



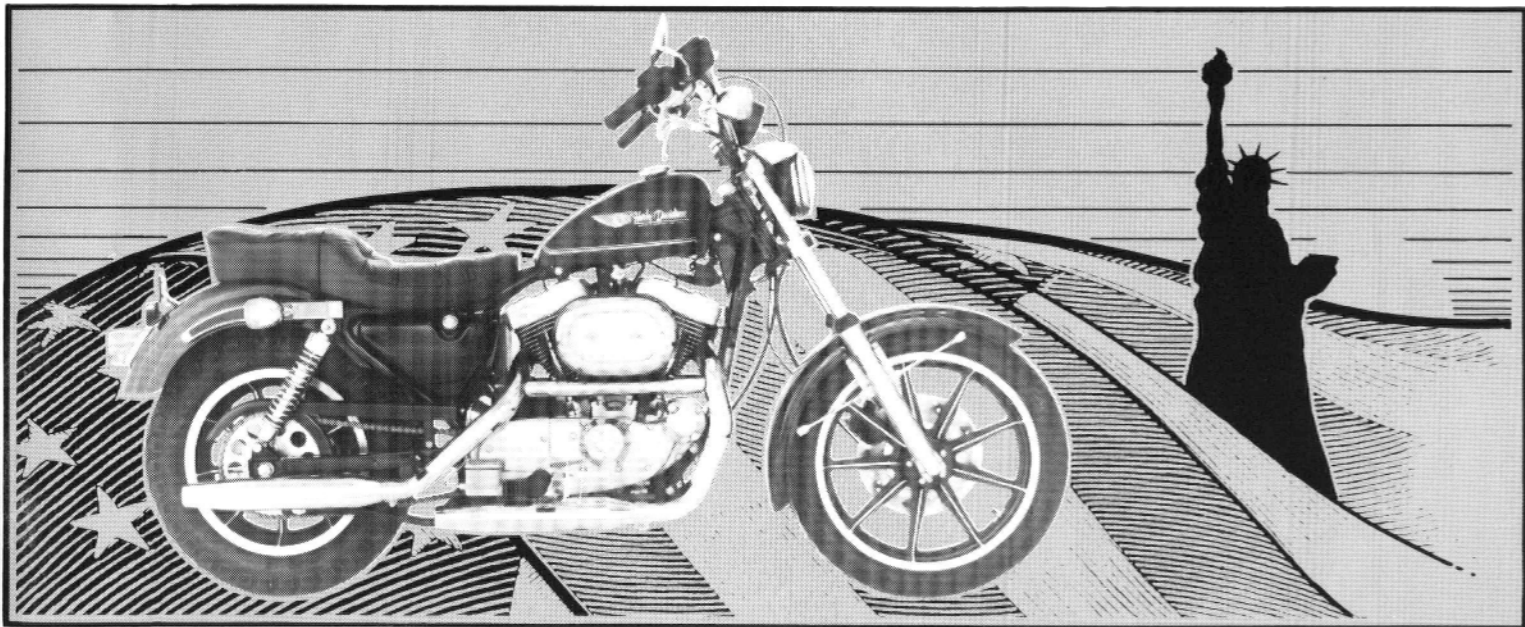
Harley-Davidson Motor Co., Inc.

# OWNER'S MANUAL

## XLH Models

1986

Part No. 99466-86



## **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.

# 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 Owner's Manual contains instructions for operation and maintenance. Minor repairs are covered in the Owner's Maintenance Guide and major repairs are covered in the Harley-Davidson Service Manual. Major repairs require the attention of a skilled mechanic 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.

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# 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 booklet that comes 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.
- Gasoline is extremely flammable and is explosive under certain conditions. Refuel in a well ventilated area with the engine turned off. 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.
- 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 training in correct motorcycle riding technique.
- 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. Should this happen, 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.
- Wear an approved helmet, clothing and footgear 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.
- Maintain your motorcycle in proper operating condition in accordance with the MAINTENANCE INTERVALS in this Owner's Manual. Particularly important to motorcycle stability is the 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.
- Regularly inspect shock absorbers and front forks. 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 bat-

tery 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.

