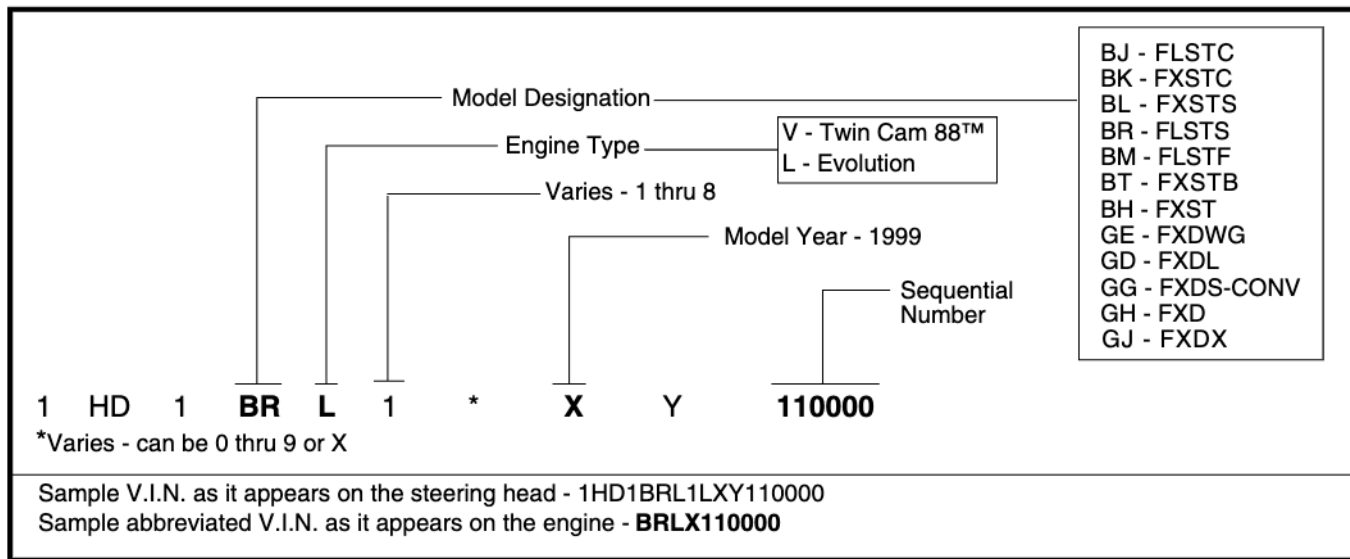
# NOTES

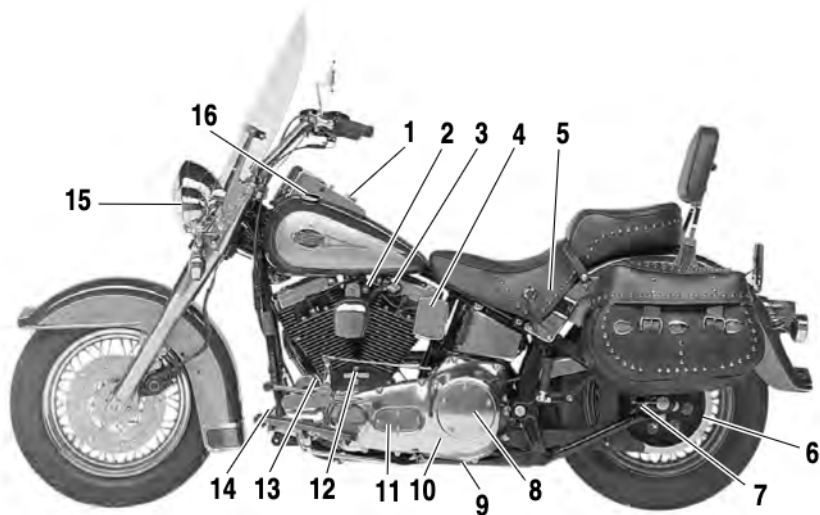
## VEHICLE IDENTIFICATION NUMBER (V.I.N.)

The full 17 digit serial, or Vehicle Identification Number (V.I.N.) is stamped on the steering head and on a label located on the right front frame downtube. An abbreviated V.I.N. is stamped on the left side crankcase above the timing inspection hole plug.

### NOTE

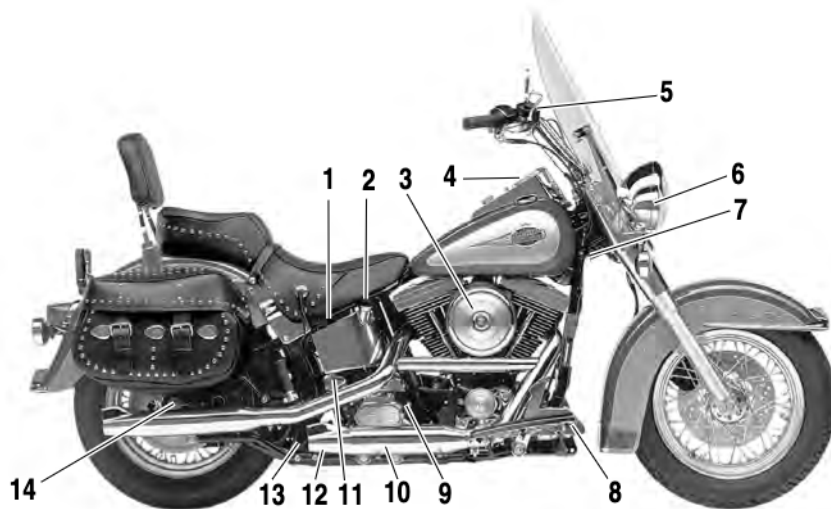
*Always give the full 17 digit Vehicle Identification Number when ordering parts or making any inquiry about your motorcycle.*





- |                                 |                                    |                                 |
|---------------------------------|------------------------------------|---------------------------------|
| 1. Ignition/light key switch    | 7. Rear axle adjuster              | 12. Timing inspection hole plug |
| 2. Carburetor enricher knob     | 8. Clutch inspection cover         | 13. Engine oil filter           |
| 3. Fuel supply valve            | 9. Primary drain plug              | 14. Voltage regulator           |
| 4. Ignition coil                | 10. Primary chain cover            | 15. Passing/Fog lamp            |
| 5. Ignition module (under seat) | 11. Primary chain inspection cover | 16. Fuel filler cap             |
| 6. Rear sprocket and drive      |                                    |                                 |

Heritage Softail Classic (FLSTC) - Left Side View

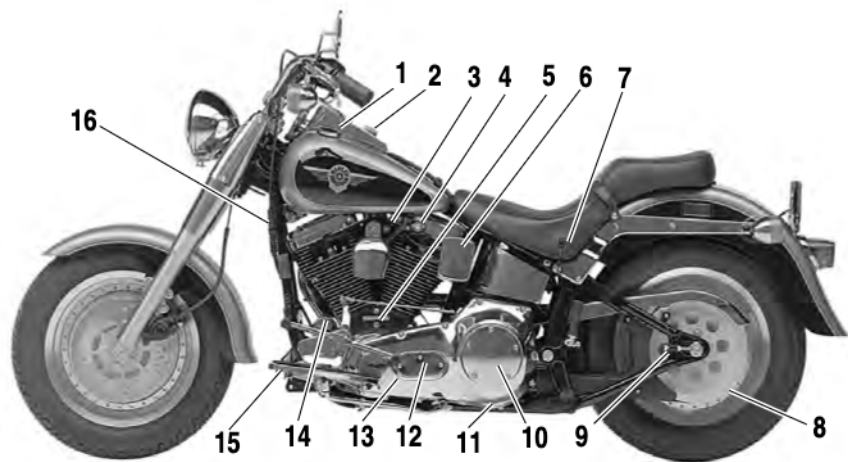


1. Battery (under seat)
2. Engine oil fill plug & dipstick
3. Carburetor/air cleaner
4. Speedometer
5. Front brake master cylinder & reservoir

6. Passing/Fog lamp
7. Fork lock brackets
8. Rear brake master cylinder & reservoir
9. Transmission fill plug

10. Transmission drain plug
11. Electric starter motor
12. Shock absorber
13. Engine oil tank drain
14. Rear axle adjuster

Heritage Softail Classic (FLSTC) - Right Side View

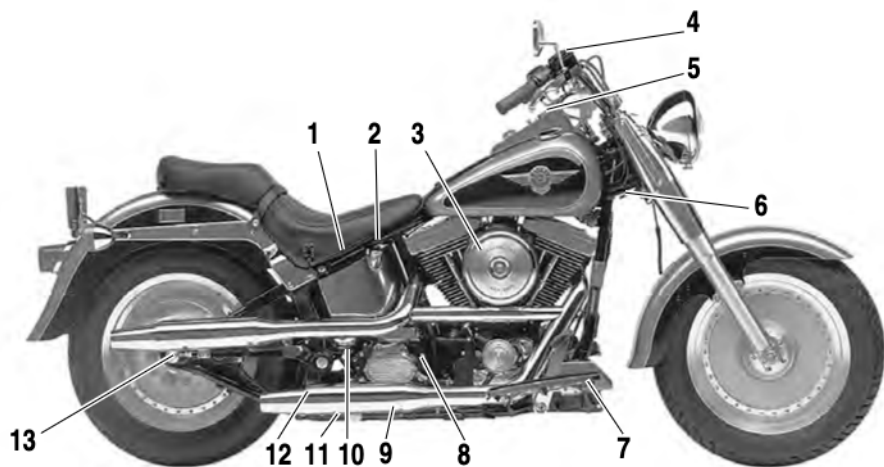


1. Fuel filler cap
2. Ignition/light key switch
3. Carburetor enrichener knob
4. Fuel supply valve
5. Timing inspection hole plug
6. Ignition coil

7. Ignition module (under seat)
8. Rear sprocket and drive
9. Rear axle adjuster
10. Clutch inspection cover
11. Primary drain plug

12. Primary chain inspection cover
13. Primary chain cover
14. Engine oil filter
15. Voltage regulator
16. Clutch cable adjuster

Fat Boy (FLSTF) - Left Side View

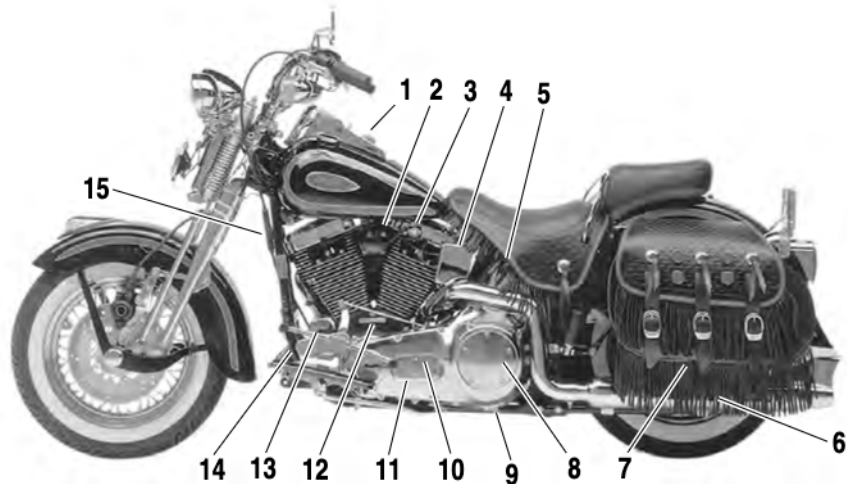


1. Battery (under seat)
2. Engine oil fill plug & dipstick
3. Carburetor/air cleaner
4. Front brake master cylinder & reservoir

5. Speedometer
6. Fork lock brackets
7. Rear brake master cylinder & reservoir
8. Transmission fill plug

9. Transmission drain plug
10. Electric starter motor
11. Shock absorber
12. Engine oil tank drain
13. Rear axle adjuster

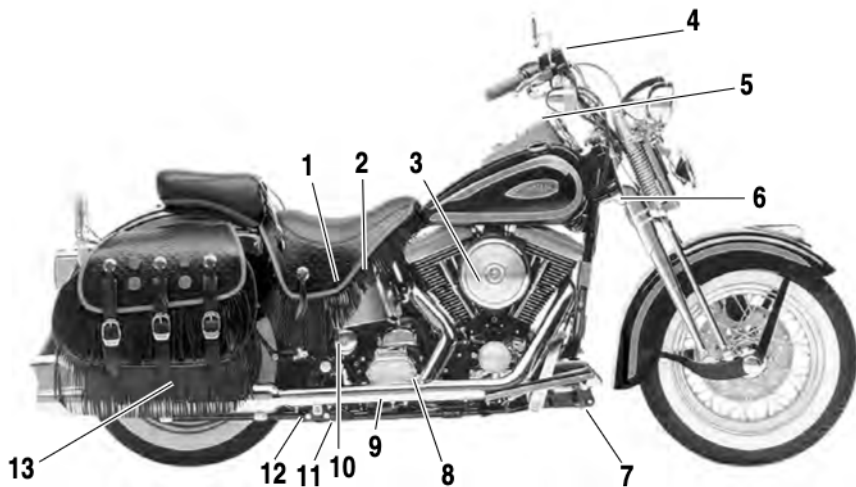
Fat Boy (FLSTF) - Right Side View



- |                                 |                                    |                                 |
|---------------------------------|------------------------------------|---------------------------------|
| 1. Ignition/light key switch    | 6. Rear sprocket and drive         | 11. Primary chain cover         |
| 2. Carburetor enricher knob     | 7. Rear axle adjuster              | 12. Timing inspection hole plug |
| 3. Fuel supply valve            | 8. Clutch inspection cover         | 13. Engine oil filter           |
| 4. Ignition coil                | 9. Primary drain plug              | 14. Voltage regulator           |
| 5. Ignition module (under seat) | 10. Primary chain inspection cover | 15. Clutch cable adjuster       |

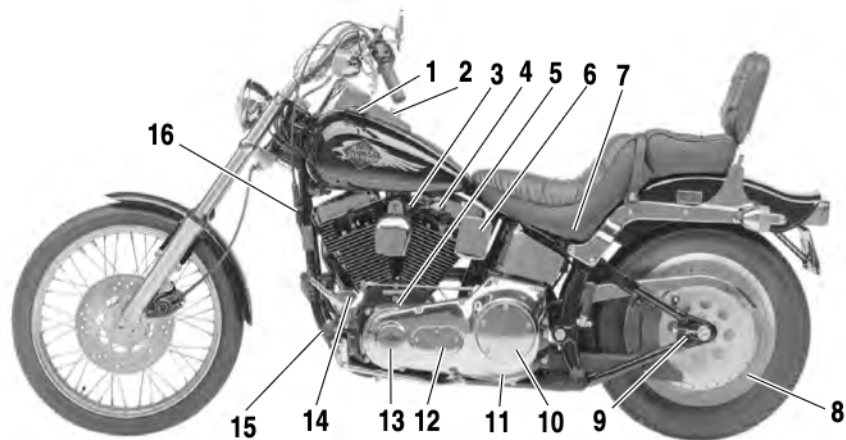
Heritage Springer (FLSTS) - Left Side View





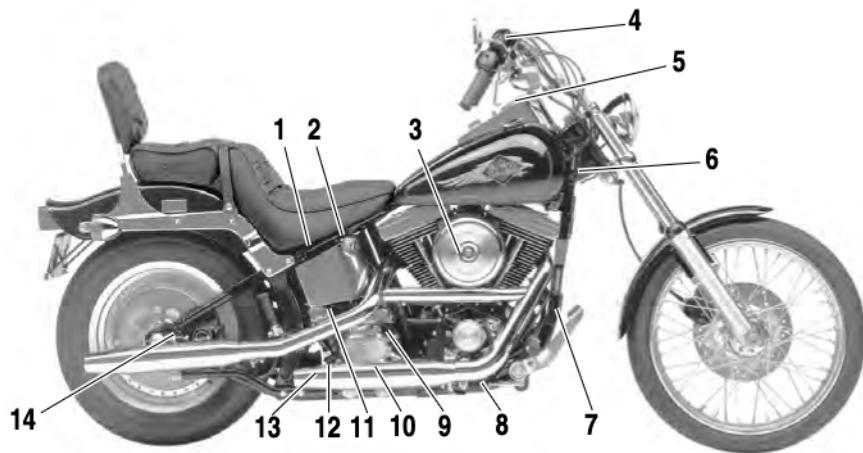
- |  |   |                            |
|--|---|----------------------------|
| 1. Battery (under seat)                    | 5. Speedometer                            | 9. Transmission drain plug |
| 2. Engine oil fill plug & dipstick         | 6. Fork lock brackets                     | 10. Electric starter motor |
| 3. Carburetor/air cleaner                  | 7. Rear brake master cylinder & reservoir | 11. Shock absorber(s)      |
| 4. Front brake master cylinder & reservoir | 8. Transmission fill plug                 | 12. Engine oil tank drain  |
|  |   | 13. Rear axle adjuster     |

Heritage Springer (FLSTS) - Right Side View



- |                                |                                 |                                    |
|--------------------------------|---------------------------------|------------------------------------|
| 1. Fuel filler cap             | 7. Ignition module (under seat) | 12. Primary chain inspection cover |
| 2. Ignition/light key switch   | 8. Rear sprocket and drive      | 13. Primary chain cover            |
| 3. Carburetor enrichener knob  | 9. Rear axle adjuster           | 14. Engine oil filter              |
| 4. Fuel supply valve           | 10. Clutch inspection cover     | 15. Voltage regulator              |
| 5. Timing inspection hole plug | 11. Primary drain plug          | 16. Clutch cable adjuster          |
| 6. Ignition coil               |                                 |                                    |

Softail Custom (FXSTC) - Left Side View

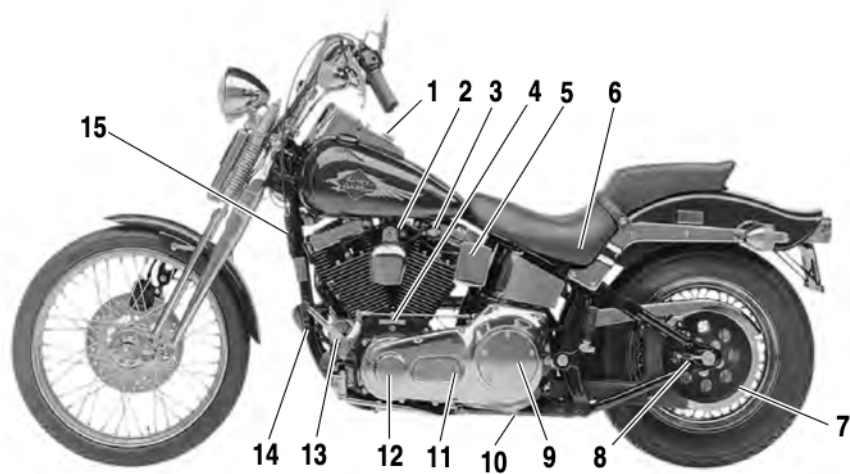


1. Battery (under seat)
2. Engine oil fill plug & dipstick
3. Carburetor/air cleaner
4. Front brake master cylinder & reservoir

5. Speedometer
6. Fork lock brackets
7. Rear brake fluid reservoir
8. Rear brake master cylinder
9. Transmission fill plug

10. Transmission drain plug
11. Electric starter motor
12. Engine oil tank drain
13. Shock absorber(s)
14. Rear axle adjuster

Softail Custom (FXSTC) - Right Side View



1. Ignition/light key switch
2. Carburetor enrichener knob
3. Fuel supply valve
4. Timing inspection hole plug
5. Ignition coil

6. Ignition module (under seat)
7. Rear sprocket and drive
8. Rear axle adjuster
9. Clutch inspection cover
10. Primary drain plug

11. Primary chain inspection cover
12. Primary chain cover
13. Engine oil filter
14. Voltage regulator
15. Clutch cable adjuster

Springer Softail (FXSTS) - Left Side View

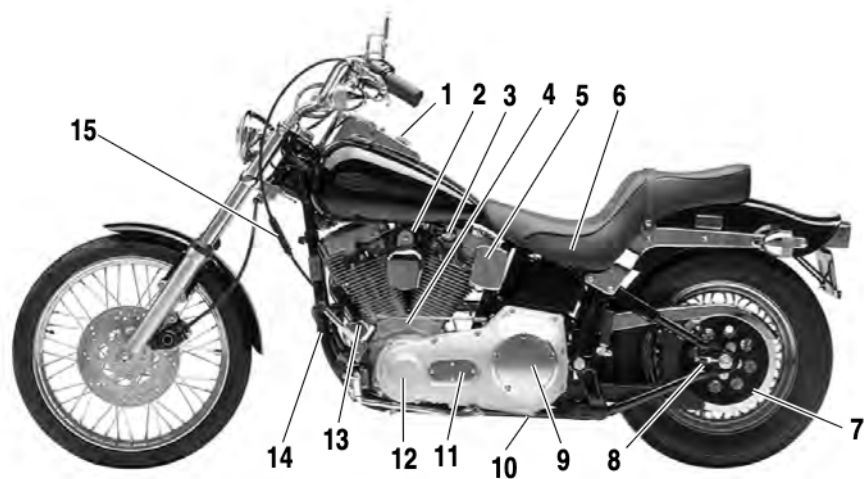


1. Battery (under seat)
2. Engine oil fill plug & dipstick
3. Carburetor/air cleaner
4. Front brake master cylinder & reservoir

5. Speedometer
6. Fork lock brackets
7. Rear brake fluid reservoir
8. Rear brake master cylinder
9. Transmission fill plug

10. Transmission drain plug
11. Engine oil tank drain
12. Electric starter motor
13. Shock absorber
14. Rear axle adjuster

Springer Softail (FXSTS) - Right Side View

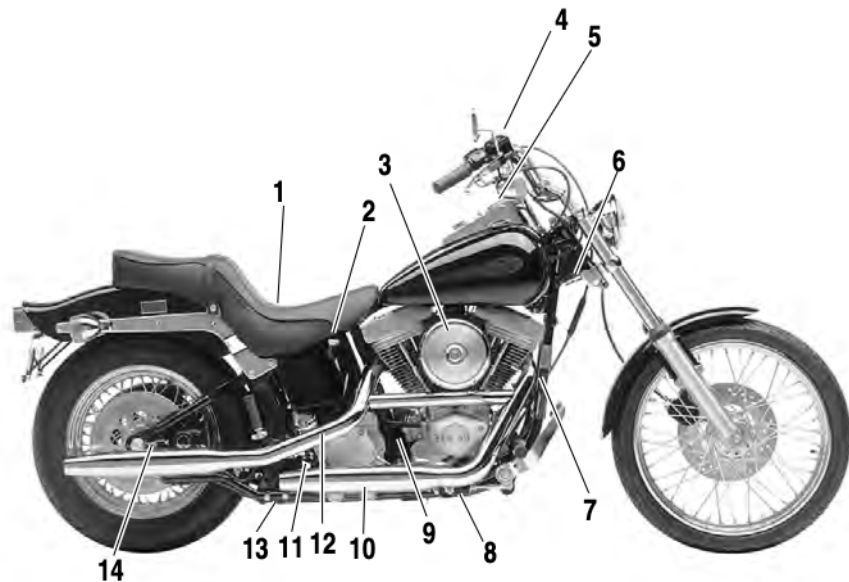


1. Ignition/light key switch
2. Carburetor enrichener knob
3. Fuel supply valve
4. Timing inspection hole plug
5. Ignition coil

6. Ignition module (under seat)
7. Rear sprocket and drive
8. Rear axle adjuster
9. Clutch inspection cover
10. Primary drain plug

11. Primary chain inspection cover
12. Primary chain cover
13. Engine oil filter
14. Voltage regulator
15. Clutch cable adjuster

Softail Standard (FXST) - Left Side View

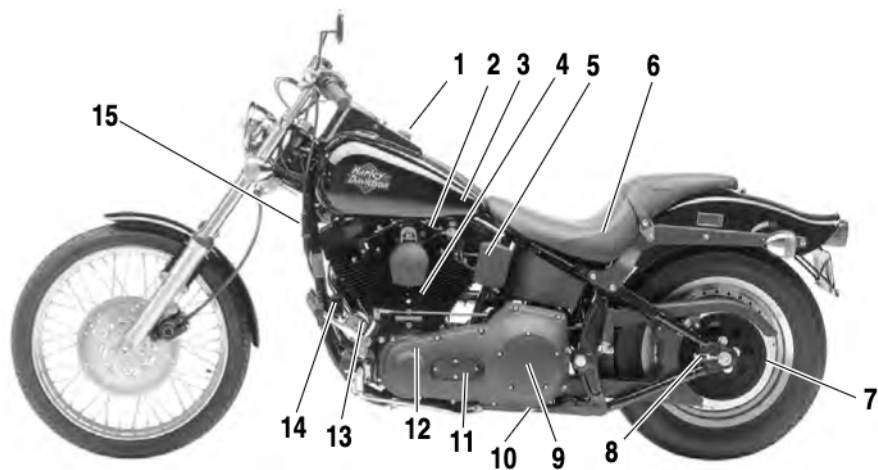


1. Battery (under seat)
2. Engine oil fill plug & dipstick
3. Carburetor/air cleaner
4. Front brake master cylinder & reservoir

5. Speedometer
6. Fork lock brackets
7. Rear brake fluid reservoir
8. Rear brake master cylinder
9. Transmission fill plug

10. Transmission drain plug
11. Engine oil tank drain
12. Electric starter motor
13. Shock absorber
14. Rear axle adjuster

Softail Standard (FXST) - Right Side View



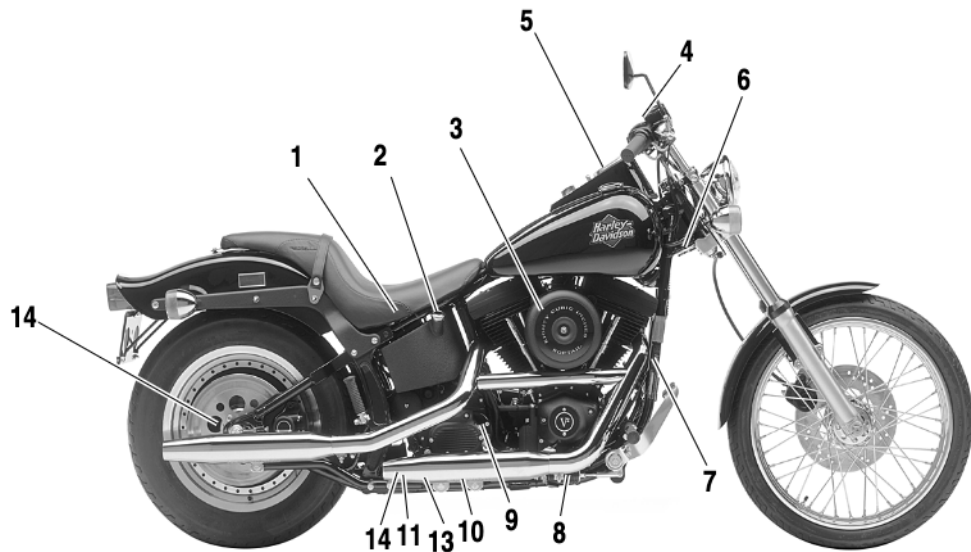
1. Ignition/light key switch
2. Carburetor enricher knob
3. Fuel supply valve
4. Timing inspection hole plug
5. Ignition coil

6. Ignition module (under seat)
7. Rear sprocket and drive
8. Rear axle adjuster
9. Clutch inspection cover
10. Primary drain plug

11. Primary chain inspection cover
12. Primary chain cover
13. Engine oil filter
14. Voltage regulator
15. Clutch cable adjuster

Night Train (FXSTB) - Left Side View



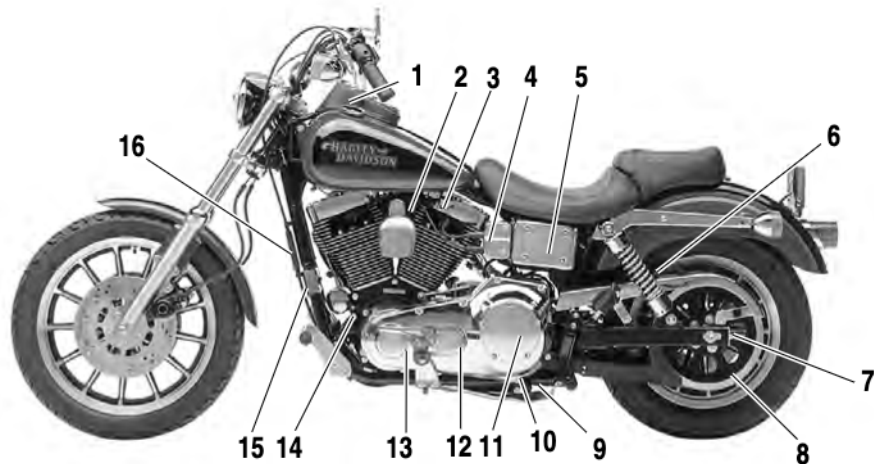


1. Battery (under seat)
2. Engine oil fill plug & dipstick
3. Carburetor/air cleaner
4. Front brake master cylinder & reservoir

5. Speedometer
6. Fork lock brackets
7. Rear brake fluid reservoir
8. Rear brake master cylinder
9. Transmission fill plug

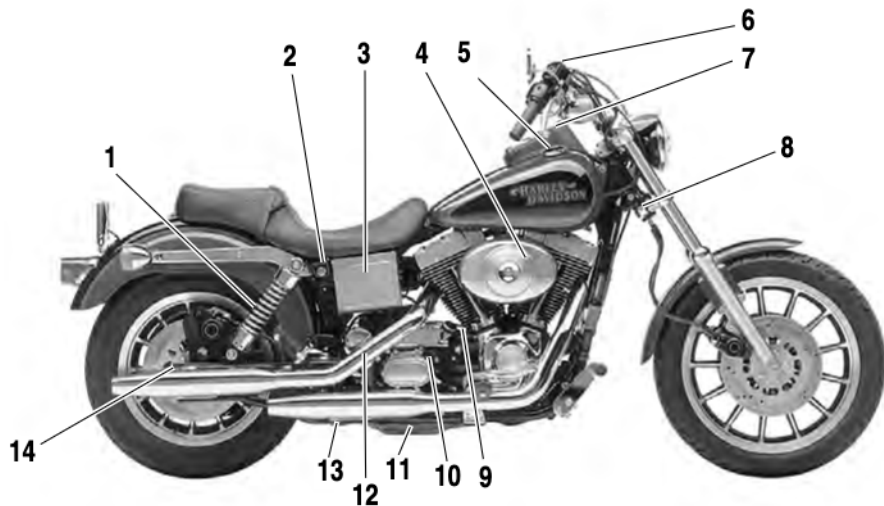
10. Transmission drain plug
11. Engine oil tank drain
12. Electric starter motor
13. Shock absorber
14. Rear axle adjuster

Night Train (FXSTB) - Right Side View



- |  |   |                                    |
|--|---|------------------------------------|
| 1. Fuel gauge  | 6. Shock absorber                             | 12. Primary chain inspection cover |
| 2. Carburetor enricher knob  | 7. Rear axle adjuster                         | 13. Primary chain cover            |
| 3. Fuel supply valve   | 8. Rear sprocket and drive                    | 14. Engine oil filter              |
| 4. Ignition coil   | 9. Engine oil tank drain (under transmission) | 15. Voltage regulator              |
| 5. Electrical enclosure (contains ignition module, circuit breakers and starter relay) | 10. Primary drain plug                        | 16. Clutch cable adjuster          |
|  | 11. Clutch inspection cover                   |                                    |

Dyna Low Rider (FXDL) - Left Side View

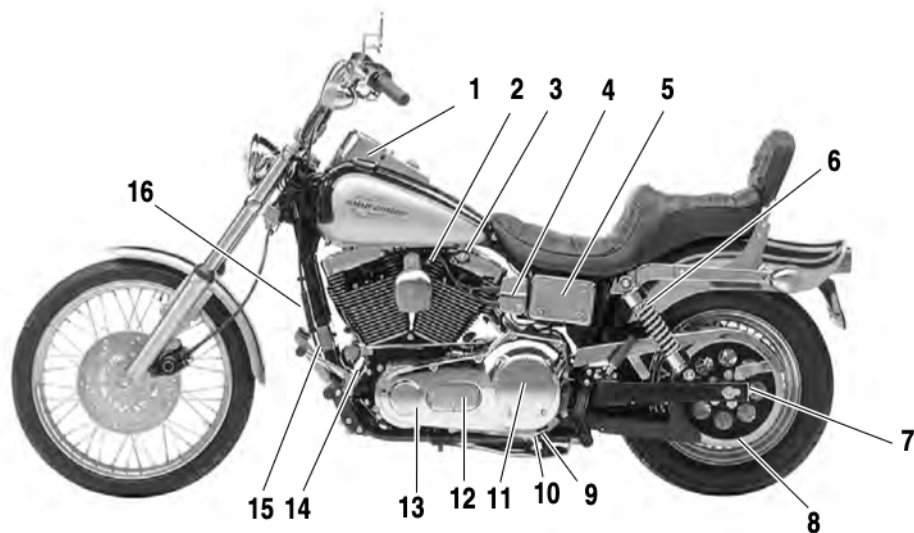


1. Shock absorber
2. Ignition/light key switch
3. Battery
4. Carburetor/air cleaner
5. Fuel filler cap

6. Front brake master cylinder & reservoir
7. Speedometer/tachometer
8. Fork lock
9. Engine oil fill plug & dipstick
10. Transmission fill plug

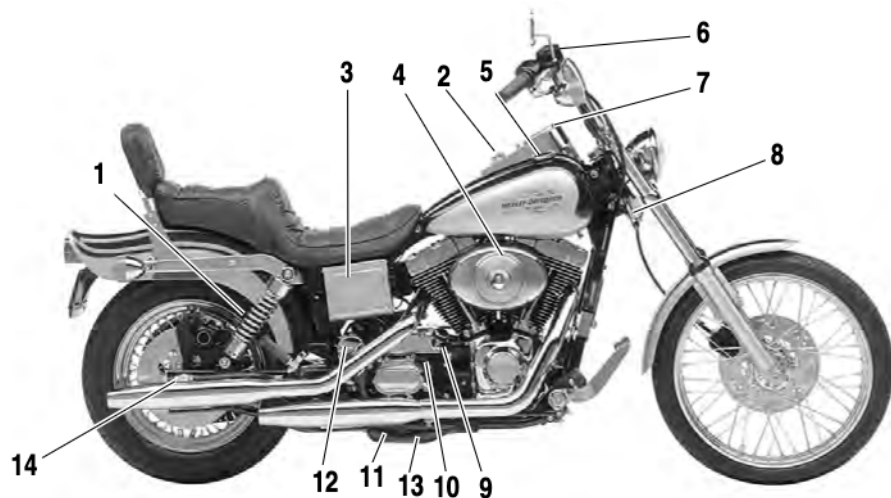
11. Transmission drain plug (under transmission)
12. Electric starter motor
13. Rear brake master cylinder & reservoir
14. Rear axle adjuster

Dyna Low Rider (FXDL) - Right Side View



- |  |   |                                    |
|--|---|------------------------------------|
| 1. Fuel gauge  | 6. Shock absorber                             | 12. Primary chain inspection cover |
| 2. Carburetor enricher knob  | 7. Rear axle adjuster                         | 13. Primary chain cover            |
| 3. Fuel supply valve   | 8. Rear sprocket and drive                    | 14. Engine oil filter              |
| 4. Ignition coil   | 9. Engine oil tank drain (under transmission) | 15. Voltage regulator              |
| 5. Electrical enclosure (contains ignition module, circuit breakers and starter relay) | 10. Primary drain plug                        | 16. Clutch cable adjuster          |
|  | 11. Clutch inspection cover                   |                                    |

Dyna Wide Glide (FXDWG) - Left Side View

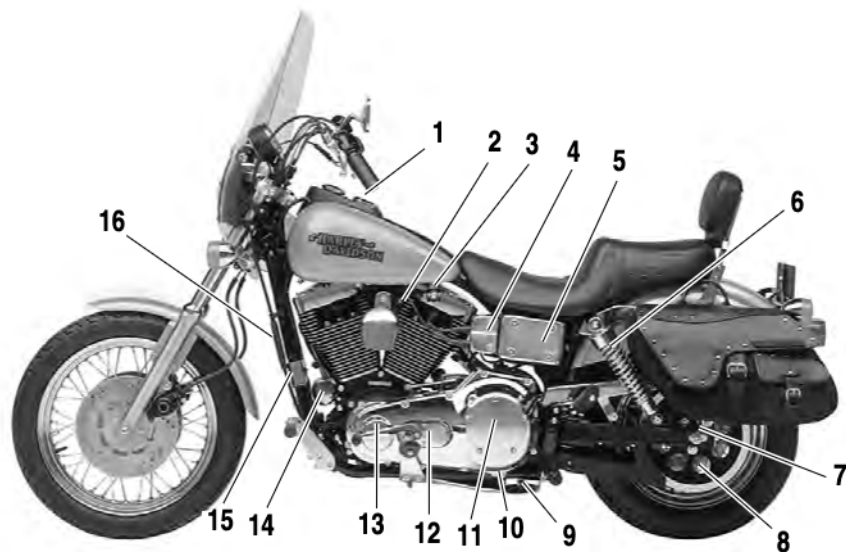


- 1. Shock absorber
- 2. Ignition/light key switch
- 3. Battery
- 4. Carburetor/air cleaner
- 5. Fuel filler cap

- 6. Front brake master cylinder & reservoir
- 7. Speedometer
- 8. Fork lock
- 9. Engine oil fill plug & dipstick
- 10. Transmission fill plug

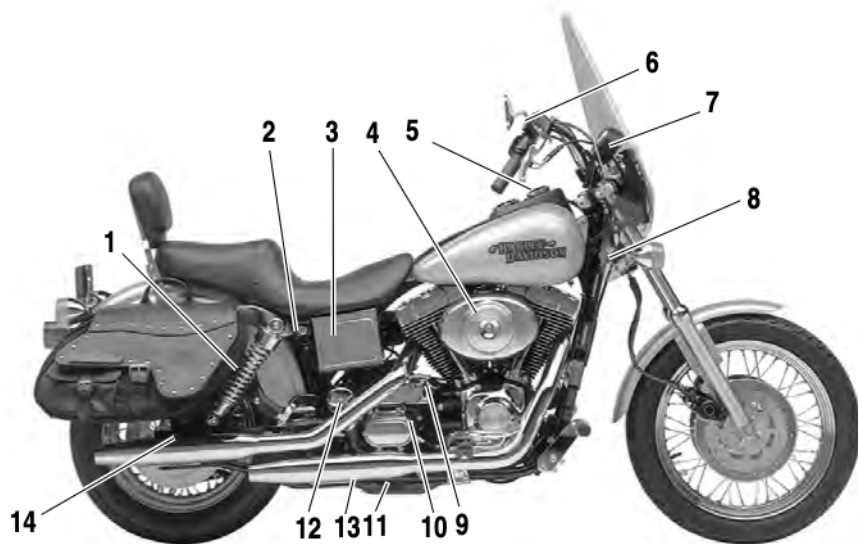
- 11. Transmission drain plug (under transmission)
- 12. Electric starter motor
- 13. Rear brake master cylinder & reservoir
- 14. Rear axle adjuster

Dyna Wide Glide (FXDWG) - Right Side View



- |  |   |                                    |
|--|---|------------------------------------|
| 1. Fuel gauge  | 6. Shock absorber                             | 12. Primary chain inspection cover |
| 2. Carburetor enricher knob  | 7. Rear axle adjuster                         | 13. Primary chain cover            |
| 3. Fuel supply valve   | 8. Rear sprocket and drive                    | 14. Engine oil filter              |
| 4. Ignition coil   | 9. Engine oil tank drain (under transmission) | 15. Voltage regulator              |
| 5. Electrical enclosure (contains ignition module, circuit breakers and starter relay) | 10. Primary drain plug                        | 16. Clutch cable adjuster          |
|  | 11. Clutch inspection cover                   |                                    |

Dyna Glide Convertible (FXDS-CONV) - Left Side View

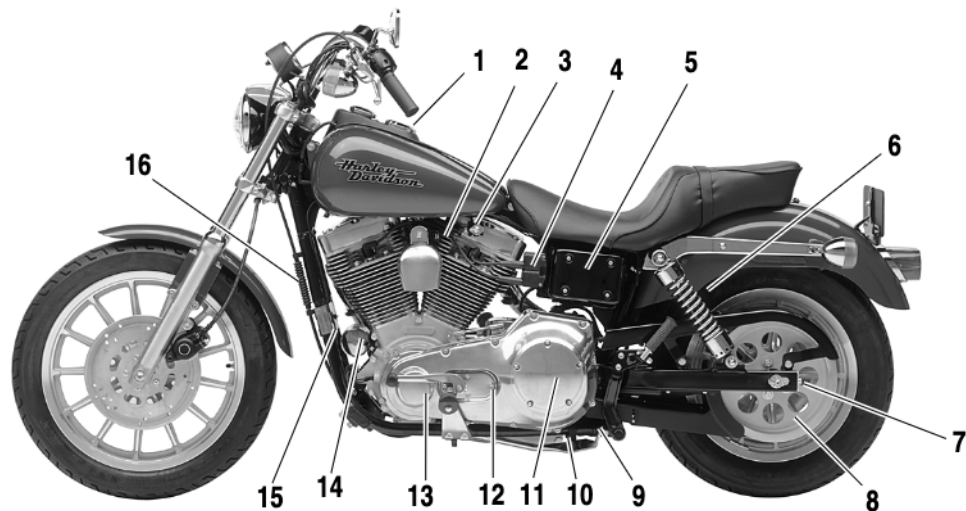


1. Shock absorber
2. Ignition/light key switch
3. Battery
4. Carburetor/air cleaner
5. Fuel filler cap

6. Front brake master cylinder & reservoir
7. Speedometer/tachometer
8. Fork lock
9. Engine oil fill plug & dipstick
10. Transmission fill plug

11. Transmission drain plug (under transmission)
12. Electric starter motor
13. Rear brake master cylinder & reservoir
14. Rear axle adjuster

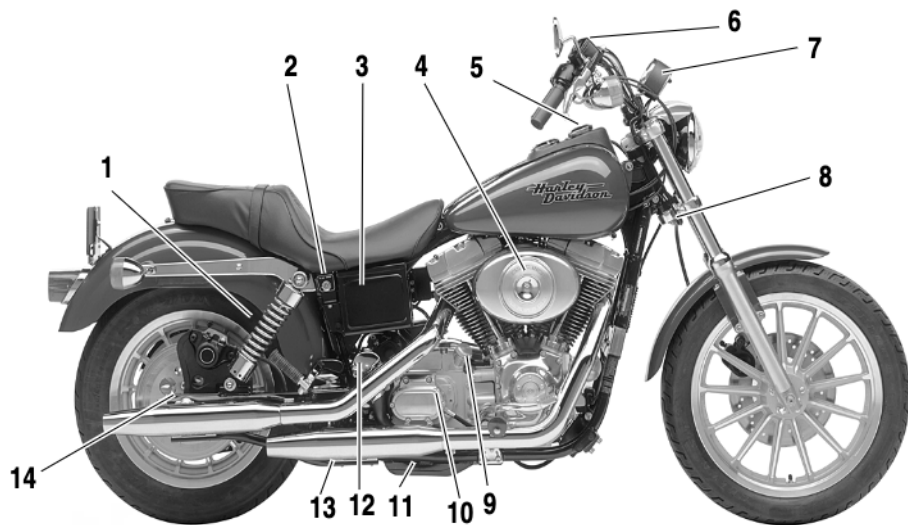
Dyna Glide Convertible (FXDS-CONV) - Right Side View



- |  |   |                                    |
|--|---|------------------------------------|
| 1. Fuel gauge  | 6. Shock absorber                             | 12. Primary chain inspection cover |
| 2. Carburetor enrichener knob  | 7. Rear axle adjuster                         | 13. Primary chain cover            |
| 3. Fuel supply valve   | 8. Rear sprocket and drive                    | 14. Engine oil filter              |
| 4. Ignition coil   | 9. Engine oil tank drain (under transmission) | 15. Voltage regulator              |
| 5. Electrical enclosure (contains ignition module, circuit breakers and starter relay) | 10. Primary drain plug                        | 16. Clutch cable adjuster          |
|  | 11. Clutch inspection cover                   |                                    |

Dyna Super Glide (FXD) - Left Side View



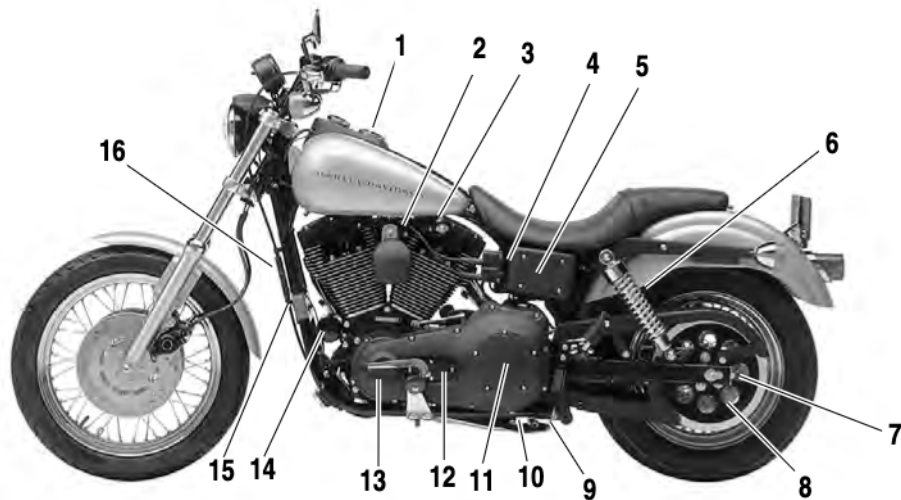


- 1. Shock absorber
- 2. Ignition/light key switch
- 3. Battery
- 4. Carburetor/air cleaner
- 5. Fuel filler cap

- 6. Front brake master cylinder & reservoir
- 7. Speedometer
- 8. Fork lock
- 9. Engine oil fill plug & dipstick
- 10. Transmission fill plug

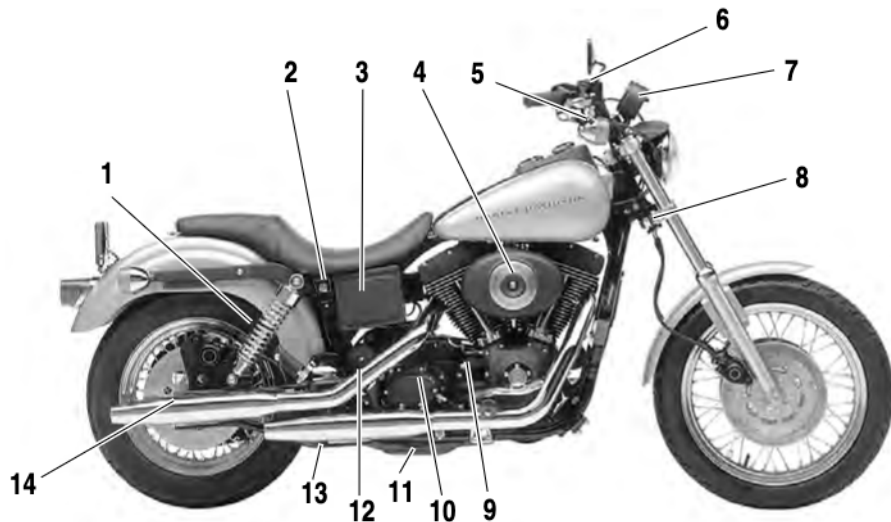
- 11. Transmission drain plug (under transmission)
- 12. Electric starter motor
- 13. Rear brake master cylinder & reservoir
- 14. Rear axle adjuster

Dyna Super Glide (FXD) - Right Side View



- |  |   |                                    |
|--|---|------------------------------------|
| 1. Fuel gauge  | 6. Shock absorber                             | 12. Primary chain inspection cover |
| 2. Carburetor enrichener knob  | 7. Rear axle adjuster                         | 13. Primary chain cover            |
| 3. Fuel supply valve   | 8. Rear sprocket and drive                    | 14. Engine oil filter              |
| 4. Ignition coil   | 9. Engine oil tank drain (under transmission) | 15. Voltage regulator              |
| 5. Electrical enclosure (contains ignition module, circuit breakers and starter relay) | 10. Primary drain plug                        | 16. Clutch cable adjuster          |
|  | 11. Clutch inspection cover                   |                                    |

Dyna Super Glide Sport (FXDX) - Left Side View



- 1. Shock absorber
- 2. Ignition/light key switch
- 3. Battery
- 4. Carburetor/air cleaner
- 5. Fuel filler cap

- 6. Front brake master cylinder & reservoir
- 7. Speedometer
- 8. Fork lock
- 9. Engine oil fill plug & dipstick
- 10. Transmission fill plug

- 11. Transmission drain plug (under transmission)
- 12. Electric starter motor
- 13. Rear brake master cylinder & reservoir
- 14. Rear axle adjuster

Dyna Super Glide Sport (FXDX) - Right Side View

# NOTES

## DIMENSIONS (IN.)

	Wheel Base	Overall Length	Overall Width	Road Clr'nc	Overall Height	Saddle Height
FLSTC	63.90	94.02	38.00	5.47	59.40	26.50
FXSTC	66.50	94.92	29.00	5.94	47.00	26.70
FXSTS	64.41	92.52	29.00	5.59	47.00	26.12
FLSTF	63.89	93.85	38.00	5.47	48.00	26.50
FLSTS	63.07	94.00	36.60	5.00	44.00	25.75
FXSTB	66.50	94.92	30.90	5.94	45.70	25.35
FXST	66.50	94.92	36.60	5.94	47.50	26.16
FXDWG	66.10	94.50	33.50	5.62	47.50	26.75
FXDS- CONV	63.88	92.88	28.95	5.75	59.25	27.75
FXDL	65.60	94.00	28.50	5.38	47.50	26.50
FXD	62.80	91.00	28.50	5.38	47.50	26.50
FXDX	63.88	92.88	33.00	5.75	51.25	27.00

## WEIGHT (LBS.)

	Dry Weight	GVWR	GAWR Front	GAWR Rear
FLSTC	704	1118	402	716
FXSTC	613	1084	390	694
FXSTS	625	1084	390	694
FXST	596	1084	390	694
FXSTB	606	1084	390	694
FLSTF	631	1118	402	716
FLSTS	690	1135	405	730
FXD/L/WG/X	612	1085	390	695
FXDS-CONV	640	1085	390	695

## NOTE

Gross Vehicle Weight Rating (GVWR) (maximum allowable loaded vehicle weight) and corresponding Gross Axle Weight Ratings (GAWR) are given on a label located on the frame down tube.