## 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 and to the letter. 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, give 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 hauling additional weight. The following guidelines should be used when equipping a motorcycle and carrying passengers and cargo.

1. 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.
2. 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 on each saddlebag.
3. Luggage racks are designed for lightweight items — do not overload racks.
4. Be sure cargo is secure and will not shift while riding. Recheck load periodically.
5. Accessories that change the operator's riding position may increase reaction time and affect handling.
6. Additional electrical equipment may overload the motorcycle's electrical system and cause an unsafe operating condition.
7. 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.

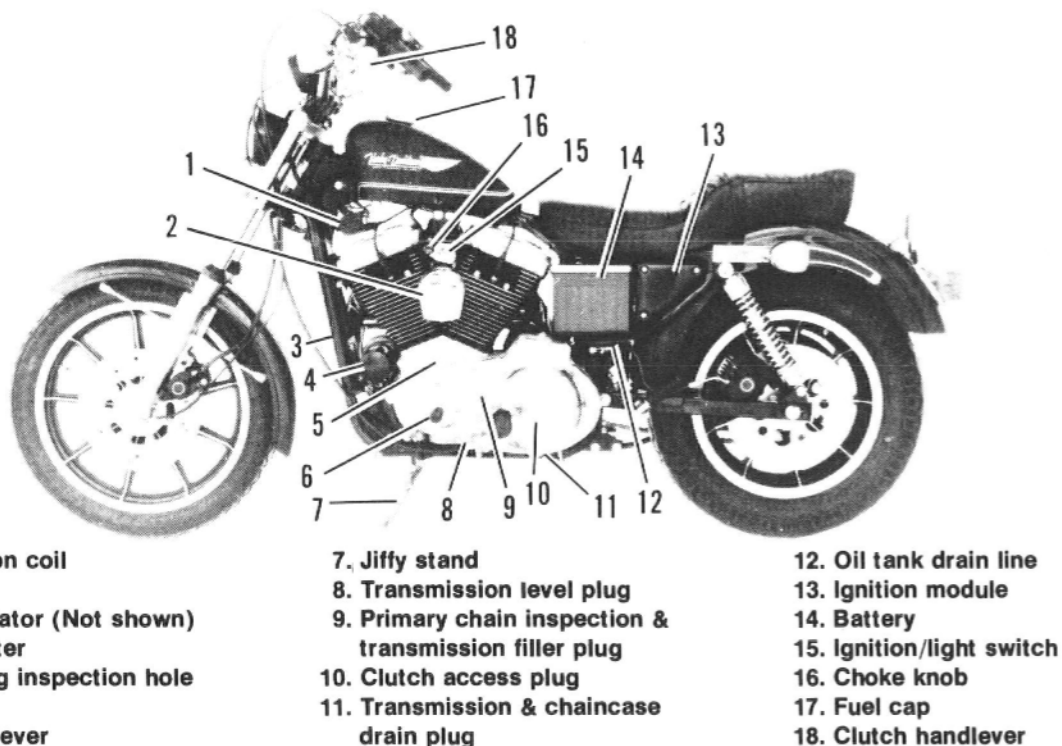
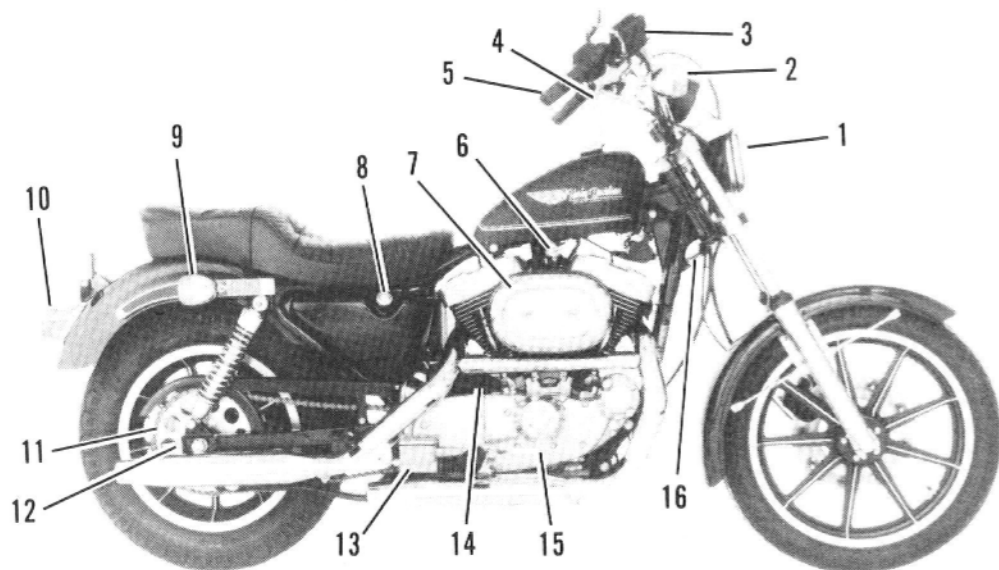