## CAPACITIES

	FLSTC/F	FXSTC	FXSTS FLSTS	FXD/L/ WG	FXDS -CONV
<b>Fuel Tank</b> (Gallons)					
Total .....	4.2	5.2	4.2	4.9/5.2	4.9
Reserve.....	0.4	0.6	0.4	1.1	1.1
<b>Oil Tank</b> (Quarts)					
w/Filter.....	3.0	3.0	3.0	3.0	3.0
<b>Transmission</b> (Ounces, approx.).....	24	24	24	24	24
<b>Front Fork</b> Each (Ounces, wet) .....	11.5	10.2	None	9.2	9.2
<b>Primary Chaincase</b> (Ounces, approx.).....	26	26	26	26	26

## IGNITION SYSTEM

### Timing Setting

Softail .....20° BTDC @ 1050-1500 RPM

Dyna..... Non-adjustable

**Battery**..... Maintenance Free, 12 Volt, 18 amp. hr.

### Spark Plugs

	Type	Size	Gap	Torque
Softail	HD-5R6A	14 mm	.038-.043 (.97-1.09 mm)	18-22 ft-lbs (24-30 Nm)
Dyna	HD-6R12	12 mm	.038-.043 (.97-1.09 mm)	11-18 ft-lbs (15-20 Nm)

## ENGINE

Number of Cylinders .....2

Type ..... 4-Cycle, 45 Degree V-Type, air cooled

Compression Ratio - Softail .....8.5 to 1

Dyna .....9.0 to 1

Bore x Stroke - Softail .....3.50 x 4.25

Dyna.....3.75 x 4.00

Displacement cu.in./cc Softail .....80/1340

Dyna .....88/1450

Torque - ft.lbs @ RPM Softail ..... 76 @ 3500

Dyna ..... 86 @ 3500

## TRANSMISSION

Type ..... Constant Mesh, Foot Shift

Speeds.....5 Forward

## NUMBER OF SPROCKET TEETH

Engine .....25

Clutch.....36

Transmission.....32

Rear Wheel - Softail/Dyna .....65/70

## OVERALL GEAR RATIOS

### Softail Models

First (Low) Gear .....9.388 Fourth Gear .....3.586

Second Gear .....6.461 Fifth Gear.....2.925

Third Gear .....4.599

### DYNA Models

First (Low) Gear ..... 10.110 Fourth Gear .....3.862

Second Gear .....6.958 Fifth Gear.....3.150

Third Gear .....4.953

## TIRE DATA



**WARNING**

- For your personal safety, tires, rims and air valves must be correctly matched to wheel rims. See your Harley-Davidson dealer. Mismatching tires, tubes, rims and air valves may result in damage to the tire

bead during mounting or may allow the tire to slip on the rim, possibly causing tire failure and/or personal injury.

- In addition, using tires other than those specified may adversely affect motorcycle stability.
- Tubeless tires fitted with the correct size inner tubes may be used on all Harley-Davidson laced (wire spoked) wheels. Protective rubber rim strips must be used with tubeless tires (fitted with correct size inner tubes) when mounted on laced (wire spoked) wheels.
- Inner tubes must not be used in radial tires and radial tires must not be used on laced (wire spoked) wheels.
- Tubeless tires are used on all Harley-Davidson cast and disc wheels.
- Tire sizes are molded on the tire sidewall. Inner tube sizes are printed on the tube.

1999 VEHICLES DUNLOP TIRES ONLY		TIRE PRESSURE PSI (COLD)	
		FRONT	REAR
Solo Rider	FLSTC/F/N	36	36
Solo Rider & One Passenger	FLSTC/F/S	36	40
Solo Rider	FXSTC/S/B	30	36
Solo Rider & One Passenger	FXSTC/S/B	30	40
Solo Rider	FXD/L/WG/CONV/X	30	36
Solo Rider & One Passenger	FXD/L/WG/CONV/X	30	40

### WARNING

- Dunlop front and rear tires for Harley-Davidson motorcycles are not the same. They are not interchangeable. Use the front tire **ONLY** for a front tire. **DO NOT** put a rear tire on the front of a vehicle. Failure to follow this warning could result in personal injury.
- Maximum inflation pressure must not exceed specification on tire sidewall. Failure to follow this warning could cause tire failure possibly resulting in personal injury.

## FUEL

Use a good quality unleaded gasoline, at least 87 pump octane for Evolution equipped Softail models. Dynas require 91 octane or better for the Twin Cam 88™ engine. Octane rating is usually found on the pump.

### WARNING

Remove fuel filler cap slowly. Fill fuel tank slowly to prevent spillage. Do not overfill. Do not fill above the bottom of the filler neck insert. Leave air space to allow for fuel expansion. Expansion can cause an overflowed tank to overflow gasoline through the filler cap onto surrounding areas. After refueling, be sure fuel filler cap is securely tightened. Failure to follow this warning could result in an explosion and/or fire possibly resulting

in personal injury.

### CAUTION

- Using gasoline that has methanol, can cause fuel system rubber components' failure and/or engine damage.
- Gasohol spills can stain the paint on your Harley Davidson.

Today's service station pumps are increasingly of the higher capacity variety. With the high flow of gasoline into a motorcycle tank, air entrapment and pressurization is a possibility. The pressurized air may force gasoline to escape through whatever opening is available within the filler tube. This may not only soil clothing, but may create a potential fire hazard.

## GASOLINE BLENDS

Your motorcycle was designed to get the best performance and efficiency using unleaded gasoline. Most gasolines sold in the United States are blended with alcohol and/or ether to create "oxygenated" blends. The type and amount of alcohol or ether added to the fuel is important.

- **DO NOT USE GASOLINES CONTAINING METHANOL.** Using gasoline/methanol blends will result in starting and drivability deterioration and damage to critical fuel system components.



- ETHANOL is a mixture of 10% ethanol (Grain alcohol) and 90% unleaded gasoline. Gasoline/ethanol blends can be used in your motorcycle if the ethanol content does not exceed 10%.
- Gasolines containing ETHER: Gasoline/ether blends are a mixture of gasoline and as much as 15% ether. Gasoline/ether blends can be used in your motorcycle if the ether content does not exceed 17%.
- REFORMULATED OR OXYGENATED GASOLINES (RFG): “Reformulated gasoline” is a term used to describe gasoline blends that are specifically designed to burn cleaner than other types of gasoline, leaving fewer “tailpipe” emissions. They are also formulated to evaporate less when you are filling your tank. Reformulated gasolines use additives to “oxygenate” the gas. Your motorcycle will run normally using this type of gas and Harley-Davidson recommends you use it when possible, as an aid to cleaner air in our environment.

You may find that some gasoline blends adversely affect the starting, driveability or fuel efficiency of your bike. If you experience one or more of these problems, we recommend you try a different brand of gasoline or higher octane rating.

## CATALYTIC CONVERTERS

California and Swiss model 1340cc motorcycles are equipped with catalytic converters.

### CAUTION

**Do not operate catalytic converter-equipped vehicle with engine misfire or a non-firing cylinder. If you operate the vehicle under these conditions, the exhaust will become abnormally hot, which can cause vehicle damage, including emission control loss.**

### CAUTION

**You must use ONLY unleaded fuel in California and Swiss model catalytic converter-equipped motorcycles. Using leaded fuel will damage the emissions control system.**

## BULB CHART - FLSTC/F/S, FXSTC/S/B

LAMP DESCRIPTION ALL LAMPS 12 VOLT	NUMBER OF BULBS (REQUIRED)	CURRENT DRAW (AMPERAGE)	HARLEY-DAVIDSON PART NUMBER
Headlamp			
FLSTC/F/S	1	4.7/4.3	67713-86
FXSTC/S/B	1	4.7/4.3	67697-81
Position Lamp (HDI)	1	0.32	53438-92
Tail and Stop Lamp	1		
Tail Lamp		0.59	68168-89
Stop Lamp		2.25	
Tail Lamp (HDI)		0.42	68169-90
Stop Lamp (HDI)		1.75	
Passing Lamp FLSTC/FLSTS	2	2.5	68674-69
Fog Lamp (HDI)	2	2.92	68847-98
Turn Signal Lamp			
Front/Running	2	2.25/0.59	68168-89
Front (HDI)	2	1.75	68163-84
Rear	2	2.10	68572-64B
Rear (HDI)	2	1.75	68163-84
License Plate Lamp			
FLSTS	1	0.35	52441-95
FLSTS (HDI)	1	0.37	53436-97
Fender Tip Lamps FLSTC	2	0.10	53439-79

## BULB CHART - FLSTC/F/S, FXSTC/S/B

LAMP DESCRIPTION ALL LAMPS 12 VOLT	NUMBER OF BULBS (REQUIRED)	CURRENT DRAW (AMPERAGE)	HARLEY-DAVIDSON PART NUMBER
Instrument Panel Lamps			
High Beam Indicator	1	0.15	68024-94
Oil Pressure Indicator	1	0.15	68024-94
Neutral Indicator	1	0.15	68462-64
Turn Signal Indicator	2	0.15	68462-64
Speedometer*			
Odometer*			
Front Fender Lamp FLSTS	1	0.35	52441-95

\* Illuminated with LEDs

## BULB CHART - FXD/L/WG/CONV/X

LAMP DESCRIPTION ALL LAMPS 12 VOLT	NUMBER OF BULBS (REQUIRED)	CURRENT DRAW (AMPERAGE)	HARLEY-DAVIDSON PART NUMBER
Headlamp High Beam / Low Beam	1	5.0 / 4.58	67697-81
Tail and Stop Lamp	1		
Tail Lamp		0.59	68168-89
Stop Lamp		2.10	
Tail Lamp (HDI)		0.42	68169-90
Stop Lamp (HDI)		1.75	
Position Lamp	1	0.32	53438-92
Turn Signal Lamp			
Front/Running	2	2.25/0.59	68168-89
Front (HDI)	2	1.75	68163-84
Rear	2	2.25	68572-64B
Rear (HDI)	2	1.75	68163-84

## BULB CHART - FXD/L/WG/CONV/X

LAMP DESCRIPTION ALL LAMPS 12 VOLT	NUMBER OF BULBS (REQUIRED)	CURRENT DRAW (AMPERAGE)		HARLEY-DAVIDSON PART NUMBER	
Instrument Panel Lamps		FXD/CONV	FXDL	FXD/CONV/X	FXDL
High Beam Indicator*	1	0.15	0.08	68024-94	68023-92A
Oil Pressure Indicator*	1	0.15	0.08	68024-92	68020-92A
Neutral Indicator*	1	0.15	0.08	68024-94	68024-92A
Turn Signal Indicator*	2	0.15	0.08	68024-92	68021-92A
Speedometer**					
Odometer**					
Tachometer**					
Fuel Gauge FXDL	1	0.19	0.19	67136-85	67136-85
FXD CONV/X	1	0.3		53439-79	
FXDWG	1	0.17		67136-85	

\* Illuminated with LED assembly on FXDWG

\*\* Illuminated with LEDs

# NOTES

The Sportster section contains the vehicle specifications for the following Harley-Davidson models:

XLH 883

XLH 883 Hugger

XLH 883C Custom

XLH 1200

XL 1200C Custom

XL 1200S Sport

# NOTES

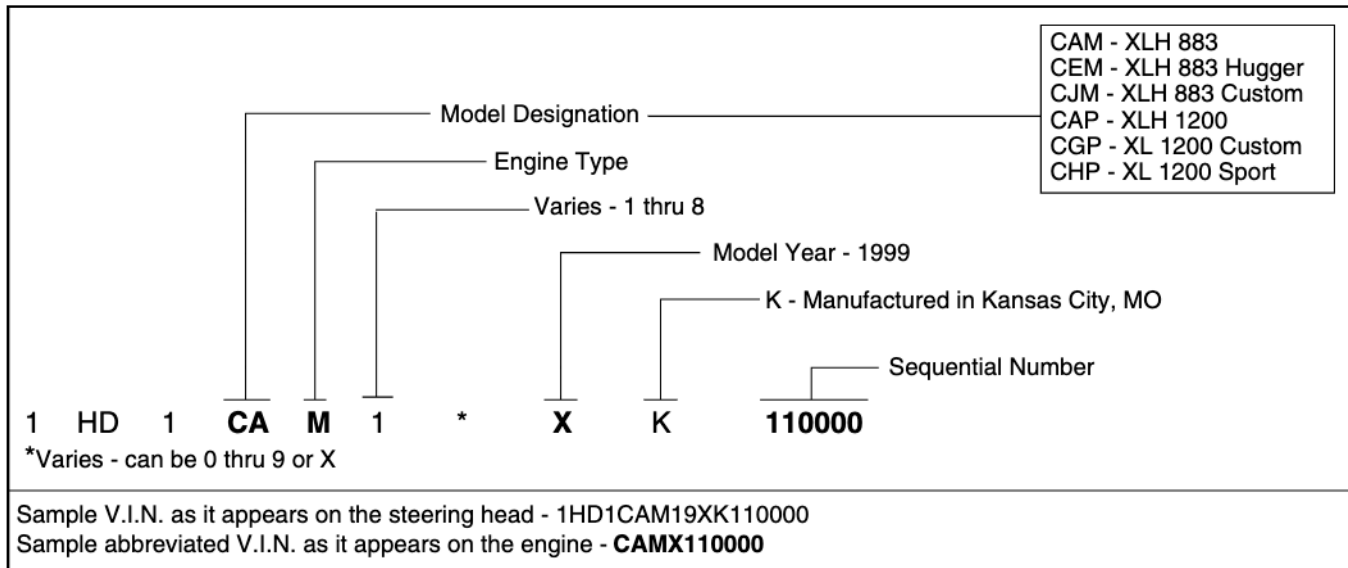


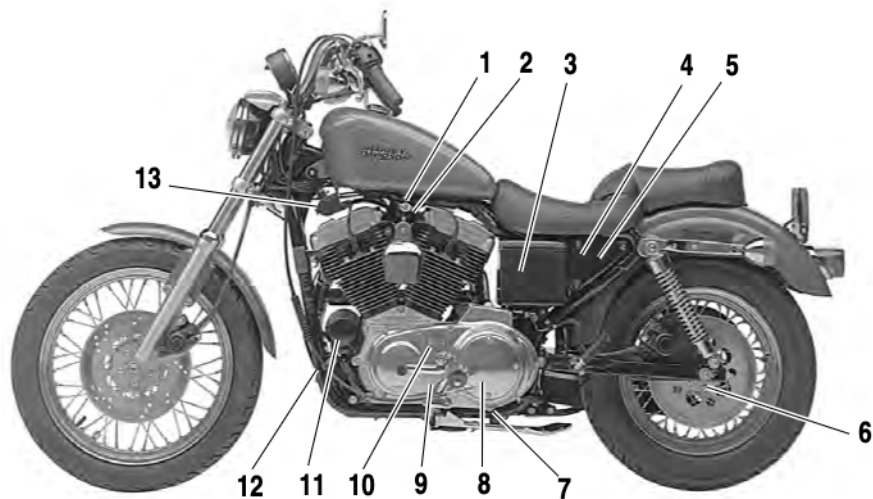
## VEHICLE IDENTIFICATION NUMBER (V.I.N.)

The full 17 digit serial, or Vehicle Identification Number (V.I.N.) is stamped on the steering head and on a label located on the right front frame downtube. An abbreviated V.I.N. is stamped on the left side crankcase at the base of the rear cylinder.

### NOTE

*Always give the full 17 digit Vehicle Identification Number when ordering parts or making any inquiry about your motorcycle.*



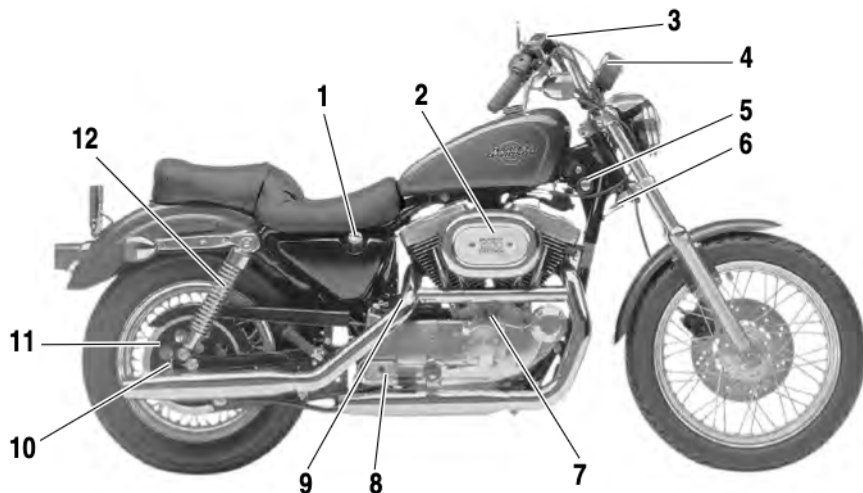


1. Fuel supply valve
2. Carburetor enrichener knob
3. Battery
4. Ignition module, fuses, starter relay (under side cover)

5. Engine oil tank drain hose
6. Rear axle adjuster
7. Primary & transmission drain plug
8. Clutch inspection cover

9. Primary chain cover
10. Primary chain inspection cover
11. Engine oil filter
12. Voltage regulator
13. Ignition coil

Sportster XLH 1200 - Left Side View

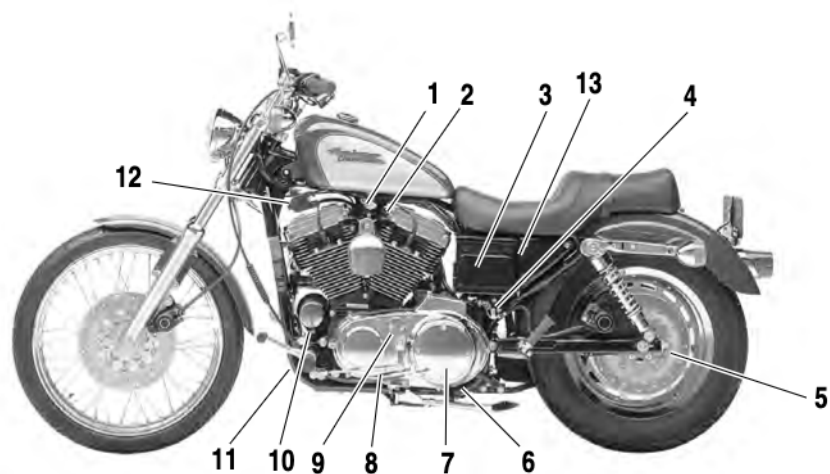


1. Engine oil fill plug & dipstick
2. Carburetor/air cleaner
3. Front brake master cylinder & reservoir
4. Speedometer/tachometer

5. Ignition/light key switch
6. Fork lock brackets
7. Timing inspection hole plug
8. Rear brake master cylinder & reservoir

9. Electric starter motor
10. Rear axle adjuster
11. Rear sprocket & drive
12. Shock absorber(s)

Sportster XLH 1200 - Right Side View

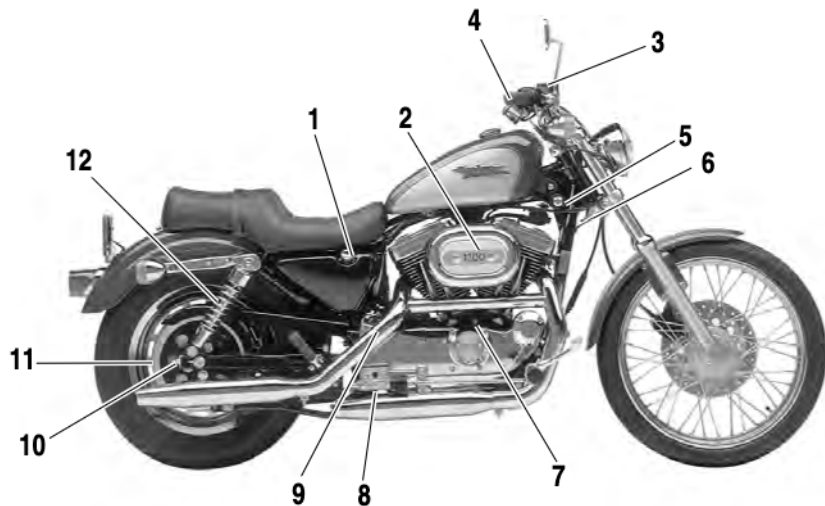


- 1. Fuel supply valve
- 2. Carburetor enrichener knob
- 3. Battery
- 4. Engine oil tank drain hose
- 5. Rear axle adjuster

- 6. Primary & transmission drain plug
- 7. Clutch inspection cover
- 8. Primary chain cover
- 9. Primary chain inspection cover

- 10. Engine oil filter
- 11. Voltage regulator
- 12. Ignition coil
- 13. Ignition module, fuses, starter relay (under side cover)

Sportster XL 1200C Custom - Left Side View (Typical)

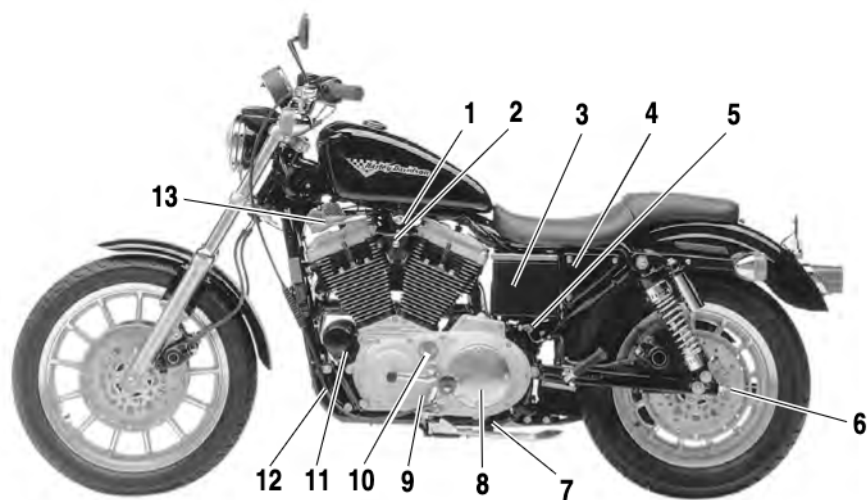


1. Engine oil fill plug & dipstick
2. Carburetor/air cleaner
3. Front brake master cylinder & reservoir
4. Speedometer

5. Ignition/light key switch
6. Fork lock brackets
7. Timing inspection hole plug
8. Rear brake master cylinder & reservoir

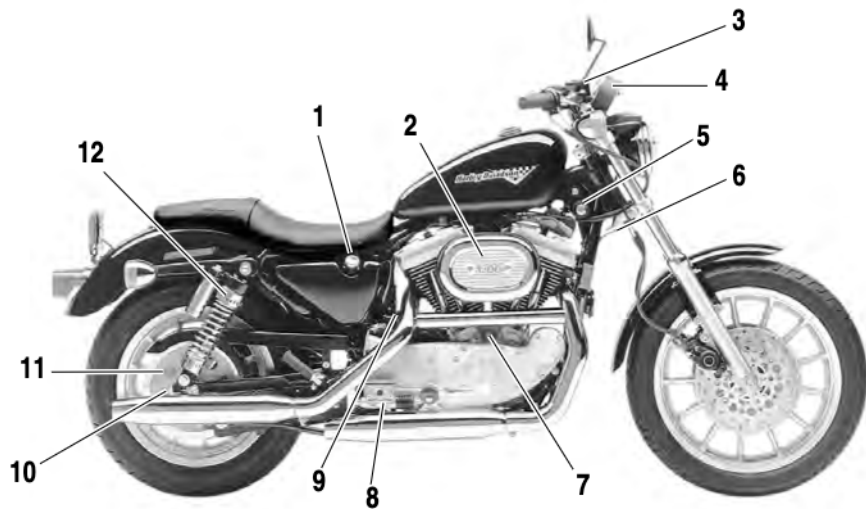
9. Electric starter motor
10. Rear axle adjuster
11. Rear sprocket & drive
12. Shock absorber(s)

Sportster XL 1200C Custom- Right Side View (Typical)



- |   |                                      |                                    |
|---|--------------------------------------|------------------------------------|
| 1. Fuel supply valve                                  | 5. Engine oil tank drain hose        | 9. Primary chain cover             |
| 2. Carburetor enricher knob                           | 6. Rear axle adjuster                | 10. Primary chain inspection cover |
| 3. Battery  | 7. Primary & transmission drain plug | 11. Engine oil filter              |
| 4. Ignition module, fuses, starter relay (under seat) | 8. Clutch inspection cover           | 12. Voltage regulator              |
|   |                                      | 13. Ignition coil                  |

**Sportster XL 1200S Sport - Left Side View (Typical)**

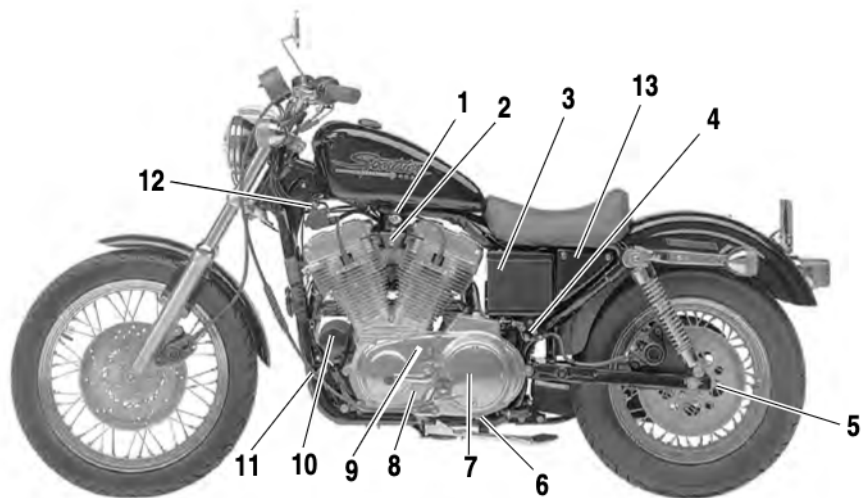


1. Engine oil fill plug & dipstick
2. Carburetor/air cleaner
3. Front brake master cylinder & reservoir
4. Speedometer/tachometer

5. Ignition/light key switch
6. Fork lock brackets
7. Timing inspection hole plug
8. Rear brake master cylinder & reservoir

9. Electric starter motor
10. Rear axle adjuster
11. Rear sprocket & drive
12. Shock absorber(s)

Sportster XL 1200S Sport - Right Side View (Typical)



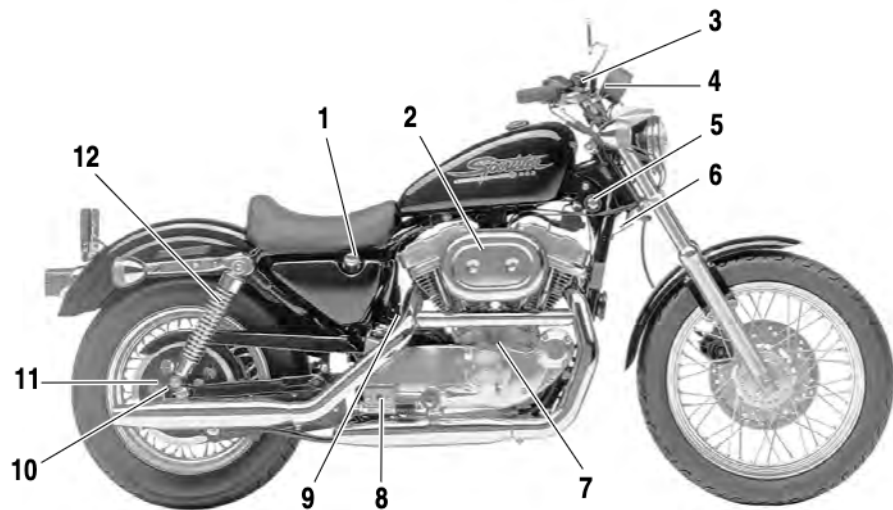
- 1. Fuel supply valve
- 2. Carburetor enrichener knob
- 3. Battery
- 4. Engine oil tank drain hose
- 5. Rear axle adjuster

- 6. Primary & transmission drain plug
- 7. Clutch inspection cover
- 8. Primary chain cover
- 9. Primary chain inspection plug

- 10. Engine oil filter
- 11. Voltage regulator
- 12. Ignition coil
- 13. Ignition module, fuses, starter relay (under seat)

Sportster XLH 883 - Left Side View (Typical)



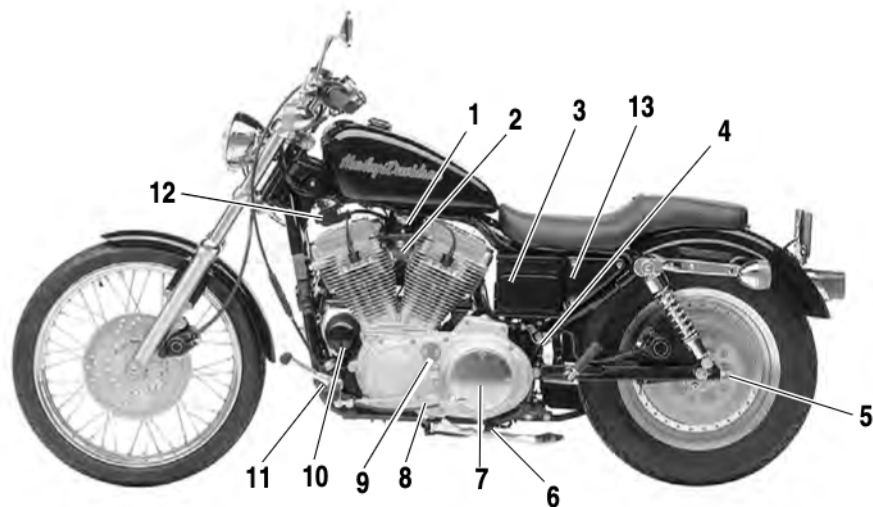


1. Engine oil fill plug & dipstick
2. Carburetor/air cleaner
3. Front brake master cylinder & reservoir
4. Speedometer

5. Ignition/light key switch
6. Fork lock brackets
7. Timing inspection hole plug
8. Rear brake master cylinder & reservoir

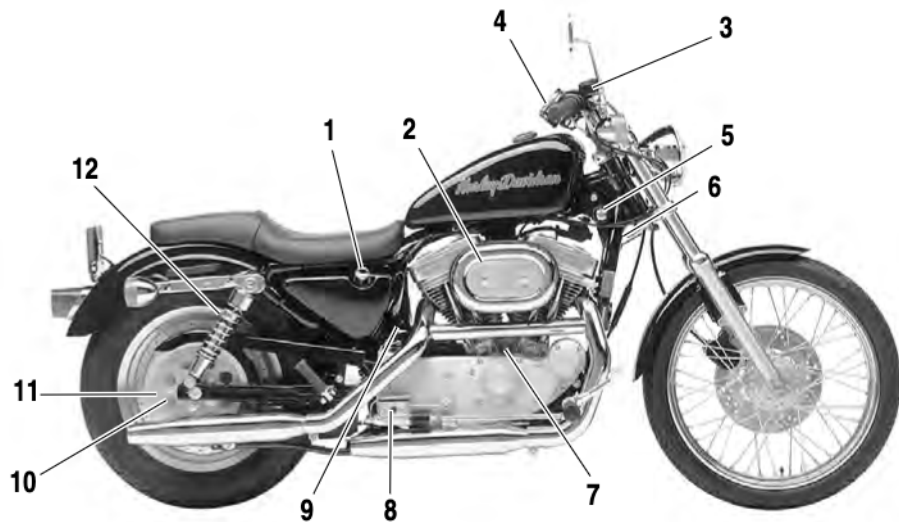
9. Electric starter motor
10. Rear axle adjuster
11. Rear sprocket & drive
12. Shock absorber(s)

Sportster XLH 883 - Right Side View (Typical)



- |                               |                                      |  |
|-------------------------------|--------------------------------------|--|
| 1. Fuel supply valve          | 6. Primary & transmission drain plug | 10. Engine oil filter                                  |
| 2. Carburetor enrichener knob | 7. Clutch inspection cover           | 11. Voltage regulator                                  |
| 3. Battery                    | 8. Primary chain cover               | 12. Ignition coil                                      |
| 4. Engine oil tank drain hose | 9. Primary chain inspection plug     | 13. Ignition module, fuses, starter relay (under seat) |
| 5. Rear axle adjuster         |                                      |  |

**Sportster XLH 883 Custom - Left Side View (Typical)**



1. Engine oil fill plug & dipstick
2. Carburetor/air cleaner
3. Front brake master cylinder & reservoir
4. Speedometer

5. Ignition/light key switch
6. Fork lock brackets
7. Timing inspection hole plug
8. Rear brake master cylinder & reservoir

9. Electric starter motor
10. Rear axle adjuster
11. Rear sprocket & drive
12. Shock absorber(s)

**Sportster XLH 883 Custom - Right Side View (Typical)**

## NOTES

## DIMENSIONS (IN.)

	XLH 1200	XL 1200C	XL 1200S	XLH 883	XLH 883 Hugger	XL 883C
Wheel Base.....	60.00	60.00	60.20	60.00	59.00	60.00
Overall Length.....	88.10	89.00	88.50	88.10	88.00	89.00
Overall Width.....	35.00	35.00	33.00	33.00	35.00	35.00
Road Clearance ...	6.70	4.70	6.70	6.70	4.70	6.70
Overall Height .....	49.75	49.75	47.50	47.50	49.75	49.75
Saddle Height.....	28.90	27.56	28.00	28.00	27.12	27.56

## WEIGHT (LBS.)

	XLH 1200	XL 1200C	XL 1200S	XLH 883	XLH 883 Hugger	XLH 883C
--	-------------	-------------	-------------	------------	----------------------	-------------

### DRY WEIGHT

(as shipped from

the factory) .....	491	491	501	489	486	489
GVWR .....	948	948	948	948	948	998
GAWR - Front .....	353	353	353	353	353	353
GAWR - Rear .....	595	595	595	595	595	595

### NOTE

*Gross Vehicle Weight Rating (GVWR) (maximum allowable loaded vehicle weight) and corresponding Gross Axle Weight Ratings (GAWR) are given on a label located on the frame steering head.*

## CAPACITIES (U.S.)

### Fuel Tank - All Models

(Gallons) Total.....	3.30
Reserve.....	0.50

### Oil Tank

(Quarts) w/filter.....	3
------------------------	---

### Transmission/Primary chaincase

(Ounces, approx.) .....	32
-------------------------	----

### Front Fork

Each (Ounces, wet).....	9*
*Hugger .....	10.7
Sport .....	follow applicable procedure

## IGNITION SYSTEM

### Timing Setting

1050-1500 RPM ..... 20° BTDC

Battery ..... Maintenance Free, 12 Volt, 18 amp. hr.

### Spark Plugs

Type.....	HD-6R12
Size.....	12mm
Gap.....	0.038-0.043 in. (0.97-1.09mm)

## ENGINE

Number of Cylinders .....	2
Type .....	4-Cycle, 45 Degree V-Type, air cooled
Compression Ratio (all except XL1200S) .....	9.0 to 1
XL1200S.....	10.0 to 1
Bore x Stroke - 883 .....	3.00 x 3.81
1200.....	3.50 x 3.81
Displacement cu.in./cc XL1200/C/S .....	73.4 / 1200
XL883/C .....	53.9 / 883
Torque - ft.lbs. @ RPM XL1200/C .....	72 @ 4000
XL1200S .....	76 @ 4000
XL883/C .....	53 @ 4500

## TRANSMISSION

Type .....	Constant Mesh, Foot Shift
Speeds .....	5 Forward

## NUMBER OF SPROCKET TEETH (Primary Chain)

Engine .....	35
Clutch .....	56

## NUMBER OF SPROCKET TEETH

Motorcycle	Transmission	Rear Wheel
883	27	61
1200	29	61

## OVERALL GEAR RATIOS

Gear	883	1200
First (Low) .....	9.717 .....	9.047
Second.....	7.120.....	6.629
Third.....	5.180.....	4.823
Fourth.....	4.267.....	3.973
Fifth.....	3.615.....	3.366

## TIRE DATA



**WARNING**

- For your personal safety, tires, rims and air valves must be correctly matched to wheel rims. See your Harley-Davidson dealer. Mismatching tires, tubes, rims and air valves may result in damage to the tire bead during mounting or may allow the tire to slip on the rim, possibly causing tire failure and/or personal injury.
- In addition, using tires other than those specified may adversely affect motorcycle stability.
- Tubeless tires fitted with the correct size inner tubes may be used on all Harley-Davidson laced (wire spoked) wheels. Protective rubber rim strips must be used with tubeless tires (fitted with correct size inner tubes) when mounted on laced (wire spoked) wheels.

- Inner tubes must not be used in radial tires and radial tires must not be used on laced (wire spoked) wheels.
- Tubeless tires are used on all Harley-Davidson cast and disc wheels.

Tire sizes are molded on the tire sidewall. Inner tube sizes are printed on the tube.

 **WARNING**

Maximum inflation pressure must not exceed specification on tire sidewall. Failure to follow this warning could cause tire failure possibly resulting in personal injury.

1999 VEHICLES DUNLOP TIRES ONLY		TIRE PRESSURE PSI (COLD)	
		Front	Rear
Solo Rider	XLH - All	30	36
Rider & One Passenger	XLH - All	30	40

## FUEL

Use a good quality unleaded gasoline. Use at least 87 pump octane. XL1200S models require 91 or higher octane. Octane rating is usually found on the pump.

 **WARNING**

Remove fuel filler cap slowly. Fill fuel tank slowly to prevent spillage. Do not overfill. Do not fill above the bottom of the filler neck insert. Leave air space to allow for fuel expansion. Expansion can cause an overfilled tank to overflow gasoline through the filler cap onto surrounding areas. After refueling, be sure fuel filler cap is securely tightened. Failure to follow this warning could result in an explosion and/or fire possibly resulting in personal injury.

 **CAUTION**

- Using gasoline that has methanol, can cause fuel system rubber components' failure and/or engine damage.
- Gasohol spills can stain the paint on your Harley-Davidson.

Today's service station pumps are increasingly of the higher capacity variety. With the high flow of gasoline into a motorcycle tank, air entrapment and pressurization is a

possibility. The pressurized air may force gasoline to escape through whatever opening is available within the filler tube. This may not only soil clothing, but may create a potential fire hazard.

## GASOLINE BLENDS

Your motorcycle was designed to get the best performance and efficiency using unleaded gasoline. Most gasolines sold in the United States are blended with alcohol and/or ether to create “oxygenated” blends. The type and amount of alcohol or ether added to the fuel is important.

- **DO NOT USE GASOLINES CONTAINING METHANOL.** Using gasoline/methanol blends will result in starting and driveability deterioration and damage to critical fuel system components.
- **ETHANOL** is a mixture of 10% ethanol (Grain alcohol) and 90% unleaded gasoline. Gasoline/ethanol blends can be used in your motorcycle if the ethanol content does not exceed 10%.
- Gasolines containing **ETHER**: Gasoline/ether blends are a mixture of gasoline and as much as 15% ether. Gasoline/ether blends can be used in your motorcycle if the ether content does not exceed 17%.
- **REFORMULATED OR OXYGENATED GASOLINES (RFG)**: “Reformulated gasoline” is a term used to describe gasoline blends that are specifically designed

to burn cleaner than other types of gasoline, leaving fewer “tailpipe” emissions. They are also formulated to evaporate less when you are filling your tank. Reformulated gasolines use additives to “oxygenate” the gas. Your motorcycle will run normally using this type of gas and Harley-Davidson recommends you use it when possible, as an aid to cleaner air in our environment.

You may find that some gasoline blends adversely affect the starting, driveability or fuel efficiency of your bike. If you experience one or more of these problems, we recommend you try a different brand of gasoline or higher octane rating.

## CATALYTIC CONVERTERS

Swiss model XLH motorcycles are equipped with catalytic converters.



**You must use ONLY unleaded fuel in Swiss model catalytic converter-equipped motorcycles. Using leaded fuel will damage the emissions system.**



## BULB CHART - XLH

LAMP DESCRIPTION ALL LAMPS 12 VOLT	NUMBER OF BULBS (REQUIRED)	CURRENT DRAW (AMPERAGE)	HARLEY-DAVIDSON PART NUMBER
Headlamp	1	4.58/5.0	67697-81
Position Lamp (HDI)	1	0.32	53438-92
Tail and Stop Lamp	1		
Tail Lamp		0.59	68168-89
Stop Lamp		2.25	
Tail Lamp (HDI)		0.42	68169-90
Stop Lamp (HDI)		1.75	
Turn Signal Lamp			
Front/Running	2	2.25/0.59	68168-89
Rear	2	2.25	68572-64B
Front (HDI)	2	1.75	68163-84
Rear (HDI)	2	1.75	68163-84
Instrument Panel Lamps			
High Beam Indicator	1	0.15	68024-94
Oil Pressure Indicator	1	0.15	68024-94
Neutral Indicator	1	0.15	68024-94
Turn Signal Indicator	2	0.15	68024-94
Speedometer*			
Odometer*			
Tachometer* (not on all models)			

\*Illuminated with LEDs

# NOTES

## SAFE OPERATING RULES

Before operating your new motorcycle it is your responsibility to read and follow operating and maintenance instructions in this manual, and follow these basic rules for your personal safety.

- Know and respect the rules of the road (see RULES OF THE ROAD). Also read and observe the MOTORCYCLE SAFETY booklets that come with this Owner's Manual. You should also read and know the contents of the MOTORCYCLE HANDBOOK for your state.
- Use only Genuine Harley-Davidson approved parts and accessories. Use of certain Screamin' Eagle® or other manufacturer's performance parts will void your new motorcycle warranty. See your dealer for details.
- Gasoline is extremely flammable and is explosive under certain conditions. Refuel in a well ventilated area with the engine turned off. Remove fuel filler cap slowly. Do not smoke or allow open flames or sparks when refueling or servicing the fuel system. Always close the fuel supply valve when the engine is not running to prevent flooding of the carburetor and the surrounding area with gasoline. Do not fill fuel tank above the bottom of the filler neck insert. Leave air space to allow for fuel expansion.
- Motorcycle exhaust contains poisonous carbon monoxide gas. Do not inhale exhaust gases and never run the engine in a closed garage or confined area.
- Before starting engine, check for proper operation of brake, clutch, shifter, throttle controls, correct fuel and oil supply.
- Be sure jiffy stand is fully retracted before riding the motorcycle. If jiffy stand is not fully retracted during vehicle operation, it could contact the road surface causing a momentary disturbance before retracting. This momentary disturbance could distract the rider, possibly causing loss of vehicle control.
- A new motorcycle must be operated according to special break-in procedure. (See Break-in - The First 500 Miles.)
- Operate motorcycle only at moderate speed and out of traffic until you have become thoroughly familiar with its operation and handling characteristics under all conditions. If you are an inexperienced rider we recommend that you obtain information and formal training in correct motorcycle riding technique.
- Do not exceed 80 mph (130 km/h) when carrying a passenger or cargo.
- Do not exceed the legal speed limit or drive too fast for existing conditions. Always reduce speed when poor driving conditions exist. High speed increases the influence of any other condition affecting stability and possibility of loss of control.

- Pay strict attention to road surfaces and wind conditions. Any two wheeled vehicle may be subject to upsetting forces. Wind blasts from passing trucks, holes in the pavement, rough road surfaces, rider control error, etc., may influence the handling characteristics of your motorcycle. If this happens, reduce speed and guide the motorcycle with a relaxed grip to a controlled condition. Do not brake abruptly or force the handlebar because this may aggravate an unstable condition. New riders should gain experience under various conditions while driving at moderate speeds.
- Operate your motorcycle defensively. Remember, a motorcycle does not afford the same protection as an automobile in an accident. One of the most common accident situations occurs when the driver of the other vehicle fails to see or recognize a motorcycle and turns left into the on-coming motorcyclist. Operate only with headlamp on.
- Wear an approved helmet, clothing and foot gear suited to motorcycle riding. Bright or light colors are best for greater visibility in traffic, especially at night. Avoid loose, flowing garments and scarves.
- The exhaust pipes and mufflers get very hot when the engine is running and remain too hot to touch for some time after the engine is turned off. Wear clothing that will completely cover the legs when riding. Avoid contact with the exhaust system.
- When carrying passengers, it is your responsibility to instruct them on proper riding procedures. (See Riding Tips for Motorcyclist included in your Owner's Kit.)
- Do not allow others, under any circumstances, to operate your motorcycle unless you are certain that they are experienced, licensed riders and are familiar with the operation of your particular motorcycle.
- When leaving motorcycle unattended, lock the steering head and remove ignition key from switch. Protect your motorcycle against theft.
- Safe motorcycle operation requires mental awareness and good judgment combined with a defensive driving attitude. Don't allow fatigue, alcohol or drugs to endanger your safety or the safety of others.
- Vehicles equipped with a sound system should have the volume adjusted to a nondistracting level before operating vehicle.

- Maintain your motorcycle in proper operating condition in accordance with the MAINTENANCE INTERVALS chart in this Owner's Manual. Particularly important to motorcycle stability is proper tire inflation pressure, tread condition, and proper adjustment of wheel bearings and steering head bearings. Do not operate motorcycle with a loose, worn or damaged steering system or front and rear suspension system because handling will be adversely affected. Contact your dealer for repair of steering or suspension system wear or damage.
- Be sure all equipment required by federal, state, and local law is installed and in good operating condition.
- Maintain proper tire pressure and wheel and tire balance. Improper tire and wheel balance and abnormal tread wear can cause poor handling. Inspect your tires periodically. Replace tires with approved tires only. (See your Harley-Davidson dealer.)
- Do not exceed the Gross Vehicle Weight Rating of your motorcycle. Maximum allowable vehicle weights with rider and passenger are specified on the Identification Label affixed to your vehicle. Overloading, particularly at the rear of a motorcycle, can cause instability. Carefully check any approved accessories for the maximum weight capacities.
- Do not tow a trailer. Trailers may contribute to motorcycle instability and/or tire overload.
- Regularly inspect shock absorbers and front forks. Check for leaks. Worn parts can affect stability. If you have questions as to how these should function, see your Harley-Davidson dealer.
- Keep hazardous substances such as brake and battery fluids and cleaning compounds away from eyes and skin and out of mouth. Keep all hazardous substances out of the reach of children.
- Consult your dealer regarding any questions you may have about your motorcycle. Should any abnormality occur in the operation of your motorcycle, immediately contact your Harley-Davidson dealer for correction of the problem. Continued operation of a misperforming motorcycle will probably aggravate an initial problem, cause repairs to be more costly and perhaps affect your personal safety.
- The front and/or rear guard(s) may provide limited leg protection and cosmetic vehicle protection under unique circumstances (i.e., fall to the side while stopped, very slow speed slide). They are not made nor intended to provide protection in a collision with another vehicle or an object.
- The quality fasteners used in Harley-Davidson motorcycles have specific strength, finish and type requirements to perform properly in the assembly and its environment. Use only Genuine Harley-Davidson replacement fasten-

ers, tightened to the proper torque. Substitution could cause fastener failure which may result in personal injury.

- California vehicles, equipped with Evaporative Emission controls, have a plugged carburetor overflow fitting. The fuel supply valve on the vehicle should be turned off when the vehicle is not operating. If the fuel supply valve is not turned off when the vehicle is not operating, fuel can drain into the engine, dilute the engine oil and cause engine damage.
- Do not tow a disabled motorcycle with another vehicle. The steering and handling of the disabled motorcycle will be impaired because of the force on the tow line. Impaired handling can cause loss of control and possible personal injury. If a disabled motorcycle must be transported, use a truck or trailer.

## RULES OF THE ROAD

Keep on the right side of the road centerline when meeting other vehicles coming in the opposite direction. Ride to left of center of your lane to avoid possible oily pavement.

- Always sound your horn, actuate your turn signals and pass on the left side when passing other vehicles going in the same direction. Never try to pass another vehicle going in the same direction at street intersections, on curves, or when going up or down a hill.
- At street intersections give the right-of-way to the vehicle on your right. Do not presume too much when you have the right-of-way; the other driver may not know you have it.
- Always signal when preparing to stop, turn, or pass.
- All traffic signs, including those used for the control of traffic at intersections, should be obeyed promptly. SLOW DOWN signs near schools and caution signs at railroad crossings should always be observed and your actions governed accordingly.
- When intending to turn to the left, signal at least 100 feet before reaching the turning point. Move over to the centerline of the street (unless local rules require otherwise), slow down, enter the intersection of the street and then turn carefully to the left.
- Never anticipate a traffic light. When a change is indicated from GO to STOP (or vice versa) in the traffic control systems at intersections, await the change.

- While turning either right or left, watch for pedestrians as well as vehicles.
- Do not leave the curb or parking area without signaling and being sure that your way is clear to enter moving traffic. A moving line of traffic has the right-of-way.
- Be sure that your license plate is installed in the position specified by law and that it is clearly visible under all conditions. Keep it clean.
- Ride at a safe speed, a speed consistent with the type of highway you are on, and always note whether the road is dry, oily, icy or wet. Each varying condition on the highway means adjusting your speed and driving habits accordingly.

## ACCESSORIES AND CARGO

### WARNING

The addition of accessories and additional weight to this motorcycle can affect the motorcycle's stability, handling characteristics, and safe operating speed. Because Harley-Davidson cannot test and make specific recommendations concerning every accessory or combination of accessories sold, the rider must be responsible for safe operation of the motorcycle when installing accessories or carrying additional weight. The following guidelines should be used when equipping a motorcycle and carrying passengers and cargo.

- The Gross Vehicle Weight Rating (GVWR) is shown on the information plate located on the frame steering head. GVWR is the sum of the weight of the motorcycle and accessories and the maximum weight of the rider, passenger and cargo that may be safely carried. Do not tow a trailer with this motorcycle. Do not exceed the Gross Vehicle Weight Rating as indicated on the frame label. Overloading the motorcycle or towing a trailer will cause unstable handling and reduced braking efficiency which could result in an accident and personal injury.
- Never exceed 80 MPH (130 km/h) when carrying a passenger or cargo.
- Keep cargo weight concentrated close to the motorcycle and as low as possible to minimize the change in the motorcycle's center of gravity. Distribute weight evenly on both sides of the vehicle and do not load bulky items too far behind the rider or add weight to the handlebars or front forks. Do not exceed 15 pounds maximum load in each saddlebag (12 pounds, FXDS-Conv.) or 25 pounds maximum in Tour-Pak®. Improper loading can cause vehicle handling problems, leading to personal injury.
- Luggage racks are designed for lightweight items - do not overload racks.
- Be sure cargo is secure and will not shift while riding. Recheck load periodically.
- Accessories that change the operator's riding position may increase reaction time and affect handling.
- Additional electrical equipment may overload the motorcycle's electrical system and cause an unsafe operating condition.
- The front and rear guard may provide limited leg protection and cosmetic vehicle protection under unique circumstances (i.e., fall to the side while stopped, very slow speed slide). It is not intended to provide protection in a collision with another vehicle or other object.



- Large surfaces such as fairings, windshields, backrests, and luggage racks can adversely affect handling. These items should be designed and approved by Harley-Davidson specifically for the motorcycle model and be properly installed.

 **WARNING**

Softail models are special edition, custom motorcycles. They have been carefully designed and engineered to be ridden in the original configuration. **DO NOT** alter the handling characteristics of these motorcycles by adding weight, such as fairings or radios. Do not attempt “custom” alterations such as extended front forks. Present Softail models are not designed for and must **NEVER** be used with a sidecar. Use of the vehicle for this purpose could cause personal injury. **FXSTS** and **FLSTS** motorcycles were **NOT** designed for sidecar use. The Springer® fork was **NOT** designed for sidecar use. **DO NOT** use either the motorcycle or the Springer fork for this purpose. Use of the vehicle or the fork for this purpose could cause personal injury.

The above constitute vehicle misuse. Vehicle misuse could adversely affect handling, posing a potential hazard to the rider possibly resulting in personal injury.

 **WARNING**

The front end components of the Springer and their design relationships to each other are very important. Altering these relationships by modifying the Springer front end could adversely affect the handling of the motorcycle and result in personal injury.

**⚠️ WARNING**

The Springer front suspension was designed as a system and the shock absorber: FLSTS P/N 54482-97; FXSTS P/N 54483-88A has specific characteristics that make it an integral part of the suspension system. Replacing this shock absorber with anything other than a Harley-Davidson replacement part or altering the suspension system, may affect handling, resulting in personal injury.

**DO NOT:**

- Alter the fender brackets to lower the fender. Doing this could allow the front wheel to bind on the fender during hard stops or big bumps.
- Replace the O.E.M. tire with a higher-aspect ratio tire. Doing this could allow the front wheel to bind on the fender during hard stops or big bumps.
- Replace the FXSTS tire with a traditional-looking 16 in. front wheel, tire and front fender. In addition to above, this could adversely affect the handling characteristics of this motorcycle.

Harley-Davidson has designed and manufactured this special, custom front end according to our very stringent and well-tested standards. If you modify the Springer front end in any way that changes our original design, Harley-Davidson cannot and does not assume responsibility for mishaps resulting from these changes.

#### NOTE

- This Owner's Manual covers 1999 Harley-Davidson motorcycles. Some features explained are unique to certain models. These features may be available as accessories for your Harley-Davidson motorcycle. See your Harley-Davidson dealer for a complete list of accessories that will fit your model.
- Refer to the side-view photographs in the front of the manual to locate the items discussed in this manual.

## IGNITION/LIGHT KEY SWITCH

### WARNING

DO NOT modify the ignition/light switch wiring to circumvent the automatic-on headlight feature. High visibility is an important safety consideration for motorcycle riders. To reduce the risk of vehicle damage and personal injury, ensure that headlight is on at all times.

Be sure to record all your key numbers in the space provided at the front of this book on page ii.

See Figure 1 and Table 1. The ignition/light key switch controls electrical functions of the motorcycle.

### CAUTION

- To deter theft of your motorcycle, always lock ignition and remove key when motorcycle is left unattended.
- Do not lubricate barrel locks with petroleum based lubricants or graphite. Inoperative locks may result.

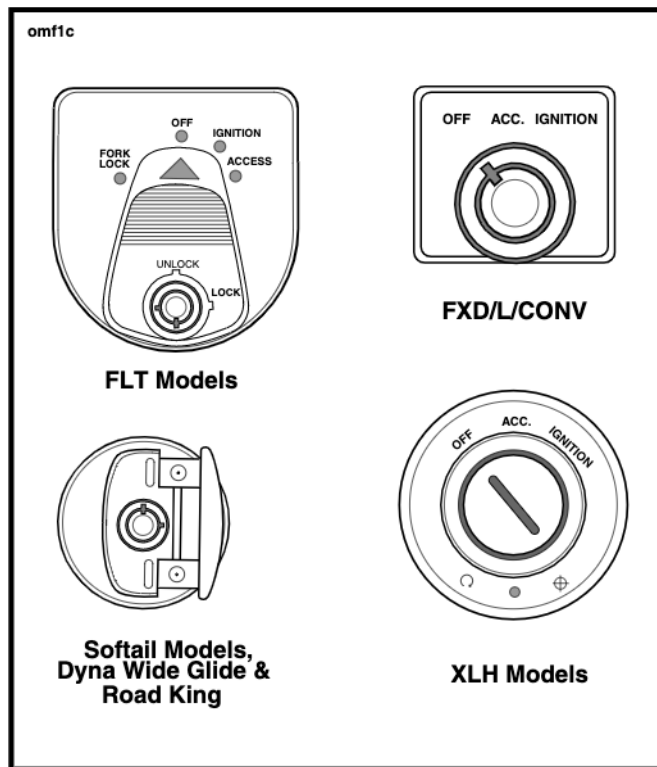


Figure 1. Ignition/Light Key Switch

**CAUTION**

Turn switch to OFF position and remove key before locking bike. If you leave the ignition in the ACC. position, the instrument lights will discharge the battery.

**Table 1. Ignition/Light Switch (1 of 2)**

MODEL	LOCATION	SWITCH POSITIONS/FUNCTIONS
FLT	At bottom of instrument panel	<p>To unlock the switch and the front fork, push the key in and turn it counterclockwise (clockwise on HDI). Press the lever/key (HDI) down and turn it to the off position. Be sure you push key in to move key to either position. Press the lever/key (HDI) down to move it to any position.</p> <p>To lock the fork, move fork to the full left position. Push down on lever and turn it to the left, to the FORK LOCK position. Remove the key.</p> <p>ACC. - Accessories and hazard warning flasher can be turned on. <b>Instrument lights are on.</b> Brake light and horn can be activated. Key may be removed (except HDI).</p> <p>The ignition, lights and accessories work when the switch is in the IGNITION position, as required by law in some localities.</p> <p style="text-align: center;"><i>NOTE</i></p> <p><i>Harley-Davidson recommends removing key from ignition/fork lock before operating motorcycle. If you do not remove key, key can fall out during operation (except HDI).</i></p>
FLHR/C-I	On fuel tank instrument panel	<p>Switch is locked or unlocked by lifting switch cover, inserting key and turning key counterclockwise to lock, clockwise to unlock. Key may be removed in any position.</p> <p>LOCK - Ignition, lights and accessories are off.</p> <p>ACC. - Accessories are on. Hazard warning flashers can be operated. <b>Instrument lights are on.</b> Brake light and horn can be activated.</p> <p>LIGHTS and IGNITION - Ignition, lights and accessories are on.</p>

**Table 1. Ignition/Light Switch (2 of 2)**

MODEL	LOCATION	SWITCH POSITIONS/FUNCTIONS
XLH	Behind frame steering neck (right hand side)	<p>OFF - Ignition and lights are off. Key may be removed.</p> <p>ACC. - Hazard warning flasher can be turned on. <b>Instrument lights are on.</b> Brake light and horn can be activated. Key may be removed.</p> <p>IGNITION - Push in and turn key. Ignition and lights are on.</p>
Softail	On fuel tank instrument panel	<p>Switch is locked or unlocked by lifting switch cover, inserting key and turning key counterclockwise to lock, clockwise to unlock. Key may be removed in any position.</p> <p>LOCK - Ignition, lights and accessories are off.</p> <p>ACC. - Accessories are on. Hazard warning flashers can be operated. <b>Instrument lights are on.</b> Brake light and horn can be activated.</p> <p>IGNITION - Ignition, lights and accessories are on. Switch cannot be locked.</p>
FXDWG	On fuel tank instrument panel	<p>Switch is locked or unlocked by lifting switch cover, inserting key and turning key counterclockwise to lock, clockwise to unlock. Key may be removed in any position.</p> <p>LOCK - Ignition, lights and accessories are off.</p> <p>ACC. - Accessories are on. Hazard warning flashers can be operated. <b>Instrument lights are on.</b> Brake light and horn can be activated.</p> <p>IGNITION - Ignition, lights and accessories are on.</p>
FXD/L/X/CONV	Below seat (right hand side)	<p>OFF - Ignition and lights are off. Key may be removed.</p> <p>ACC. - Hazard warning flasher can be turned on. <b>Instrument lights are on.</b> Brake light and horn can be activated.</p> <p>IGNITION - Push in and turn key. Ignition, lights and accessories are on.</p>

## ELECTRIC STARTER SWITCH

See Figure 2. The electric starter switch (8) is located on the right handlebar control group. Put engine stop switch (9) in RUN position and transmission in neutral. Turn ignition ON and push the START switch to operate starter motor.

## ENGINE STOP SWITCH

See Figure 2. Engine stop switch (9) is located on the right handlebar control. The engine stop switch turns ignition ON or OFF and should be used at all times to stop the engine, especially in an emergency. To stop engine, push switch to position marked OFF - then turn key to OFF.

### NOTE

*Switch must be in RUN position to operate engine.*

## THROTTLE CONTROL GRIP

See Figure 2. The throttle control grip (10) is located on the right handlebar control group. Turn control grip clockwise to close throttle; turn control grip counterclockwise to open throttle.

A spring loaded friction adjusting screw is located at the bottom of the throttle grip clamp on all models except Ultras. Unscrew the knob (12) so throttle returns to idle position when hand is removed from throttle grip. Screw the knob in to increase friction on grip to provide a damping effect on throttle motion. This reduces rider fatigue on long trips, where steady speeds are maintained. The throttle friction screw should not be used under normal stop and go operating conditions.

### WARNING

**Do not overtighten the friction adjustment screw. Operation with the friction screw overtightened is not recommended because of the possible hazard involved when the engine will not return to idle automatically in an emergency. This could lead to loss of control of motorcycle, resulting in possible personal injury.**

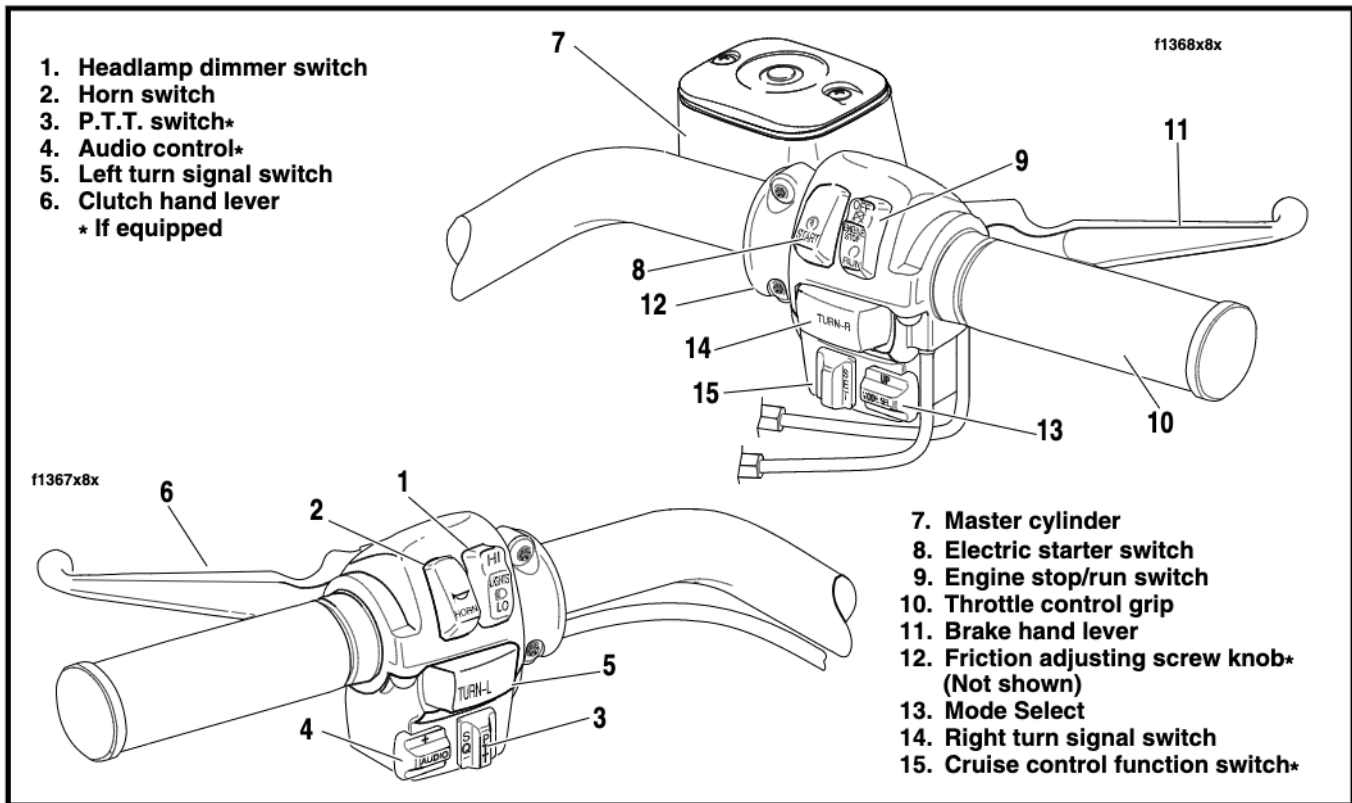


Figure 2. Handlebar Controls

# ENRICHENER

## CONSTANT VELOCITY (C.V.) CARBURETOR ENRICHENER - CARBURETED MODELS

A constant velocity carburetor uses an “enrichener” instead of a “choke”. An enrichener is operated almost the same way as a choke. There are two differences:

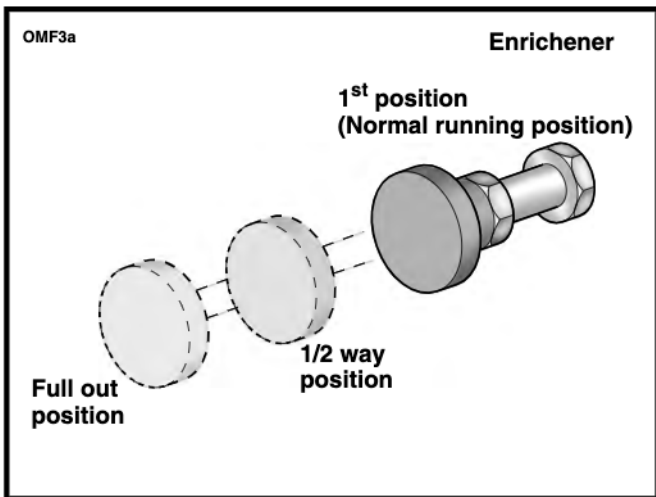


Figure 3. Setting the Enrichener

1. When starting a cold engine, the throttle control **MUST BE CLOSED** for the enrichener to work properly.
2. The enrichener does not have detents. The enrichener knob position can be adjusted from full in to full out.

See Figure 3. Engine speed increases as the enrichener knob is pulled out. By moving the enrichener knob, you adjust the air/fuel mixture to start a cold or warm engine.

Pull enrichener knob all the way out for cold engine starting. Change the enrichener knob position between full out or full in as the situation requires.

### NOTE

- See *OPERATION* for detailed starting procedures.
- Fuel injected models do not use an enrichener. See *OPERATION* for detailed starting procedures.

## CLUTCH HAND LEVER

### WARNING

**Be sure fingers are not positioned between hand control levers and handlebar grips or operation of these controls could be impaired. This may cause loss of control of the motorcycle, resulting in possible personal injury.**

See Figure 2. The clutch hand lever (6) is located on the left handlebar where it is operated with the fingers of the left hand. Pull lever in against handlebar grip to disengage clutch; release the lever slowly to its outward position to engage clutch.



## GEAR SHIFTER

See Figure 4. The gear shifter is located on the left side, where it is operated with the toe of the left foot.

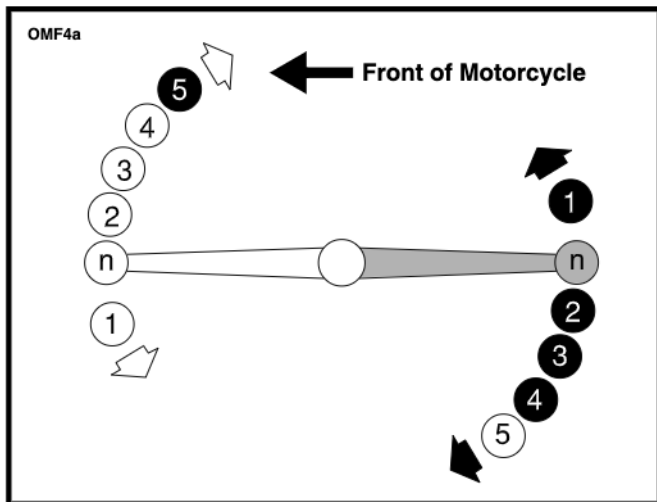


Figure 4. Gear Shifter

### NOTE

*Some motorcycles have a “heel-toe” shifter lever. With this shift lever, upshifts can be made with the heel of the left foot. Downshifts can be made with the toe.*

Pushing lever all the way down (full stroke) shifts transmission to the next lower gear, while lifting lever all the way up (full stroke) shifts transmission into the next higher gear.

The operator must release the shift lever after each gear change to allow lever to return to its central position before another gear change can be made.

Neutral position is between first (low) and second gears. First gear is the last gear position that can be found by pushing lever full strokes downward. To shift from first gear to neutral, lift lever half its full stroke.

### NOTE

- *The gear shifter mechanism on 1340cc and 1450cc 5-speed motorcycles does not permit shifting the transmission to neutral from second gear. Neutral can only be engaged from first gear.*
- *The XLH 5-speed transmission can be shifted to neutral from either first or second gear.*

With the motorcycle standing still and the engine not running, it usually will be necessary to roll the motorcycle backward and forward with the clutch fully disengaged while maintaining a slight pressure on the foot shift lever before a shift from one gear to another can be made.

Even with the engine running and the motorcycle standing still, difficulty may be experienced in shifting gears. This difficulty arises when transmission gears are not turning and shifting parts

are not lined up to permit engagement.

When this difficulty is experienced, do not under any circumstances, attempt to force the shift. The results of such abuse will be a damaged or broken shifter mechanism.

Either roll the motorcycle as indicated above, or if the engine is running, engage the clutch very slightly while applying light pressure to the shifter lever to make the shift. Both of these procedures set transmission gears in motion and then the shift can be made easily. See Shifting Gears in the OPERATION section.

## BRAKES

The brake pedal controls the rear wheel brake and is located on the motorcycle's right side. It is operated by the right foot. See Figure 2. The brake hand lever (11) controls the front wheel brake and is located on the right handlebar. It is operated by the fingers of the right hand.

Brakes should be applied uniformly and evenly to prevent wheels from locking up. A balance between rear and front braking is generally best.

### **WARNING**

**Do not apply either brake strongly enough to lock the wheel. This may cause loss of control of the motorcycle, resulting in possible personal injury.**

## HORN SWITCH

See Figure 2. The horn is operated by the horn switch (2) on the left handlebar control group.

## HEADLAMP DIMMER SWITCH

See Figure 2. The headlamp dimmer switch (1) on the left handlebar controls the headlamp high and low beams.

### NOTE

*The beam (blue) indicator light remains lit when high beam is on.*

## PASSING/FOG LAMP SWITCH - FLT, FLHR/C-I, FLSTC, FLSTS MODELS

See Figure 5. Use the passing lamp switch to turn on the passing lamps as required.

### NOTE

- *On the FLHT/C/Ultra/I, the passing/fog lamp switch is on the left side of the ignition switch on inner fairing panel.*
- *On the FLSTC, the passing/fog lamp switch is on the left, inside of the triple clamp shroud.*
- *On the FLHR/C-I, the passing /fog lamp switch is on the right, inside of the triple clamp shroud.*
- *On the FLSTS, the passing/fog lamp switch is under the left fuel tank next to the enrichener knob.*
- *The passing/fog lamps do not work when the headlamp is on high beam (except Australian models).*

# CRUISE CONTROL - ULTRA MODELS

## Theory of Operation

The Harley-Davidson cruise control is designed to be safely operated with minimum movement by the rider. It has been designed so all rider control actions are natural and easy.

### NOTE

- *FLTR/C-I models are "cruise ready", see your dealer for information.*
- *The rider always over-rides and controls the system.*
- *The system will not work at vehicle speeds below 30 MPH.*
- *The system is managed by a small computer that gets its operation information from VEHICLE SPEED, via the speedometer. The tachometer provides information to disengage the system if engine RPM's suddenly increase (disengage clutch, slippery or icy roads).*
- *Besides the computer, the system has other components: a stepper-motor (controlled by the computer), which operates the throttle during CRUISE operation, a clutch which disengages the stepper-motor during non-cruise operation and several internal switches, all sending information to the computer.*

- *The system will allow rider to increase speed 10 MPH or more (depending on how hard the rider rolls on the throttle and the condition of the bike) over the "SET" point before de-activating. This feature allows the rider to momentarily increase speed, if necessary. Rolling on the throttle to greatly increase speed may de-activate the system.*

## Controls (Figures 2 and 5 and Table 1)

There are two rider-operated control switches:

1. An "ON/OFF" switch located on the right of the ignition switch. This switch turns the system ON or OFF.

### NOTE

*The red light on the CRUISE ON/OFF switch will come on to indicate the system is **ON**. If the red light does NOT come on, the system is **NOT ON**, you cannot "SET" cruise speed - see your Dealer.*

2. "RESUME/SET" switch located in the right handlebar control group:

See OPERATION. This switch controls several system functions, including: SET, RESUME, ACCELERATE and DECELERATE.

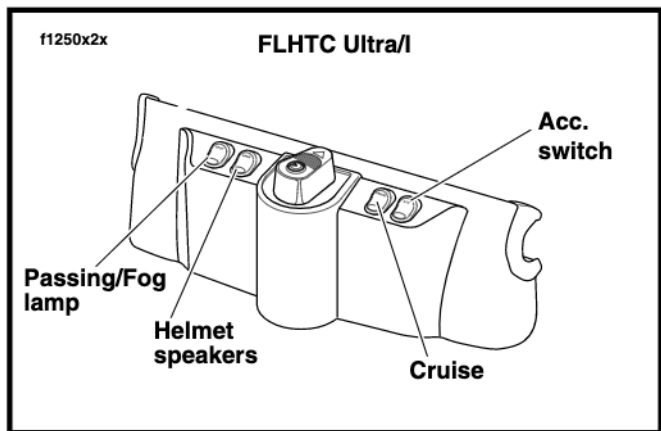


Figure 5. Cruise, Speakers, Acc., Passing Lamp Controls

**NOTE**

The switch is “self-centering”. After you press the switch to the desired function it will return to the center (ready) position.

**OPERATION**



The cruise control system is not intended for use:

- In heavy traffic.
- On roads with sharp or blind curves.
- On slippery roads of any kind.

Using the cruise control in these circumstances can cause personal injury.

**TURN ON THE SYSTEM:**

Turn the fairing mounted “ON/OFF” switch to the ON position.

See Figure 5. The RED lamp on or near the switch, indicating CRUISE ON, will light.

**Activate the System:**

**Set:**

1. Increase motorcycle speed to the desired cruise speed.
2. Momentarily press the “RESUME/SET” switch to the **right** to set the speed. The system will quickly (approximately 1 1/2 seconds or less) begin to maintain the desired motorcycle speed.
3. See Figures 5 and 9. The GREEN lamp on the gauge panel, indicating CRUISE SET, will light.

### **Resume:**

If the system has been deactivated (see DE-ACTIVATE/TURN OFF THE SYSTEM), you can resume the previously set speed by pressing the RESUME/SET switch to the **left**.

#### *NOTE*

*The computer will hold the SET speed in its memory for the RESUME function until the system is turned to the left. If vehicle speed drops more than 15 MPH below SET speed, speed can no longer be RESUMED.*

### **Accelerate, Decelerate:**

1. The system has an “accelerate” function. If you are at your SET speed, press the switch to the **left** and release to increase speed in 1 MPH increments. Press and hold switch up to increase speed continuously at approximately 1 MPH increments. System takes approximately 2 seconds to react.
2. The system has a “decelerate” function. If you are at your SET speed, press the switch to the **right** and release to reduce speed in 1 MPH increments. Press and hold switch down to decrease speed continuously at approximately 1 MPH increments. System takes approximately 2 seconds to react.

#### *NOTE*

*The system will not accelerate more than 10 MPH above the set speed. The system will decelerate until the set switch is released or is de-activated when speed goes below 30 MPH.*

### **DE-ACTIVATE/TURN OFF THE SYSTEM**

#### **De-Activate the System:**

There are several ways to de-activate the system without turning it **OFF**:

- Roll the throttle **OFF - TO THE STOP**.
- Pull in the clutch lever (disengage the clutch).
- Engage either or both brake(s).

The above actions temporarily de-activate (disengage) the system. The system will still be **ON** and ready to operate if you **RESUME** or **SET** it again. The pre-set speed will remain in memory, ready for RESUME function. The GREEN lamp on the gauge panel, indicating CRUISE SET, will turn off. The RED cruise control lamp will remain lit, indicating CRUISE ON.

#### **Turn Off the System:**

Turn the fairing mounted “ON/OFF” switch **OFF** or turn **OFF** vehicle ignition. These actions turn the system **OFF** until you turn it **ON** again. Turning the system/ignition **OFF** also erases the previously set cruise speed from memory so you can program a new cruise speed when you next turn the system **ON**. Both the green and red cruise control indicator lamps will be off.

#### *NOTE*

*System WILL NOT work if:*

- *An uphill grade is so long and/or steep, the throttle*

*cables are pulled their full length when the system tries to maintain vehicle speed. This feature prevents stretching the cables.*

- *Rider operates bike at vehicle speeds below 30 MPH.*
- *Throttle cables are too tight. (See Dealer.)*
- *Brake lights are on constantly. (See Dealer.)*

## **TURN SIGNAL SWITCHES - General**

See Figure 2. The right handlebar turn signal switch (14) operates the right front and right rear flashing lamps. The left handlebar turn signal switch (5) operates the left front and left rear flashing lamps. Front turn signal lamps also function as running lamps.

### **Turn Signal Switch Operation**

The turn signal switches are controlled by a small microprocessor which gets its operation information from the speedometer and turn signal switches.

Momentarily depress the desired turn signal switch. The turn signal lamps will begin and continue flashing. When the microprocessor senses enough forward movement (a time period of approximately 6-10 seconds) from the speedometer, it cancels the turn signal lamps. If you are not moving forward, (for example; stopped at a stoplight) the turn signals will flash indefinitely.

### **NOTE**

- *If you want the turn signals on longer, hold the switch in. The turn signals will begin flashing immediately, but the microprocessor will not begin computing distance until you release the switch.*
- *If you are signaling to turn in one direction and you depress the switch for the opposite turn signal, the first signal is canceled and the opposite side begins flashing.*

If you want to stop the lamps from flashing, briefly depress the turn signal switch a second time. The turn signal lamps will stop flashing.

## **HAZARD WARNING 4-WAY FLASHER (Turn Signal Switches)**

The hazard warning 4-way flasher operates all four turn signal lamps at the same time. It is controlled by the turn signal switch microprocessor. The hazard warning flasher will operate when the ignition switch is in the ignition, lights or access position.

Turn ON the hazard warning 4-way flasher by momentarily (approximately 1 1/2 seconds) depressing BOTH turn signal switches at once. Turn OFF the 4-way flasher the same way.

## ACCESSORY SWITCH

See Figure 5. All FLT models, including the FLHR, have an accessory switch for the owner's use. There is an accessory connector, located under the seat, that can be activated with the ACC. switch. The switch is located on the left side of the fairing or triple clamp shroud. See your dealer for possible uses.

## SOUND SYSTEM CONTROLS

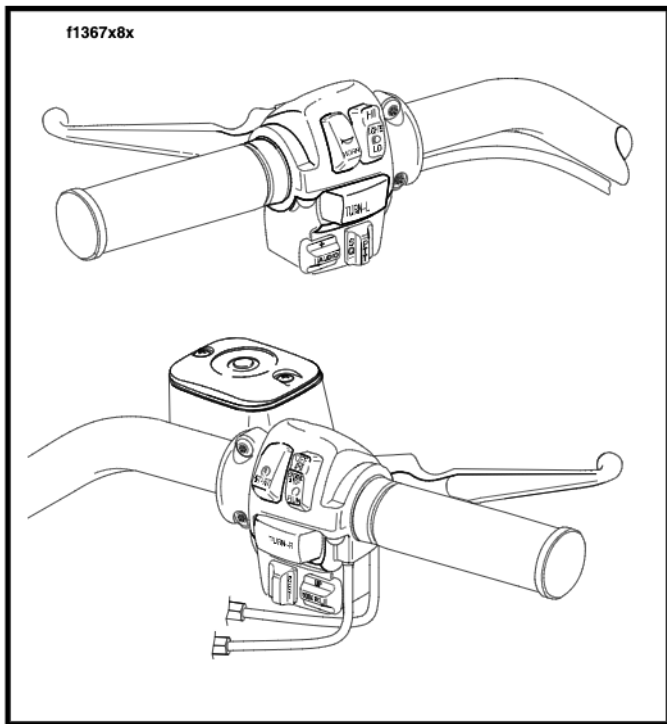
See Figures 2, and 5 thru 4 for sound system controls. For a more detailed explanation of the sound system controls, read the Harley-Davidson Premium Sound System Handbook (P/N 99464-98.)

### WARNING

**On ULTRA-GLIDES, if the C.B. is ON to monitor incoming transmissions and turned to low volume at the same time the stereo is ON, the C.B. can mute the stereo. If you have compensated for the muting effect by turning up the stereo, turning off C.B. will stop the muting effect and the stereo will be loud. This can distract you from motorcycle operation, resulting in possible personal injury. Turn music DOWN before turning OFF C.B.**

#### NOTE

*FLTR/C-I models have wiring and switches for sound system upgrades. See your dealer for information.*



**Figure 6. Sound System/Cruise Control Handlebar Controls**

## INDICATOR LIGHTS

See Figure 7. Five or seven indicator lights are provided.

The **green** TURN indicators will flash when turn signals are activated. Whichever indicator flashes indicates chosen turn direction. When the 4-way hazard flashers are operating, both turn indicators will flash simultaneously.

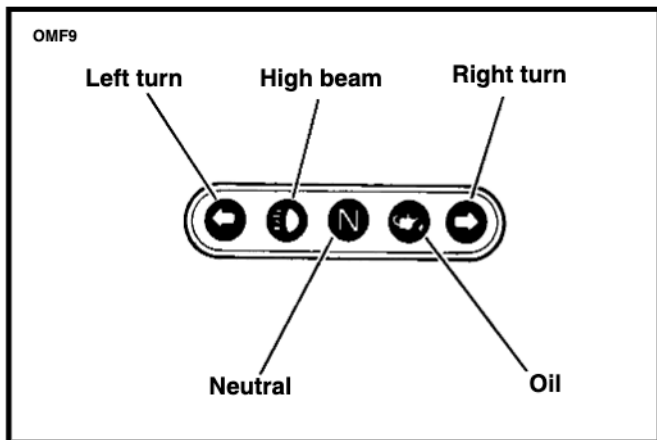
The **blue** BEAM indicator light, when lit, signals that the high beam headlamp filament is operating.

The **green** NEUTRAL light turns on to indicate when transmission is in neutral.

The **red** OIL indicator light, when lit, signals that oil is not circulating through the engine. The OIL indicator light will glow when the ignition is turned on prior to starting engine. With engine running, light should be off when engine speed is above idle.

If the oil pressure indicator light does not go off at speeds above idling, it is usually because of an empty oil tank or diluted oil. In freezing weather the oil feed may clog with ice and sludge, preventing oil circulation. A grounded oil signal switch wire, faulty signal switch, damaged or improperly installed check valve and/or trouble with the pump will also cause the light to remain illuminated.





**Figure 7. Indicator Lights (Typical)**

**NOTE**

*On Sportster models, if the ignition is turned on immediately after the engine is stopped, the oil light may not come back on because of oil pressure retained in the filter housing.*

**CAUTION**

**If the oil pressure indicator light fails to go off, always check the oil supply first. If oil supply is normal and the light still does not operate normally, stop the engine at once and do not ride further until the trouble is located and the necessary repairs are made.**

## **Dyna models, Road King and XL Sport Indicator Lights**

### **ENGINE LAMP**

See Figure 8. The engine lamp is located near the center of the speedometer. Its purpose is to indicate whether or not the engine/engine management system is operating normally. The engine lamp color is RED.

The engine lamp normally comes on when the bike's ignition is first turned on and remains on for approximately 4 seconds, as the engine management system runs a series of self-diagnostics.

If the engine lamp comes on at any other time, see your Harley-Davidson dealer.

### **Ultra Models Indicator Lights**

See Figures 5 and 9. Ultra models have two additional indicator lights: a red light on the cruise control switch, indicating cruise control ON or OFF, and a green light on the tachometer, indicating cruise control set or not set. See CRUISE CONTROL - ULTRA MODELS.

# SEQUENTIAL PORT FUEL INJECTED HARLEY-DAVIDSONS

## INDICATOR LAMPS, (Figure 8)

### Engine Lamp

The engine lamp is located at the upper left side of the tachometer (FLHTCU-I, FLTR-I) or speedometer (FLHR/I). Its purpose is to indicate whether or not the engine/engine management system is operating normally. The engine lamp color is RED.

The engine lamp normally comes on when the bike's ignition is first turned on and remains on for approximately 4 seconds, as the engine management system runs a series of self-diagnostics.

If the engine lamp comes on at any other time, see your Harley-Davidson dealer.

A blinking or continuously lit engine lamp indicates that an "event" has occurred relating to the engine/engine management system. See your Harley-Davidson dealer.

### Low Fuel L.E.D.

There is a low fuel L.E.D., below the tachometer, between the cruise and engine L.E.D. lamps on FLHTC/U-I and FLTR-I models or above and to the left of the fuel gauge on FLHR-I

models. The low fuel L.E.D. lights up to indicate that you have approximately 1/2 gallon of gasoline left in the tank. The low fuel lamp color is AMBER.

## TACHOMETER

See Figure 9. If vehicle is so equipped, the tachometer registers the engine speed in revolutions per minute (RPM).

### CAUTION

**Do not operate the engine above maximum safe RPM as shown in Table 4., OPERATION (red zone on tachometer). Engine damage may occur. Lower the RPM by upshifting to a higher gear or reducing the amount of throttle.**

## SPEEDOMETER/ODOMETER

See Figure 9. The speedometer registers miles per hour of forward speed. The odometer registers the number of miles the vehicle has traveled.

### WARNING

**Never travel at a speed faster than the posted speed limit. Excessive speed could cause loss of control resulting in possible personal injury.**

## CAUTION

Never attempt to tamper with or alter the vehicle odometer. This is illegal and the speedometer will be damaged.

## TRIP-ODOMETER (MECHANICAL)

Use the trip-odometer to register number of miles traveled on a trip or between refueling. Use the knurled knob on the dash panel to reset the trip odometer to zero.

## ELECTRONIC SPEEDOMETER

The electronic speedometer has a single display window for both the odometer and trip-odometer.

Press the speedometer control (rubber covered) button, to change the display window on the speedometer face to either odometer or trip-odometer. To reset the trip-odometer to zero, press button to reset speedometer display to the ODOMETER mode and hold the button in for approximately 2 to 3 seconds. The speedometer will switch to the trip-odometer mode and reset the display to zero.

## MIRRORS (CONVEX)

See Figure 10. Your vehicle is equipped with convex mirrors. A convex mirror has a curved surface. This type of mirror is designed to give a much wider view to the rear than a flat mirror; however, cars and other objects seen in this type of mirror will look smaller and farther away than when seen in a flat mirror. Therefore you must use care when judging the

size or distance of objects seen in these mirrors.

## CAUTION

**Objects in mirrors are closer than they appear.**

Adjust the mirrors to clearly reflect the area behind the motorcycle.

### NOTE

*Adjust mirrors so you can see a small portion of your shoulders in each mirror. This will help you establish the relative distance of vehicles to the rear of your motorcycle.*

## OIL PRESSURE GAUGE

The oil pressure gauge indicates engine oil pressure. Engine oil pressure will normally vary from 5 PSI at idle speed to 12 - 15 PSI at 50 MPH when engine is at normal operating temperature.

## VOLTMETER

The voltmeter indicates electrical system voltage. With the engine running above 1500 RPM, the voltmeter should register 13 - 14.5 volts with battery at full charge.

## CLOCK (In Radio)

The clock runs continuously as long as there is battery power. See the Harley-Davidson Premium Sound System Handbook (P/N 99464-98) to reset clock.

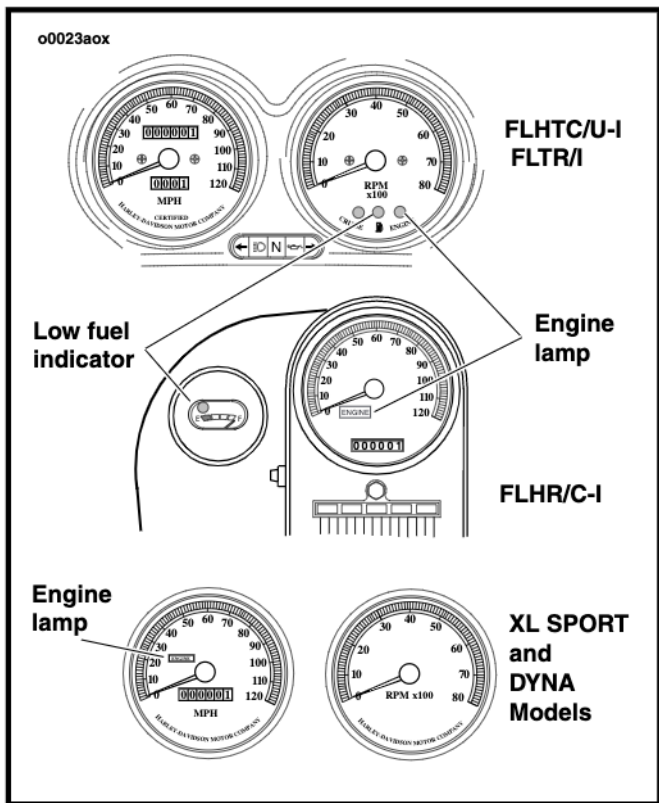


Figure 8. Indicator Lamps

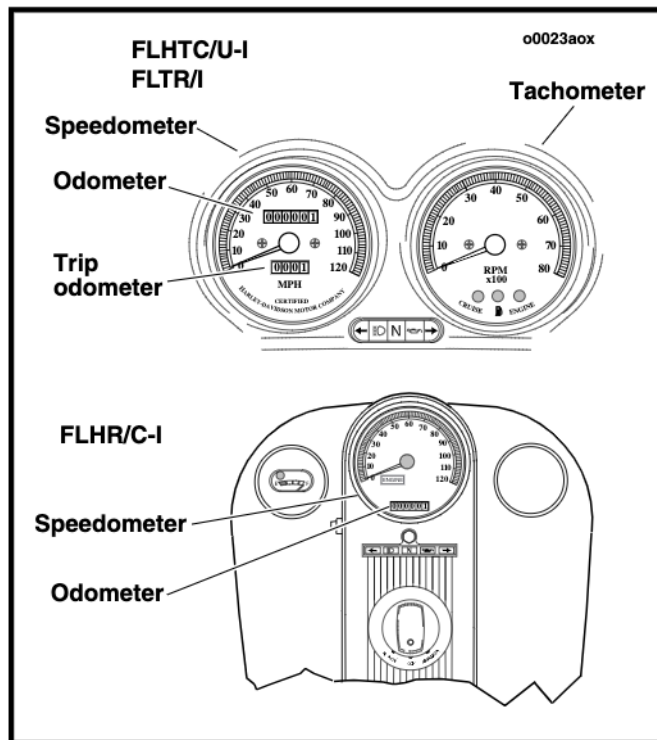


Figure 9. Speedometer, Odometer, Trip-odometer, Tachometer

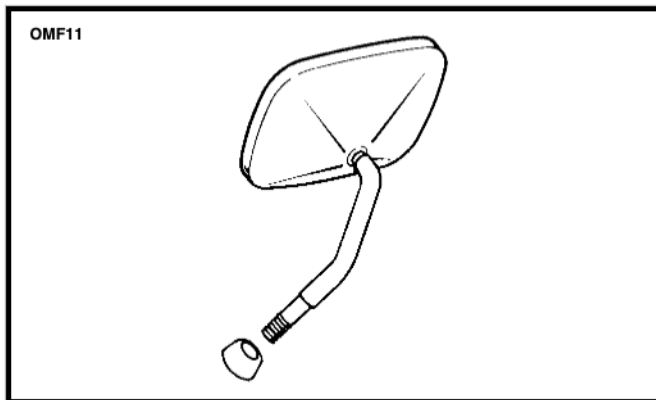


Figure 10. Mirror

## FUEL GAUGE

The fuel gauge indicates the approximate amount of fuel in the fuel tank(s).

### NOTE

*The Dyna Glide Low Rider, Dyna Wide Glide and Road King models' left-side fuel cap is a fuel gauge only. Do not remove.*

## AIR TEMPERATURE GAUGE

The air temperature gauge indicates the ambient air temperature in °F.

## JIFFY STAND

See Figure 11. The jiffy stand is located on the left side of the motorcycle and swings outward to support the motorcycle for parking.

### CAUTION

Always park the motorcycle on a level, firm surface. Vehicle weight could cause motorcycle to fall over. Cosmetic damage could occur.

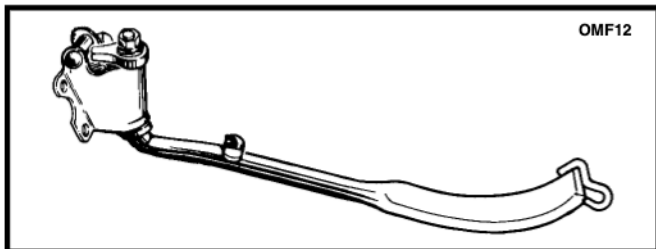


Figure 11. Jiffy Stand (Typical)

### WARNING

- Your vehicle is equipped with a jiffy stand that locks when placed in the full forward (down) position and the vehicle weight is rested on it. Without vehicle weight resting on the jiffy stand, any movement of the vehicle could cause the jiffy stand to retract

slightly from the full forward position. If the jiffy stand is not in the full forward (lock) position when vehicle weight is rested on it, the vehicle could fall over, possibly causing injury.

- Be sure jiffy stand is fully retracted before riding the motorcycle. If jiffy stand is not fully retracted during vehicle operation, it could contact the road surface causing a momentary disturbance before retracting. This momentary disturbance could distract the rider, possibly causing loss of vehicle control and possible injury.

## FORK LOCK



Do not operate vehicle with forks locked. This will restrict the vehicle's turning ability and could cause personal injury.

See Figure 12. The XLH and Softail models fork lock is located on the center of the lower front fork bracket. Turning fork to the left aligns hole in bracket with hole in steering head. A high strength padlock is available from your dealer to lock the fork in this position. Order Part No. 45737-72A.

Using the padlock will discourage unauthorized use or theft when parking your motorcycle.

See Figure 1. FLT models, excluding the FLHR, have the fork lock incorporated in the Ignition/Light switch. See Table 1, IGNITION/LIGHT SWITCH.

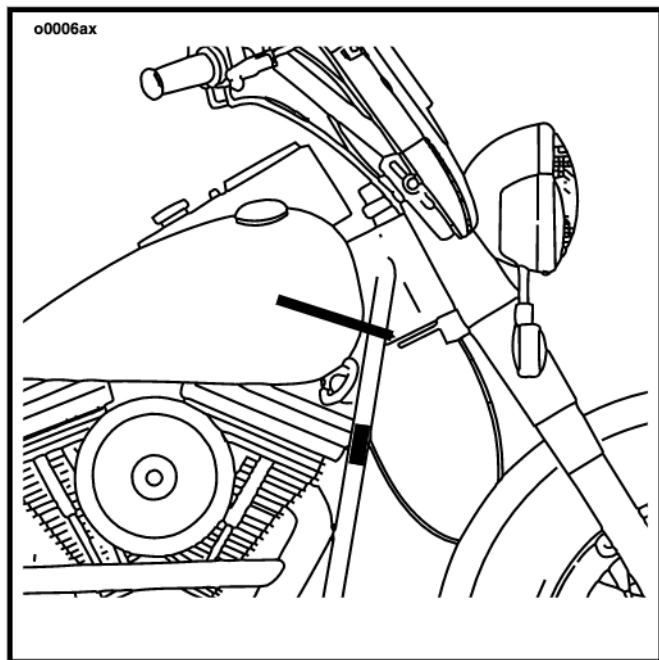
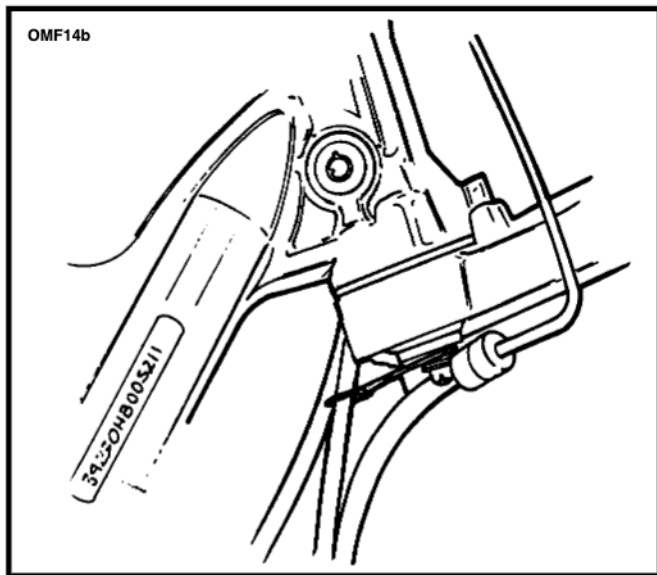


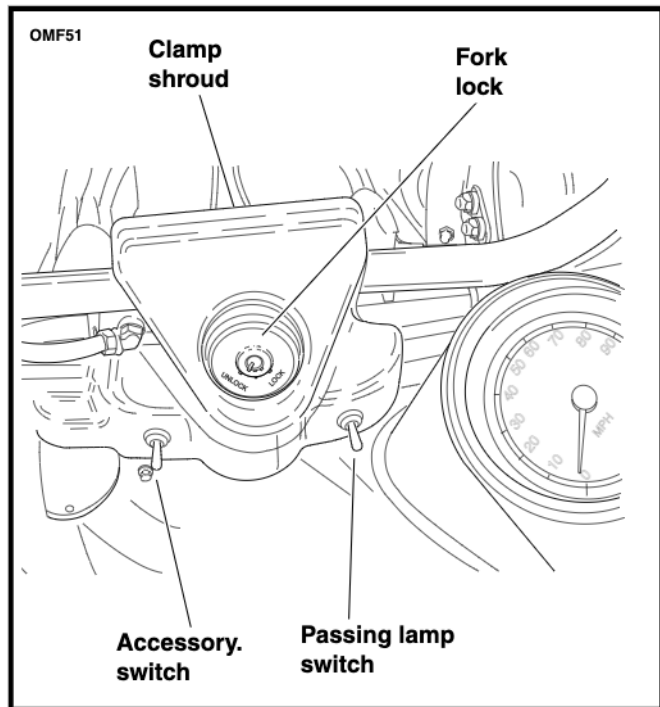
Figure 12. Fork Lock - Softail, XLH Models



**Figure 13. Dyna Glide Fork Lock**

See Figure 13. Dyna Glide models have the fork lock incorporated in the steering head on the right hand side.

See Figure 14. The FLHR/C-I has a fork lock at the top of the steering head, behind the headlamp nacelle and inset in the handlebar clamp shroud.



**Figure 14. Road King Fork Lock**

## FUEL SUPPLY VALVE - CARBURETED MODELS ONLY

See Figure 15. The fuel supply valve is located under the fuel tank. Fuel supply to carburetor is shut off when handle is in horizontal position or engine is turned OFF. Turning the handle down to vertical position turns ON the main fuel supply; turning handle up to vertical position turns ON reserve supply. Valve is vacuum-operated and will open and close when engine is turned ON or OFF. The fuel supply valve on the vehicle should be turned OFF when the vehicle is not operating.

### CAUTION

California vehicles, equipped with Evaporative Emission controls, have a plugged carburetor overflow fitting. The fuel supply valve on the vehicle should be turned off when the vehicle is not operating. If the fuel supply valve is not turned off when the vehicle is not operating, fuel can drain into the engine, dilute the engine oil and cause engine damage.

### NOTE

- Sequential port fuel injected models do not have a fuel supply valve.
- To always maintain a reserve supply, do not operate the motorcycle with the valve in the reserve (RES) position after refueling.

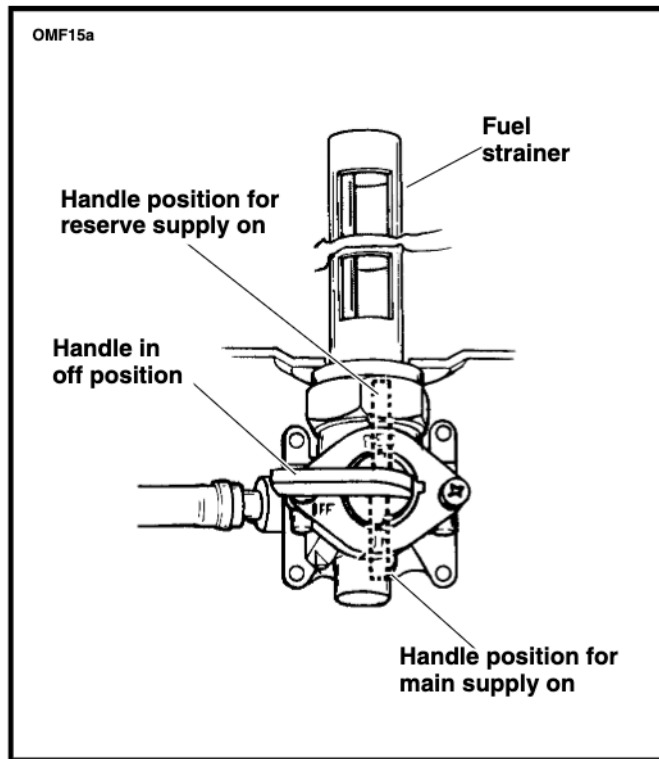


Figure 15. Fuel Supply Valve



## FUEL FILLER CAP (Figure 16)

To open, turn cap counterclockwise and lift up. To close turn cap clockwise until it clicks. The ratchet action of the fuel cap prevents overtightening.

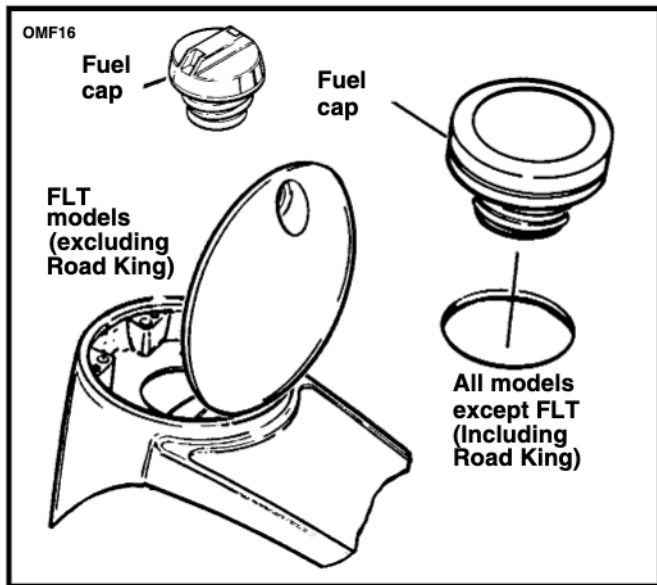


Figure 16. Fuel Filler Cap

### NOTE

- Fuel filler cap turns approximately 3/4 turn before it starts unscrewing.
- FLT models filler caps are located beneath a door and has a ratchet action. The filler cap should be fully closed before closing the fuel door.
- Softail models have a dual tank configuration. The left side tank cap has a left hand thread. Right hand fuel filler cap has a right hand thread.

### **⚠**WARNING

Remove fuel filler cap slowly. Fill fuel tank slowly to prevent spillage. Do not overfill. Do not fill above the bottom of the filler neck insert. Leave air space to allow for fuel expansion. Expansion can cause an overfilled tank to overflow gasoline through the filler cap onto surrounding areas. After refueling, be sure fuel filler cap is securely tightened. Failure to follow this warning could result in an explosion and/or fire possibly resulting in personal injury.

### **⚠**WARNING

Do not use decorative “spinner” or “bullet” type fuel cap covers, which may possibly cause the cap to loosen from the tank upon impact. Personal injury can also result from direct contact with cap covers.

 CAUTION

- Gasohol spills can stain the paint on your Harley-Davidson.
- You must use **ONLY unleaded fuel in California and-Swiss model catalytic converter-equipped motorcycles. Using leaded fuel will damage the emissions control system.**

## SUSPENSION ADJUSTMENTS

Table 2 shows where to find instructions for suspension adjustments to your motorcycle.

**Table 2. Suspension Adjustments**

MODEL	ADJUSTMENT PROCEDURE
FLT Models	Procedure A
FLSTC/F/S, FXSTC/S Models	Procedure B
XLH, FXD Models	Procedure C
XLH Sport Model	Procedure D

## PROCEDURE A AIR SUSPENSION ADJUSTMENTS FLT Models

See Figure 17. The FLT models feature air-adjustable suspension. Air pressure may be varied to suit your own personal comfort. Lower pressure gives a softer ride and high pressure gives a firmer ride.

Table 3 shows recommended pressures for your riding comfort.

 CAUTION

**Front suspension pressures over 25 PSI are not recommended. Damage to air control components can result. This may cause loss of control of the motorcycle, resulting in possible personal injury.**

 WARNING

**Exercise caution when bleeding air from the air valves. Moisture combined with lubricant (either from shock assembly or a drip oiler in the air compressor lines) may be ejected onto the rear wheel, tire and/or brake components, adversely affecting traction and possibly resulting in personal injury.**

**Table 3. FLT Air Suspension Pressure**

Loading	RECOMMENDED PRESSURES (PSI)	
	Shocks	Forks
Rider weight - up to 150 lbs., add:	0	0
For each extra 25 lbs., add:	1.0	1.0
Passenger weight - for each 50 lbs., add:	1.5	-
Luggage weight - for each 10 lbs., add:	3.0	1.0
Maximum Pressures	35	25

 **CAUTION**

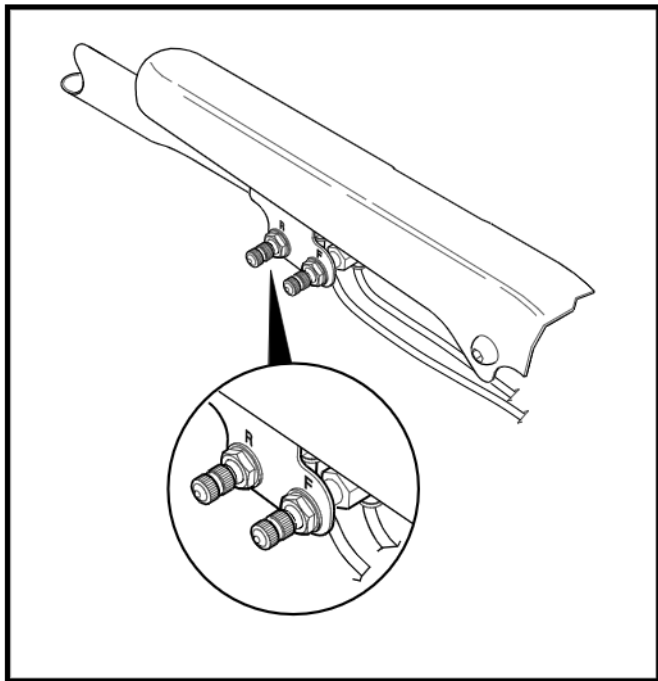
Maximum air pressure for rear suspension is 35 PSI. Air components fill rapidly. To avoid possible damage to components, use low air line pressure. Pressure in front forks and air shocks should be checked weekly if in daily use or before each trip if used occasionally.

See Figure 17. On all FLT models the front and rear suspension air pressure is adjusted by adding or removing air from the air valves located at the right side of the motorcycle below the frame cover, above right saddlebag. Refer to Table 4 for the recommended air pressure.

The preferred pressure for your personal riding comfort can be selected from Table 4. Lower pressure gives a softer ride and higher pressure gives a firmer ride. Setting the pressure outside the recommended range for your loading will result in a reduction of available suspension travel and reduced ride comfort. Pressures should be adjusted with the vehicle on the jiffy stand.

 **CAUTION**

- **Maximum air pressure should not be exceeded. All air components fill rapidly and we recommend low air line pressure be used to avoid damage to the components.**
- **Use a no-loss air gauge to check air pressure. A small hand pump is the best way to add air to suspension components.**



**Figure 17. Air Suspension Adjustment Valves - FLT Models**

## **PROCEDURE B - REAR SHOCK ABSORBER SPRING ADJUSTMENT**

### **Softail Models**

See Figure 18. The rear shock absorber springs can be adjusted for the weight the motorcycle is to carry. The shock absorbers' springs are variable over a wide range. A spanner wrench for this purpose is available from your Harley-Davidson dealer.

To change the spring compression:

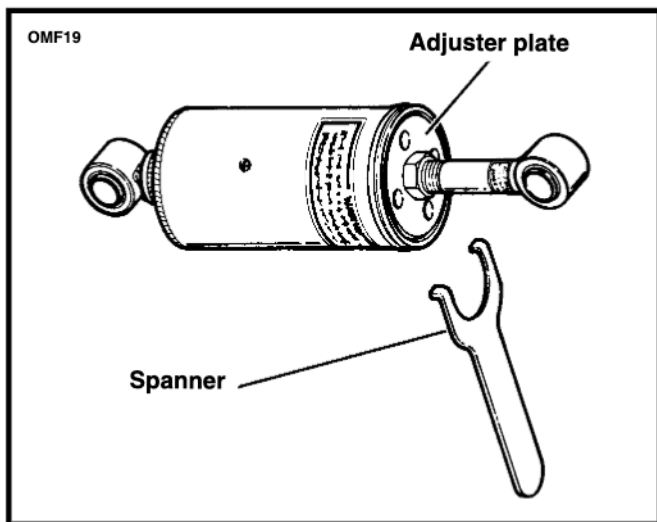
1. Loosen the locknuts.
2. Use the spanner wrench and extend or compress the springs to the desired position.

#### *NOTE*

- *Turning the adjuster plates OUT (toward the locknut) increases the spring preload to carry a heavier load. Turning the adjuster plates IN (away from the locknut) decreases the spring preload to carry a lighter load.*
  - *Mark the adjuster plates so you adjust both springs to the same position.*
3. Tighten the locknuts against the adjuster plates.

#### **⚠ WARNING**

**Both shock absorber adjuster plates must be adjusted to the same position. Not having the springs adjusted to the same length could adversely affect handling. This could lead to loss of control of the motorcycle possibly resulting in personal injury.**



**Figure 18. Shock Adjustment - Softtail Models**

The average weight solo rider might use the extended (fully IN) spring position. A heavy solo rider might require the position with springs slightly compressed; a rider and passenger may require the compressed spring position (fully OUT). Experimentation will show you what the best spring positions are for you.

## **PROCEDURE C - REAR SHOCK ABSORBER SPRING ADJUSTMENT DYNA, XLH Models**

See Figure 19. The rear shock absorber spring preload can be adjusted for the weight the motorcycle is to carry. Hugger, XL Custom and Dyna Glide model shock absorbers have five preload positions. XLH models, except Hugger, and XL Custom have three preload positions. The average weight solo rider might use the extended spring preload position (off cam or first cam step). A heavy solo rider might require additional preload (second or middle cam step); a rider and passenger may require maximum preload (fifth/third cam step).

### **⚠ WARNING**

**Both shock absorber spring adjusting cams must be adjusted to the same position. Not having the cams adjusted to the same position could adversely affect handling. This could lead to loss of control of the motorcycle possibly resulting in personal injury.**

To adjust the rear shock absorber springs, turn spring adjusting cam to the desired position with a spanner wrench.

When returning to off-cam position, cams should be backed off in opposite direction. Spanner wrenches for this purpose are available from your Harley-Davidson dealer.

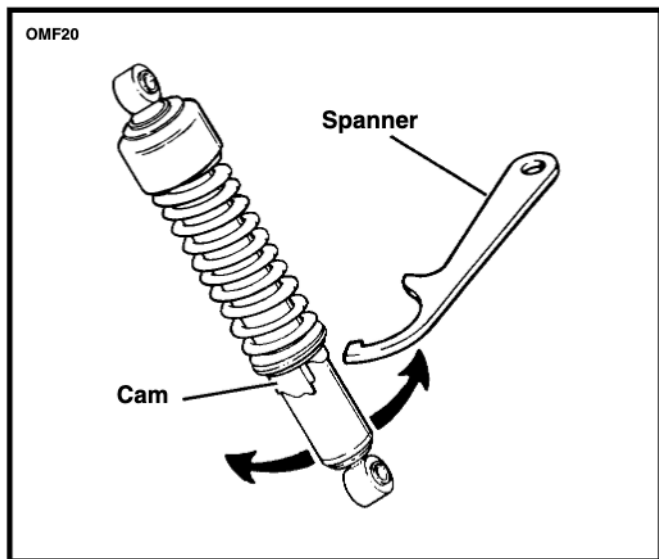


Figure 19. Shock Adjustment XLH, DYNA

## PROCEDURE D - SUSPENSION ADJUSTMENT XL Sport Models

Definitions:

**Damping:** Resistance to movement. Damping affects how easily the suspension can move and limits oscillations of the system once movement has begun.

**Compression:** Suspension is compressed when the wheel moves up.

**Rebound:** The suspension is rebounding when it is moving back from being compressed.

**Preload:** The spring is compressed somewhat during assembly. This initial compression provides a "loaded" condition in the spring. This initial compression is referred to as preload.

Your XL1200S motorcycle has a front suspension with cartridge valve 39 mm forks that adjust for compression, rebound damping and spring preload.

The rear suspension features gas canister piggyback shock absorbers that adjust for compression and rebound damping as well as spring preload.

The front and rear suspension preload setting will need to be adjusted for your weight. This setting should be made before the motorcycle is ridden any distance. Your Harley-Davidson dealer can assist you in setting this when you take delivery of the motorcycle.

If the preload adjustment is correct, and you have the rebound and compression damping set at the factory recommended points, the motorcycle should ride properly. If you are unhappy with these settings they can be changed. Evaluating and changing the rebound and compression damping is a very subjective process with many variables and should be approached carefully.

Damping is set at the factory for the average rider under normal riding conditions. The rider may wish to adjust these settings to compensate for individual riding styles, weight variations, or when carrying a passenger.

## Spring Preload

Front and rear suspension spring preload must be adjusted before any other adjustments can be attempted. This adjustment assures that the suspension has the proper amount of travel.

Spring preload is the most important suspension adjustment offered on your XL1200S motorcycle. Correct setting of

preload will result in a motorcycle that suits the rider's size and weight.

You will need two people to carry out this adjustment.

Take the motorcycle off the jiffy stand and bounce the rear up and down a few times to be sure the suspension is free and not binding. With the motorcycle unloaded, take the following measurements. See Figure 20. At the rear shock, measure the distance A, from the upper shock bolt center to the lower shock bolt center. At the front fork, measure the distance B, from the front axle center to the bottom of the lower triple clamp.

With the help of an assistant take the same measurements with the rider in full gear on the motorcycle. The assistant should help balance the motorcycle so the rider can keep both feet on the footpegs. Bounce a few times on the seat to be sure the suspension is free and not binding.

Subtract the second measurement from the first. The difference, which is the squat, must be in the range of 0.5 in. to 1.0 in. If it is not, adjustment is necessary.

See Figure 22. To adjust the rear shock spring preload, turn spring adjusting cam to the desired position with a spanner wrench. When returning to off-cam position, cams should be backed off in opposite direction. A spanner wrench (HD-

94700-52C) for this purpose is available from your Harley-Davidson dealer.

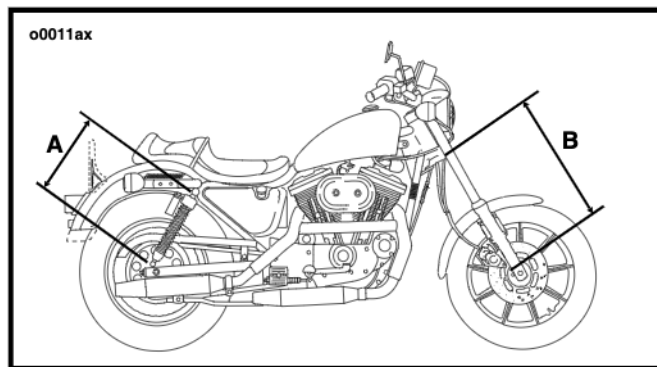
See Figure 21. To adjust the front fork spring preload, turn spring adjusting nut with a 7/8 in. wrench. Turning nut clockwise increases preload. Turning nut counterclockwise decreases preload.

#### NOTE

- *Changes in load will require changes in the preload setting. Carrying less weight than was used for setting up the suspension will require a reduction in the preload. Increasing the load will require an increase in the preload.*
- *The GVWR of the XL1200S is given in the specifications and under no circumstance is it to be exceeded.*

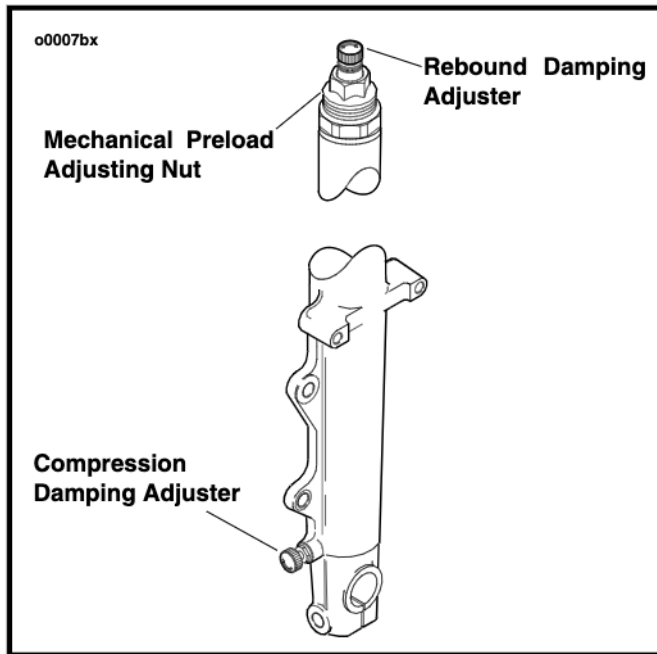
#### **⚠**WARNING

Both shock absorber adjusting cams and front fork spring adjusting nuts must be adjusted to the same position. Not having the preload adjusted equally from side to side could adversely affect handling. This could lead to loss of control of the motorcycle possibly resulting in personal injury.



**Figure 20. XL Sport Preload Measurement**





**Figure 21. Front Suspension Adjustments**

## Front Suspension Adjustments

### **⚠WARNING**

The front forks allow multiple compression and rebound adjustments. Settings on both fork legs for compression and rebound damping must be identical or handling can be adversely affected. This could lead to loss of control of the motorcycle possibly resulting in personal injury.

Make all suspension adjustments in one or two click increments. Adjusting more than one or two clicks at a time may cause you to skip the best adjustment. Test ride after each adjustment. When an adjustment makes no difference, return to the previous adjustment and try a different approach

The fork compression damping adjuster has 14 possible settings. Equal adjustments are made to the adjuster knobs at the base of each fork leg. Rotating the adjuster in the "H" direction (clockwise) gives a harder setting and rotating in the "S" direction (counterclockwise) yields softer damping.

Located on top of each fork leg, the fork rebound adjuster knobs have 15 positions. Turning the adjuster knobs clockwise until they lock yields maximum rebound damping. Forks set in this position will have the slowest rebound. Adjusters turned fully counterclockwise will have the least amount of rebound damping. This adjustment will produce the fastest rebound. Make adjustments by counting the clicks while turning the adjuster knob(s).

## Rear Suspension Adjustments

Make all suspension adjustments in one or two click increments. Adjusting more than one or two clicks at a time may cause you to skip the best adjustment. Test ride after each adjustment. When an adjustment makes no difference, return to the previous adjustment and try a different approach.

Adjust compression damping by using the knob on the top of the piggyback canister. Rotate toward "H" (Clockwise) to increase compression damping. Rotate toward "S" (Counterclockwise) to decrease compression damping.

Adjust rebound damping using the dial in the lower shock eye casting. Rotating the knob in the "H" (Clockwise) direction gives a harder setting and rotating in the "S" (Counterclockwise) direction yields softer rebound damping.

There are 12 click stops between hard (position 1) and soft (position 15) settings for both compression and rebound shock damping adjusters.

If the preload adjustment is correct and you have the rebound and compression damping set at the factory recommended points the motorcycle should handle and ride properly.

If you are unhappy with these settings they can be changed. Evaluating and changing the rebound and compression damping is a very subjective process with many variables and should be approached carefully.

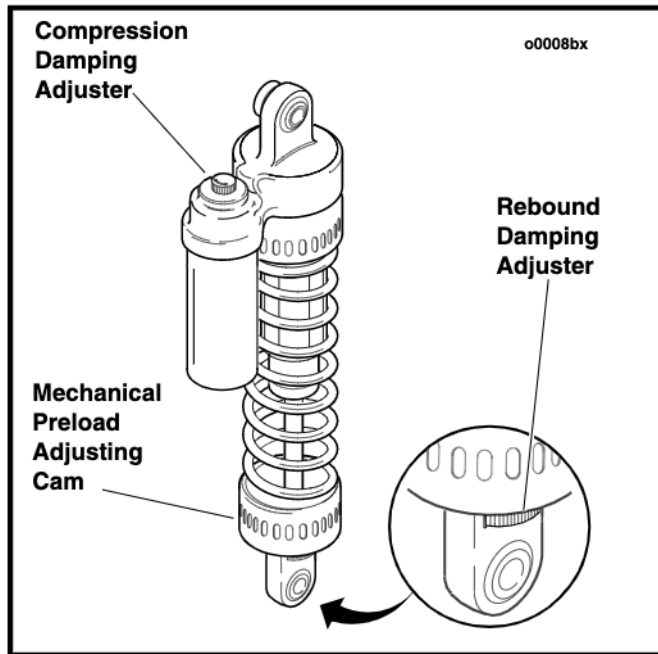


Figure 22. Rear Suspension Adjustments

To achieve the proper settings you will need the preload adjusted properly, the tires inflated properly, and a familiar bumpy road. It is useful if the road contains a variety of different kinds of bumps.

Begin the process by putting all the damping adjustments at the factory recommended settings and riding the bike over a variety of surfaces and bumps at different speeds. If the suspension is set properly the motorcycle will be stable and comfortable.

If you are not satisfied with the factory settings the following table should help you achieve settings that suit your riding style. Remember that any setting chosen is a compromise.

**NOTE**

*Rotate adjusters to full clockwise (position 1) or maximum hard position first, then back-off to desired setting.*

<b>Factory Recommended Suspension Settings (From Maximum Hard)</b>	
Fork Rebound	position 8
Fork Compression	position 13
Rear Shock Compression	position 8
Rear Shock Rebound	position 6

## Suspension Troubleshooting

<b>Troubleshooting Condition</b>	<b>Adjustment Solution</b>
<p>Bike wallows through turns. Feels loose or vague after bumps. Wheel tends to “pogo” after passing over a bump. This is noticeable by watching the bike continue to bounce as it travels over multiple bumps.</p>	<p>Increase rebound damping.</p>
<p>Wheel responds to bump, but doesn't return to ground quickly after bumps. This is more pronounced over a series of bumps and is often referred to as “packing down.”</p>	<p>Reduce rebound damping.</p>
<p>The bike bottoms out or dips while cornering. Bike has excessive brake dive.</p>	<p>Increase compression damping.</p>
<p>Harsh ride particularly over washboard surfaces. Bumps kick through handlebars or seat. Suspension seems not to respond to bumps. This is evidenced by tire chattering (a movement with short stroke and high frequency) through corners or by jolting the rider over rough roads.</p>	<p>Reduce compression damping.</p>

# LUGGAGE

## FLT Models

### **⚠️WARNING**

Keep cargo weight concentrated close to the motorcycle and as low as possible to minimize the change in the motorcycle's center of gravity. Distribute weight evenly on both sides of the vehicle and do not load bulky items too far behind the rider or add weight to the handlebars or front forks. Do not exceed 15 pounds maximum load in each saddlebag or 25 pounds maximum in Tour-Pak. Improper loading can adversely affect handling, leading to personal injury.

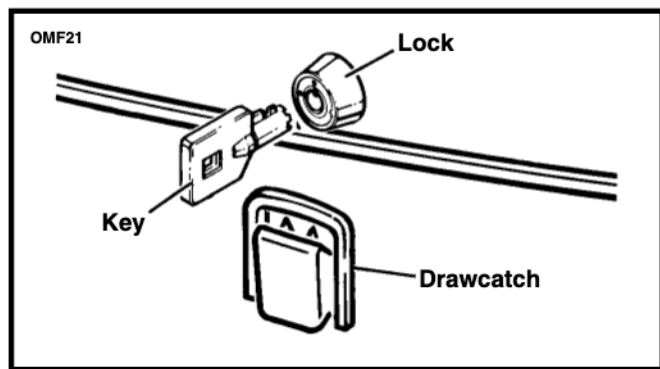
### **Tour-Pak Removal (Figures 23 and 24)**

1. Unlock lock and open drawcatch.
2. Remove the map pouch by removing the nuts holding it in place.
3. Open Tour-Pak and remove Tour-Pak mat or liner, exposing bolt heads.

### **⚠️CAUTION**

**Do not pull on the wires. Pulling on the wires may break them.**

4. Unplug the wiring harness leading from the Tour-Pak to the motorcycle. Depress latch, grasp both ends of the molded connector and pull apart.

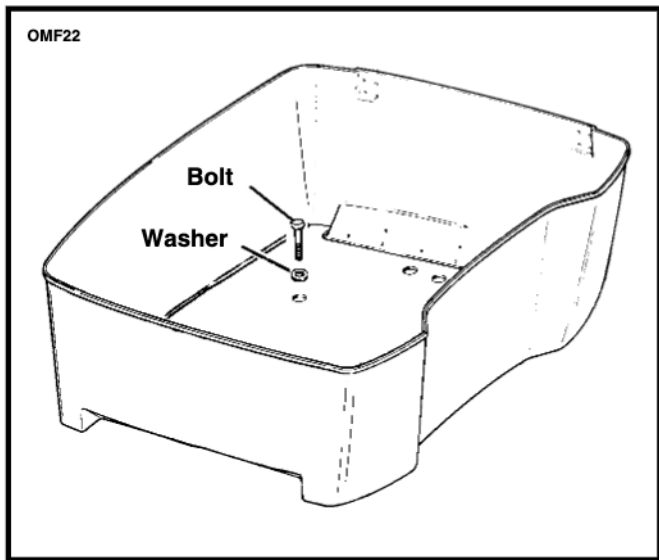


**Figure 23. Tour-Pak Lock and Drawcatch**

5. Disconnect the antenna(e) and disconnect or remove the speakers, if equipped. Connectors for speakers are accessible by pulling harness through hole in bottom of speaker enclosure.
6. Remove bolts and washers with wrench at inside of Tour-Pak. Remove Tour-Pak from luggage rack.

### **⚠️WARNING**

**The Tour-Pak supports the passenger backrest. Check the Tour-Pak mounting bolts periodically for tightness. Be sure that they are in good condition and tightened properly when installing the Tour-Pak. Failure to do so could cause the rider and/or passenger to lose control resulting in possible personal injury.**



**Figure 24. Tour-Pak Installation - FLT**

**NOTE**

- *When installing King Tour-Pak, be sure to connect lights, antennae and/or speakers at the connectors.*
- *Tour-Pak drawcatches should be closed and locked whenever motorcycle is in operation.*

## **FLT Models Saddlebag Operation (Figure 25)**

**NOTE**

*The FLT and FLHR saddlebag lids are designed to stay attached to the bags at all times.*

**OPEN**

1. Unlock latch.
2. Place fingers under latch and lift.
3. Place one hand at **OUTSIDE CORNER** of cover and other hand at opposite outside corner.
4. Lift outside edge of cover, pivoting inside edge of cover in brackets.
5. Lift inside edge of cover to disengage brackets.
6. Bring cover towards you, over saddlebag.
7. As you bring cover toward you, let it flip over, so the inside faces up. Let cover rest against rub bars and nylon check strap.

## CLOSE

1. Use both hands to hold OUTSIDE corners of cover up and slide inside edge back into place so brackets slide together.
2. Close lid and secure latch. Brackets will engage automatically.

### NOTE

*Saddlebag latch and Tour-Pak drawcatches should be closed and locked whenever motorcycle is in operation.*

## REMOVE (Figure 25)

The saddlebags are secured to the support brackets by 1/4 turn fasteners called "Bail Head Studs".

### NOTE

*If your vehicles does not have the wire form "bail", use a flat bladed screwdriver to turn the studs.*

1. Unscrew saddlebag fasteners by turning 1/4 turn counterclockwise.
2. Remove saddlebag.

## INSTALL (Figure 25)

1. Carefully place saddlebag in position on saddlebag rail and align the bail head studs with the support bracket fasteners.
2. Fasten studs by pushing into support bracket fasteners

and turning 1/4 turn clockwise. Be sure studs are securely fastened.

## ADJUSTMENTS

See Figure 25. If the latches become loose, you can adjust the latch "fingers". See ACCESSORIES MAINTENANCE, HINGES, LATCHES, FUEL DOOR, SADDLEBAGS - FLT MODELS.



**Adjust the latch "fingers" only enough to enable them to properly engage the latch hinge. Bending them back and forth can overstress the metal and weaken them.**

Bend the fingers until they firmly engage the hinge.

## FLHRC-I Road King Classic Saddlebag Operation (Figure 25)

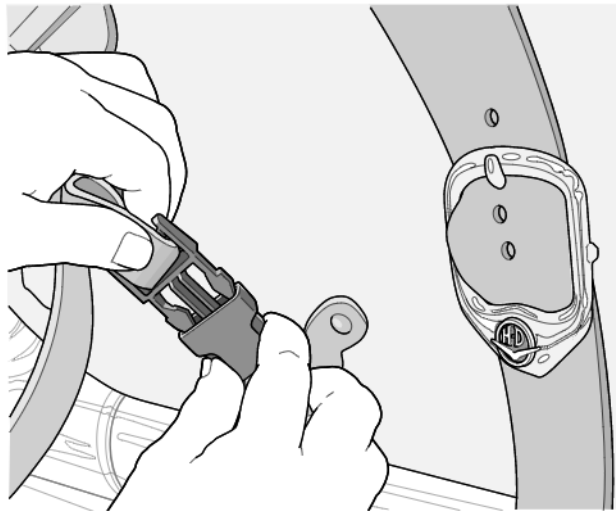
### OPEN

To use the quick disconnect strap feature, lift up the strap end to expose the quick release buckle and press on the lock tabs as shown in Figure 25. The straps may also be opened and closed using the buckle in a conventional manner.

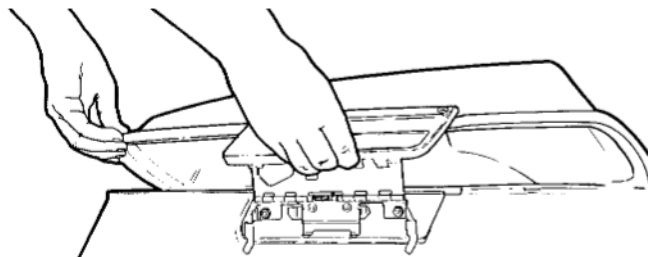
### CLOSE

Insert the male strap end into the receptacle on the bag and push until a positive "click" is felt.

**Road King Classic**

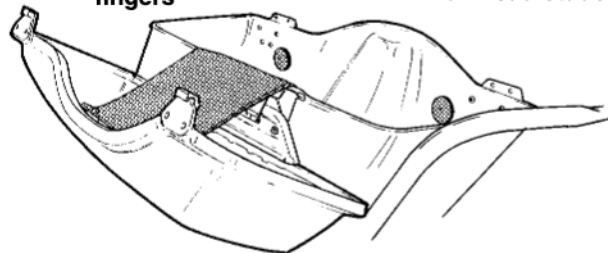


**FLT Models**



**Saddlebags latch  
"fingers"**

**Bail head studs**



**For proper saddlebag maintenance,  
See ACCESSORIES MAINTENANCE.**

f1552x2x/omf23b

**Figure 25. FLT Models Saddlebags**



## FLHR/C-I WINDSHIELD

### REMOVAL

1. See Figure 26. Insert your fingers into the wireform latch springs at either side of the windshield and move the TOP of the windshield assembly forward, until the TOP bracket notches slide away from the grommets.
2. Carefully lift the windshield bracket BOTTOM notches off the bottom grommets. Remove windshield.

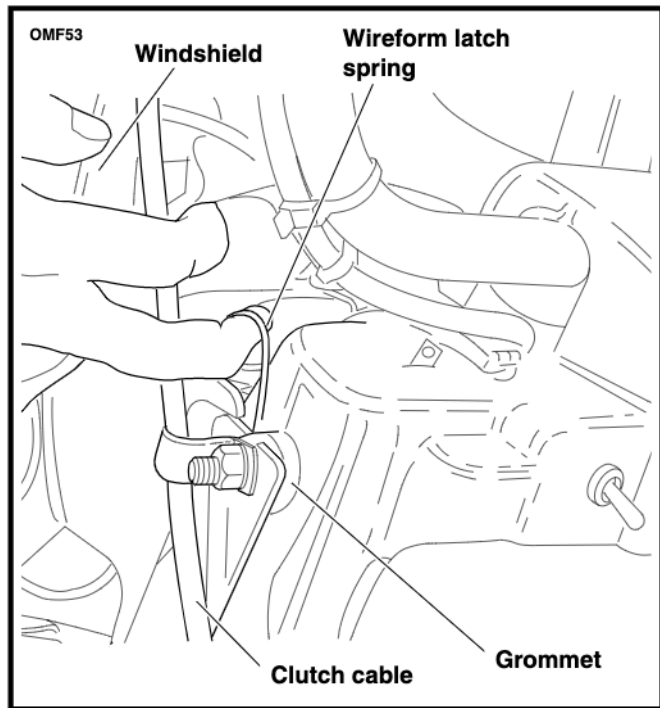
For proper windshield maintenance, See ACCESSORIES MAINTENANCE.

### INSTALLATION



**Be sure you position the windshield bracket between the rubber grommets. Windshield may be damaged by incorrect installation.**

1. See Figure 26. Insert your fingers into the wireform latch springs at either side of the windshield and slide the BOTTOM windshield bracket notches onto the bottom grommets.
2. Slide the TOP bracket notches onto the top grommets.



**Figure 26. FLHR/C-I Windshield**

## FXDS-CONV SADDLEBAG REMOVAL/INSTALLATION

### WARNING

Keep cargo weight concentrated close to the motorcycle and as low as possible to minimize the change in the motorcycle's center of gravity. Distribute weight evenly on both sides of the vehicle. Do not exceed 12 pounds maximum load in each saddlebag. Improper loading can adversely affect handling, possibly leading to personal injury.

### CAUTION

Be sure saddlebag frame(s) is fully seated on mounting studs and knobbed screw(s) is securely tightened. Failure to do so could result in the saddlebags becoming detached and/or damaged.

See Figure 27. The saddlebags are fastened to the bike at three points each by an integral frame. At the rear of each frame is a screw with a large knob and at the top of each frame are two slots that slide onto mounting studs on the fender brace. The saddlebags have handles for carrying.

### REMOVAL

1. Use the handle to support the saddlebag and unscrew the knobbed screw from the rear fender.

2. Lift the bag up and slightly forward, so the slotted frame slides off the mounting studs.

### NOTE

*The knobbed screws are designed to stay in place on the saddlebag frame.*

### INSTALLATION

1. Put the saddlebag in position at the top support points.
2. Slide the slots in the frame onto the mounting studs.
3. Screw the knobbed screw into the screw hole in the fender until it is snug.

### WARNING

**The saddlebag handles are not intended to serve as “grab handles” for the passenger. DO NOT allow them to be used as “grab handles.” When riding with passengers, make certain a grab strap, designed for passengers to hold onto while vehicle is in motion, is installed. Failure to do so could result in possible injury.**

For proper saddlebag maintenance, See ACCESSORIES MAINTENANCE.

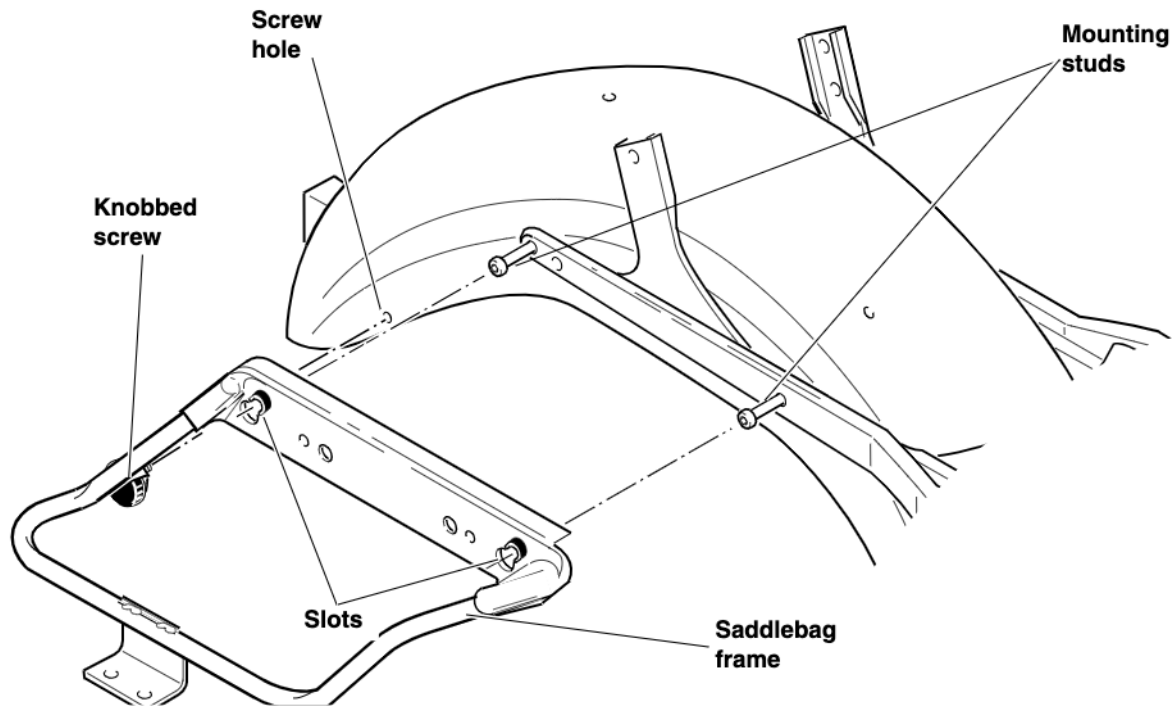


Figure 27. FXDS Convertible Saddlebag Frame Attachment (Saddlebag Removed For Illustration Purposes)

## FXDS-CONV WINDSHIELD REMOVAL/INSTALLATION

### CAUTION

When removing or installing the windshield, protect the headlamp housing, bracket, and front turn signals with rags to prevent scratches.

### NOTE

*The socket head bolts (1) on the windshield brackets (2) permit minor windshield adjustments.*

### REMOVAL

See Figure 28. The windshield brackets have a hinge and toggle design for quick removal.

1. Loosen the toggles' socket head (toggle) bolts (3) enough to easily slip the toggle stops (4) out of their notches. Use the allen wrench provided.
2. Carefully support the windshield and unhinge the hinges (5) from the slider tubes. The toggle stops and bolts remain with the hinges.
3. Remove windshield assembly from the motorcycle.

### INSTALLATION

### NOTE

*With practice, you will be able to install the windshield with the hinges in place. However, initially you may find it easier to install by removing the left side hinge assemblies from the bracket (2), then installing them once the right side hinges are in place.*

1. Place the windshield on the motorcycle's front fork and move the hinges (5) into position on the slider tube.

### CAUTION

- **Be sure that the lower part of the windshield is positioned BEHIND the front turn signals.**
  - **Do not bend or damage front brake line.**
2. Close the hinges on the slider tubes.

### NOTE

*The hinges will not close properly if you close them around a wiring harness or the clutch cable. Be sure they are closing only on the slider tubes.*

3. Slide the toggle stops (4) into their notches in the hinges, with the lip facing outward. As each hinge is fastened, tighten the toggle bolts (3) finger tight, to hold the windshield in position.

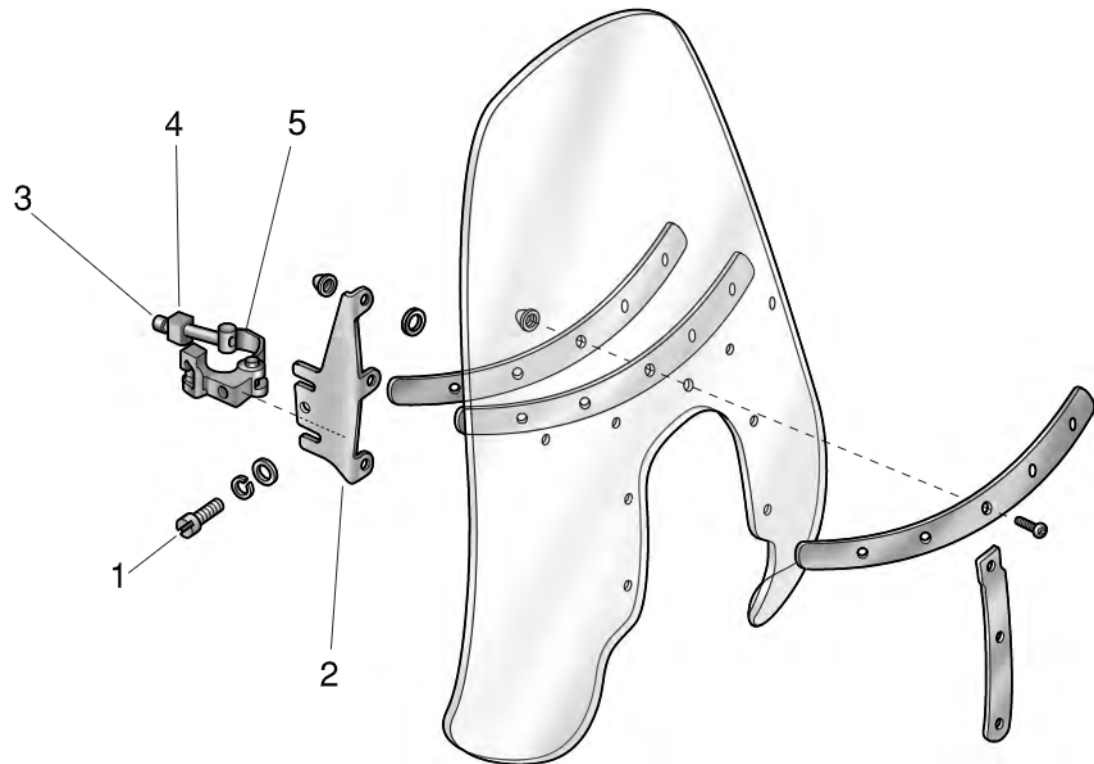


Figure 28. FXDS-CONV Windshield

4. Check the position of the windshield. Carefully position the windshield so no part of the windshield touches any part of the motorcycle.

**CAUTION**

**Tighten the toggle bolts with the supplied “key-ring” allen wrench. DO NOT use a long handled allen wrench or over-tighten. Over-tightening could cause the toggle bolts to work loose. The hinges are designed to produce their maximum clamp load when the toggle bolts are snug.**

5. Tighten the toggle bolts and socket head bolts.
6. For proper windshield maintenance, See ACCESSORIES MAINTENANCE in the MAINTENANCE Section.

## Heritage Springer and Road King Passenger Seat

The FLSTS and FLHR seat is designed to be converted to solo configuration by removing the passenger section.

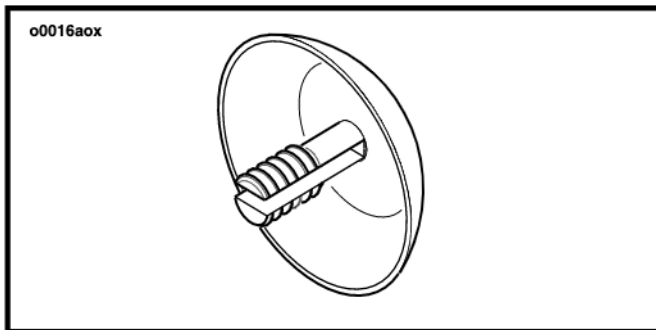
### Removal

1. Remove screw from rear seat bracket.
2. Lift rear of seat up slightly and carefully slide toward rear of motorcycle. This will detach passenger seat from seat mounting studs.
3. See Figure 29. Under the passenger seat is a chrome plug on the seat frame.

4. The chrome plug is a press-fit. To remove plug from passenger seat, grasp with fingers and pull straight up.
5. Insert plug in seat nut hole by pressing into position with finger pressure.

### Installation

1. Remove chrome plug from rear seat nut hole and press into hole on underside of passenger seat.
2. Slide slots on leading edge of passenger seat into seat mounting studs.
3. Position seat bracket over seat nut and install mounting screw.



**Figure 29. Seat mounting hole plug**

## Air Deflectors - Ultra Models

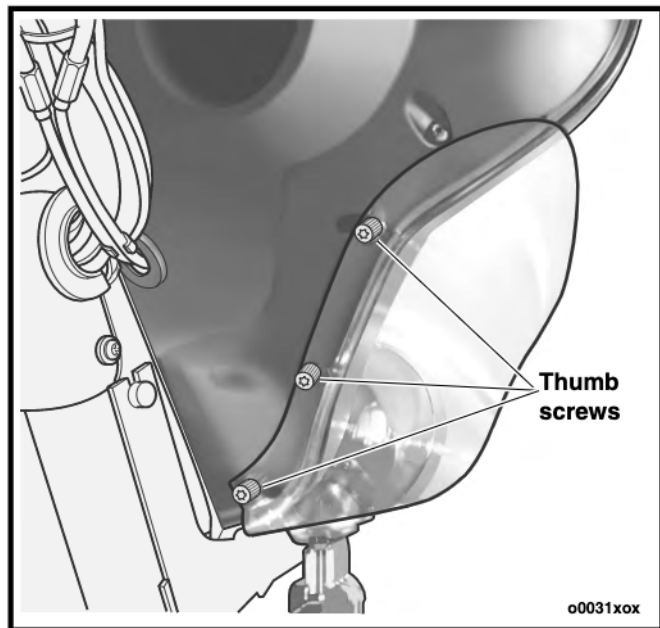
Air Deflectors, located along the left and right bottom edge of the fairing, are removeable.

Under some conditions, rider comfort may be improved by removing the deflectors to allow more air movement behind the fairing.

- To detach the deflectors, remove the three thumb screws.
- Store thumb screws and deflectors in Tour Pak.

### **WARNING**

**Always stop vehicle when removing the air deflectors. Do not attempt to remove the air deflectors while riding. To do so could cause the rider to lose control resulting in possible personal injury.**



**Figure 30. Air Deflectors**

## Tool Kit

FLHTCU-I, FLHTC, FLHTC-I, FLTR and FLTR-I models are equipped with a tool kit for minor repairs and adjustments.

Contained in the kit:

Screwdriver with bits : T-40, T-27, T-25, T-30, #2 Phillips and small slotted, #1 Phillips and large slotted

Hex Wrenches : 1/8", 3/16", 7/32", 5/16", 3/8", 5/32"

Wrench : 3/4"-15/16" Flat box wrench with 3/8" hex hole and 1/4" hex hole

Wrenches : 1/2"-7/16"-3/8 and 3/8"-1/2"-9/16"-10mm

Sockets : 9/16" and 11/16" 6" long

3/4" and 5/8" 2 3/4" long

The kit is contained in a roll-up pouch found in the Tour Pak.



## OPERATING RECOMMENDATIONS

### CAUTION

Do not run the engine at extremely high RPM with clutch disengaged or transmission in neutral. Do not exceed maximum safe RPM specified in Table Table 4. under any conditions or serious engine damage may result.

**Table 4. Maximum Recommended RPM**

MODEL	MAXIMUM RECOMMENDED ENGINE SPEED (RPM)
XLH 883	6000
XLH 1200	5200
XL 1200S	5500
Softail models	5000
FLT, DYNA models	5500

### CAUTION

All Harley-Davidson engines are air-cooled and consequently require air movement over the cylinders and heads to maintain proper operating temperature. Extended periods of idling or parade duty may overheat the engine, resulting in serious engine damage.

### NOTE

- *The 1340cc ignition module has an ignition retard feature which will automatically begin to retard the spark advance if the engine exceeds 5000 RPM (5600 RPM for EFI models).*
- *The XLH ignition module has an ignition retard feature which will automatically begin to retard the spark advance if the engine exceeds 6000 RPM.*

An engine run long distances at high speed must be given closer than ordinary attention to avoid overheating and possible damage. Have the engine checked regularly and keep it well tuned. This applies particularly to a motorcycle equipped with windshield, fairing and lowers.

### WARNING

**When riding on wet roads or under rainy conditions, braking efficiency is greatly reduced. Caution must be used when applying the brakes, accelerating and turning. This is especially true immediately after the rain begins and the oil from the road surface combines with the water. Failure to observe these precautions may result in personal injury.**

When descending a long, steep grade, downshift and use engine compression together with intermittent application of both brakes to slow the motorcycle. Avoid continuous use of

the brakes which may overheat them and cause reduced braking efficiency.

Do not coast for a long distance with the engine off because the transmission is properly lubricated only when the engine is running. To prevent transmission damage, do not tow the motorcycle.

## BREAK-IN - THE FIRST 500 MILES

The sound design, quality materials, and workmanship that is built into your new Harley-Davidson will give you optimum performance right from the start.

However, for the first 500 miles, to wear-in critical parts, observe the few simple riding rules below. This will assure future performance and durability.

1. During the first 50 miles, keep the engine speed below 2500 RPM in any gear, however, do not lug the engine.
2. Up to 500 miles, vary the engine speed, avoiding any steady speed for long distances. Engine speed up to 3000 RPM is permissible in any gear.
3. Avoid fast starts at wide open throttle. Drive slowly until engine warms up.
4. Avoid running the engine at extremely low RPM in higher gears.  
DO NOT exceed 50 MPH for the first 50 miles.  
DO NOT exceed 55 MPH for the first 50 - 500 miles.

## PRE-RIDING CHECKLIST



**Read CONTROLS AND INDICATORS section before riding your motorcycle. Failure to do so may result in personal injury.**

Before riding your motorcycle at any time, make a general inspection to be sure it is in safe riding condition.

1. Check amount of fuel in tank and add fuel if required.



**Remove fuel filler cap slowly. Fill fuel tank slowly to prevent fuel spillage. Do not fill above the bottom of filler neck insert. Leave air space to allow for fuel expansion. Expansion can cause an overfilled tank to overflow fuel through the filler cap vent to surrounding areas. After refueling, be sure filler cap is securely tightened. Failure to observe this warning may result in personal injury.**



**Gasohol spills can stain the paint on your Harley-Davidson.**

2. Check oil tank oil level. See MAINTENANCE AND LUBRICATION section.

3. Check controls to be sure they are operating properly; operate the front and rear brakes, throttle, clutch and shifter.
4. Check steering for smoothness by turning the handlebars through the full operating range.
5. Check tire condition and pressure. Incorrect pressure will result in poor riding characteristics and can affect handling and stability. See TIRE DATA, for correct inflation pressures to use.
6. Check all electrical equipment and switches including the stoplamp, turn signals and horn for proper operation.
7. Check for any fuel, oil or hydraulic fluid leaks.
8. Check rear belt adjustment. Service as necessary.

## STARTING THE ENGINE

### GENERAL

#### WARNING

**Before starting engine, always shift transmission to neutral to prevent accidental movement which could possibly cause personal injury.**

#### CAUTION

**Never accelerate the engine above 2500 RPM immediately after a cold start. The engine should be allowed to run slowly for 15-30 seconds. This will allow the engine**

**to warm up and let oil reach all surfaces needing lubrication. Extended idling with enricher in the full out position for a period longer than 30 seconds is not recommended.**

#### NOTE

*Engine stop switch on the right handlebar control group must be in RUN (ignition on) position to start engine.*

Use recommended oil for extended expected temperatures. See engine lubrication table in the MAINTENANCE AND LUBRICATION section.

If you read this section and still have questions about the correct operation of your motorcycle, talk to your authorized Harley-Davidson dealer.

## CARBURETED MODELS

#### NOTE

- *H-D CV carburetors have an enricher circuit that will cause the engine to idle at approximately 2000 RPM with the engine at normal operating temperature and the enricher knob pulled fully out.*
- *The increase in idle speed is intended to alert the rider that the engine is warmed up to normal operating temperature and the enricher knob should be pushed all the way in.*
- *Continuing to use the enricher when the engine is at*

full operating temperature WILL CAUSE FOULED SPARK PLUGS.

### CAUTION

**You must pay close attention to the vehicle's warm-up time. Either excessive or insufficient use of the enricher may cause poor performance, erratic idle, poor fuel economy and spark plug fouling.**

#### NOTE

*The following starting and operating instructions for all Harley-Davidson motorcycles are recommendations. They may be modified for individual vehicles.*

### COOL ENGINE

#### Outside Temperature Cooler than 60°F

Turn the fuel valve to the ON position (carbureted models). BE SURE THROTTLE IS CLOSED. Pull enricher knob to full out position. Turn the ignition switch ON and press starter switch to operate the electric starter.

1. See Figure 3. After initial 15-30 second warm-up, ride for 3 minutes or 2 miles with enricher knob in full out position.
2. After 3 minutes or 2 miles, push the enricher knob in to the 1/2 way position. Ride 2 minutes or 2 miles.
3. After 2 minutes or 2 miles, push the enricher knob fully in.

#### NOTE

*If outside temperature is cooler than 20°F it may be necessary to pump the throttle 2 or 3 times.*

### COOL ENGINE

#### Outside Temperature Warmer than 60°F

Turn the fuel valve to the ON position (carbureted models). BE SURE THROTTLE IS CLOSED. Pull enricher knob to full out position. Turn the ignition switch on and press starter switch to operate the electric starter.

1. See Figure 3. After initial 15-30 second warm-up, ride for 1 minute or 1/2 mile with enricher knob in full out position.
2. After 1 minute or 1/2 mile, push the enricher knob in to the 1/2 way position. Ride 1 minutes or 1/2 mile.
3. After 1 minute or 1/2 mile, push the enricher knob fully in.

### WARM OR HOT ENGINE

Turn the fuel valve to the ON position (carbureted models). Open throttle 1/8 - 1/4. Turn on ignition switch and operate electric starter. DO NOT USE ENRICHENER.

#### NOTE

*If the engine does not start after a few turns or if one cylinder fires weakly but engine does not start, it is usually because of an over-rich (flooded) condition. This is especially true of a hot engine. If the engine is flooded, push enricher knob in all the way, turn ignition on and operate starter with throttle wide open. DO NOT "pump" the throttle while turning the engine over.*

# SEQUENTIAL PORT FUEL INJECTED HARLEY-DAVIDSONS

## General

There are some differences between a carbureted Harley-Davidson and a fuel injected Harley-Davidson. The sequential port fuel injection system simplifies the starting procedure, compared to carbureted Harley-Davidsons.

Do not “pump” the throttle before starting. Rolling the throttle before starting the motorcycle is unnecessary.

There is no “choke” or “enrichener” on a fuel injected Harley-Davidson. The engine management system handles starting and running the engine at all temperatures and conditions.

There is no fuel valve.

If the sound system is not on, you may occasionally hear a slight fuel pump purr, as the fuel pump operates to maintain the proper pressure in the fuel lines.

## Starting

1. Turn ignition ON. Do not “pump” the throttle.

### NOTE

*The engine lamp will light for approximately 4 seconds and you will hear the fuel pump purr for approximately 2 seconds as it operates to fill the fuel lines with gasoline.*

2. Press the starter button to start the motorcycle.
3. When the engine has started, you can operate your motorcycle as you normally would.

### NOTE

*If the fuel tank becomes completely dry, it may take a few seconds longer to start the motorcycle after filling the tank. It will not be necessary to take any extraordinary measures before starting the motorcycle.*

## STOPPING THE ENGINE

See Figure 2. Stop the engine by turning OFF the engine stop switch (10) on right handlebar, then turn OFF the ignition key switch. If the engine should be stalled or stopped in any way, turn off the key switch at once to prevent battery discharge. Turn the fuel valve to the OFF position (carbureted models).

## SHIFTING GEARS

### CAUTION

**The clutch must be fully disengaged before attempting a gear shift or engine damage may occur.**

#### NOTE

*Always start motorcycle in motion in first gear.*

See Figure 2. To start moving with motorcycle upright and engine idling, pull the clutch lever (6) to fully disengage clutch. See Figure 31. Push shifter lever down firmly, but gently, to end of its travel to engage first gear. Then release the clutch lever slowly to engage the clutch and at the same time, open throttle gradually.

Engage second gear after the motorcycle has run a few yards, as follows: Close the throttle, disengage the clutch, lift the gear shifter pedal up to the end of its travel and release. Engage the clutch and operate the throttle gradually. Repeat the same operation to engage third, fourth, and fifth gears.

To shift to lower gears, reverse the movement of the gear shifter lever, disengage the clutch completely before each gear change and only partially close the throttle so the engine will not drag when clutch is again engaged.

Keep in mind that by lifting the gear shifter lever up, a higher gear is engaged; by pushing the gear shifter lever down a lower gear is engaged. When stopping, operate gear shift

until you reach neutral. Neutral is 1/2 stroke up from first gear on 1340cc and 1450cc models. On XLH models, neutral is 1/2 stroke up from first gear and 1/2 stroke down from second gear.

See Figures 4, Figure 31. and Table Table 5.. Gear shift pattern is first gear down; next four gears up.

### WARNING

**When shifting to lower gears with the motorcycle in motion, do not downshift at speeds higher than those listed in the table. Shifting to lower gears when speed is too high may severely damage the transmission or cause the rear wheel to lose traction. This may cause loss of vehicle control resulting in personal injury.**

### CAUTION

**Do not shift gears without fully disengaging the clutch or engine damage may occur.**

Shift to neutral before stopping engine. Shifting mechanism can be damaged by shifting gears while engine is stopped.

#### NOTE

*Always start motorcycle in motion in first gear.*

When engine speed decreases, as in climbing a hill or running at a reduced speed, shift to the next lower gear while partially closing the throttle so the engine accelerates as soon

as the clutch lever is pulled.

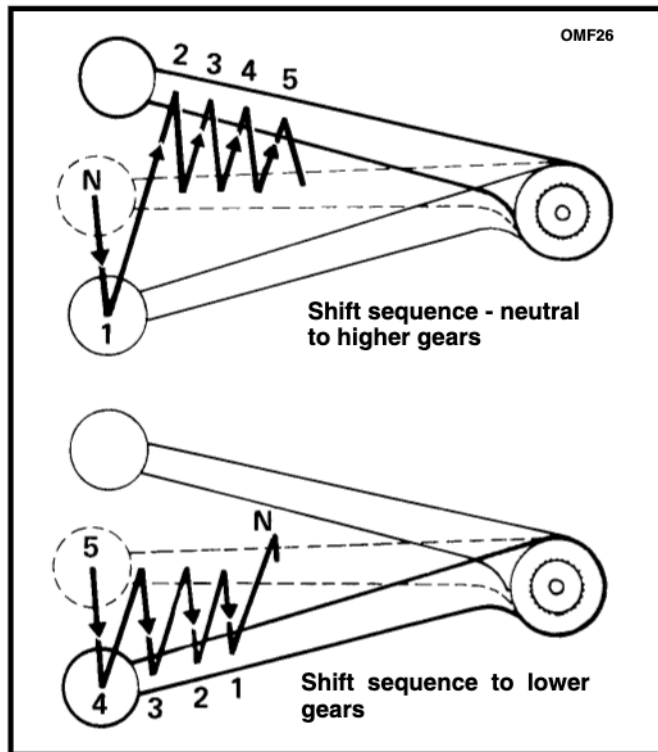
See Gear Shifter in the CONTROLS AND INDICATORS section. The recommended shift points are as follows:

**Table 5. Gear Changes - All Models**

GEAR CHANGE	SPEED
<b>Acceleration (Upshift)</b>	
First to Second	15 MPH (25 km/h)
Second to Third	25 MPH (40 km/h)
Third to Fourth	35 MPH (55 km/h)
Fourth to Fifth	45 MPH (70 km/h)
<b>Deceleration (Downshift)</b>	
Fifth to Fourth	40 MPH (65 km/h)
Fourth to Third	30 MPH (50 km/h)
Third to Second	20 MPH (30 km/h)
Second to First	10 MPH (15 km/h)

**NOTE**

- The gear shifter mechanism on 1340cc and 1450cc 5-speed motorcycles does not permit shifting the transmission to neutral from second gear. Neutral can only be engaged from first gear.
- The XLH 5-speed transmission can be shifted to neutral from either first or second gear.



**Figure 31. 5 - Speed Shifting Sequence**

## NOTES



## 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:

1. Tires for correct pressure, abrasions or cuts.
2. Belt and primary chain 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.
7. Wheel spoke tightness, if applicable.
8. Headlamp, tail lamp, brake lamp and directional lamp operation.

### WARNING

For your personal welfare, all the listed service and maintenance recommendations should be performed. Lack of regular maintenance, at the suggested intervals, may affect the safe operation of your motorcycle and could lead to personal injury.

## BREAK-IN MAINTENANCE

### NOTE

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

After a new motorcycle has been ridden its first 1000 miles the motorcycle should be taken to the dealer from whom it was purchased for initial service operations. If it is impossible to take the motorcycle to a dealer at the mileage intervals noted, the owner should give the following checklist attention, or arrange to have it checked, and take the motorcycle to the dealer for more complete servicing as soon as it is convenient.

We recommend the following maintenance procedures be performed by your Harley-Davidson dealer.

### WARNING

- Stop the engine and support the motorcycle securely before performing all service procedures. Service should be performed using proper tools, in an adequately lighted and ventilated work area.
- When working on the motorcycle, do not support motorcycle by placing supports under the brake pedal. Damage to the brake system could occur causing possible malfunction and personal injury.

## WARNING

For your personal welfare, all the listed service and maintenance recommendations should be followed because they may affect the safe operation of your motorcycle. Failure to follow service and maintenance recommendations may result in personal injury.

## CHECK AT FIRST 1000 MILES

### NOTE

- *The following is an overview. For a complete listing, see the First Scheduled Maintenance checklist (coupon) at rear of manual.*
  - *Springer models (FLSTS and FXSTS), because of their unique design features require First Scheduled maintenance at 500 miles. All other models require First Scheduled maintenance at 1000 miles.*
1. Change engine oil.
  2. Replace oil filter.
  3. Change primary chaincase lubricant and clean magnetic drain plug. See Dealer.
  4. Inspect air cleaner and service as required.
  5. Check/adjust primary chain. See Dealer.
  6. Check clutch adjustment. See Dealer.

7. Inspect brake pad linings and discs for wear.
8. Check brake fluid level and condition. See Dealer.
9. Inspect oil lines and brake system for leaks.

## CAUTION

**DO NOT lubricate the enricher cable on C.V. carburetors; the cable must have sliding resistance to work properly.**

10. Lubricate the following: front brake hand lever, throttle control cables, clutch control cable (and hand lever\*).
11. Check operation of throttle and enricher\* controls.
12. Check engine idle speed.
13. Check battery electrolyte level (FLT only); check and clean connections.
14. Check operation of all electrical equipment and switches.
15. Check cruise control disengage switch and other components.\*
16. Check tightness of all critical fasteners, except engine head bolts.
17. Check stabilizer links\* and engine mounts. See Service Manual.
18. Check tire pressure and inspect tread.

\* If applicable.

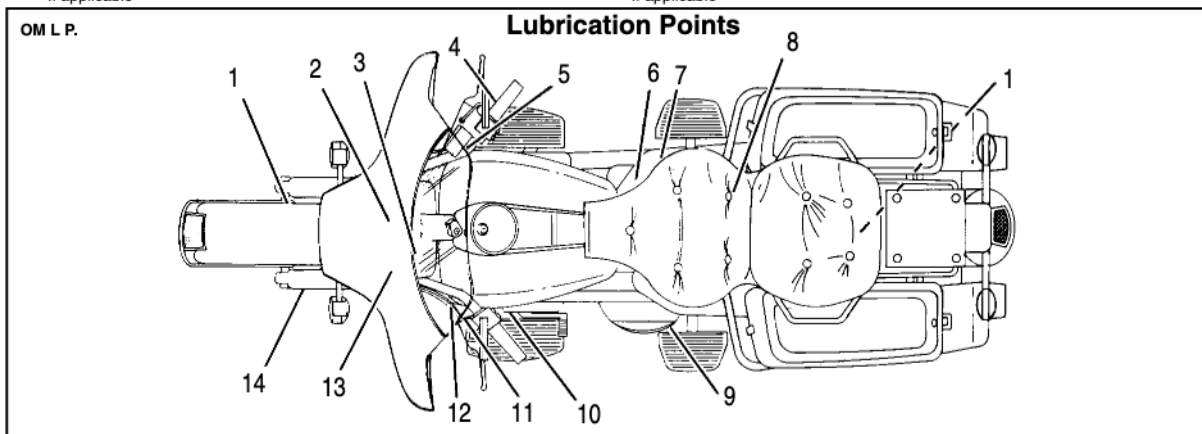
19. Check rear fork pivot nut tightness.\* See Dealer.
  20. Check/adjust rear drive belt.
  21. Change transmission lubricant and clean magnetic drain plug.
  22. Inspect fuel valve, lines and fittings for leaks.
  23. Check front fork bearing adjustment. See Dealer.
  24. Check and adjust air suspension system.\*
  25. Lubricate jiffy stand.
  26. Road test.
- \* If applicable.

## LUBRICATION SUMMARY

Service Operation	P r e r i d e	1	5	1	Service Operation	P r e r i d e	1	5	1
		0	0	0			0	0	0
1. Wheel bearings				✓	9. Primary chaincase lubricant				✓
2. Steering head bearings				✓	10. Jiffy stand		✓	✓	✓
3. Speedometer cable*			✓		11. Clutch control cable (and hand lever, if necessary)		✓	✓	✓
4. Throttle grip sleeve, throttle control cables, front brake hand lever		✓	✓		12. Shifter pivot fitting*		✓	✓	
5. Rear brake pedal grease fitting*		✓	✓		13. Oil filter		✓	✓	
6. Engine oil (pre-ride check)	✓	✓	✓		14. Front fork oil*		✓	✓	
7. Transmission lubricant		✓	✓	✓	* Hinges, latches - fuel door, Tour-Pak, saddlebags			✓	✓
8. Rear fork bearings*				✓					

\* If applicable

\* If applicable



## REGULAR SERVICE INTERVALS

### NOTE

Regular lubrication and maintenance will help keep your new Harley-Davidson operating at peak performance. Your Harley-Davidson dealer knows best how to service your motorcycle with factory approved methods and equipment assuring you of thorough and competent workmanship.

*Regular maintenance interval operations are required to keep your new motorcycle warranty in force. The use of other than Harley-Davidson approved parts and service procedures may void the warranty. Any alterations to the emission system components, such as the carburetor and exhaust system, may be in violation of Federal and State laws.*



**The regular maintenance intervals given in this manual are intended to be guidelines.**

**If you operate your motorcycle under adverse conditions, (severe cold, extreme heat, very dusty environment, very bad roads, through standing water, etc.) you should perform the regular maintenance intervals more frequently to ensure the safe operation of your motorcycle.**

## REGULAR MAINTENANCE INTERVALS

<b>ODOMETER READING SERVICE OPERATIONS (see chart code below)</b>	1	2	5	7	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
	0	5	0	5	0	5	0	5	0	5	0	5	0	5	0	5	0	5	0	5	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	mi	mi	mi	mi	mi	mi	mi	mi	mi	mi	mi	mi	mi	mi	mi	mi	mi	mi	mi	mi	mi
Change engine oil and filter	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R
Inspect air cleaner, service as required	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Hydraulic lifter oil screen																					
Change primary chaincase lube and clean drain plug	RI		RI		RI		RI		RI		RI		RI		RI		RI		RI		RI
Check and adjust rear belt	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Clutch adjustment	I		I		I		I		I		I		I		I		I		I		I
Change transmission lubricant and clean drain plug	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R
Lube foot shift/brake lever bearings, speedometer cable	L		L		L		L		L		L		L		L		L		L		L
Inspect brake pad linings and discs for wear	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Check brake fluid reservoir levels and condition	I		I		I		I		I		I		I		I		I		I		I
Inspect oil lines and brake system for leaks	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Lubricate front brake hand lever, throttle control cables, clutch control cables (and hand lever)	L		L		L		L		L		L		L		L		L		L		L
Lubricate and adjust steering head bearings (springer *, all modelst)	X*	X*	X*	X*	X+	X*	X*	X*	X+	X*	X*	X*	X+	X*	X*	X*	X+	X*	X*	X*	X+
Check front fork bearing adjustment			I				I				I				I				I		
Check, adjust operation of enrichener, throttle control	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Inspect fuel valve, lines and fittings for leaks	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Clean fuel tank filter screen									X								X				
Check operation of all electrical equipment & switches	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Check cruise control disengage switch & components	I		I		I		I		I		I		I		I		I		I		I

Chart Code:

**I** - Inspect, & if necessary correct, clean or replace.

**A** - Adjust.

**R** - Replace or change.

**T** - Tighten to proper torque.

**L** - Lubricate with specified lubricant.

**X** - Perform.

<b>ODOMETER READING</b> <b>SERVICE OPERATIONS</b> <b>(see chart code below)</b>	1	2	5	7	1	1	1	1	2	2	2	2	3	3	3	3	4	4	4	4	5
	0	5	0	5	0	5	0	5	0	5	0	5	0	5	0	5	0	5	0	5	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	mi	mi	mi	mi	mi	mi	mi	mi	mi	mi	mi	mi	mi	mi	mi	mi	mi	mi	mi	mi	mi
Check battery electrolyte level and clean connections	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Change spark plugs	I		I		R		I		R		I		R		I		R		I		R
Check tire pressure and inspect tread	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Check wheel spoke tightness			I		I		I		I		I		I		I		I		I		I
Repack wheel bearings					X				X				X				X				X
Change front fork oil					X				X				X				X				X
Repack rear fork bearings					X				X				X				X				X
Adjust springer rocker bearings	X				X				X				X				X				X
Check air suspension - pressure, operation & leakage	I		I		I		I		I		I		I		I		I		I		I
Check stabilizer links and engine mounts					I				I				I				I				I
Check tightness of all critical fasteners: hand controls, brake system, axle nuts, front fork components, riser and handle bar fasteners	T				T				T				T				T				T
Inspect Road King windshield bushings					I				I				I				I				I
Lubricate hinges, latches - fuel door, tour-pak, saddlebags	L		L		L		L		L		L		L		L		L		L		L
Check ignition timing and vacuum hose			I		I		I		I		I		I		I		I		I		I
Check engine idle speed	I		I		I		I		I		I		I		I		I		I		I
Road test	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

Chart Code:

**I** - Inspect, & if necessary correct, clean or replace.

**A** - Adjust.

**R** - Replace or change.

**T** - Tighten to proper torque.

**L** - Lubricate with specified lubricant.

**X** - Perform.

## ENGINE LUBRICATION

Engine oil is a major factor in the performance and service life of the engine. Always use the proper grade of oil for the lowest temperature expected before the next scheduled oil change.

See Table 6. If it is necessary to add oil and Harley-Davidson oil is not available, use an oil certified for diesel engines. Acceptable diesel engine oil designations include CE, CF, CF-4 and CG-4. The preferred viscosities for the diesel engine oils, in descending order, are 20W-50, 15W-40 and 10W-40. At the first opportunity, see a Harley-Davidson dealer to change back to 100 percent H-D oil.

**Table 6. Recommended Engine Oils**

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

## CHECKING OIL LEVEL (Figures Figure 33., Figure 32., 34 & 35, Table Table 7.)

Engine oil level should be checked only when engine is at normal operating temperature. The engine will require a longer warm up period in colder weather.

Preride inspection - oil should register on dipstick of cold engine. Do not add oil to full mark on a cold engine.

The motorcycle should be ridden to ensure oil is hot and is at normal operating oil pressure.

Touring and Dyna models should idle on the side stand for 1-2 minutes after reaching normal operating temperature.

When the above conditions are met, turn the engine off. See Table Table 7..

### NOTE

- *To remove all dipstick/oil plugs, pull steadily on the plug while moving it back and forth.*
- *Sidecar-equipped vehicles should have oil level 1/2 in. higher on dipstick.*

Softail and Sportster models should be upright and level. Wipe off dipstick and insert into tank with plug pushed completely into filler neck.



**CAUTION**

Do not allow hot oil level to fall below lower mark on dipstick. Do not overfill oil tank. Overfilling may cause oil carryover to the air cleaner.

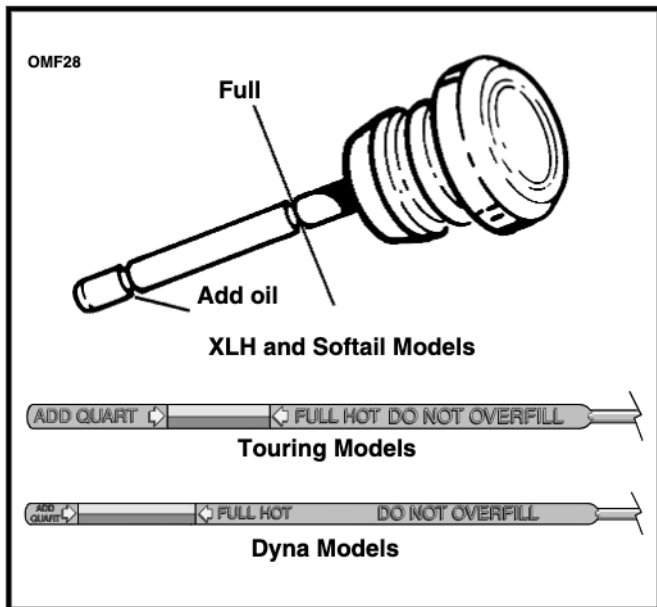


Figure 32. Engine Oil Level

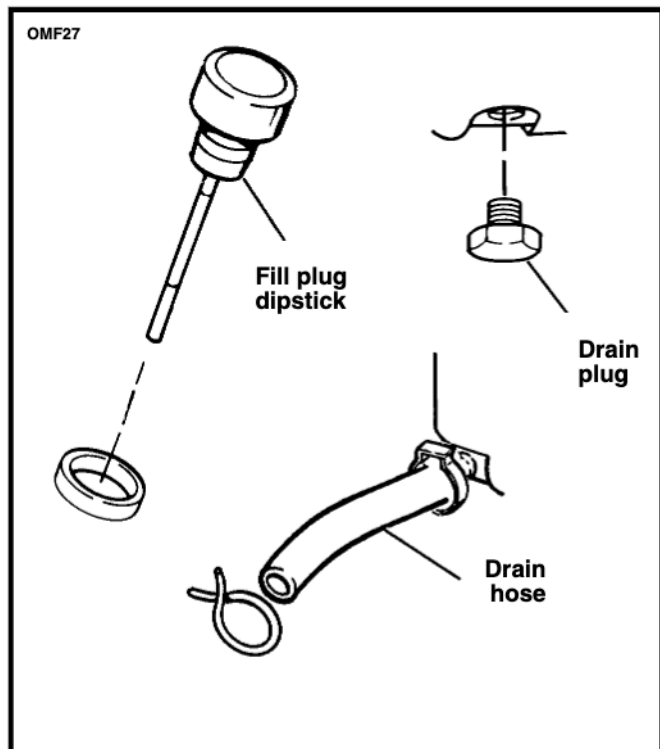


Figure 33. Fill Plug Dipstick & Oil Tank Drains

Remove dipstick and note oil level. If oil level is down to or below lower "fill" mark on dipstick add only enough oil to bring level to upper mark on dipstick. See Figure 32.



**Do not switch brands indiscriminately because some oils interact chemically when mixed. Use of inferior oils or non-detergent oils can damage the engine.**

**Table 7. Checking Oil Level**

<b>MODEL</b>	<b>DRAIN</b>	<b>FILL</b>	<b>DIPSTICK</b>	<b>VEHICLE POSITION</b>
FLT Models	Drain plug at front of oil pan.	Plug on right side, top, rear of transmission case.	On fill plug.	Resting on jiffy stand.
Softail Models	Drain hose right side of oil tank.	Plug, right side of oil tank.	On fill plug.	Straight up and level.
XLH Models	Drain hose, rear of frame, under rear fork.	Plug, right side, below seat.	On fill plug.	Straight up and level.
Dyna Glide Models	Drain plug, under transmission, rear, left corner.	Plug, right side, top, front of transmission case.	On fill plug.	Resting on jiffy stand.

Check engine oil supply at each complete fuel refill. Oil should be changed after the first 1000 miles for a new engine, and thereafter at 5000 mile intervals in normal service at warm or moderate temperatures. Oil change intervals should be shorter in cold weather - see WINTER LUBRICATION.

Completely drain oil tank of used oil and refill with fresh oil. If service is extremely hard or on dusty roads, drain and refill at shorter intervals. Draining should be done after a ride while oil is hot. It is not necessary to drain the crankcase because it does not accumulate used oil. The oil filter should be replaced every time the oil is changed.

## ENGINE OIL FILTER (Figure 34)

Oil filters are located on an oil filter mount in front of the engine.

Twin Cam 88 equipped vehicles require the new premium oil filter (63798-99 Chrome, 63731-99 Black).

Completely drain engine oil tank before removing oil filter. Clean filter gasket contact surface on mounting plate. Surface should be smooth and free of any debris or old gasket material. Apply a thin film of oil to gasket contact surface on mounting plate and to gasket on new oil filter.

### NOTE

*On XLH models pour four ounces of clean oil into filter.*

Screw filter onto adapter until gasket contacts plate surface.

On all models, apply another 3/4 to 1 full turn.

### WARNING

**Be sure no oil gets on rear tire when changing the filter. Traction will be adversely affected. This could lead to loss of control of the motorcycle, resulting in possible personal injury.**

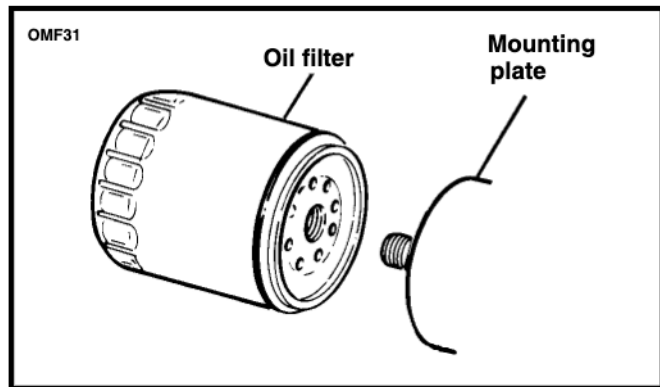


Figure 34. Engine Oil Filter

## Winter Lubrication

Combustion in any engine produces water vapor. When starting and warming up in cold weather, much of the vapor condenses to water on the relatively cool metal surfaces. If the engine is driven enough to get the crankcase thoroughly warmed up frequently, most of this water is again vaporized

and blown out through the breather.

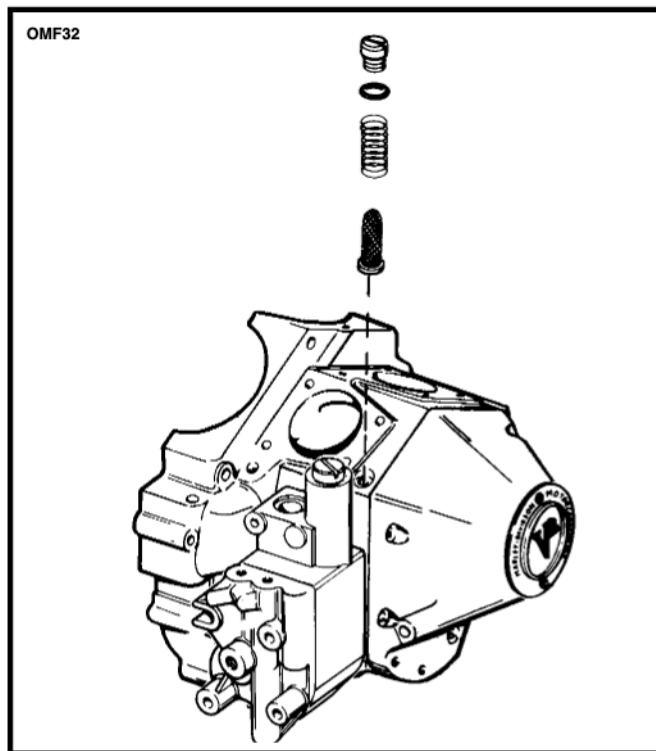
A moderately driven engine, making only short runs and seldom getting thoroughly warmed up, is likely to accumulate an increasing amount of water in the oil tank. In freezing weather this water will become slush or ice and if allowed to accumulate too long, may block the oil lines and cause damage to the engine.

Water mixed with oil for some time forms sludge that is harmful to the engine and causes undue wear of various working parts. Therefore, in winter the oil change interval should be shorter than normal for all engines, and any engine used only for short runs must have oil drained frequently along with a thorough tank flush-out before new oil is put in tank.

The further below freezing the temperature drops, the shorter the oil change interval should be.

### **Hydraulic Lifter Oil Filter Screen (Figure 35) (1340cc Engines Only)**

The hydraulic lifter oil filter screen is located in the crankcase above the oil pump. Your dealer will inspect the screen every 5000 miles. Oil screen is installed with closed end up.



**Figure 35. Hydraulic Lifter Oil Filter Screen**

## TRANSMISSION LUBRICATION

### 1340cc and 1450cc Models

The transmission lubricant level should be checked monthly. When filling the transmission, use Harley-Davidson TRANSMISSION LUBRICANT, Part No. 99903-93 (qt.), 99904-93 (gal.).

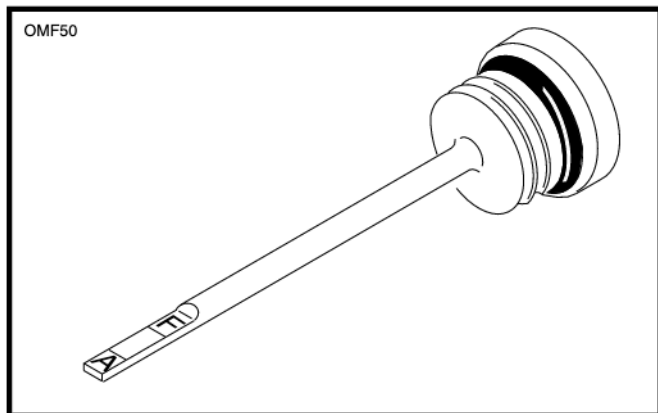
#### NOTE

- *When checking the transmission lubricant level, motorcycle should be standing STRAIGHT UP, not leaning on the jiffy stand.*
- *Keep motorcycle upright for a short period of time to equalize lubricant level in the transmission compartments.*

When the engine reaches normal operating temperature, turn the engine off and position motorcycle STRAIGHT UP and LEVEL.

See Figure 36. Remove the threaded filler plug. Clean dipstick. Put dipstick filler plug back into hole, but do not screw in. Remove dipstick and take reading. Lubricant level should be between the two marks on the dipstick. Add lubricant if necessary.

Do not overfill or leakage may occur. The transmission capacity is approximately 24 ounces. When reinstalling the filler plug, tighten it to 25-75 **in-lbs** (2.8 - 8.5 Nm)(finger tight).



**Figure 36. Transmission Lubricant Dipstick - 1340cc and 1450cc Models**

The transmission should be drained and refilled with fresh lubricant after the first 500 miles and thereafter seasonally or every 5000 miles, whichever comes first.

On FLT models, the transmission magnetic drain plug is located underneath the transmission, on right side of vehicle. When installing the drain plug, tighten to 14-21 ft-lbs (19-28.5 Nm).

On Dyna Glide models, the transmission magnetic drain plug is located underneath the transmission, in the middle, right side of the case. When installing the drain plug, tighten it to

14-21 ft-lbs (19-28.5 Nm) torque.

On the Softail models, the transmission magnetic drain plug is located at the right side of the transmission housing. Install drain plug so it projects 0.16-0.18 in. above surface of housing.

On all models, remove foreign material from end of plug.

### **WARNING**

**Do not overtighten drain plug. When draining and refilling the transmission, be careful that dirt and debris do not get into the case. Do not allow draining lubricant to get on rear wheel, tires or brakes. Traction could be adversely affected, possibly resulting in personal injury.**

### *NOTE*

*XLH models transmission and primary chaincase share common lubricant supply.*

## **PRIMARY CHAINCASE LUBRICATION - GENERAL**

Lubrication is a major factor in the performance and service life of the clutch components. Use appropriate Harley-Davidson chaincase lubricant for all operating temperatures. (See 1340cc and 1450cc Models, XLH Models.)

Chaincase lubricant should be changed initially at 1000 miles and every 5000 miles thereafter. Chaincase capacity is 32 ounces (946 ml.) on all FLT and XLH models and 26 ounces (769 ml.) on Dyna and Softail models.

## **CHECKING CHAINCASE LUBRICANT**

### **1340cc and 1450cc Models**

1. Position motorcycle STRAIGHT UP and LEVEL.
2. See Figure 36. Remove screws and washers that secure clutch inspection cover.
3. Remove clutch inspection cover carefully to avoid damaging O-ring or finish on cover.
4. Primary chaincase lubricant should be at the bottom of the clutch diaphragm spring. Use only PRIMARY CHAINCASE LUBRICANT, Part No. 99887-84.

### **CAUTION**

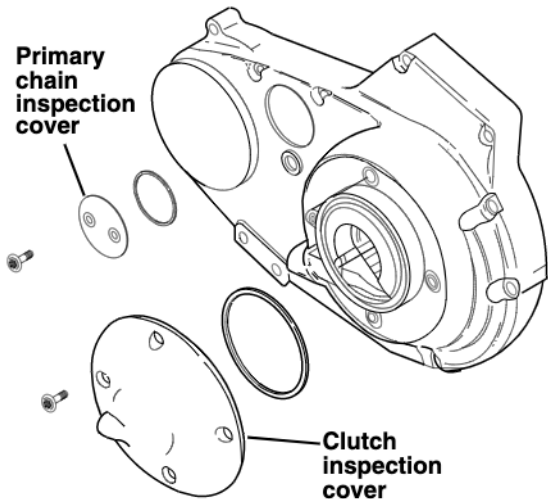
**Replace O-ring if damaged or not sealing properly to avoid lubricant leakage.**

5. Replace clutch inspection cover and secure with screws and new washers. Tighten to 50-70 **in-lbs** (6-8 Nm). Do not overtighten.

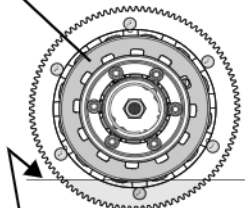
o0029xox

**883cc and 1200cc**

**Primary chain inspection cover**



**Diaphragm Spring**



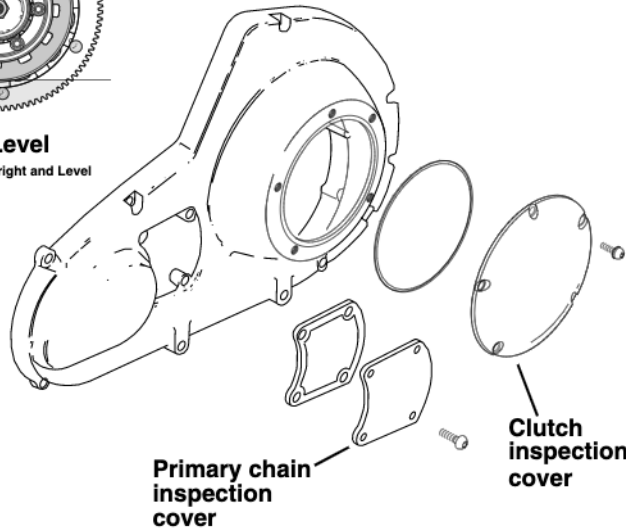
**Lubricant Level**

With Motorcycle Upright and Level

**1340cc and 1450cc (typical)**

**Primary chain inspection cover**

**Clutch inspection cover**



**Figure 37. Primary Chaincase**

## WARNING

When draining or refilling with lubricant, do not allow dirt or debris to enter chaincase. Do not allow draining lubricant to get on rear wheel, tire, or brake components. Traction could be adversely affected, possibly resulting in personal injury.

### NOTE

*Whenever draining chaincase lubricant, inspect and clean chaincase magnetic drain plug.*

Check clutch adjustment every 5000 miles. We recommend your Harley-Davidson dealer perform these services for you.

## XLH Models

Use only Harley-Davidson SPORT-TRANS FLUID Part No. 99896-88 for all operating temperatures. Primary chaincase and transmission capacity is 32 U.S. ounces. Drain while lubricant is hot.

See Figure 36. The drain plug is located under the clutch, on the underside of the chaincase. The filler access is the clutch inspection cover. To determine correct lubricant level in the transmission and chaincase compartments, proceed as follows:

1. Stand motorcycle straight up. Motorcycle must remain in this position during entire procedure.

### NOTE

*An opening between the transmission and the front chain compartments allows the same lubricant supply to lubricate the parts in both compartments.*

2. Remove primary chaincase clutch inspection cover screws, cover and drain plug.

### NOTE

*If the lubricant is to be changed, remove drain plug and allow lubricant to drain. Remove foreign material from magnet on end of plug.*

3. Install drain plug and tighten to 14-21 ft-lbs torque.

## CAUTION

**Do not over-tighten drain plug. Overtightening could cause a lubricant leak.**

4. Add approximately 32 ounces of lubricant, until it reaches bottom of clutch diaphragm spring.
5. Place clutch inspection cover in position on the primary cover and install and tighten cover screws.



## PRIMARY CHAIN

Primary (front) chain adjustment should be checked initially at 1000 miles, every 5000 miles thereafter and serviced as necessary. If the chain is allowed to run loose, it will cause the motorcycle to jerk when running at low speed, and chain and sprockets will wear excessively. If this happens, see your dealer or Service Manual for adjustment procedure.

## REAR DRIVE BELT

The rear drive (secondary) belt inner tooth surface has a thin coating of polyethylene. During initial operation, this coating will wear as it is burnished into the belt fabric. This is a normal condition and not an indication of belt wear.

Belt tension should be checked after the first 1000 miles and every 2500 miles thereafter.

### NOTE

*Perform belt tension check BEFORE operating vehicle. Vehicle should be at room temperature and dry, or you may not get a correct measurement.*

See Table 8 and Figure 38. Apply 10 lbs of force at the mid-point of the belt's appropriate strand. The deflection should be upward as shown. On 1340cc and 1450cc models, rear wheel must be on the ground and one rider sitting on the motorcycle. On XLH models, rear wheel must be on the ground with NO ONE on the motorcycle.

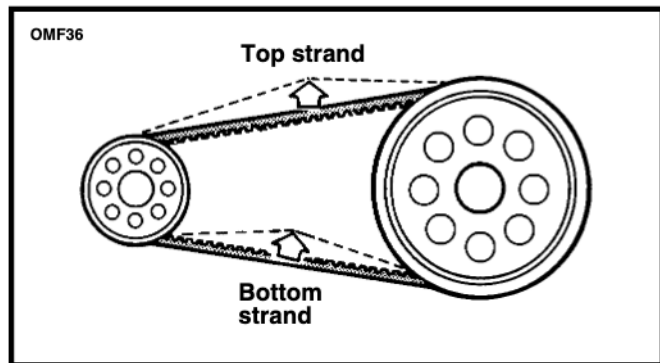


Figure 38. Belt Deflection

Table 8. Belt Deflection

MODEL	DEFLECTION (Measured With 10 lbs Force)
FLST/C/F/S, FXST/C/S	3/8 in - 1/2 in. (@TOP STRAND)
Dyna Glide, FLT	5/16 in - 3/8 in. (@ BOTTOM STRAND)
XLH	9/16 in - 11/16 in. (@BOTTOM STRAND)

Use BELT TENSION GAUGE, Part No. HD-35381 to check belt tension. If belt requires adjustment, see your Harley-Davidson dealer, or follow instructions given in the applicable Service Manual.

Check rear brake caliper position on rear brake disc. Disc should run true within brake caliper.

 **WARNING**

**A misaligned rear wheel and/or brake caliper could cause rear brake disc to bind, resulting in personal injury.**

## CHASSIS LUBRICATION

### Greasing

1. Use recommended special purpose grease for steering head bearings, wheel bearings and rear fork bushings. Use a multi-purpose chassis grease for other applications.

 **CAUTION**

**Do not switch brands/greases indiscriminately because some greases interact chemically when mixed. This can significantly decrease the life of the bearing/bushing.**

2. Repack front and rear wheel bearings every 10,000 miles (more often in adverse conditions), or yearly if operated under winter conditions or prior to storage. Replace seals and axle spacers if they show any wear or

distortion.

3. Remove and lubricate handlebar throttle control grip sleeve with fresh graphite every 5000 miles, once each year, or when operation indicates lubrication is necessary.
4. Every 5000 miles lubricate throttle control cables, speedometer drive cable and clutch control cable. Lubricate front brake hand lever and clutch control hand lever only if necessary.
5. On FLT and Softail models, grease the rear brake pedal and shifter shaft pivots every 5000 miles at the fitting.
6. On XLH and Dyna models, pack rear swing arm pivot bearings with fresh grease at 10,000 mile intervals. Inspect rear swing arm pivot bushings.
7. Pack the steering head bearings with fresh grease at 10,000 mile intervals or 2 years, whichever occurs first.
8. Lubricate the jiffy stand mechanism with LOCTITE LUBRIPLATE® every 5000 miles.

### Oil Applications

All control connections and parts as indicated in the REGULAR MAINTENANCE INTERVALS CHART should be oiled regularly, particularly after washing motorcycle or driving in wet weather.

## Front Fork Oil

Drain front fork oil and refill every 10,000 miles or annually. If fork does not appear to be working properly or an appreciable amount of oil leakage should develop, see your Harley-Davidson dealer. If there is insufficient oil in either side of fork, the rebound action will be incorrect.

The Springer fork does not require fork oil.

## FUEL STRAINER (Carburetor only)

See Figure 15. A screen type fuel strainer is located on top of the supply valve inside the fuel tank. Screen should be inspected/cleaned every 5000 miles. Check the fuel valve, lines and fittings for leakage as part of the pre-ride inspection.

## CARBURETOR

The carburetor has been specifically designed for emissions control operation. All jets are fixed at the factory.

Carburetor controls include throttle, enrichener and idle speed adjusting screw. Operation should be checked and adjusted after the first 1000 miles and every 5000 miles thereafter.

vation) may require carburetor modifications for best engine performance. See your Harley-Davidson dealer for these adjustments.

We recommend that any carburetor service be performed by your Harley-Davidson dealer.

## AIR CLEANER (Figure 39)

The engine air cleaner is a paper/wire mesh air filter element.

Remove air cleaner cover and inspect filter element at least every 5000 miles, or more often under dusty conditions.



Operation at higher altitudes (approximately 4000 ft. ele-

OMF37

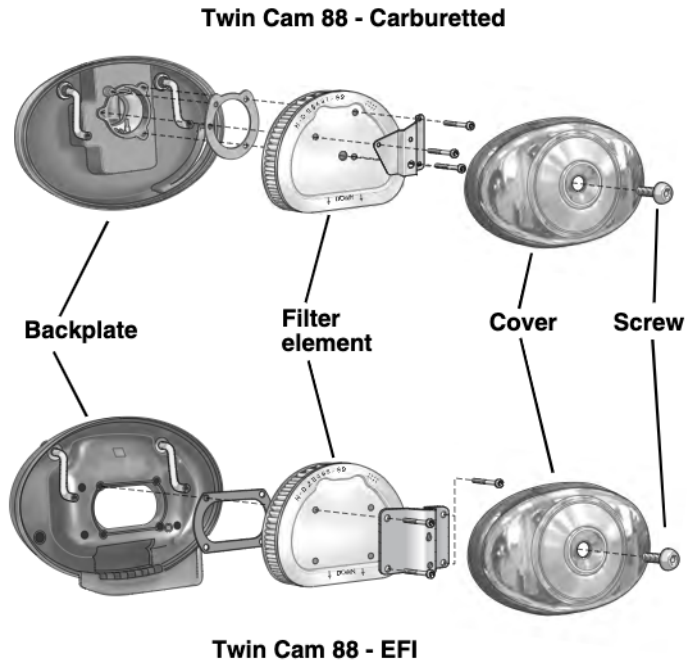
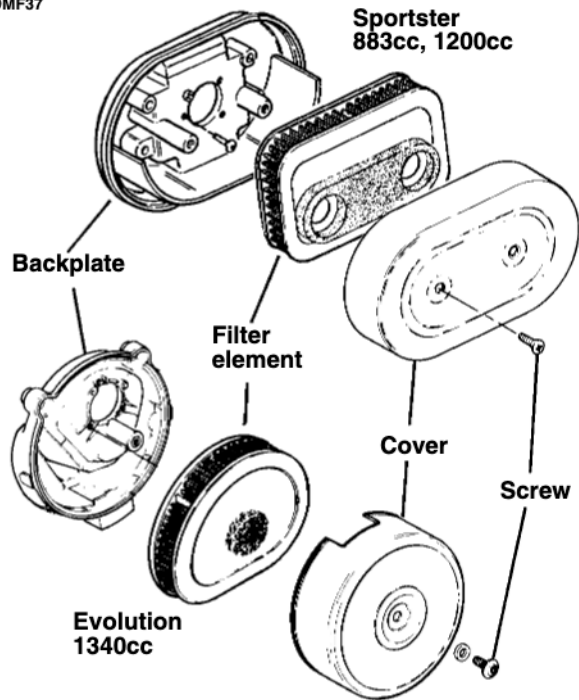


Figure 39. Air Cleaner

## WARNING

**Low pressure air can blow debris into your face and eyes, causing personal injury. Always wear eye protection or a face shield when using pressurized air.**

The paper/wire mesh air filter element should be washed in luke warm water with a mild detergent. Allow filter to either air dry or blow it dry, from the inside, with low pressure air. Do not use an air cleaner filter oil on the Harley-Davidson paper/wire mesh air filter element.

## CAUTION

**Do not run engine without filter element in place. Debris could be drawn into engine, causing damage.**

## HYDRAULIC LIFTERS

Lifters are self-adjusting, hydraulic type. They automatically adjust length to compensate for engine expansion and valve mechanism wear, keeping the valve mechanism free of lash when the engine is running.

When starting an engine which has been turned off even for a few minutes, the valve mechanism may be slightly noisy until the hydraulic units completely refill with oil.

If at any time, other than for a short period immediately after engine is started, valve mechanism becomes abnormally noisy, it is an indication that one or more of the hydraulic units may not be functioning properly.

Always check the oil supply in the oil tank first, since normal circulation of oil through the engine is necessary for proper operation of the hydraulic units.

If there is oil in the tank, the units may not be functioning properly because of dirt in the oil supply passages leading to the lifter units. Inspect and clean tappet oil supply filter screen (1340cc engines, Figure 35.). See your Harley-Davidson dealer for service.

## CLUTCH (Figure 40)

The clutch control cable must be oiled and adjusted every 5000 miles to compensate for lining wear. The need for attention to clutch and controls will be indicated by the clutch slipping under load, or dragging when released. In this situation, the control cable adjustment should be the first thing to be checked. See your Harley-Davidson dealer for proper service.

## BRAKES

Every 2500 miles, check brake pads and brake discs for wear. Every 5000 miles, check the fluid level in the master cylinder reservoirs. Use only D.O.T. 5 SILICONE HYDRAULIC BRAKE FLUID (P/N 99902-77) approved for brake system use and that is available from your Harley-Davidson dealer.

### WARNING

- Because brake performance is a critical safety item, brake system servicing requires special tools, correct replacement parts and procedures. We recommend that you see your Harley-Davidson dealer for these services. Failure to properly maintain brake system may result in personal injury.
- Brake pads must be inspected for wear every 2500 miles. However, if you ride under adverse conditions, steep hills, heavy traffic, etc., or if you tend to

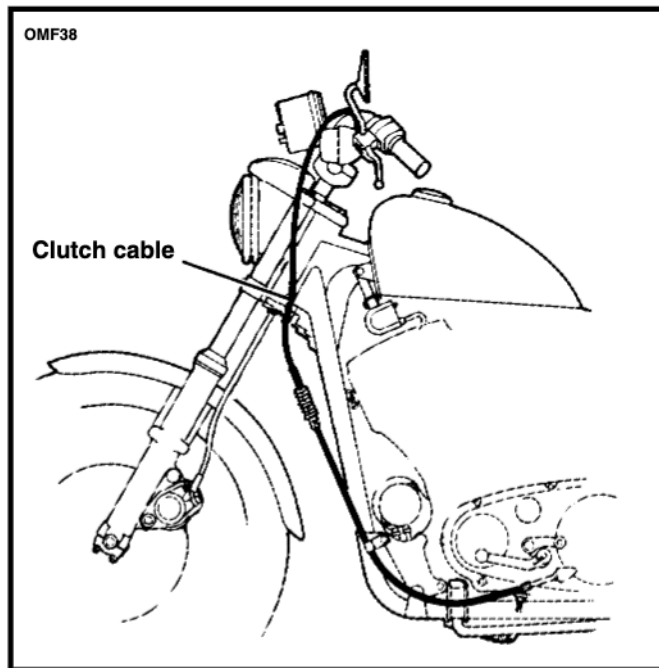


Figure 40. Clutch Control Cable (Typical)

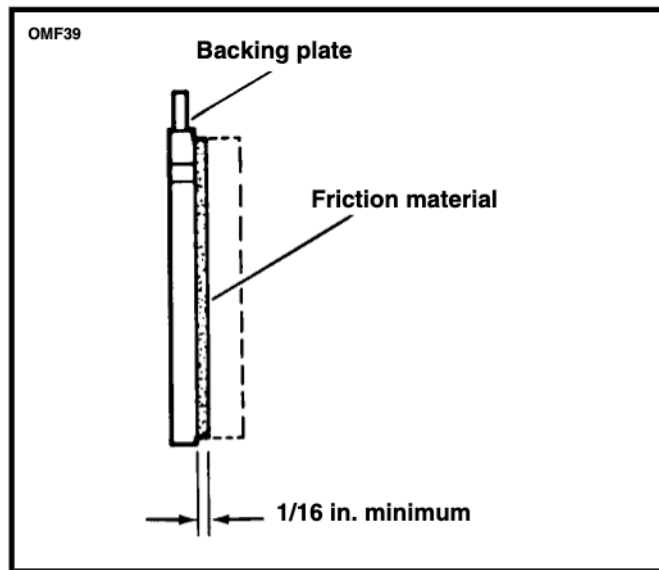
use one brake only, more frequent inspection, 1000 miles or less, will be necessary. We do not recommend using only one brake.

See Figure 41. Visual inspection of brake pads can be made without removing the caliper by viewing the lower area of each caliper with the aid of a flashlight. If the brake pad friction material is 1/16 in. thick or less (the thickness of a nickel), **the pads must be replaced immediately**. Always replace brake pads in pairs. If this routine maintenance is ignored, loss in braking performance and brake system component damage could occur.

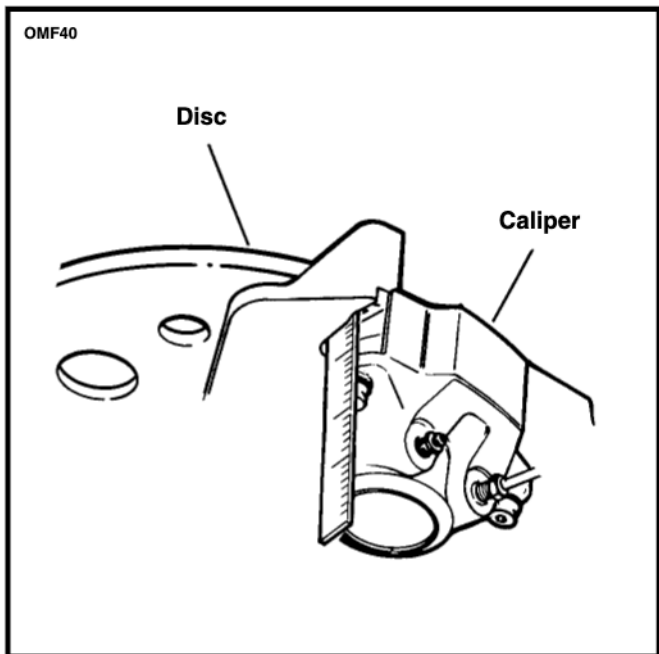
See Figures 42, 43. The rear brake outer pad on all models can be measured from the caliper bracket side using a thin plastic 6 in. rule. Place the rule against the brake disc through the space alongside the caliper. The outer surface of the brake pad backing plate should measure 1/4 in. or more away from the brake disc. If it measures less than 1/4 in., replace both brake pads immediately.

**NOTE**

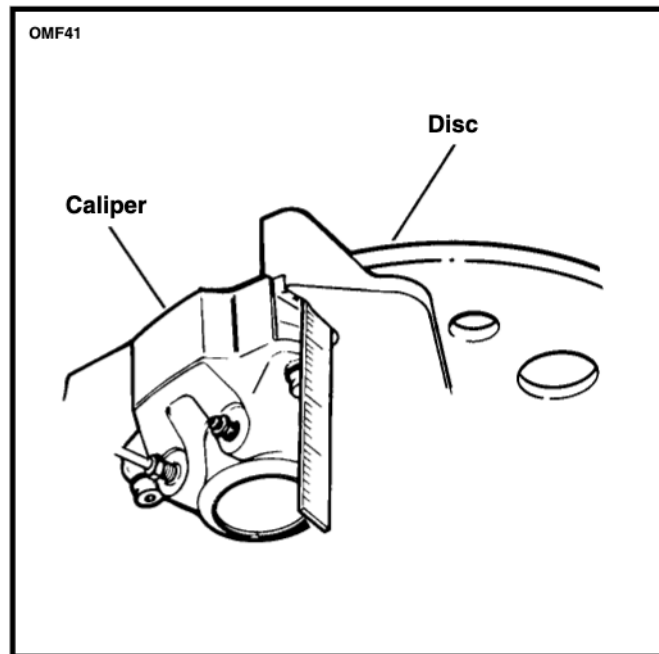
*This 1/4 in. dimension includes the thickness of the backing plate plus minimum 1/16 in. for friction material.*



**Figure 41. Brake Pad - Side View**



**Figure 42. Measuring Rear Brake Outer Pad - 1340cc and 1450cc Models**



**Figure 43. Measuring Rear Brake Outer Pad - 883cc, 1200cc Models**



## TIRES

Be sure to keep tires properly inflated. See TIRE DATA, for correct cold tire inflation pressures. Check before riding when tires are cold. Do not over-inflate tires.

### WARNING

**Improper tire inflation will cause abnormal tread wear and could adversely affect handling leading to personal injury. Under-inflation could result in the tire slipping on the rim, or sudden tire failure.**

Check inflation pressure and inspect tread for punctures, cuts breaks, etc., at least weekly if in daily use; or before each trip, if used occasionally.

### WARNING

- **Riding with excessively worn, unbalanced or improperly inflated tires is hazardous and will adversely affect traction, steering and handling, possibly leading to personal injury.**
- **Same as original equipment tires should be used. Other tires may not fit correctly, could adversely affect handling, and may be hazardous to use.**
- **Because tires, tubes and wheels are critical safety items, and servicing these items requires special tools and skills, we recommend you see your dealer**

for these services.

- **Do not attempt to use damaged or punctured and repaired tire(s). Once a motorcycle tire has been damaged or punctured, it is unsafe to use.**
- **A tire can be severely damaged and not show the damage externally. If you strike an object, such as a curb, at speed, internal damage may result which is not visible from the outside. Always remove and carefully inspect the inside as well as the outside of the tire for damage. A damaged tire can fail, causing personal injury.**

## SHOCK ABSORBERS

Shock absorbers and rubber bushings should be inspected at 1000 miles and every 5000 miles thereafter for leaks and bushing deterioration.

### NOTE

*Softail and XL Sport model shock absorbers are not repairable. See your dealer if leakage or malfunction occurs.*

## VEHICLE ALIGNMENT

### Isolation Mounted Engine Models

The stabilizer links and engine mounts should be checked for wear according to Service Manual procedures after the first 1000 miles and every 5000 miles thereafter. See your Harley-Davidson dealer for this service.

## WARNING

Vehicle alignment is important. Vehicle stability is adversely affected if wheels are out of alignment, possibly leading to personal injury. Major alignment of the front and rear wheel is partially controlled by one or two stabilizer links. One at the top of the engine and, on some models, one at the front of the engine. Do not change the adjustment of the link(s). Changing the adjustment as little as 1/3 turn could adversely affect motorcycle stability.

### All Models

Vehicle alignment should be checked every 5000 miles and whenever the rear wheel is removed and installed or when the rear drive belt is adjusted.

## WARNING

Major alignment should be performed only by your Harley-Davidson dealer using Service Manual procedures. Improper alignment will adversely affect motorcycle handling and stability, possibly leading to personal injury.

## WHEEL BEARINGS

Bearings should be repacked at 10,000 mile intervals, once a year, or prior to storage. Use proper wheel bearing grease and new seals. Excessive play or roughness indicates worn bearings that will require replacement. Check each time wheel is removed.

## FRONT FORK BEARINGS

### WARNING

Adjustment of front fork bearings is critical. Improperly adjusted bearings will adversely affect motorcycle handling and stability, possibly leading to personal injury. We recommend that fork bearing adjustments be performed by your Harley-Davidson dealer.

Check front fork for proper bearing adjustment at 1000 miles and every 5000 miles thereafter. Bearings should be lubricated at 10,000 mile intervals. With motorcycle front end raised off the floor, be sure front fork turns freely without any binding or interference and that there is no appreciable front to rear fork shake indicating excessive bearing looseness. Steering head bearings should be adjusted according to Service Manual procedure, if necessary.

## REAR FORK PIVOT SHAFT

On all models except Softails, the tightness of the rear fork pivot shaft fastener should be checked after the first 1000 miles and every 5000 miles thereafter. On XLH and Dyna Glide models, bearings should be repacked at 10,000 mile intervals.

## SPARK PLUGS

Check the spark plugs every 5000 miles and replace if necessary. Replace the spark plugs every 10,000 miles on all models.

Disconnect spark plug cables from plugs by pulling on the molded connector caps. Connection is the simple snap-on type.



**Do not pull on wires because this may damage the internal conductor causing high resistance and reduction in firing voltage.**

Before installing spark plugs, the gap should be checked and adjusted if necessary to 0.038 - 0.043 in. (.97 - 1.09 mm).

Be sure that your motorcycle has the correct spark plug:

### MODEL

### SPARK PLUG

1340cc Models ..... Harley-Davidson 5R6A  
883cc, 1200cc, 1450cc Models ..... Harley-Davidson 6R12

Spark plugs must be tightened to the torque specified for proper heat transfer. See following chart. If a torque wrench is not available, tighten plugs finger tight; then tighten an additional one quarter turn with a spark plug wrench.

### MODEL

### SPARK PLUG TORQUE

1340cc Models ..... 18 - 22 ft-lbs (24.4 - 30 Nm)  
883, 1200cc, 1450cc Models ... 11 - 18 ft-lbs (15 - 24.4 Nm)

## IGNITION TIMING

Ignition timing is non-adjustable on Twin Cam 88 equipped (Dyna and FLT) motorcycles. Spark timing is advanced electronically, as engine speed increases or decreases, to suit starting, low speed and high speed requirements.

Ignition timing on XLH and Softail models should be checked every 5000 miles. If ignition timing is not correct, see your Harley-Davidson dealer.

The engines in these motorcycles have been designed specifically to achieve optimum fuel economy within exhaust emission controls. Ignition characteristics have been developed to provide maximum engine performance and driveability.

### NOTE

- *The ignition control unit on Softail and Sportster (except 1200S) carbureted models uses a two-stage curve. In certain transient load conditions, as the throttle is opened, the timing changes from normal to fully advanced. At this point, the operator can sometimes hear a noise that is similar to pre-ignition detonation.*
- *This noise should not be confused with detonation, which can be stopped by the use of a higher grade fuel.*

*It is caused by the instant pressure rise in the combustion chambers as the spark advances rapidly. This noise doesn't affect engine performance.*

## HEADLAMP (Figure 44)

The headlamps are either sealed beam or replaceable quartz halogen bulb type.

### NOTE

*When replacement is required, use only the specified sealed beam unit or bulb, available from your Harley-Davidson dealer. Improper wattage sealed beam or bulb may cause charging system problems.*

### CAUTION

Never touch the quartz bulb with your fingers. Fingerprints will etch the glass and cause the bulb to fail. Always wrap the bulb in paper or a clean dry cloth during handling.

### WARNING

The bulb contains Halogen gas under pressure. Handle bulb carefully and wear eye protection to avoid possible personal injury.

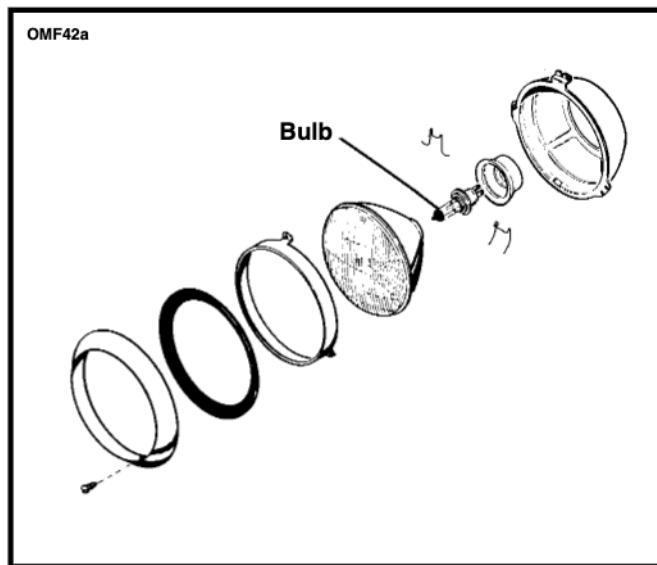


Figure 44. Headlamp

## ALTERNATOR CHARGING RATE AND VOLTAGE REGULATOR

See Figure 45. The alternator output is controlled and changed to direct current by the voltage regulator located at the front of the engine. The voltage regulator increases charging rate when battery is low or lamps are lit, decreases charging rate when no lamps are lighted and when battery charge is up. This unit requires no interval attention. If any electrical system trouble is experienced that might be traceable to the alternator or voltage regulator, the motorcycle should be taken to your Harley-Davidson dealer who has the necessary electrical testing equipment to give the required attention.

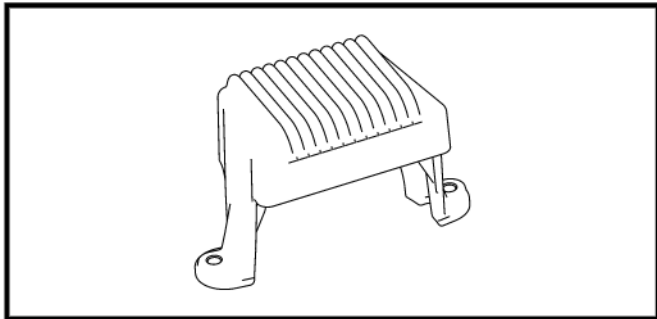


Figure 45. Voltage Regulator (FLT shown)

## BATTERY (Figure 46)

See Table 9 for battery location. See SEAT REMOVAL and INSTALLATION in the following section to remove seat for battery inspection.

Table 9. Battery Location

MODEL	LOCATION ON MOTORCYCLE
FLT Models	Under seat
Softtail Models	Under seat
Dyna Models	Right side
XLH Models	Left side

### Sportster, Dyna, and Softtail Models

The battery installed in 1999 motorcycles is a permanently sealed, maintenance-free, lead/calcium and sulfuric acid battery. Do not remove the cover to add water, or when charging the battery.

### FLT Models

Inspect the battery electrolyte level at least once a month, adding pure distilled water as often as necessary to keep the solution above the plates. If the motorcycle is not used for an extended period of time, check battery solution level before placing in service.

Remove the battery filler plugs. With a hydrometer or syringe, add distilled water to each cell to raise level of solution between upper and lower level limits shown on battery. Motorcycle should be in an upright position to check the solution level.

Clean connections and check tightness on all models every 2500 miles or monthly.

**⚠ WARNING**

**Batteries contain sulfuric acid which can cause severe burns. Avoid contact with skin, eyes or clothing.**

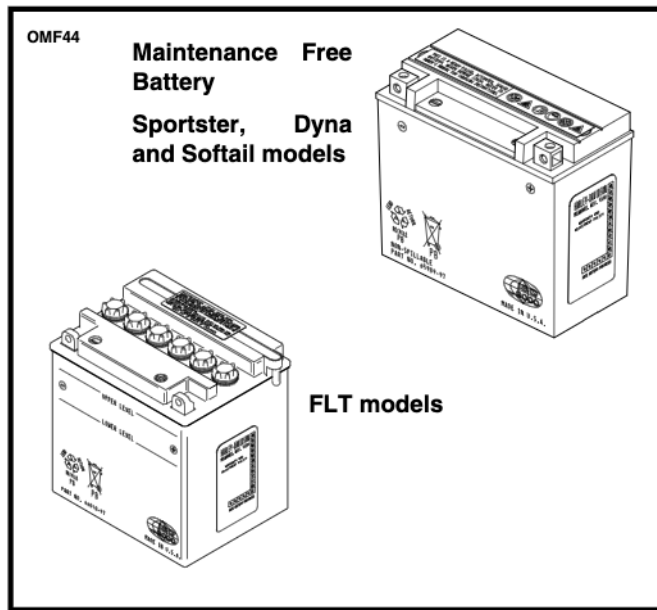
**ANTIDOTE**

**External - Flush with water.**

**Internal - Drink large quantities of water followed by milk of magnesia, vegetable oil, or beaten eggs. Call doctor immediately.**

**⚠ WARNING**

**Batteries produce explosive hydrogen gas at all times - especially when being charged. Keep cigarettes, open flame, and sparks away from battery at all times. Ventilate area when charging battery. Always protect hands. Protect eyes with shield or goggles when working near a battery or acid. KEEP BATTERIES AND ACID OUT OF**



**Figure 46. Battery**

**THE REACH OF CHILDREN! Failure to follow this warning could result in personal injury.**

**⚠ CAUTION**

**On FLT models if battery is filled to a higher level than**

specified, some of the solution will be forced out through the vent tube when battery is charging. This will not only weaken the solution, but also may damage parts near the battery. Keep battery clean and lightly coat terminals with petroleum jelly to prevent corrosion. Do not over-tighten terminal connections. To prevent battery case damage caused by pressure build-up, be sure vent tube is properly routed and not kinked or obstructed.

## Battery Sulfation

Battery sulfation is the usual reason batteries stop holding an electrical charge.

Sulfation occurs when a battery stands in a discharged condition (low specific gravity of electrolyte) over a period of time or when the battery plates are exposed to the air because of low electrolyte level.

This causes the active lead materials to crystallize, permanently damaging the affected area. When this happens the battery will not hold a charge, and it cannot be restored to full capacity.

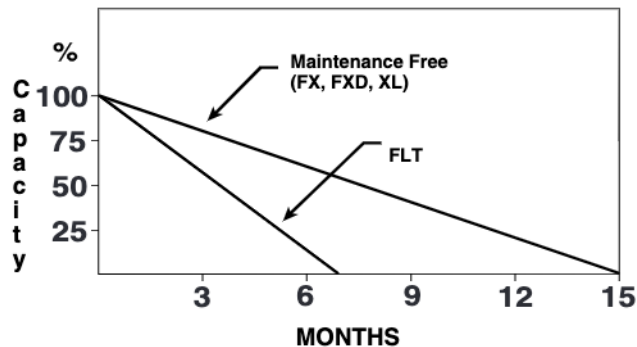
It is not true that the battery is no longer discharging when the motorcycle is parked and the ignition is turned off. There are two possible ways for the battery to discharge itself.

1. Self Discharge: This is normal and occurs because the battery discharges internally. See Table 10. Batteries discharge continuously at a rate depending on the ambi-

ent temperature and the battery's state of charge.

2. Current Drain: This occurs through electrical accessories that require continuous electricity, such as radio memories, clocks, etc. The current drain of each motorcycle is different depending on the model, model year and what electrical accessories it has.

**Table 10. Battery Self Discharge Rate at 77° F**



To reduce battery self discharge, remove and store the battery in a cool, (not freezing) dry place when the motorcycle is being stored.

### CAUTION

- The more discharged a battery is, the more easily it can freeze.
- You should use **ONLY** a trickle charger to charge a battery. Do not trickle charge battery more than 24 hours at a time. Charging more than 24 hours at a time will damage the battery. Before charging, be sure the electrolyte level is above the plates.

Use a 1 Amp 12 Volt trickle charger (P/N 96800-77C or equivalent), and trickle charge stored battery once a month. On FLT models keep the electrolyte level above the plates.

H-D Battery Tender Automatic Battery Charger (P/N 99863-93T) may also be used to maintain a battery for extended periods of time with no risk of overcharging or boiling.

### CAUTION

Do not add electrical accessories exceeding 13 amps draw. Damage to the electrical system and/or battery discharge may result. If you choose to exceed this limit, see your dealer for necessary wiring changes.

## JUMP - STARTING PROCEDURE

Harley-Davidson does not recommend jump-starting a motorcycle; however we realize that there may be circumstances when it is done. Therefore, we suggest jump-starting be done as follows:

### WARNING

**When making connections, be sure the jumper cable clamps do not accidentally touch each other or anything else except battery terminals or appropriate ground. Inadequate precautions when working with batteries can lead to personal injury.**

### WARNING

**Do not smoke or allow sparks while performing this procedure. Smoking or sparks could cause an explosion, leading to personal injury.**

### NOTE

*This procedure presumes the BOOSTER battery is in another vehicle.*

### CAUTION

**Be sure radio (if equipped) is turned off. A voltage surge will erase or damage the radio memory circuits.**



### CAUTION

All Harley-Davidson motorcycles have a 12 Volt battery and a 12 Volt electrical system. Be sure the the booster vehicle has a 12 Volt system or electrical components may be damaged.

1. Turn off all unnecessary lights and accessories.

#### POSITIVE CABLE

2. See Figure 47. Connect one end of a jumper cable to the DISCHARGED battery positive (+) terminal.
3. Connect the other end of the same cable to the BOOSTER battery positive (+) terminal.

#### NEGATIVE CABLE

4. Connect one end of a jumper cable to the BOOSTER battery negative (-) terminal.

### WARNING

- Suggested spot for ground cable connection is the engine case bolts.
- Do not connect negative cable to or near the discharged battery negative terminal. If you do, a spark could cause an explosion.
- Be sure you do not connect the negative cable near the battery vent tube. A spark could cause an explosion lead-

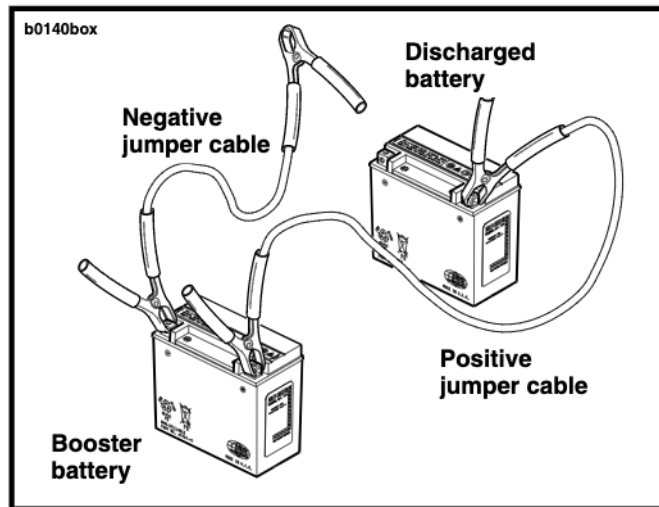


Figure 47. Jump Start Cable Connections

ing to personal injury.

- Do not connect the negative cable to painted or chrome parts. They will become discolored at the attachment point.
5. Connect other end of the same cable to a safe ground, (away from the DISCHARGED battery).
  6. Start motorcycle.

7. Disconnect cables in reverse order of steps 2, 3, 4, 5.  
That is: steps 5, 4, 3, 2.

## SEAT

To check the battery on all motorcycles except the XLH models, you will have to remove the seat. See BATTERY, in the preceding section.

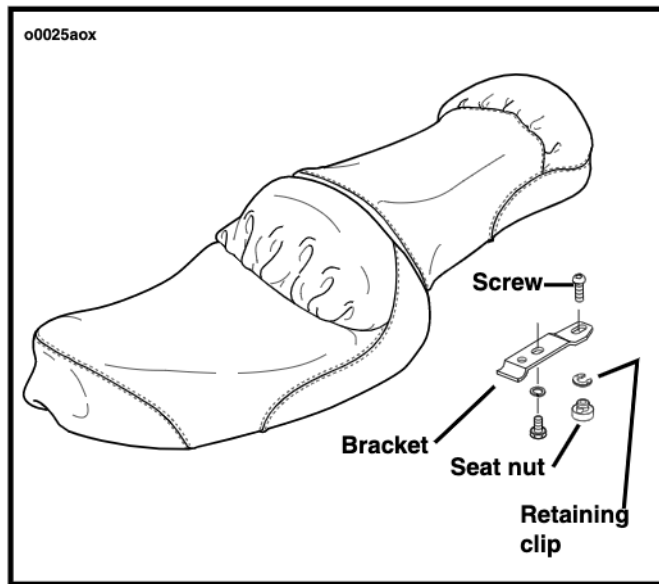
## REMOVAL

### NOTE

*The seat nut is inserted from the under side of the fender and retained by a clip located on the top side of the fender. The seat nut and clip stay attached to the fender when removing the seat.*

- This is a general procedure. It applies to all motorcycles with batteries under the seat; but with differences according to the particular motorcycle. For example:
- On FLSTC/F/N models, there is an additional fastener at each side of the operator's seat.
- On Dyna models, you will have to remove the battery side cover and top cover. To do this, you will have to remove the seat. See DYNA GLIDE BATTERY and COVER REMOVAL, following.

1. See Figure 47. Remove screw from rear seat bracket.



**Figure 48. Seat and Mounting Hardware (Typical)**

2. Slide seat to the rear of the motorcycle, under grab strap, and lift.

*NOTE*

*There is a U-shaped bracket at the front of the seat that slips under a frame bracket.*

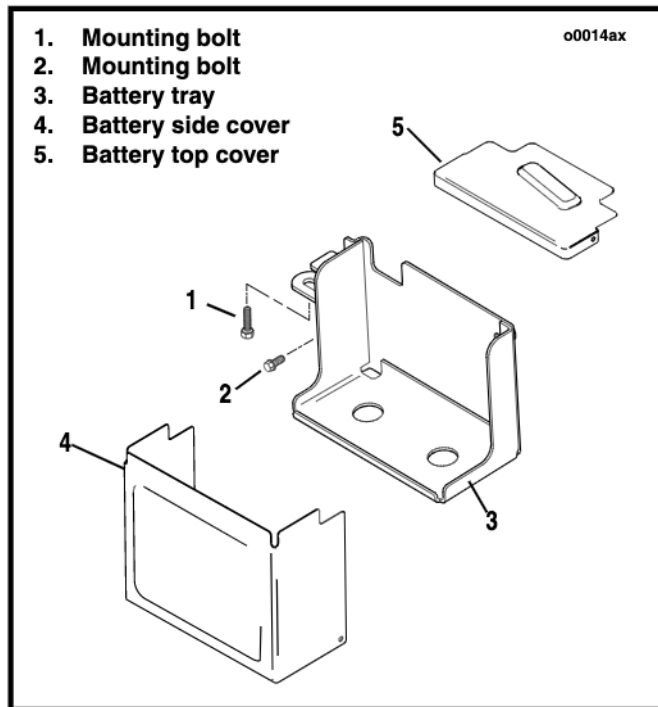
## INSTALLATION

1. Slide U-shaped bracket under frame bracket.
2. Install screw at rear of seat.

There is no need to remove the seat bracket and its fasteners from the seat pan.

## Dyna Glide Battery and Cover Removal (Figure 49)

1. Remove seat. See SEAT.
2. Remove negative connection at frame, then positive connection at battery terminal.
3. Remove lower rear bolt (2).
4. Remove upper rear bolt (1).
5. Remove top cover (5).
6. Remove side cover (4).



**Figure 49. Dyna Glide Battery Tray and Mounting Hardware**

## Battery and Cover Installation (Figure 49)



**Connecting cables to wrong battery terminals can cause serious damage to motorcycle electrical system.**

1. Clean cable connectors with wire brush or sandpaper to remove oxidation. Coat with Vaseline®.
2. Install battery with negative cable connected to negative post.
3. Install battery side cover (4) making sure that bottom of its outboard side is properly seated inboard of the retaining lip on the base of the battery tray.
4. Install battery top cover (5) over side cover and battery.
5. Install upper rear bolt (1).
6. Install lower rear mounting bolt (2).
7. Connect positive cable first, then connect negative cable to frame.
8. Install seat. See SEAT.

## CIRCUIT BREAKERS

Dyna models have several circuit breakers to protect the motorcycle wiring. They are: main, lighting, accessory, instruments and ignition. Each of these breakers is self-resetting and automatically returns steady power to the circuit when an electrical fault that causes it to trip is found and corrected. If the electrical fault is not found and corrected, the breaker cycles on and off causing the motorcycle to operate erratically and eventually the battery will lose its charge.

All other models have a main circuit breaker.

For electrical problems, it is best to see your Harley-Davidson dealer who has necessary parts and equipment to perform electrical services.

## FUSES

FLT and XL models have fuses located under left side cover, FX models have fuses located under the seat.

## FLT MODELS FUSE REPLACEMENT

If it is necessary to replace the radio or the CB/Intercom fuses, carefully follow the procedures below or see your Harley-Davidson dealer for service. Do not skip any steps or damage to the sound system and/or other motorcycle systems may result.

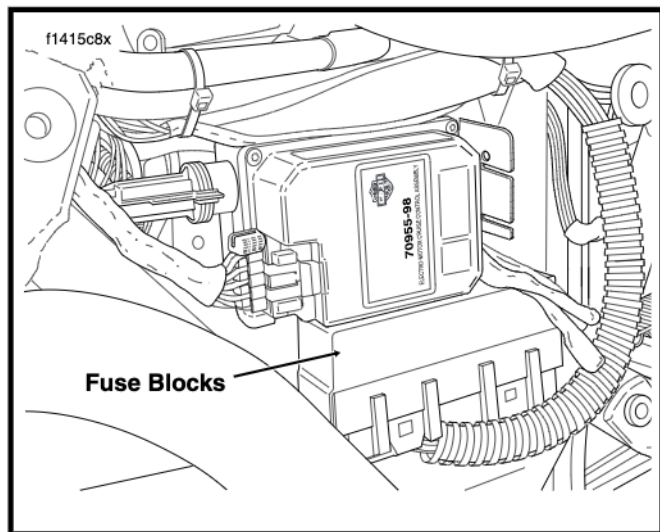
## PRELIMINARY INSTRUCTIONS

1. Place the Ignition/Light Key Switch in the OFF position.
2. Raise lid of left side saddle bag. Grasp bail wire inside saddlebag and rotate each stud a full 1/4 turn in a counter-clockwise direction. Remove bail head studs with flat washers. Remove saddlebag.
3. Gently pull side cover from frame downtubes (no tools required). Radio fuses are located in the fuse block. See Figure 50.

## RADIO FUSE REPLACEMENT

### FLHTC/FLHTC-I/FLHTC-U/FLHTCU-I

1. See Preliminary Instructions on this page.
2. Pull fuse blocks from tabs on mounting panel. Tabs on panel fit into slots on each side of fuse block cover. To remove cover, raise latches slightly to disengage tabs on fuse blocks
3. See Figure 51. Locate the two radio fuses in the front



**Figure 50. Left Side Cover Removed - FLHTCU**

fuse block. The 10 amp fuse allows power to the radio through activation of an internal relay. The 15 amp fuse provides direct and continuous power to the radio memory and clock and when the internal relay is activated, feeds the main circuits of the radio as well.



### CAUTION

**Always use replacement fuses that are of the correct type and value. Use of incorrect fuses can result in damage to electrical systems.**

5. Slide cover over fuse blocks until latches fully engage tabs on blocks. Slide fuse blocks into position on mounting panel. Tabs on panel fit into slots on each side of fuse block cover.
6. See Final Instructions.

## FINAL INSTRUCTIONS

1. Align barbed studs in side cover with grommets in frame downtubes and push firmly into place (no tools required).
2. Position left side saddlebag on vehicle. Place flat washers on bail head studs. Insert stud through holes in saddlebag and front mounting bracket. When groove on stud engages wire form of spring plate on inboard side of bracket, turn stud clockwise a full 1/4 turn until it snaps in place. Install rear bail head stud in the same manner.

## XL MODELS FUSE REPLACEMENT

1. Place the Ignition in the OFF position.
2. See Figure 53 and 54. Gently pull left side cover from frame (no tools required). Lift latch on fuse block holder to remove fuse block.

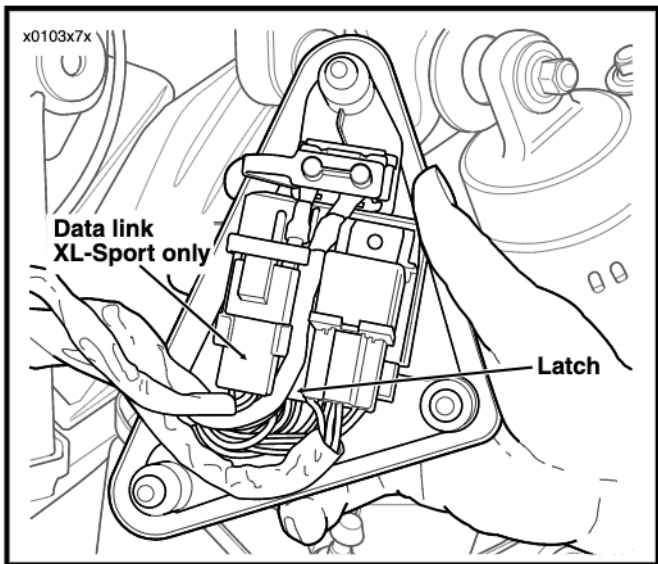


Figure 53. XL Side cover (1200S shown)

### NOTE

*Two spare fuses and a puller tool can be found in the fuse block cover.*

3. Using the puller tool, remove the fuse and inspect the element. Replace the fuse if the element is burned or broken. Automotive type ATO fuses are used.

### CAUTION

**Always use replacement fuses that are of the correct type and value. Use of incorrect fuses can result in damage to electrical systems.**

4. Slide fuse block into holder until latch fully engages tab on holder.
5. Align barbed studs in side cover with grommets in frame and push firmly into place (no tools required).



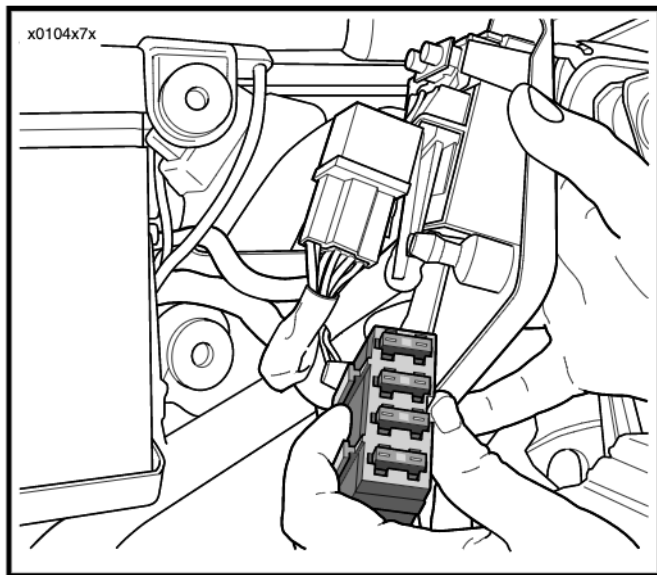


Figure 54. XL Fuse block

## GENERAL MAINTENANCE

Chrome and aluminum parts must be maintained regularly to ensure that they retain their original shine and luster. Care should be taken to keep your new Harley-Davidson motorcycle cleaned and waxed as often as possible to inhibit rust and corrosion.

## CLEANING YOUR MOTORCYCLE

To aid you in keeping your motorcycle clean, see your Harley-Davidson dealer for cleaning, polishing and waxing products.

### WARNING

Observe warnings and cautions given on labels of cleaning compounds to prevent personal injury or damage to your motorcycle.

### WARNING

Do not wash your brake discs with any cleaners that contain either chlorine or silicon. Chlorine will cause rust and silicon will make the brake discs slick, impairing brake function which may result in personal injury.

### CAUTION

When washing your motorcycle, be careful not to get the brakes, engine, mufflers or air cleaner too wet. Wet brake pads or a wet disc may affect braking, and a wet engine could start and run poorly until it dries. Start engine immediately after washing and be sure brakes and engine are operating properly before riding in traffic.

## ACCESSORIES MAINTENANCE

### NOTE

- *Many Harley-Davidson accessories and seats are either made of leather or have leather inserts. Natural materials age differently and require different care than man-made materials. Seat covers and panels made of leather will gain “character”, such as wrinkles, with age. Leather is porous and organic and each leather product will settle into its own distinct form with use. Your leather product will mature into its own custom shape and style from the sun, rain and the miles. This maturing is natural and will enhance the custom quality of your Harley-Davidson motorcycle.*
- *Road King Classic Models (FLHRC-1) have leather covered saddlebags. The leather covering may appear to loosen or grow slightly in damp or wet weather. This condition will disappear as the natural leather covering dries.*

## LEATHER

Leather must be periodically cleaned and treated to maintain its appearance and extend its life. Clean and treat leather once a season or more frequently under adverse conditions.

### CAUTION

- **Do not use bleach or detergents containing bleach on saddlebags, seats or tank panels.**
  - **Do not use ordinary soap to clean leather or fur. It could dry or remove the oils from the leather.**
  - **Use ONLY a good quality saddle soap to clean leather. Be sure you rinse saddle soap off thoroughly before treating leather.**
  - **Never try to dry leather quickly, using artificial means. Always let leather dry naturally, at room temperature.**
1. Vacuum or blow dust off.
  2. Thoroughly clean leather with a good quality saddle soap, following manufacturer's directions. Rinse thoroughly with clean sponge or cloth and water. Allow leather to dry.
  3. Once leather is dry, treat with a good quality leather treatment, such as Harley-Davidson Leathercare®.
  4. Always allow leather to dry completely before using.

## CLOTH

1. Vacuum or blow dust off.
2. Use mild soap and warm water for more difficult stains on the cloth. Rinse thoroughly. Always allow cloth to dry completely before using.

## VINYL

Wash with a good quality detergent or S100<sup>®</sup>. Treat with Mothers Preserves<sup>®</sup> or a quality vinyl treatment.

## WINDSHIELDS



Harley-Davidson windshields are made of Lexan<sup>®</sup>. Lexan is a more durable and distortion-resistant material than other types of motorcycle windshield material, but still requires attention and care to maintain.

- **DO NOT use harsh chemicals including rain sheeting products on Harley-Davidson windshields. They may cause dulling or hazing. If you want to use a windshield protectant on your windshield, try Harley Glaze Polish and Sealant<sup>®</sup>.**
- **DO NOT use benzine, paint thinner, gasoline or any other types of harsh cleaner. They will damage the windshield surface.**

- **To remove minor surface scratches use NOVUS<sup>®</sup> No. 2 Scratch Remover, P/N 99836-94T.**

### NOTE

*Covering the windshield with a clean, wet cloth for approximately 15-20 minutes before washing will make dried bug removal easier.*

Use mild soap and warm water to wash the windshield. Wipe dry with a soft, clean towel.

## WHITEWALL TIRES



**If you get a cleaner on brake components, wipe it off immediately. Foreign substances of any kind on brake calipers or disc(s) may cause reduced braking efficiency, possibly leading to personal injury.**

Use a good quality, commercial whitewall cleaner and follow the manufacturer's directions.

## WHEEL CARE

To maintain the original luster and appearance of the wheels on your Harley-Davidson motorcycle, care should be taken to keep them clean and polished as often as possible to inhibit rust and corrosion.

The spokes of our laced wheels are plated. This plating can be damaged by harsh chemicals, acid based wheel cleaners, brake dust and lack of maintenance. Regular washing and the use of a corrosion protectant will help to maintain their original appearance.

Aluminum wheels (spoked and disc) do not have clear coat on any of the machined surfaces. For this reason it is imperative that the wheels are washed and waxed weekly to prevent pitting and corrosion. Harsh chemical washes, brake dust, road salts and lack of maintenance can quickly cause pitting and corrosion to appear. The use of a corrosion protectant will also aid in preserving the appearance of the aluminum wheel.

### NOTE

*Corrosion of these components is not considered to be a defect in materials or workmanship.*

See your Harley-Davidson dealer for cleaning, polishing and waxing products.

## HINGES, LATCHES - FUEL DOOR, TOUR-PAK, SADDLEBAGS - FLT MODELS

Lubricate the rub points of latches and hinges using either Teflon Precision Lubricator<sup>®</sup> or Tri-flow<sup>®</sup> every 5000 miles. These lubricants resist attracting dust.

See Figures 26 and 55. Lubricate the “fingers” on the saddlebag latches, where they engage the hinge

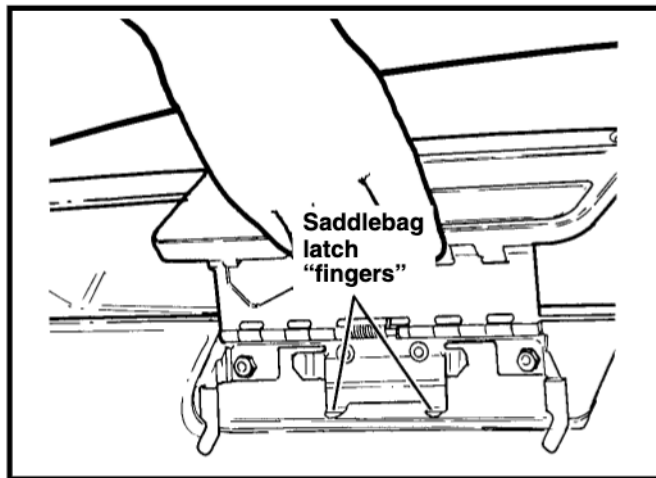


Figure 55. FLT Models Saddlebag Latch

## STORAGE

### CAUTION

Proper long-term storage is important for the safe, trouble-free operation of your Harley-Davidson motorcycle. If you do not do these tasks yourself, contact your Harley-Davidson dealer. Your dealer has the trained technicians who can complete the work according to Service Manual procedures using proper tools and equipment.

### Placing Motorcycle In Storage

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 build-up of gum and varnish in the fuel system.

### WARNING

**Fuel is flammable. Do not store motorcycle having gasoline in tank within the home or garage where open flames, pilot lights, sparks or electric motors are present. Failure to heed this warning may lead to an explosion or fire resulting in personal injury.**

### NOTE

*Make a list of everything you do and fasten it to a handgrip. When you take the motorcycle out of storage, this list will be your reference/check-list to get your motorcycle in operating condition.*

1. Warm motorcycle to operating temperature; change oil and turn engine over to circulate the new oil.
2. On both carbureted and fuel injected vehicles, fill fuel tank and add a gasoline stabilizer. Use one of the commercially available gasoline stabilizers, following the manufacturer's instructions. Run the engine until the gasoline stabilizer has had a chance to reach the carburetor float bowl/fuel injectors. On carbureted vehicles, turn fuel supply valve OFF.
3. Adjust the belt.
4. Check tire inflation. Adjust to proper inflation pressure. Wash and wax painted and chrome surfaces.
5. See BATTERY for proper battery care. Remove battery from the motorcycle and charge. Store the battery above freezing temperatures, trickle charge once a month and on FLT models keep the electrolyte level above the plates.

### NOTE

*On FLT models disconnect the battery vent tube from battery before removing battery; or take note of vent tube routing so it is installed in the proper place when you remove vehicle from storage.*

### WARNING

**Keep battery away from areas that may have sparks or flames. A spark could cause an explosion resulting in personal injury.**

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

## Removal From Storage



**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. Failure to observe this warning may result in personal injury.**

1. See BATTERY for proper battery care. On FLT models be sure plates are covered by electrolyte before charging. Install vent tube and route according to FLT Service Manual. Fill the battery with distilled water to the proper level. Charge and install it.
2. Remove and inspect the spark plugs. Replace if necessary.
3. Clean the air cleaner element.
4. Start the engine and run until it reaches normal operating temperature. Turn off engine.
5. Check amount of oil in the oil tank. Check the transmission lubricant level.
6. Check controls to be sure they are operating properly. Operate the front and rear brakes, throttle, clutch and shifter.
7. Check steering for smoothness by turning the handlebars through the full operating range.
8. Check tire pressure. Incorrect pressure will result in poor riding characteristics and can affect handling and stability.
9. Check all electrical equipment and switches including the stoplamp, turn signals and horn for proper operation.
10. Check for any fuel, oil or brake fluid leaks.



**Turn engine over a few times to be sure there is no oil in the crankcase; and that all oil has been pumped back into the oil tank. Stop engine and re-check oil level.**

# NOTES



## GENERAL

The following checklist of possible operating troubles and their probable causes will be helpful in keeping your motorcycle in good operating condition. More than one of these conditions may be causing the trouble and all should be carefully checked.

### WARNING

The troubleshooting section of this Owner's Manual is intended solely as a guide to diagnosing problems. Carefully read the appropriate sections of this manual before performing any work. Repair and maintenance operations not listed in this Owner's Manual are in the Service Manual and should be performed by your Harley-Davidson dealer. Improper repair and/or maintenance may result in personal injury.

## ENGINE

### Starter Does Not Operate or Does Not Turn Engine Over

1. Engine run switch in "OFF" position.
2. Ignition switch not "ON."
3. Discharged battery or loose or corroded connections (solenoid chatters).

\* carbureted models only

### Engine Turns Over But Does Not Start

1. Fuel tank empty.
2. Fuel valve turned "OFF." \*
3. Fuel valve vacuum line disconnected.\*
4. Fuel valve or filter clogged.\*
5. Discharged battery or loose or broken battery terminal connections.
6. Fouled spark plugs.
7. Spark plug cables connections loose or in bad condition and shorting.
8. Loose or corroded wire or cable connection(s) at coil or battery.
9. Engine flooded with fuel as a result of over-enrichening.\*
10. Engine oil too heavy (winter operation).
11. Throttle held open when enrichener is used.\*
12. Fuel pump inoperative.

### Starts Hard

1. Spark plugs in bad condition, have improper gap, or are partially fouled.
2. Spark plug cables in bad condition and leaking.
3. Battery nearly discharged.
4. Loose wire or cable connection(s) at one of the battery terminals or at coil.
5. Carburetor not adjusted correctly.\*
6. Engine oil too heavy (winter operation).

7. Ignition not timed properly. See Dealer.\*
8. Fuel tank vent plugged or fuel line closed off, restricting fuel flow.
9. Water or dirt in fuel system.
10. On fuel injected models - not allowing fuel pump time to pressurize fuel lines.

### **Starts But Runs Irregularly or Misses**

1. Spark plugs in bad condition or partially fouled.
2. Spark plug cables in bad condition and leaking.
3. Spark plug gap too close or too wide.
4. Battery nearly discharged.
5. Damaged wire or loose connection at battery terminals or coils.
6. Intermittent short circuit due to damaged wire insulation.
7. Water or dirt in fuel system.
8. Fuel vent system plugged. See Dealer.
9. One or both injectors fouled.

### **A Spark Plug Fouls Repeatedly**

1. Excessive enrichener use.\*
2. Fuel mixture too rich.
3. Incorrect spark plug.

### **Pre-ignition or Detonation (Knocks or Pings)**

1. Incorrect fuel.
2. Incorrect spark plug for the kind of service.

### **Overheats**

1. Insufficient oil supply or oil not circulating.
2. Heavy carbon deposit from "lugging" engine. See dealer.
3. Ignition timing retarded. See Dealer.\*

### **Excessive Vibration**

1. Stabilizer links worn or loose.\* See Dealer.
2. Engine isolation mounts loose.\* See Dealer.
3. Rear fork pivot shaft nuts loose.\* See Dealer.
4. Front engine mounting bolts loose.\* See Dealer.
5. Engine to transmission mounting bolts loose.\* See Dealer.
6. Broken frame. See Dealer.
7. Belt badly worn.
8. Wheels and/or tires damaged. See Dealer.
9. Vehicle not properly aligned. See Dealer.

\*If applicable.

## **LUBRICATION SYSTEM**

### **Oil Does Not Return to Oil Tank**

1. Oil tank empty.
2. Restricted oil lines or fittings. See Dealer.
3. Restricted oil filter. See Dealer.

## **Engine Leaks Oil From Cases, Push Rods, Hoses**

1. Loose parts. See Dealer.
2. Imperfect seal at gaskets, push rod cover, washers, etc. See Dealer.
3. Restricted oil return line to tank. See Dealer.

## **ELECTRICAL SYSTEM**

### **Alternator Does Not Charge**

1. Module not grounded. See Dealer.
2. Engine ground wire loose or broken.\* See Dealer.
3. Loose or broken wires in charging circuit. See Dealer.

\*If applicable.

### **Alternator Charge Rate is Below Normal**

1. Weak battery.
2. Excessive use of add-on accessories.
3. Loose or corroded connections.
4. Extensive periods of idling or low speed riding.

## **CARBURETOR**

### **Carburetor Floods**

1. Excessive "pumping" of hand throttle grip.

## **TRANSMISSION**

### **Transmission Shifts Hard**

1. Bent shifter rod. See Dealer.
2. Transmission shifting mechanism needs adjustment. See Dealer.

### **Transmission Jumps Out of Gear**

1. Shifter rod improperly adjusted. See Dealer.
2. Shifter forks (inside transmission) improperly adjusted. See Dealer.
3. Worn shifter dogs in transmission. See Dealer.

### **Clutch Slips**

1. Clutch controls improperly adjusted. See Dealer.
2. Worn friction discs. See Dealer.
3. Insufficient clutch spring tension. See Dealer.

### **Clutch Drags or Does Not Release**

1. Clutch controls improperly adjusted. See Dealer.
2. Insufficient clutch spring tension. See Dealer.
3. Transmission case over-filled.
4. Clutch discs warped. See Dealer.

### **Clutch Chatters**

1. Friction discs or steel discs worn or warped. See Dealer.

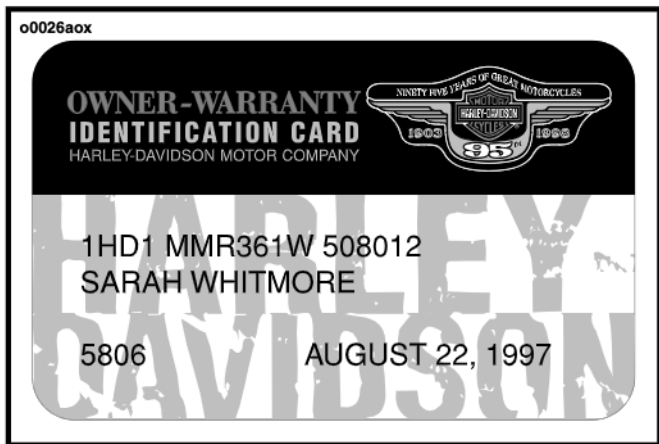
## **BRAKES**

### **Brakes Do Not Hold Normally**

1. Master cylinder low on fluid. See Dealer.
2. Brake line contains air bubbles. See Dealer.
3. Master or wheel cylinder piston worn. See Dealer.
4. Brake pads contaminated with grease or oil. See Dealer.
5. Brake pads badly worn (1/16 in. minimum lining thickness). See Dealer.
6. Brake disc badly worn or warped. See Dealer.
7. Brake fades because of heat build up. Excessive braking or brake pads dragging. See Dealer.
8. Brake drags. Insufficient hand lever free play. See Dealer.

## OWNER'S IDENTIFICATION CARD

See Figure 56. A permanent Owner's Identification Card is issued to each Harley-Davidson new motorcycle owner when the completed warranty registration form is received at Harley-Davidson Motor Company.



**Figure 56. Owner's Warranty Identification Card**

The Owner's Identification Card is a permanent record showing proof of your ownership and gives all of the information necessary for you and your dealer to simplify and expedite service and obtain parts and accessories.

Keep this card in your possession, since it is required by your Harley-Davidson dealer for any warranty service performed on your motorcycle.

If you have any questions regarding service or warranty, we recommend that you contact your Harley-Davidson dealer for service.

## WARRANTY AND MAINTENANCE

This Owner's Manual contains your new motorcycle warranty and a number of tear-out service coupons.

The approved service and maintenance procedures on each coupon and the mileage intervals cover items which are the owner's responsibility to have performed. All of the specified maintenance services must be performed to keep your warranty in force.

Bring this Owner's Manual with you when you visit your dealer at the specified mileages to have your motorcycle inspected and serviced. Have the owner record stubs dated and signed for required proof of service during the warranty period. The dealer records should be retained by the dealer, or owner, as a record of proper maintenance. Also keep other receipts covering any service or maintenance performed. These records should be transferred to each subsequent owner.

## WARNING

**We caution you against the use of certain non-standard parts such as after-market and custom made extended front forks which may adversely affect performance and handling, with possible injury to yourself or others. Removing or altering factory installed standard parts may also affect performance and cause injury. The use of any non-standard parts including mufflers may void your warranty according to terms of the warranty.**

Harley-Davidson dealerships are independently owned and operated and may sell parts and accessories that are not manufactured or approved by Harley-Davidson. Therefore, you should understand that we are not and cannot be responsible for the quality, suitability, or safety of any non-Harley-Davidson part, accessory or design modification, including labor, which may be sold and/or installed by our dealers.

### **KEEPING IT ALL HARLEY**

To keep your Harley-Davidson motorcycle and its warranty intact, insist that your dealer uses only Genuine<sup>®</sup> replacement parts. Keep your Harley-Davidson completely Harley-Davidson. Exacting design and stringent testing ensure performance and warranty coverage. Insist on Genuine parts for your genuine Harley-Davidson motorcycle.

Installing off-road or competition parts to enhance performance may void your new motorcycle warranty. See your dealer for details.

## CAUTION

**It is possible to overload your motorcycle's charging system by adding too many electrical accessories. If your combined electrical accessories consume more electrical current than your vehicle's charging system can produce, the electrical consumption can discharge the battery and cause vehicle electrical system damage. Ask your dealer for advice about the amount of current consumed by additional electrical accessories.**

## **IMPORTANT**

If you move from your present address, or sell your motorcycle, please fill out and mail the post card at the back of this manual. This is necessary in the event that the Company needs to contact the owner concerning information that could affect the safe operation of this motorcycle.

## **CALIFORNIA EVAPORATIVE EMISSION CONTROL**

All new 1999 Harley-Davidson motorcycles sold in the state of California are equipped with an evaporative emission control system. This system is designed to meet the CARB regulations in effect at the time of manufacture.

The system requires a small amount of maintenance. Periodic inspection is required to make sure hoses are properly routed, not kinked or blocked, and that all fittings are secure. Mounting hardware should also be checked periodically for tightness.

## **EPA NOISE REGULATIONS**

EPA noise regulations require that the following statements be included in the Owner's Manual.

**TAMPERING WITH NOISE CONTROL SYSTEM PROHIBITED:** Federal law prohibits the following acts or the causing thereof: (1) The removal or rendering inoperative by any person other than for purposes of maintenance, repair, or replacement of any device or element of design incorporated into any new vehicle for the purpose of noise control prior to its sale or delivery to the ultimate purchaser or while it is in use, or (2) the use of the vehicle after such device or element of design has been removed or rendered inoperative by any person.

AMONG THOSE ACTS PRESUMED TO CONSTITUTE TAMPERING ARE THE ACTS LISTED BELOW.

1. Replacing the muffler(s) and/or the entire exhaust system with parts not certified to be noise legal for street use.
2. Removing or modifying the muffler internal baffles in any way.
3. Replacing the air intake/cleaner assembly with one not certified to be noise legal for street use.
4. Modifying the air intake/cleaner assembly in such a way as to make the vehicle no longer noise legal for street use.

Harley-Davidson recommends that any and all noise related maintenance be done by an authorized Harley-Davidson dealer using genuine Harley-Davidson parts.

## **WARRANTY/SERVICE INFORMATION**

If you have any questions regarding warranty obligations contact your selling dealer.

For normal service work or warranty work under the above conditions, you may obtain the name and location of your nearest U.S. Harley-Davidson dealer by calling 1-800-443-2153 (toll free), in any state except Alaska and Hawaii.

*NOTE*

*The number shown above is accessible only with a touch-tone phone.*

## **REPORTING SAFETY DEFECTS**

Required by the National Highway Traffic Safety Administration (NHTSA).

### **NHTSA STATEMENT:**

If you believe that your vehicle has a defect which could cause a crash or could cause injury or death, you should immediately inform the National Highway Traffic Safety Administration (NHTSA) in addition to notifying Harley-Davidson.

If NHTSA receives similar complaints, it may open an investigation, and if it finds that a safety defect exists in a group of vehicles, it may order a recall and remedy campaign. However, NHTSA cannot become involved in individual problems between you, your dealer, or Harley-Davidson.

To contact NHTSA, you may either call the Auto Safety Hotline toll-free at 1-800/424-9393 (or 366-0123 in Washington D.C. area) or write to: NHTSA, U.S. Department of Transportation, Washington, D.C. 20590. You can also obtain other information about motor vehicle safety from the Hotline.



# HARLEY-DAVIDSON LIMITED WARRANTY (12 MONTHS/UNLIMITED MILEAGE)

*Harley-Davidson Warrants to the first retail purchaser and authorized transferees of our new 1999 model motorcycles/sidecars that any authorized Harley-Davidson Dealer will repair or replace without charge any parts (except tires, maintenance items and battery under certain conditions) found under normal use in the U.S.A. or Canada to be defective in factory materials or workmanship, and upon the following terms and conditions:*

## DURATION AND TRANSFER

1. The duration of this limited warranty is twelve months, measured from the date of initial retail purchase from an authorized Harley-Davidson Dealer.
2. Any unexpired portion of this limited warranty may be transferred, with written authorization, upon the resale of the motorcycle/sidecar during the warranty period. To obtain authorization, a transfer application must be filed with Harley-Davidson and the motorcycle/sidecar must pass inspection by one of our authorized Dealers. The customer is responsible for any charge incurred for work performed by the Dealer beyond the inspection procedure itself. (See your Owner's Manual for complete details.)

## OWNER OBLIGATIONS

1. To qualify for warranty protection, you and the selling Dealer must complete the Warranty Registration Form and return it to us within 10 days after delivery. We will then send you an Owner-Warranty Identification Card.
2. To obtain warranty service, return your motorcycle/sidecar at your expense within the warranty period to any authorized Dealer. You must be able to present your Owner-Warranty Identification Card and/or Owner's Manual upon our Dealer's request. Our Dealer should be able to provide warranty service during normal business hours and as soon as possible, depending upon the workload of the Dealer's service department and the availability of necessary parts.

## EXCLUSIONS

This warranty will not apply to any motorcycle/sidecar as follows:

1. Which has not been operated or maintained as specified in the Owner's Manual.
2. Which has been abused, altered outside of original factory specifications, improperly stored or used "off the highway", for racing or competition of any kind.
3. Which has had the odometer removed or tampered with.

## OTHER LIMITATIONS

This warranty does not cover:

1. Parts and labor for normal maintenance as recommended in the Owner's Manual, including such items as the following: lubrication, oil and filter change, fuel system cleaning, battery maintenance, engine tune-up, spark plugs, light bulbs, brake, clutch and chain/belt adjustment (including chain replacement).
2. Seats, saddlebags, paint, chrome, or trim deterioration caused by ordinary wear and tear, exposure or improper maintenance.

## IMPORTANT/READ CAREFULLY

1. Our Dealers are independently owned and operated and may sell other products. Because of this, HARLEY-DAVIDSON IS NOT RESPONSIBLE FOR THE SAFETY, QUALITY, OR SUITABILITY OF ANY NON-HARLEY-DAVIDSON PART, ACCESSORY OR DESIGN MODIFICATION INCLUDING LABOR WHICH MAY BE SOLD AND/OR INSTALLED BY OUR DEALERS.
2. THERE IS NO OTHER EXPRESS WARRANTY (OTHER THAN EMISSIONS AND NOISE WARRANTIES) ON THE MOTORCYCLE. ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS IS LIMITED TO THE DURATION OF THIS WARRANTY.
3. TO THE FULLEST EXTENT ALLOWED BY LAW, HARLEY-DAVIDSON AND ITS DEALERS SHALL NOT BE LIABLE FOR LOSS OF USE, INCONVENIENCE, LOST TIME, COMMERCIAL LOSS OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Some states do not allow the exclusion or limitation of incidental or consequential damages or limitations on how long an implied warranty lasts, so the above limitations and exclusions may not apply to you. This warranty gives you specific legal rights, and you may have other rights which vary from state to state.



P/N 99919-97

HARLEY-DAVIDSON MOTOR COMPANY®

**LIMITED WARRANTY TRANSFER FORM**

EFFECTIVE AS OF 9-1-97

**VEHICLE IDENTIFICATION NUMBER**

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**PURCHASER (please print)**

NAME:			
FIRST	INITIAL	LAST	
ADDRESS			
CITY	STATE	ZIP	

**TRANSFERRING DEALER (please print)**

DEALER NUMBER		
NAME		
ADDRESS		
CITY	STATE	ZIP

THE WARRANTY EXPIRATION DATE IS 12 MONTHS FROM THE DATE OF THE FIRST RETAIL SALE TO THE ORIGINAL OWNER. NO WARRANTY TRANSFER WILL BE AUTHORIZED AFTER THE WARRANTY EXPIRATION DATE.

**WARRANTY TRANSFER INSTRUCTIONS**

To validate the warranty transfer, the following conditions must be complied with:

- The prior owner must provide proof that required maintenance services have been performed in the event they have not. It is the responsibility of the customer to have the next scheduled maintenance service performed, or any other required work performed at his/her expense. The warranty transfer shall not be effective unless and until such required work is performed.
- The vehicle must be inspected by an authorized Harley-Davidson dealer to determine its condition. If any of the conditions listed under Exclusions in the Limited Warranty exist, the warranty is NOT transferable.
- The Limited Warranty Transfer Form must be completed and forwarded to Harley-Davidson Motor Company, by the authorized dealer, along with an individual check for each \$100.00 Transfer Fee, within 30 days of the date of sale (to the above referenced purchaser). A copy of the bill of sale must also accompany the transfer form indicating the date of purchase, from whom the vehicle was purchased, and the vehicle identification number. No warranty repairs will be covered until all the transfer information has been completely received and processed. Once this information has been received, the purchaser will be mailed an Owner-Warranty Identification Card.

Note: Transfers received after the 30-day transfer period will not be accepted.

PURCHASER SIGNATURE	DATE
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TRANSFERRING DEALER INSPECTION INFORMATION	
DATE OF INSPECTION	VEHICLE MILEAGE AT TIME OF INSPECTION
_____ / _____ D _____ YR	_____
Is vehicle visually stock? <input type="checkbox"/> Y <input type="checkbox"/> N	
If vehicle is not visually stock, what is different?	
_____	
_____	

NOTE: ATTACH THE \$100.00 TRANSFER FEE TO THIS FORM.

HARLEY-DAVIDSON MOTOR COMPANY USE ONLY	
TRANSFER FEE RECEIVED	
DEALER SIGNATURE	DATE

Copy Distribution: WHITE - Harley-Davidson Motor Company YELLOW - Customer PINK - Dealer

Warranty Transfer Applications are available from your Harley-Davidson Dealer

## **HARLEY-DAVIDSON EMISSION CONTROL SYSTEM WARRANTY**

The following warranty applies to the emission control system and is in addition to the LIMITED WARRANTY, and NOISE CONTROL SYSTEM WARRANTY.

Harley-Davidson Motor Company warrants to the first owner and each subsequent owner that his vehicle is designed and built so as to conform at the time of sale with applicable regulations of the U.S. Federal Environmental Protection Agency at the time of manufacture and that it is free from defects in materials and workmanship which cause his motorcycle not to meet U.S. Environmental Protection Agency Standards within 5 years or 18,641 miles (30,000 kilometers) whichever occurs first.

The warranty period shall begin on the date the motorcycle is delivered to the first retail purchaser or, if the motorcycle is placed in service as a demonstrator or company vehicle prior to sale at retail, on the date it is first placed in service.

### **THE FOLLOWING ITEMS ARE NOT COVERED BY THE EMISSION CONTROL SYSTEM WARRANTY**

1. Failures which arise as a result of misuse, alterations, accident or non-performance of maintenance as specified in the Owner's Manual.
2. The replacement of parts (such as spark plugs, fuel and oil filters, etc.) used in required maintenance.
3. Loss of time, inconvenience, loss of motorcycle use or other consequential damages.
4. Any motorcycle on which the odometer mileage has been changed so that the mileage cannot be determined.

### **RECOMMENDATIONS FOR REQUIRED MAINTENANCE**

IT IS RECOMMENDED THAT ANY EMISSION SYSTEM MAINTENANCE BE PERFORMED BY AN AUTHORIZED HARLEY-DAVIDSON DEALER USING GENUINE HARLEY-DAVIDSON REPLACEMENT PARTS. THE MAINTENANCE, REPLACEMENT OR REPAIR OF THE EMISSION CONTROL SYSTEM MAY BE PERFORMED BY ANY OTHER QUALIFIED SERVICE OUTLET OR INDIVIDUAL. NON-GENUINE PARTS MAY BE USED ONLY IF SUCH PARTS ARE CERTIFIED TO COMPLY WITH U.S. ENVIRONMENTAL PROTECTION AGENCY STANDARDS.

**Harley-Davidson Motor Company, P.O. Box 653 Milwaukee, Wisconsin 53201, U.S.A.**

## **HARLEY-DAVIDSON NOISE CONTROL SYSTEM WARRANTY**

The following warranty applies to the noise control system and is in addition to the LIMITED WARRANTY, and EMISSION CONTROL SYSTEM WARRANTY.

Harley-Davidson Motor Company warrants to the first owner and each subsequent owner that his vehicle is designed and built so as to conform at the time of sale with applicable regulations of the U.S. Environmental Protection Agency (as tested following F-76 Drive-By test procedure) at the time of manufacture and that it is free from defects in materials and workmanship which cause his motorcycle not to meet U.S. Environmental Protection Agency Standards within 1 year or 3,730 miles (6,000 kilometers) whichever occurs first.

The warranty period shall begin on the date the motorcycle is delivered to the first retail purchaser or, if the motorcycle is placed in service as a demonstrator or company vehicle prior to sale at retail, on the date it is first placed in service.

### **THE FOLLOWING ITEMS ARE NOT COVERED BY THE NOISE CONTROL SYSTEM WARRANTY**

1. Failures which arise as a result of misuse, alterations, or accident as specified in the Owner's Manual.
2. Replacing, removing, or modifying any portion of the NOISE CONTROL SYSTEM (consisting of the exhaust system and air intake/cleaner assembly) with parts not certified to be noise legal for street use.
3. Loss of time, inconvenience, loss of motorcycle use or other consequential damages.
4. Any motorcycle on which the odometer mileage has been changed so that the mileage cannot be determined.

### **RECOMMENDATIONS FOR REQUIRED MAINTENANCE**

IT IS RECOMMENDED THAT ANY NOISE SYSTEM MAINTENANCE BE PERFORMED BY AN AUTHORIZED HARLEY-DAVIDSON DEALER USING GENUINE HARLEY-DAVIDSON REPLACEMENT PARTS. THE MAINTENANCE, REPLACEMENT OR REPAIR OF THE NOISE CONTROL SYSTEM MAY BE PERFORMED BY ANY OTHER QUALIFIED SERVICE OUTLET OR INDIVIDUAL. NON-GENUINE PARTS MAY BE USED ONLY IF SUCH PARTS ARE CERTIFIED TO COMPLY WITH U.S. ENVIRONMENTAL PROTECTION AGENCY STANDARDS.

**Harley-Davidson Motor Company, P.O. Box 653 Milwaukee, Wisconsin 53201, U.S.A.**

## FIRST SCHEDULED MAINTENANCE

Springer models (FLSTS and FXSTS), because of their unique design features, require First Scheduled maintenance at 500 miles. All other models require First Scheduled maintenance at 1000 miles.

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Date

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Mileage

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Dealer (or other) Signature

OWNER RECORD

## FIRST SCHEDULED MAINTENANCE

You are authorized to perform the applicable maintenance and lubrication services listed on the back of this coupon. These services are to be performed at your regular rates and paid for by me, the owner. I also authorize you to road test this motorcycle for proper operation.

---

Owner's Signature

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VIN

Date \_\_\_\_\_ Mileage \_\_\_\_\_

DEALER RECORD

## FIRST SCHEDULED MAINTENANCE

- 1. Change engine oil & oil filter.
- 2. Inspect air cleaner and service as required.
- 3. Change primary chaincase lubricant and clean magnetic drain plug.  
Check/adjust primary chain.
- 4. Check clutch adjustment.
- 5. Change transmission lubricant and clean magnetic drain plug.
- 6. Check and adjust drive belt.
- 7. Lube the foot shift/brake lever bearings.\*
- 9. Inspect brake pads and discs for wear.
- 10. Check brake fluid reservoir levels and condition.
- 11. Inspect oil lines and brake system for leaks.
- 12. Lubricate the following: front brake hand lever, throttle control cables, throttle, clutch control cable and hand lever, jiffy stand.
- 13. Lubricate and adjust springer steering head bearings.
- 14. Check, adjust operation of enrichener.\*
- 15. Inspect fuel valve\*, lines and fittings for leaks.
- 16. Check tire pressure and inspect tread.
- 17. Check battery electrolyte level\* and clean battery connections.
- 18. Check operation of all electrical equipment and switches.
- 19. Check cruise control disengage switch & other components.\*
- 20. Adjust springer rocker bearings.\*
- 21. Check air suspension - pressure, operation and leakage.\*
- 22. Check stabilizer links\* and engine mounts.
- 23. Check tightness of all critical fasteners: hand controls, brake system, axle nuts, front fork components, riser and handle bar fasteners.
- 24. Check engine idle speed adjustment.
- 25. Road test.

\*If applicable.

## FIRST SCHEDULED MAINTENANCE

- 1. Change engine oil & oil filter.
- 2. Inspect air cleaner and service as required.
- 3. Change primary chaincase lubricant and clean magnetic drain plug.  
Check/adjust primary chain.
- 4. Check clutch adjustment.
- 5. Change transmission lubricant and clean magnetic drain plug.
- 6. Check and adjust drive belt.
- 7. Lube the foot shift/brake lever bearings.\*
- 9. Inspect brake pads and discs for wear.
- 10. Check brake fluid reservoir levels and condition.
- 11. Inspect oil lines and brake system for leaks.
- 12. Lubricate the following: front brake hand lever, throttle control cables, throttle, clutch control cable and hand lever, jiffy stand.
- 13. Lubricate and adjust springer steering head bearings.
- 14. Check, adjust operation of enrichener.\*
- 15. Inspect fuel valve\*, lines and fittings for leaks.
- 16. Check tire pressure and inspect tread.
- 17. Check battery electrolyte level\* and clean battery connections.
- 18. Check operation of all electrical equipment and switches.
- 19. Check cruise control disengage switch & other components.\*
- 20. Adjust springer rocker bearings.\*
- 21. Check air suspension - pressure, operation and leakage.\*
- 22. Check stabilizer links\* and engine mounts.
- 23. Check tightness of all critical fasteners: hand controls, brake system, axle nuts, front fork components, riser and handle bar fasteners.
- 24. Check engine idle speed adjustment.
- 25. Road test.

\*If applicable.

## 2500 MILE

(4000 km)

### MAINTENANCE

\_\_\_\_\_

Date

\_\_\_\_\_

Mileage

\_\_\_\_\_

Dealer (or other) Signature

OWNER RECORD

## 2500 MILE

(4000 km)

### MAINTENANCE

You are authorized to perform the applicable maintenance and lubrication services listed on the back of this coupon. These services are to be performed at your regular rates and paid for by me, the owner. I also authorize you to road test this motorcycle for proper operation.

\_\_\_\_\_

Owner's Signature

\_\_\_\_\_

VIN

Date \_\_\_\_\_ Mileage \_\_\_\_\_

DEALER RECORD

## 2500 MILE MAINTENANCE

- 1. Inspect engine oil.
- 2. Inspect rear belt.
- 3. Inspect transmission lubricant and clean magnetic drain plug.
- 4. Inspect brake pads and discs for wear.
- 5. Inspect fuel valve\*, lines and fittings for leaks.
- 6. Inspect tire pressure and inspect tread.
- 7. Inspect operation of throttle and enricher\* controls.
- 8. Inspect operation of all electrical equipment and switches.
- 9. Inspect battery fluid level\* and connections.
- 10. Lubricate all Springer steering head bearings.
- 11. Inspect air cleaner and service as required.
- 12. Inspect oil lines and brake system for leaks
- 13. Road test.

\*If applicable.

## 2 500 MILE MAINTENANCE

- 1. Inspect engine oil.
- 2. Inspect rear belt.
- 3. Inspect transmission lubricant and clean magnetic drain plug.
- 4. Inspect brake pads and discs for wear.
- 5. Inspect fuel valve\*, lines and fittings for leaks.
- 6. Inspect tire pressure and inspect tread.
- 7. Inspect operation of throttle and enricher\* controls.
- 8. Inspect operation of all electrical equipment and switches.
- 9. Inspect battery fluid level\* and connections.
- 10. Lubricate all Springer steering head bearings.
- 11. Inspect air cleaner and service as required.
- 12. Inspect oil lines and brake system for leaks
- 13. Road test.

\*If applicable.



## 5000 MILE

(8000 km)

### MAINTENANCE

\_\_\_\_\_

Date

\_\_\_\_\_

Mileage

\_\_\_\_\_

Dealer (or other) Signature

OWNER RECORD

## 5000 MILE

(8000 km)

### MAINTENANCE

You are authorized to perform the applicable maintenance and lubrication services listed on the back of this coupon. These services are to be performed at your regular rates and paid for by me, the owner. I also authorize you to road test this motorcycle for proper operation.

\_\_\_\_\_

Owner's Signature

\_\_\_\_\_

VIN

Date \_\_\_\_\_ Mileage \_\_\_\_\_

DEALER RECORD

## 5000 MILE MAINTENANCE

- 1. Change engine oil & oil filter.
- 2. Inspect air cleaner and service as required.
- 3. Clean tappet oil screen.\*
- 4. Change primary chaincase lubricant and clean magnetic drain plug. Check/adjust primary chain.
- 5. Check clutch adjustment.
- 6. Change transmission lubricant and clean the magnetic drain plug.
- 7. Check and adjust belt.
- 8. Lube the foot shift/brake lever bearings\* and speedometer cable.\*
- 9. Lubricate all Springer steering head bearings.
- 10. Inspect brake pads and discs for wear.
- 11. Check brake fluid reservoir levels and condition.
- 12. Inspect oil lines and brake system for leaks.
- 13. Lubricate the following: front brake hand lever, throttle control cables, throttle, clutch control cable and hand lever, jiffy stand.
- 14. Check, adjust operation of enricher.
- 15. Inspect fuel valve\*, lines and fittings for leaks.
- 16. Check tire pressure and inspect tread.
- 17. Check wheel spoke tightness.\*
- 18. Check front fork bearing adjustment.
- 19. Check operation of all electrical equipment and switches.
- 20. Check cruise control disengage switch & other components.\*
- 21. Check battery electrolyte level\* and clean battery connections.
- 22. Inspect spark plugs.
- 23. Check air suspension - pressure, operation and leakage.\*
- 24. Lubricate hinges, latches - fuel door, Tour-Pak, saddlebags.\*
- 25. Check ignition timing and vacuum hose.\*
- 26. Check engine idle speed adjustment.
- 27. Road test.

\*If applicable.

## 5000 MILE MAINTENANCE

- 1. Change engine oil & oil filter.
- 2. Inspect air cleaner and service as required.
- 3. Clean tappet oil screen.\*
- 4. Change primary chaincase lubricant and clean magnetic drain plug. Check/adjust primary chain.
- 5. Check clutch adjustment.
- 6. Change transmission lubricant and clean the magnetic drain plug.
- 7. Check and adjust belt.
- 8. Lube the foot shift/brake lever bearings\* and speedometer cable.\*
- 9. Lubricate all Springer steering head bearings.
- 10. Inspect brake pads and discs for wear.
- 11. Check brake fluid reservoir levels and condition.
- 12. Inspect oil lines and brake system for leaks.
- 13. Lubricate the following: front brake hand lever, throttle control cables, throttle, clutch control cable and hand lever, jiffy stand.
- 14. Check, adjust operation of enricher.
- 15. Inspect fuel valve\*, lines and fittings for leaks.
- 16. Check tire pressure and inspect tread.
- 17. Check wheel spoke tightness.\*
- 18. Check front fork bearing adjustment.
- 19. Check operation of all electrical equipment and switches.
- 20. Check cruise control disengage switch & other components.\*
- 21. Check battery electrolyte level\* and clean battery connections.
- 22. Inspect spark plugs.
- 23. Check air suspension - pressure, operation and leakage.\*
- 24. Lubricate hinges, latches - fuel door, Tour-Pak, saddlebags.\*
- 25. Check ignition timing and vacuum hose.\*
- 26. Check engine idle speed adjustment.
- 27. Road test.

\*If applicable.

## 7500 MILE

(12000 km)

### MAINTENANCE

\_\_\_\_\_

Date

\_\_\_\_\_

Mileage

\_\_\_\_\_

Dealer (or other) Signature

OWNER RECORD

## 7500 MILE

(12000 km)

### MAINTENANCE

You are authorized to perform the applicable maintenance and lubrication services listed on the back of this coupon. These services are to be performed at your regular rates and paid for by me, the owner. I also authorize you to road test this motorcycle for proper operation.

\_\_\_\_\_

Owner's Signature

\_\_\_\_\_

VIN

Date \_\_\_\_\_ Mileage \_\_\_\_\_

DEALER RECORD

## 7500 MILE MAINTENANCE

- 1. Inspect engine oil.
- 2. Inspect rear belt.
- 3. Inspect transmission lubricant and clean magnetic drain plug.
- 4. Inspect brake pads and discs for wear.
- 5. Inspect fuel valve\*, lines and fittings for leaks.
- 6. Inspect tire pressure and inspect tread.
- 7. Inspect operation of throttle and enrichener\* controls.
- 8. Inspect operation of all electrical equipment and switches.
- 9. Inspect battery fluid level\* and connections.
- 10. Lubricate all Springer steering head bearings.
- 11. Inspect air cleaner and service as required.
- 12. Inspect oil lines and brake system for leaks
- 13. Road test.

\*If applicable.

## 7500 MILE MAINTENANCE

- 1. Inspect engine oil.
- 2. Inspect rear belt.
- 3. Inspect transmission lubricant and clean magnetic drain plug.
- 4. Inspect brake pads and discs for wear.
- 5. Inspect fuel valve\*, lines and fittings for leaks.
- 6. Inspect tire pressure and inspect tread.
- 7. Inspect operation of throttle and enrichener\* controls.
- 8. Inspect operation of all electrical equipment and switches.
- 9. Inspect battery fluid level\* and connections.
- 10. Lubricate all Springer steering head bearings.
- 11. Inspect air cleaner and service as required.
- 12. Inspect oil lines and brake system for leaks
- 13. Road test.

\*If applicable.

## 10,000 MILE

(16000 km)

### MAINTENANCE

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**Date**

---

**Mileage**

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**Dealer (or other) Signature**

**OWNER RECORD**

## 10,000 MILE

(16000 km)

### MAINTENANCE

You are authorized to perform the applicable maintenance and lubrication services listed on the back of this coupon. These services are to be performed at your regular rates and paid for by me, the owner. I also authorize you to road test this motorcycle for proper operation.

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**Owner's Signature**

---

**VIN**

---

**Date** \_\_\_\_\_ **Mileage** \_\_\_\_\_

**DEALER RECORD**

## 10,000 MILE MAINTENANCE

- 1. Change engine oil & oil filter.
- 2. Inspect air cleaner and service as required.
- 3. Clean tappet oil screen.\*
- 4. Change primary chaincase lubricant and clean magnetic drain plug. Check/adjust primary chain.
- 5. Check clutch adjustment.
- 6. Change transmission lubricant and clean the magnetic drain plug.
- 7. Check and adjust belt.
- 8. Lube the foot shift/brake lever bearings\* and speedometer cable.\*
- 9. Inspect brake pads and discs for wear.
- 10. Check brake fluid reservoir levels and condition.
- 11. Inspect oil lines and brake system for leaks.
- 12. Lubricate the following: front brake hand lever, throttle control cables, throttle, clutch control cable and hand lever, jiffy stand.
- 13. Lubricate and adjust steering head bearings (all models).
- 14. Check engine idle speed adjustment.
- 15. Check, adjust operation of enricher.\*
- 16. Inspect fuel valve\*, lines and fittings for leaks.
- 17. Check operation of all electrical equipment and switches.
- 18. Check cruise control disengage switch & other components.\*
- 19. Check battery electrolyte level\* and clean battery connections.
- 20. Change spark plugs.
- 21. Check tire pressure and inspect tread.
- 22. Check wheel spoke tightness.\*
- 23. Repack wheel bearings with grease.
- 24. Change front fork oil.\*
- 25. Repack rear fork bearings.\*
- 26. Adjust Springer rocker bearings.\*
- 27. Check air suspension - pressure, operation and leakage.\*
- 28. Check stabilizer links\* and engine mounts.
- 29. Check tightness of all critical fasteners: hand controls, brake system, axle nuts, front fork components, riser and handle bar fasteners.
- 30. Inspect Road King windshield bushings.
- 31. Lubricate hinges, latches - fuel door, Tour-Pak, saddlebags.\*
- 32. Check ignition timing and vacuum hose.\*
- 33. Road test.

\*If applicable

## 10,000 MILE MAINTENANCE

- 1. Change engine oil & oil filter.
- 2. Inspect air cleaner and service as required.
- 3. Clean tappet oil screen.\*
- 4. Change primary chaincase lubricant and clean magnetic drain plug. Check/adjust primary chain.
- 5. Check clutch adjustment.
- 6. Change transmission lubricant and clean the magnetic drain plug.
- 7. Check and adjust belt.
- 8. Lube the foot shift/brake lever bearings\* and speedometer cable.\*
- 9. Inspect brake pads and discs for wear.
- 10. Check brake fluid reservoir levels and condition.
- 11. Inspect oil lines and brake system for leaks.
- 12. Lubricate the following: front brake hand lever, throttle control cables, throttle, clutch control cable and hand lever, jiffy stand.
- 13. Lubricate and adjust steering head bearings (all models).
- 14. Check engine idle speed adjustment.
- 15. Check, adjust operation of enricher.\*
- 16. Inspect fuel valve\*, lines and fittings for leaks.
- 17. Check operation of all electrical equipment and switches.
- 18. Check cruise control disengage switch & other components.\*
- 19. Check battery electrolyte level\* and clean battery connections.
- 20. Change spark plugs.
- 21. Check tire pressure and inspect tread.
- 22. Check wheel spoke tightness.\*
- 23. Repack wheel bearings with grease.
- 24. Change front fork oil.\*
- 25. Repack rear fork bearings.\*
- 26. Adjust Springer rocker bearings.\*
- 27. Check air suspension - pressure, operation and leakage.\*
- 28. Check stabilizer links\* and engine mounts.
- 29. Check tightness of all critical fasteners: hand controls, brake system, axle nuts, front fork components, riser and handle bar fasteners.
- 30. Inspect Road King windshield bushings.
- 31. Lubricate hinges, latches - fuel door, Tour-Pak, saddlebags.\*
- 32. Check ignition timing and vacuum hose.\*
- 33. Road test.

\*If applicable

**12,500 MILE**

(20000 km)

**MAINTENANCE**

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**Date**

---

**Mileage**

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**Dealer (or other) Signature**

**OWNER RECORD**

**12,500 MILE**

(20 000 km)

**MAINTENANCE**

You are authorized to perform the applicable maintenance and lubrication services listed on the back of this coupon. These services are to be performed at your regular rates and paid for by me, the owner. I also authorize you to road test this motorcycle for proper operation.

---

**Owner's Signature**

---

**VIN**

**Date** \_\_\_\_\_ **Mileage** \_\_\_\_\_

**DEALER RECORD**

## 12,500 MILE MAINTENANCE

- 1. Inspect engine oil.
- 2. Inspect rear belt.
- 3. Inspect transmission lubricant and clean magnetic drain plug.
- 4. Inspect brake pads and discs for wear.
- 5. Inspect fuel valve\*, lines and fittings for leaks.
- 6. Inspect tire pressure and inspect tread.
- 7. Inspect operation of throttle and enricher\* controls.
- 8. Inspect operation of all electrical equipment and switches.
- 9. Inspect battery fluid level\* and connections.
- 10. Inspect air cleaner and service as required.
- 11. Lubricate all Springer steering head bearings.
- 12. Inspect brake pads and discs for wear.
- 13. Road test.

\*If applicable.

## 12,500 MILE MAINTENANCE

- 1. Inspect engine oil.
- 2. Inspect rear belt.
- 3. Inspect transmission lubricant and clean magnetic drain plug.
- 4. Inspect brake pads and discs for wear.
- 5. Inspect fuel valve\*, lines and fittings for leaks.
- 6. Inspect tire pressure and inspect tread.
- 7. Inspect operation of throttle and enricher\* controls.
- 8. Inspect operation of all electrical equipment and switches.
- 9. Inspect battery fluid level\* and connections.
- 10. Inspect air cleaner and service as required.
- 11. Lubricate all Springer steering head bearings.
- 12. Inspect brake pads and discs for wear.
- 13. Road test.

\*If applicable.



**15,000 MILE**

(24000 km)

**MAINTENANCE**

---

**Date**

---

**Mileage**

---

**Dealer (or other) Signature**

**OWNER RECORD**

**15,000 MILE**

(24000 km)

**MAINTENANCE**

You are authorized to perform the applicable maintenance and lubrication services listed on the back of this coupon. These services are to be performed at your regular rates and paid for by me, the owner. I also authorize you to road test this motorcycle for proper operation.

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**Owner's Signature**

---

**VIN**

---

**Date** \_\_\_\_\_ **Mileage** \_\_\_\_\_

**DEALER RECORD**

## 15,000 MILE MAINTENANCE

- 1. Change engine oil & oil filter.
- 2. Inspect air cleaner and service as required.
- 3. Clean tappet oil screen.\*
- 4. Change primary chaincase lubricant and clean magnetic drain plug. Check/adjust primary chain.
- 5. Check clutch adjustment.
- 6. Change transmission lubricant and clean the magnetic drain plug.
- 7. Check and adjust belt.
- 8. Lube the foot shift/brake lever bearings\* and speedometer cable.\*
- 9. Lubricate all Springer steering head bearings.
- 10. Inspect brake pads and discs for wear.
- 11. Check brake fluid reservoir levels and condition.
- 12. Inspect oil lines and brake system for leaks.
- 13. Lubricate the following: front brake hand lever, throttle control cables, throttle, clutch control cable and hand lever, jiffy stand.
- 14. Check, adjust operation of enricher.
- 15. Inspect fuel valve\*, lines and fittings for leaks.
- 16. Check tire pressure and inspect tread.
- 17. Check wheel spoke tightness.\*
- 18. Check front fork bearing adjustment.
- 19. Check operation of all electrical equipment and switches.
- 20. Check cruise control disengage switch & other components.\*
- 21. Check battery electrolyte level\* and clean battery connections.
- 22. Inspect spark plugs.
- 23. Check air suspension - pressure, operation and leakage.\*
- 24. Lubricate hinges, latches - fuel door, Tour-Pak, saddlebags.\*
- 25. Check ignition timing and vacuum hose.\*
- 26. Check engine idle speed adjustment.
- 27. Road test.

\*If applicable.

## 15,000 MILE MAINTENANCE

- 1. Change engine oil & oil filter.
- 2. Inspect air cleaner and service as required.
- 3. Clean tappet oil screen.\*
- 4. Change primary chaincase lubricant and clean magnetic drain plug. Check/adjust primary chain.
- 5. Check clutch adjustment.
- 6. Change transmission lubricant and clean the magnetic drain plug.
- 7. Check and adjust belt.
- 8. Lube the foot shift/brake lever bearings\* and speedometer cable.\*
- 9. Lubricate all Springer steering head bearings.
- 10. Inspect brake pads and discs for wear.
- 11. Check brake fluid reservoir levels and condition.
- 12. Inspect oil lines and brake system for leaks.
- 13. Lubricate the following: front brake hand lever, throttle control cables, throttle, clutch control cable and hand lever, jiffy stand.
- 14. Check, adjust operation of enricher.
- 15. Inspect fuel valve\*, lines and fittings for leaks.
- 16. Check tire pressure and inspect tread.
- 17. Check wheel spoke tightness.\*
- 18. Check front fork bearing adjustment.
- 19. Check operation of all electrical equipment and switches.
- 20. Check cruise control disengage switch & other components.\*
- 21. Check battery electrolyte level\* and clean battery connections.
- 22. Inspect spark plugs.
- 23. Check air suspension - pressure, operation and leakage.\*
- 24. Lubricate hinges, latches - fuel door, Tour-Pak, saddlebags.\*
- 25. Check ignition timing and vacuum hose.\*
- 26. Check engine idle speed adjustment.
- 27. Road test.

\*If applicable.

**17,500 MILE**

(28000 km)

**MAINTENANCE**

---

**Date**

---

**Mileage**

---

**Dealer (or other) Signature**

**OWNER RECORD**

**17,500 MILE**

(28000 km)

**MAINTENANCE**

You are authorized to perform the applicable maintenance and lubrication services listed on the back of this coupon. These services are to be performed at your regular rates and paid for by me, the owner. I also authorize you to road test this motorcycle for proper operation.

---

**Owner's Signature**

---

**VIN**

**Date** \_\_\_\_\_ **Mileage** \_\_\_\_\_

**DEALER RECORD**

## 17,500 MILE MAINTENANCE

- 1. Inspect engine oil.
- 2. Inspect rear belt.
- 3. Inspect transmission lubricant and clean magnetic drain plug.
- 4. Inspect brake pads and discs for wear.
- 5. Inspect fuel valve\*, lines and fittings for leaks.
- 6. Inspect tire pressure and inspect tread.
- 7. Inspect operation of throttle and enrichener\* controls.
- 8. Inspect operation of all electrical equipment and switches.
- 9. Inspect battery fluid level\* and connections.
- 10. Inspect air cleaner and service as required.
- 11. Lubricate all Springer steering head bearings.
- 12. Inspect brake pads and discs for wear.
- 13. Road test.

\*If applicable.

## 17,500 MILE MAINTENANCE

- 1. Inspect engine oil.
- 2. Inspect rear belt.
- 3. Inspect transmission lubricant and clean magnetic drain plug.
- 4. Inspect brake pads and discs for wear.
- 5. Inspect fuel valve\*, lines and fittings for leaks.
- 6. Inspect tire pressure and inspect tread.
- 7. Inspect operation of throttle and enrichener\* controls.
- 8. Inspect operation of all electrical equipment and switches.
- 9. Inspect battery fluid level\* and connections.
- 10. Inspect air cleaner and service as required.
- 11. Lubricate all Springer steering head bearings.
- 12. Inspect brake pads and discs for wear.
- 13. Road test.

\*If applicable.

**20,000 MILE**

(32000 km)

**MAINTENANCE**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Mileage**

\_\_\_\_\_  
**Dealer (or other) Signature**

**OWNER RECORD**

**20,000 MILE**

(32000 km)

**MAINTENANCE**

You are authorized to perform the applicable maintenance and lubrication services listed on the back of this coupon. These services are to be performed at your regular rates and paid for by me, the owner. I also authorize you to road test this motorcycle for proper operation.

\_\_\_\_\_  
**Owner's Signature**

\_\_\_\_\_  
**VIN**

**Date** \_\_\_\_\_ **Mileage** \_\_\_\_\_

**DEALER RECORD**

## 20,000 MILE MAINTENANCE

- 1. Change engine oil & oil filter.
- 2. Inspect air cleaner and service as required.
- 3. Clean tappet oil screen.\*
- 4. Change primary chaincase lubricant and clean magnetic drain plug. Check/adjust primary chain.
- 5. Check clutch adjustment.
- 6. Change transmission lubricant and clean the magnetic drain plug.
- 7. Check and adjust belt.
- 8. Lube the foot shift/brake lever bearings\* and speedometer cable.\*
- 9. Inspect brake pads and discs for wear.
- 10. Check brake fluid reservoir levels and condition.
- 11. Inspect oil lines and brake system for leaks.
- 12. Lubricate the following: front brake hand lever, throttle control cables, throttle, clutch control cable and hand lever, jiffy stand.
- 13. Lubricate and adjust steering head bearings (all models).
- 14. Check engine idle speed adjustment.
- 15. Check, adjust operation of enricher.\*
- 16. Inspect fuel valve\*, lines and fittings for leaks.
- 17. Clean fuel tank filter screen (Carb. only).
- 18. Check operation of all electrical equipment and switches.
- 19. Check cruise control disengage switch & other components.\*
- 20. Check battery electrolyte level\* and clean battery connections.
- 21. Change spark plugs.
- 22. Check tire pressure and inspect tread.
- 23. Check wheel spoke tightness.\*
- 24. Repack wheel bearings with grease.
- 25. Change front fork oil.\*
- 26. Repack rear fork bearings.\*
- 27. Adjust Springer rocker bearings.\*
- 28. Check air suspension - pressure, operation and leakage.\*
- 29. Check stabilizer links\* and engine mounts.
- 30. Check tightness of all critical fasteners: hand controls, brake system, axle nuts, front fork components, riser and handle bar fasteners.
- 31. Inspect Road King windshield bushings.
- 32. Lubricate hinges, latches - fuel door, Tour-Pak, saddlebags.\*
- 33. Check ignition timing and vacuum hose.\*
- 34. Road test.

\*If applicable

## 20,000 MILE MAINTENANCE

- 1. Change engine oil & oil filter.
- 2. Inspect air cleaner and service as required.
- 3. Clean tappet oil screen.\*
- 4. Change primary chaincase lubricant and clean magnetic drain plug. Check/adjust primary chain.
- 5. Check clutch adjustment.
- 6. Change transmission lubricant and clean the magnetic drain plug.
- 7. Check and adjust belt.
- 8. Lube the foot shift/brake lever bearings\* and speedometer cable.\*
- 9. Inspect brake pads and discs for wear.
- 10. Check brake fluid reservoir levels and condition.
- 11. Inspect oil lines and brake system for leaks.
- 12. Lubricate the following: front brake hand lever, throttle control cables, throttle, clutch control cable and hand lever, jiffy stand.
- 13. Lubricate and adjust steering head bearings (all models).
- 14. Check engine idle speed adjustment.
- 15. Check, adjust operation of enricher.\*
- 16. Inspect fuel valve\*, lines and fittings for leaks.
- 17. Clean fuel tank filter screen (Carb. only).
- 18. Check operation of all electrical equipment and switches.
- 19. Check cruise control disengage switch & other components.\*
- 20. Check battery electrolyte level\* and clean battery connections.
- 21. Change spark plugs.
- 22. Check tire pressure and inspect tread.
- 23. Check wheel spoke tightness.\*
- 24. Repack wheel bearings with grease.
- 25. Change front fork oil.\*
- 26. Repack rear fork bearings.\*
- 27. Adjust Springer rocker bearings.\*
- 28. Check air suspension - pressure, operation and leakage.\*
- 29. Check stabilizer links\* and engine mounts.
- 30. Check tightness of all critical fasteners: hand controls, brake system, axle nuts, front fork components, riser and handle bar fasteners.
- 31. Inspect Road King windshield bushings.
- 32. Lubricate hinges, latches - fuel door, Tour-Pak, saddlebags.\*
- 33. Check ignition timing and vacuum hose.\*
- 34. Road test.

\*If applicable

**22,500 MILE**

(36000 km)

**MAINTENANCE**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Mileage**

\_\_\_\_\_  
**Dealer (or other) Signature**

**OWNER RECORD**

**22,500 MILE**

(36000 km)

**MAINTENANCE**

You are authorized to perform the applicable maintenance and lubrication services listed on the back of this coupon. These services are to be performed at your regular rates and paid for by me, the owner. I also authorize you to road test this motorcycle for proper operation.

\_\_\_\_\_  
**Owner's Signature**

\_\_\_\_\_  
**VIN**

**Date** \_\_\_\_\_ **Mileage** \_\_\_\_\_

**DEALER RECORD**

## 22,500 MILE MAINTENANCE

- 1. Inspect engine oil.
- 2. Inspect rear belt.
- 3. Inspect transmission lubricant and clean magnetic drain plug.
- 4. Inspect brake pads and discs for wear.
- 5. Inspect fuel valve\*, lines and fittings for leaks.
- 6. Inspect tire pressure and inspect tread.
- 7. Inspect operation of throttle and enrichener\* controls.
- 8. Inspect operation of all electrical equipment and switches.
- 9. Inspect battery fluid level\* and connections.
- 10. Inspect air cleaner and service as required.
- 11. Lubricate all Springer steering head bearings.
- 12. Inspect brake pads and discs for wear.
- 13. Road test.

\*If applicable.

## 22,500 MILE MAINTENANCE

- 1. Inspect engine oil.
- 2. Inspect rear belt.
- 3. Inspect transmission lubricant and clean magnetic drain plug.
- 4. Inspect brake pads and discs for wear.
- 5. Inspect fuel valve\*, lines and fittings for leaks.
- 6. Inspect tire pressure and inspect tread.
- 7. Inspect operation of throttle and enrichener\* controls.
- 8. Inspect operation of all electrical equipment and switches.
- 9. Inspect battery fluid level\* and connections.
- 10. Inspect air cleaner and service as required.
- 11. Lubricate all Springer steering head bearings.
- 12. Inspect brake pads and discs for wear.
- 13. Road test.

\*If applicable.



**25,000 MILE**

(40000 km)

**MAINTENANCE**

---

**Date**

---

**Mileage**

---

**Dealer (or other) Signature**

**OWNER RECORD**

**25,000 MILE**

(40000 km)

**MAINTENANCE**

You are authorized to perform the applicable maintenance and lubrication services listed on the back of this coupon. These services are to be performed at your regular rates and paid for by me, the owner. I also authorize you to road test this motorcycle for proper operation.

---

**Owner's Signature**

---

**VIN**

**Date** \_\_\_\_\_ **Mileage** \_\_\_\_\_

**DEALER RECORD**

## 25,000 MILE MAINTENANCE

- 1. Change engine oil & oil filter.
- 2. Inspect air cleaner and service as required.
- 3. Clean tappet oil screen.\*
- 4. Change primary chaincase lubricant and clean magnetic drain plug. Check/adjust primary chain.
- 5. Check clutch adjustment.
- 6. Change transmission lubricant and clean the magnetic drain plug.
- 7. Check and adjust belt.
- 8. Lube the foot shift/brake lever bearings\* and speedometer cable.\*
- 9. Lubricate all Springer steering head bearings.
- 10. Inspect brake pads and discs for wear.
- 11. Check brake fluid reservoir levels and condition.
- 12. Inspect oil lines and brake system for leaks.
- 13. Lubricate the following: front brake hand lever, throttle control cables, throttle, clutch control cable and hand lever, jiffy stand.
- 14. Check, adjust operation of enricher.
- 15. Inspect fuel valve\*, lines and fittings for leaks.
- 16. Check tire pressure and inspect tread.
- 17. Check wheel spoke tightness.\*
- 18. Check front fork bearing adjustment.
- 19. Check operation of all electrical equipment and switches.
- 20. Check cruise control disengage switch & other components.\*
- 21. Check battery electrolyte level\* and clean battery connections.
- 22. Inspect spark plugs.
- 23. Check air suspension - pressure, operation and leakage.\*
- 24. Lubricate hinges, latches - fuel door, Tour-Pak, saddlebags.\*
- 25. Check ignition timing and vacuum hose.\*
- 26. Check engine idle speed adjustment.
- 27. Road test.

\*If applicable.

## 25,000 MILE MAINTENANCE

- 1. Change engine oil & oil filter.
- 2. Inspect air cleaner and service as required.
- 3. Clean tappet oil screen.\*
- 4. Change primary chaincase lubricant and clean magnetic drain plug. Check/adjust primary chain.
- 5. Check clutch adjustment.
- 6. Change transmission lubricant and clean the magnetic drain plug.
- 7. Check and adjust belt.
- 8. Lube the foot shift/brake lever bearings\* and speedometer cable.\*
- 9. Lubricate all Springer steering head bearings.
- 10. Inspect brake pads and discs for wear.
- 11. Check brake fluid reservoir levels and condition.
- 12. Inspect oil lines and brake system for leaks.
- 13. Lubricate the following: front brake hand lever, throttle control cables, throttle, clutch control cable and hand lever, jiffy stand.
- 14. Check, adjust operation of enricher.
- 15. Inspect fuel valve\*, lines and fittings for leaks.
- 16. Check tire pressure and inspect tread.
- 17. Check wheel spoke tightness.\*
- 18. Check front fork bearing adjustment.
- 19. Check operation of all electrical equipment and switches.
- 20. Check cruise control disengage switch & other components.\*
- 21. Check battery electrolyte level\* and clean battery connections.
- 22. Inspect spark plugs.
- 23. Check air suspension - pressure, operation and leakage.\*
- 24. Lubricate hinges, latches - fuel door, Tour-Pak, saddlebags.\*
- 25. Check ignition timing and vacuum hose.\*
- 26. Check engine idle speed adjustment.
- 27. Road test.

\*If applicable.

**27,500 MILE**

(44000 km)

**MAINTENANCE**

---

**Date**

---

**Mileage**

---

**Dealer (or other) Signature**

**OWNER RECORD**

**27,500 MILE**

(44000 km)

**MAINTENANCE**

You are authorized to perform the applicable maintenance and lubrication services listed on the back of this coupon. These services are to be performed at your regular rates and paid for by me, the owner. I also authorize you to road test this motorcycle for proper operation.

---

**Owner's Signature**

---

**VIN**

**Date** \_\_\_\_\_ **Mileage** \_\_\_\_\_

**DEALER RECORD**

## 27,500 MILE MAINTENANCE

- 1. Inspect engine oil.
- 2. Inspect rear belt.
- 3. Inspect transmission lubricant and clean magnetic drain plug.
- 4. Inspect brake pads and discs for wear.
- 5. Inspect fuel valve\*, lines and fittings for leaks.
- 6. Inspect tire pressure and inspect tread.
- 7. Inspect operation of throttle and enrichener\* controls.
- 8. Inspect operation of all electrical equipment and switches.
- 9. Inspect battery fluid level\* and connections.
- 10. Inspect air cleaner and service as required.
- 11. Lubricate all Springer steering head bearings.
- 12. Inspect brake pads and discs for wear.
- 13. Road test.

\*If applicable.

## 27,500 MILE MAINTENANCE

- 1. Inspect engine oil.
- 2. Inspect rear belt.
- 3. Inspect transmission lubricant and clean magnetic drain plug.
- 4. Inspect brake pads and discs for wear.
- 5. Inspect fuel valve\*, lines and fittings for leaks.
- 6. Inspect tire pressure and inspect tread.
- 7. Inspect operation of throttle and enrichener\* controls.
- 8. Inspect operation of all electrical equipment and switches.
- 9. Inspect battery fluid level\* and connections.
- 10. Inspect air cleaner and service as required.
- 11. Lubricate all Springer steering head bearings.
- 12. Inspect brake pads and discs for wear.
- 13. Road test.

\*If applicable.

**30,000 MILE**

(48000 km)

**MAINTENANCE**

---

**Date**

---

**Mileage**

---

**Dealer (or other) Signature**

**OWNER RECORD**

**30,000 MILE**

(48000 km)

**MAINTENANCE**

You are authorized to perform the applicable maintenance and lubrication services listed on the back of this coupon. These services are to be performed at your regular rates and paid for by me, the owner. I also authorize you to road test this motorcycle for proper operation.

---

**Owner's Signature**

---

**VIN**

**Date** \_\_\_\_\_ **Mileage** \_\_\_\_\_

**DEALER RECORD**

## 30,000 MILE MAINTENANCE

- 1. Change engine oil & oil filter.
- 2. Inspect air cleaner and service as required.
- 3. Clean tappet oil screen.\*
- 4. Change primary chaincase lubricant and clean magnetic drain plug. Check/adjust primary chain.
- 5. Check clutch adjustment.
- 6. Change transmission lubricant and clean the magnetic drain plug.
- 7. Check and adjust belt.
- 8. Lube the foot shift/brake lever bearings\* and speedometer cable.\*
- 9. Inspect brake pads and discs for wear.
- 10. Check brake fluid reservoir levels and condition.
- 11. Inspect oil lines and brake system for leaks.
- 12. Lubricate the following: front brake hand lever, throttle control cables, throttle, clutch control cable and hand lever, jiffy stand.
- 13. Lubricate and adjust steering head bearings (all models).
- 14. Check front fork bearing adjustment.
- 15. Check, adjust operation of enrichener.\*
- 16. Inspect fuel valve\*, lines and fittings for leaks.
- 17. Check engine idle speed adjustment.
- 18. Check operation of all electrical equipment and switches.
- 19. Check cruise control disengage switch & other components.\*
- 20. Check battery electrolyte level\* and clean battery connections.
- 21. Change spark plugs.
- 22. Check tire pressure and inspect tread.
- 23. Check wheel spoke tightness.\*
- 24. Repack wheel bearings with grease.
- 25. Change front fork oil.\*
- 26. Repack rear fork bearings.\*
- 27. Adjust Springer rocker bearings.\*
- 28. Check air suspension - pressure, operation and leakage.\*
- 29. Check stabilizer links\* and engine mounts.
- 30. Check tightness of all critical fasteners: hand controls, brake system, axle nuts, front fork components, riser and handle bar fasteners.
- 31. Inspect Road King windshield bushings.
- 32. Lubricate hinges, latches - fuel door, Tour-Pak, saddlebags.\*
- 33. Check ignition timing and vacuum hose.\*
- 34. Road test.

\*If applicable

## 30,000 MILE MAINTENANCE

- 1. Change engine oil & oil filter.
- 2. Inspect air cleaner and service as required.
- 3. Clean tappet oil screen.\*
- 4. Change primary chaincase lubricant and clean magnetic drain plug. Check/adjust primary chain.
- 5. Check clutch adjustment.
- 6. Change transmission lubricant and clean the magnetic drain plug.
- 7. Check and adjust belt.
- 8. Lube the foot shift/brake lever bearings\* and speedometer cable.\*
- 9. Inspect brake pads and discs for wear.
- 10. Check brake fluid reservoir levels and condition.
- 11. Inspect oil lines and brake system for leaks.
- 12. Lubricate the following: front brake hand lever, throttle control cables, throttle, clutch control cable and hand lever, jiffy stand.
- 13. Lubricate and adjust steering head bearings (all models).
- 14. Check front fork bearing adjustment.
- 15. Check, adjust operation of enrichener.\*
- 16. Inspect fuel valve\*, lines and fittings for leaks.
- 17. Check engine idle speed adjustment.
- 18. Check operation of all electrical equipment and switches.
- 19. Check cruise control disengage switch & other components.\*
- 20. Check battery electrolyte level\* and clean battery connections.
- 21. Change spark plugs.
- 22. Check tire pressure and inspect tread.
- 23. Check wheel spoke tightness.\*
- 24. Repack wheel bearings with grease.
- 25. Change front fork oil.\*
- 26. Repack rear fork bearings.\*
- 27. Adjust Springer rocker bearings.\*
- 28. Check air suspension - pressure, operation and leakage.\*
- 29. Check stabilizer links\* and engine mounts.
- 30. Check tightness of all critical fasteners: hand controls, brake system, axle nuts, front fork components, riser and handle bar fasteners.
- 31. Inspect Road King windshield bushings.
- 32. Lubricate hinges, latches - fuel door, Tour-Pak, saddlebags.\*
- 33. Check ignition timing and vacuum hose.\*
- 34. Road test.

\*If applicable

**32,500 MILE**

(52000 km)

**MAINTENANCE**

---

**Date**

---

**Mileage**

**zzzzz**

---

**Dealer (or other) Signature**

**OWNER RECORDzzz**

**32,500 MILE**

(52000 km)

**MAINTENANCE**

You are authorized to perform the applicable maintenance and lubrication services listed on the back of this coupon. These services are to be performed at your regular rates and paid for by me, the owner. I also authorize you to road test this motorcycle for proper operation.

---

**Owner's Signature**

---

**VIN**

**Date** \_\_\_\_\_ **Mileage** \_\_\_\_\_

**DEALER RECORD**

## 32,500 MILE MAINTENANCE

- 1. Inspect engine oil.
- 2. Inspect rear belt.
- 3. Inspect transmission lubricant and clean magnetic drain plug.
- 4. Inspect brake pads and discs for wear.
- 5. Inspect fuel valve\*, lines and fittings for leaks.
- 6. Inspect tire pressure and inspect tread.
- 7. Inspect operation of throttle and enricher\* controls.
- 8. Inspect operation of all electrical equipment and switches.
- 9. Inspect battery fluid level\* and connections.
- 10. Inspect air cleaner and service as required.
- 11. Lubricate all Springer steering head bearings.
- 12. Inspect brake pads and discs for wear.
- 13. Road test.

\*If applicable.

## 32,500 MILE MAINTENANCE

- 1. Inspect engine oil.
- 2. Inspect rear belt.
- 3. Inspect transmission lubricant and clean magnetic drain plug.
- 4. Inspect brake pads and discs for wear.
- 5. Inspect fuel valve\*, lines and fittings for leaks.
- 6. Inspect tire pressure and inspect tread.
- 7. Inspect operation of throttle and enricher\* controls.
- 8. Inspect operation of all electrical equipment and switches.
- 9. Inspect battery fluid level\* and connections.
- 10. Inspect air cleaner and service as required.
- 11. Lubricate all Springer steering head bearings.
- 12. Inspect brake pads and discs for wear.
- 13. Road test.

\*If applicable.



**35,000 MILE**

(56000 km)

**MAINTENANCE**

---

**Date**

---

**Mileage**

---

**Dealer (or other) Signature**

**OWNER RECORD**

**35,000 MILE**

(56000 km)

**MAINTENANCE**

You are authorized to perform the applicable maintenance and lubrication services listed on the back of this coupon. These services are to be performed at your regular rates and paid for by me, the owner. I also authorize you to road test this motorcycle for proper operation.

---

**Owner's Signature**

---

**VIN**

**Date** \_\_\_\_\_ **Mileage** \_\_\_\_\_

**DEALER RECORD**

## 35,000 MILE MAINTENANCE

- 1. Change engine oil & oil filter.
- 2. Inspect air cleaner and service as required.
- 3. Clean tappet oil screen.\*
- 4. Change primary chaincase lubricant and clean magnetic drain plug. Check/adjust primary chain.
- 5. Check clutch adjustment.
- 6. Change transmission lubricant and clean the magnetic drain plug.
- 7. Check and adjust belt.
- 8. Lube the foot shift/brake lever bearings\* and speedometer cable.\*
- 9. Lubricate all Springer steering head bearings.
- 10. Inspect brake pads and discs for wear.
- 11. Check brake fluid reservoir levels and condition.
- 12. Inspect oil lines and brake system for leaks.
- 13. Lubricate the following: front brake hand lever, throttle control cables, throttle, clutch control cable and hand lever, jiffy stand.
- 14. Check, adjust operation of enricher.
- 15. Inspect fuel valve\*, lines and fittings for leaks.
- 16. Check tire pressure and inspect tread.
- 17. Check wheel spoke tightness.\*
- 18. Check front fork bearing adjustment.
- 19. Check operation of all electrical equipment and switches.
- 20. Check cruise control disengage switch & other components.\*
- 21. Check battery electrolyte level\* and clean battery connections.
- 22. Inspect spark plugs.
- 23. Check air suspension - pressure, operation and leakage.\*
- 24. Lubricate hinges, latches - fuel door, Tour-Pak, saddlebags.\*
- 25. Check ignition timing and vacuum hose.\*
- 26. Check engine idle speed adjustment.
- 27. Road test.

\*If applicable.

## 35,000 MILE MAINTENANCE

- 1. Change engine oil & oil filter.
- 2. Inspect air cleaner and service as required.
- 3. Clean tappet oil screen.\*
- 4. Change primary chaincase lubricant and clean magnetic drain plug. Check/adjust primary chain.
- 5. Check clutch adjustment.
- 6. Change transmission lubricant and clean the magnetic drain plug.
- 7. Check and adjust belt.
- 8. Lube the foot shift/brake lever bearings\* and speedometer cable.\*
- 9. Lubricate all Springer steering head bearings.
- 10. Inspect brake pads and discs for wear.
- 11. Check brake fluid reservoir levels and condition.
- 12. Inspect oil lines and brake system for leaks.
- 13. Lubricate the following: front brake hand lever, throttle control cables, throttle, clutch control cable and hand lever, jiffy stand.
- 14. Check, adjust operation of enricher.
- 15. Inspect fuel valve\*, lines and fittings for leaks.
- 16. Check tire pressure and inspect tread.
- 17. Check wheel spoke tightness.\*
- 18. Check front fork bearing adjustment.
- 19. Check operation of all electrical equipment and switches.
- 20. Check cruise control disengage switch & other components.\*
- 21. Check battery electrolyte level\* and clean battery connections.
- 22. Inspect spark plugs.
- 23. Check air suspension - pressure, operation and leakage.\*
- 24. Lubricate hinges, latches - fuel door, Tour-Pak, saddlebags.\*
- 25. Check ignition timing and vacuum hose.\*
- 26. Check engine idle speed adjustment.
- 27. Road test.

\*If applicable.

**37,500 MILE**

(60000 km)

**MAINTENANCE**

---

**Date**

---

**Mileage**

---

**Dealer (or other) Signature**

**OWNER RECORD**

**37,500 MILE**

(60000 km)

**MAINTENANCE**

You are authorized to perform the applicable maintenance and lubrication services listed on the back of this coupon. These services are to be performed at your regular rates and paid for by me, the owner. I also authorize you to road test this motorcycle for proper operation.

---

**Owner's Signature**

---

**VIN**

**Date** \_\_\_\_\_ **Mileage** \_\_\_\_\_

**DEALER RECORD**

## 37,500 MILE MAINTENANCE

- 1. Inspect engine oil.
- 2. Inspect rear belt.
- 3. Inspect transmission lubricant and clean magnetic drain plug.
- 4. Inspect brake pads and discs for wear.
- 5. Inspect fuel valve\*, lines and fittings for leaks.
- 6. Inspect tire pressure and inspect tread.
- 7. Inspect operation of throttle and enricher\* controls.
- 8. Inspect operation of all electrical equipment and switches.
- 9. Inspect battery fluid level\* and connections.
- 10. Inspect air cleaner and service as required.
- 11. Lubricate all Springer steering head bearings.
- 12. Inspect brake pads and discs for wear.
- 13. Road test.

\*If applicable.

## 37,500 MILE MAINTENANCE

- 1. Inspect engine oil.
- 2. Inspect rear belt.
- 3. Inspect transmission lubricant and clean magnetic drain plug.
- 4. Inspect brake pads and discs for wear.
- 5. Inspect fuel valve\*, lines and fittings for leaks.
- 6. Inspect tire pressure and inspect tread.
- 7. Inspect operation of throttle and enricher\* controls.
- 8. Inspect operation of all electrical equipment and switches.
- 9. Inspect battery fluid level\* and connections.
- 10. Inspect air cleaner and service as required.
- 11. Lubricate all Springer steering head bearings.
- 12. Inspect brake pads and discs for wear.
- 13. Road test.

\*If applicable.

**40,000 MILE**

(64000 km)

**MAINTENANCE**

---

**Date**

---

**Mileage**

---

**Dealer (or other) Signature**

**OWNER RECORD**

**40,000 MILE**

(64000 km)

**MAINTENANCE**

You are authorized to perform the applicable maintenance and lubrication services listed on the back of this coupon. These services are to be performed at your regular rates and paid for by me, the owner. I also authorize you to road test this motorcycle for proper operation.

---

**Owner's Signature**

---

**VIN**

**Date** \_\_\_\_\_ **Mileage** \_\_\_\_\_

**DEALER RECORD**

## 40,000 MILE MAINTENANCE

- 1. Change engine oil & oil filter.
- 2. Inspect air cleaner and service as required.
- 3. Clean tappet oil screen.\*
- 4. Change primary chaincase lubricant and clean magnetic drain plug. Check/adjust primary chain.
- 5. Check clutch adjustment.
- 6. Change transmission lubricant and clean the magnetic drain plug.
- 7. Check and adjust belt.
- 8. Lube the foot shift/brake lever bearings\* and speedometer cable.\*
- 9. Inspect brake pads and discs for wear.
- 10. Check brake fluid reservoir levels and condition.
- 11. Inspect oil lines and brake system for leaks.
- 12. Lubricate the following: front brake hand lever, throttle control cables, throttle, clutch control cable and hand lever, jiffy stand.
- 13. Lubricate and adjust steering head bearings (all models).
- 14. Check front fork bearing adjustment.
- 15. Check, adjust operation of enricher.\*
- 16. Inspect fuel valve\*, lines and fittings for leaks.
- 17. Check engine idle speed adjustment.
- 18. Check operation of all electrical equipment and switches.
- 19. Check cruise control disengage switch & other components.\*
- 20. Check battery electrolyte level\* and clean battery connections.
- 21. Change spark plugs.
- 22. Check tire pressure and inspect tread.
- 23. Check wheel spoke tightness.\*
- 24. Repack wheel bearings with grease.
- 25. Change front fork oil.\*
- 26. Repack rear fork bearings.\*
- 27. Adjust Springer rocker bearings.\*
- 28. Check air suspension - pressure, operation and leakage.\*
- 29. Check stabilizer links\* and engine mounts.
- 30. Check tightness of all critical fasteners: hand controls, brake system, axle nuts, front fork components, riser and handle bar fasteners.
- 31. Inspect Road King windshield bushings.
- 32. Lubricate hinges, latches - fuel door, Tour-Pak, saddlebags.\*
- 33. Check ignition timing and vacuum hose.\*
- 34. Road test.

\*If applicable

## 40,000 MILE MAINTENANCE

- 1. Change engine oil & oil filter.
- 2. Inspect air cleaner and service as required.
- 3. Clean tappet oil screen.\*
- 4. Change primary chaincase lubricant and clean magnetic drain plug. Check/adjust primary chain.
- 5. Check clutch adjustment.
- 6. Change transmission lubricant and clean the magnetic drain plug.
- 7. Check and adjust belt.
- 8. Lube the foot shift/brake lever bearings\* and speedometer cable.\*
- 9. Inspect brake pads and discs for wear.
- 10. Check brake fluid reservoir levels and condition.
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- 12. Lubricate the following: front brake hand lever, throttle control cables, throttle, clutch control cable and hand lever, jiffy stand.
- 13. Lubricate and adjust steering head bearings (all models).
- 14. Check front fork bearing adjustment.
- 15. Check, adjust operation of enricher.\*
- 16. Inspect fuel valve\*, lines and fittings for leaks.
- 17. Check engine idle speed adjustment.
- 18. Check operation of all electrical equipment and switches.
- 19. Check cruise control disengage switch & other components.\*
- 20. Check battery electrolyte level\* and clean battery connections.
- 21. Change spark plugs.
- 22. Check tire pressure and inspect tread.
- 23. Check wheel spoke tightness.\*
- 24. Repack wheel bearings with grease.
- 25. Change front fork oil.\*
- 26. Repack rear fork bearings.\*
- 27. Adjust Springer rocker bearings.\*
- 28. Check air suspension - pressure, operation and leakage.\*
- 29. Check stabilizer links\* and engine mounts.
- 30. Check tightness of all critical fasteners: hand controls, brake system, axle nuts, front fork components, riser and handle bar fasteners.
- 31. Inspect Road King windshield bushings.
- 32. Lubricate hinges, latches - fuel door, Tour-Pak, saddlebags.\*
- 33. Check ignition timing and vacuum hose.\*
- 34. Road test.

\*If applicable

**42,500 MILE**

(68000 km)

**MAINTENANCE**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Mileage**

\_\_\_\_\_  
**Dealer (or other) Signature**

**OWNER RECORD**

**42,500 MILE**

(68000 km)

**MAINTENANCE**

You are authorized to perform the applicable maintenance and lubrication services listed on the back of this coupon. These services are to be performed at your regular rates and paid for by me, the owner. I also authorize you to road test this motorcycle for proper operation.

\_\_\_\_\_  
**Owner's Signature**

\_\_\_\_\_  
**VIN**

**Date** \_\_\_\_\_ **Mileage** \_\_\_\_\_

**DEALER RECORD**

## 42,500 MILE MAINTENANCE

- 1. Inspect engine oil.
- 2. Inspect rear belt.
- 3. Inspect transmission lubricant and clean magnetic drain plug.
- 4. Inspect brake pads and discs for wear.
- 5. Inspect fuel valve\*, lines and fittings for leaks.
- 6. Inspect tire pressure and inspect tread.
- 7. Inspect operation of throttle and enricher\* controls.
- 8. Inspect operation of all electrical equipment and switches.
- 9. Inspect battery fluid level\* and connections.
- 10. Inspect air cleaner and service as required.
- 11. Lubricate all Springer steering head bearings.
- 12. Inspect brake pads and discs for wear.
- 13. Road test.

\*If applicable.

## 42,500 MILE MAINTENANCE

- 1. Inspect engine oil.
- 2. Inspect rear belt.
- 3. Inspect transmission lubricant and clean magnetic drain plug.
- 4. Inspect brake pads and discs for wear.
- 5. Inspect fuel valve\*, lines and fittings for leaks.
- 6. Inspect tire pressure and inspect tread.
- 7. Inspect operation of throttle and enricher\* controls.
- 8. Inspect operation of all electrical equipment and switches.
- 9. Inspect battery fluid level\* and connections.
- 10. Inspect air cleaner and service as required.
- 11. Lubricate all Springer steering head bearings.
- 12. Inspect brake pads and discs for wear.
- 13. Road test.

\*If applicable.



**45,000 MILE**

(72000 km)

**MAINTENANCE**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Mileage**

\_\_\_\_\_  
**Dealer (or other) Signature**

**OWNER RECORD**

**45,000 MILE**

(72000 km)

**MAINTENANCE**

You are authorized to perform the applicable maintenance and lubrication services listed on the back of this coupon. These services are to be performed at your regular rates and paid for by me, the owner. I also authorize you to road test this motorcycle for proper operation.

\_\_\_\_\_  
**Owner's Signature**

\_\_\_\_\_  
**VIN**

**Date** \_\_\_\_\_ **Mileage** \_\_\_\_\_

**DEALER RECORD**

## 45,000 MILE MAINTENANCE

- 1. Change engine oil & oil filter.
- 2. Inspect air cleaner and service as required.
- 3. Clean tappet oil screen.\*
- 4. Change primary chaincase lubricant and clean magnetic drain plug. Check/adjust primary chain.
- 5. Check clutch adjustment.
- 6. Change transmission lubricant and clean the magnetic drain plug.
- 7. Check and adjust belt.
- 8. Lube the foot shift/brake lever bearings\* and speedometer cable.\*
- 9. Lubricate all Springer steering head bearings.
- 10. Inspect brake pads and discs for wear.
- 11. Check brake fluid reservoir levels and condition.
- 12. Inspect oil lines and brake system for leaks.
- 13. Lubricate the following: front brake hand lever, throttle control cables, throttle, clutch control cable and hand lever, jiffy stand.
- 14. Check, adjust operation of enricher.
- 15. Inspect fuel valve\*, lines and fittings for leaks.
- 16. Check tire pressure and inspect tread.
- 17. Check wheel spoke tightness.\*
- 18. Check front fork bearing adjustment.
- 19. Check operation of all electrical equipment and switches.
- 20. Check cruise control disengage switch & other components.\*
- 21. Check battery electrolyte level\* and clean battery connections.
- 22. Inspect spark plugs.
- 23. Check air suspension - pressure, operation and leakage.\*
- 24. Lubricate hinges, latches - fuel door, Tour-Pak, saddlebags.\*
- 25. Check ignition timing and vacuum hose.\*
- 26. Check engine idle speed adjustment.
- 27. Road test.

\*If applicable.

## 45,000 MILE MAINTENANCE

- 1. Change engine oil & oil filter.
- 2. Inspect air cleaner and service as required.
- 3. Clean tappet oil screen.\*
- 4. Change primary chaincase lubricant and clean magnetic drain plug. Check/adjust primary chain.
- 5. Check clutch adjustment.
- 6. Change transmission lubricant and clean the magnetic drain plug.
- 7. Check and adjust belt.
- 8. Lube the foot shift/brake lever bearings\* and speedometer cable.\*
- 9. Lubricate all Springer steering head bearings.
- 10. Inspect brake pads and discs for wear.
- 11. Check brake fluid reservoir levels and condition.
- 12. Inspect oil lines and brake system for leaks.
- 13. Lubricate the following: front brake hand lever, throttle control cables, throttle, clutch control cable and hand lever, jiffy stand.
- 14. Check, adjust operation of enricher.
- 15. Inspect fuel valve\*, lines and fittings for leaks.
- 16. Check tire pressure and inspect tread.
- 17. Check wheel spoke tightness.\*
- 18. Check front fork bearing adjustment.
- 19. Check operation of all electrical equipment and switches.
- 20. Check cruise control disengage switch & other components.\*
- 21. Check battery electrolyte level\* and clean battery connections.
- 22. Inspect spark plugs.
- 23. Check air suspension - pressure, operation and leakage.\*
- 24. Lubricate hinges, latches - fuel door, Tour-Pak, saddlebags.\*
- 25. Check ignition timing and vacuum hose.\*
- 26. Check engine idle speed adjustment.
- 27. Road test.

\*If applicable.

**47,500 MILE**

(76000 km)

**MAINTENANCE**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Mileage**

\_\_\_\_\_  
**Dealer (or other) Signature**

**OWNER RECORD**

**47,500 MILE**

(76000 km)

**MAINTENANCE**

You are authorized to perform the applicable maintenance and lubrication services listed on the back of this coupon. These services are to be performed at your regular rates and paid for by me, the owner. I also authorize you to road test this motorcycle for proper operation.

\_\_\_\_\_  
**Owner's Signature**

\_\_\_\_\_  
**VIN**

**Date** \_\_\_\_\_ **Mileage** \_\_\_\_\_

**DEALER RECORD**

## 47,500 MILE MAINTENANCE

- 1. Inspect engine oil.
- 2. Inspect rear belt.
- 3. Inspect transmission lubricant and clean magnetic drain plug.
- 4. Inspect brake pads and discs for wear.
- 5. Inspect fuel valve\*, lines and fittings for leaks.
- 6. Inspect tire pressure and inspect tread.
- 7. Inspect operation of throttle and enricher\* controls.
- 8. Inspect operation of all electrical equipment and switches.
- 9. Inspect battery fluid level\* and connections.
- 10. Inspect air cleaner and service as required.
- 11. Lubricate all Springer steering head bearings.
- 12. Inspect brake pads and discs for wear.
- 13. Road test.

\*If applicable.

## 47,500 MILE MAINTENANCE

- 1. Inspect engine oil.
- 2. Inspect rear belt.
- 3. Inspect transmission lubricant and clean magnetic drain plug.
- 4. Inspect brake pads and discs for wear.
- 5. Inspect fuel valve\*, lines and fittings for leaks.
- 6. Inspect tire pressure and inspect tread.
- 7. Inspect operation of throttle and enricher\* controls.
- 8. Inspect operation of all electrical equipment and switches.
- 9. Inspect battery fluid level\* and connections.
- 10. Inspect air cleaner and service as required.
- 11. Lubricate all Springer steering head bearings.
- 12. Inspect brake pads and discs for wear.
- 13. Road test.

\*If applicable.

**50,000 MILE**

(80000 km)

**MAINTENANCE**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Mileage**

\_\_\_\_\_  
**Dealer (or other) Signature**

**OWNER RECORD**

**50,000 MILE**

(80000 km)

**MAINTENANCE**

You are authorized to perform the applicable maintenance and lubrication services listed on the back of this coupon. These services are to be performed at your regular rates and paid for by me, the owner. I also authorize you to road test this motorcycle for proper operation.

\_\_\_\_\_  
**Owner's Signature**

\_\_\_\_\_  
**VIN**

**Date** \_\_\_\_\_ **Mileage** \_\_\_\_\_

**DEALER RECORD**

## 50,000 MILE MAINTENANCE

- 1. Change engine oil & oil filter.
- 2. Inspect air cleaner and service as required.
- 3. Clean tappet oil screen.\*
- 4. Change primary chaincase lubricant and clean magnetic drain plug. Check/adjust primary chain.
- 5. Check clutch adjustment.
- 6. Change transmission lubricant and clean the magnetic drain plug.
- 7. Check and adjust belt.
- 8. Lube the foot shift/brake lever bearings\* and speedometer cable.\*
- 9. Inspect brake pads and discs for wear.
- 10. Check brake fluid reservoir levels and condition.
- 11. Inspect oil lines and brake system for leaks.
- 12. Lubricate the following: front brake hand lever, throttle control cables, throttle, clutch control cable and hand lever, jiffy stand.
- 13. Lubricate and adjust steering head bearings (all models).
- 14. Check front fork bearing adjustment.
- 15. Check, adjust operation of enricher.\*
- 16. Inspect fuel valve\*, lines and fittings for leaks.
- 17. Clean fuel tank filter screen (Carb. only).
- 18. Check operation of all electrical equipment and switches.
- 19. Check cruise control disengage switch & other components.\*
- 20. Check battery electrolyte level\* and clean battery connections.
- 21. Change spark plugs.
- 22. Check tire pressure and inspect tread.
- 23. Check wheel spoke tightness.\*
- 24. Repack wheel bearings with grease.
- 25. Change front fork oil.\*
- 26. Repack rear fork bearings.\*
- 27. Adjust Springer rocker bearings.\*
- 28. Check air suspension - pressure, operation and leakage.\*
- 29. Check stabilizer links\* and engine mounts.
- 30. Check tightness of all critical fasteners: hand controls, brake system, axle nuts, front fork components, riser and handle bar fasteners.
- 31. Inspect Road King windshield bushings.
- 32. Lubricate hinges, latches - fuel door, Tour-Pak, saddlebags.\*
- 33. Check ignition timing and vacuum hose.\*
- 34. Check engine idle speed adjustment.
- 35. Road test.

\*If applicable

## 50,000 MILE MAINTENANCE

- 1. Change engine oil & oil filter.
- 2. Inspect air cleaner and service as required.
- 3. Clean tappet oil screen.\*
- 4. Change primary chaincase lubricant and clean magnetic drain plug. Check/adjust primary chain.
- 5. Check clutch adjustment.
- 6. Change transmission lubricant and clean the magnetic drain plug.
- 7. Check and adjust belt.
- 8. Lube the foot shift/brake lever bearings\* and speedometer cable.\*
- 9. Inspect brake pads and discs for wear.
- 10. Check brake fluid reservoir levels and condition.
- 11. Inspect oil lines and brake system for leaks.
- 12. Lubricate the following: front brake hand lever, throttle control cables, throttle, clutch control cable and hand lever, jiffy stand.
- 13. Lubricate and adjust steering head bearings (all models).
- 14. Check front fork bearing adjustment.
- 15. Check, adjust operation of enricher.\*
- 16. Inspect fuel valve\*, lines and fittings for leaks.
- 17. Clean fuel tank filter screen (Carb. only).
- 18. Check operation of all electrical equipment and switches.
- 19. Check cruise control disengage switch & other components.\*
- 20. Check battery electrolyte level\* and clean battery connections.
- 21. Change spark plugs.
- 22. Check tire pressure and inspect tread.
- 23. Check wheel spoke tightness.\*
- 24. Repack wheel bearings with grease.
- 25. Change front fork oil.\*
- 26. Repack rear fork bearings.\*
- 27. Adjust Springer rocker bearings.\*
- 28. Check air suspension - pressure, operation and leakage.\*
- 29. Check stabilizer links\* and engine mounts.
- 30. Check tightness of all critical fasteners: hand controls, brake system, axle nuts, front fork components, riser and handle bar fasteners.
- 31. Inspect Road King windshield bushings.
- 32. Lubricate hinges, latches - fuel door, Tour-Pak, saddlebags.\*
- 33. Check ignition timing and vacuum hose.\*
- 34. Check engine idle speed adjustment.
- 35. Road test.

\*If applicable

## SERVICE LITERATURE

For more detailed and complete technical and parts information the following publications are available (Fall of 1998) through your Harley-Davidson dealer. Order by part numbers below.

	FLT	SOFTAIL	DYNA GLIDE	XLH
Publication.....	Part No.	Part No.	Part No.	Part No.
Service Manual.....	99483-99	99482-99	99481-99	99484-99
Parts Catalog.....	99456-99	99455-99	99439-99	99451-99
Wiring Diagrams & Electrical Troubleshooting Manual.....	99948-99	99948-99	99948-99	99948-99

### International Service Literature

**Publication:**

**Owner's Manual**

German.....	99463-99
French.....	99463-99
Italian.....	99463-99
Spanish.....	99463-99
Portuguese.....	99465-99P

*Contact your local Harley-Davidson dealer regarding International Service Manuals.*

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### **PATENT NOTICE**

Harley-Davidson products are manufactured under one or more of the following patents: 2986162, 2987934, 2998809, 3116089, 3144631, 3144860, 3226994, 3229792, 3434887, 3559773, 3673359, 3709317, Des. 225, 626

To the best knowledge of Harley-Davidson Motor Company, the material contained herein is accurate as of the date this publication was approved for printing. Harley-Davidson Motor Company, reserves the right to change specifications, equipment, or designs at any time without notice and without incurring obligation.

Harley-Davidson Motor Company