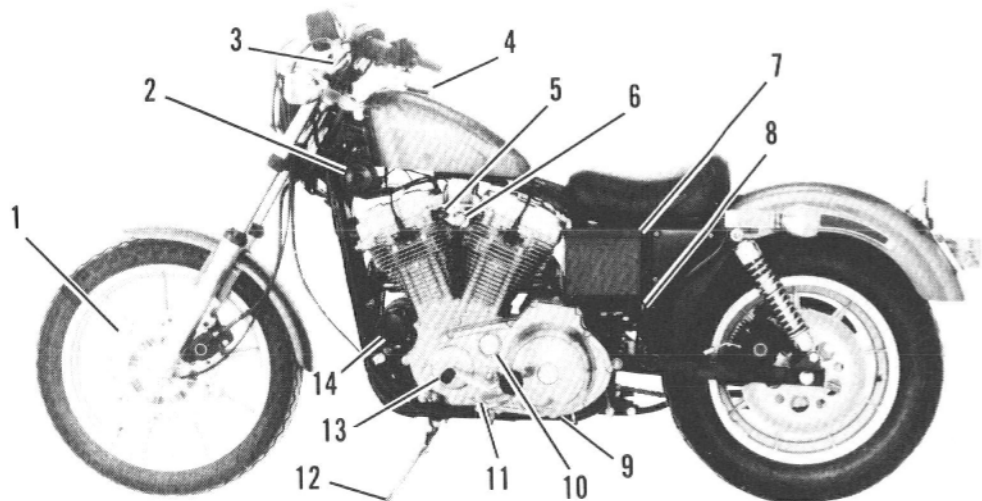
Figure 1. XLH 1100 Left Side View





- |                                |                                  |                                |
|--------------------------------|----------------------------------|--------------------------------|
| 1. Headlamp                    | 7. Carburetor air cleaner        | 13. Rear brake master cylinder |
| 2. Front turn signal lamp      | 8. Oil tank fill plug & dipstick | 14. Electric starter motor     |
| 3. Front brake master cylinder | 9. Rear turn signal lamp         | 15. Rear brake pedal           |
| 4. Front brake handlever       | 10. Tail/stop lamp               | 16. Steering lock              |
| 5. Throttle control grip       | 11. Rear sprocket & drive chain  |                                |
| 6. Fuel supply valve           | 12. Rear chain adjuster          |                                |

Figure 2. XLH 1100 Right Side View



- 1. Front brake disc
- 2. Horn
- 3. Clutch handlever
- 4. Fuel cap
- 5. Choke knob
- 6. Ignition/light switch

- 7. Battery
- 8. Oil tank drain
- 9. Transmission and chaincase drain plug
- 10. Transmission and primary chain filler plug

- 11. Transmission level plug
- 12. Jiffy stand
- 13. Gear shifter
- 14. Oil filter

Figure 3. XLH 883 Left Side View

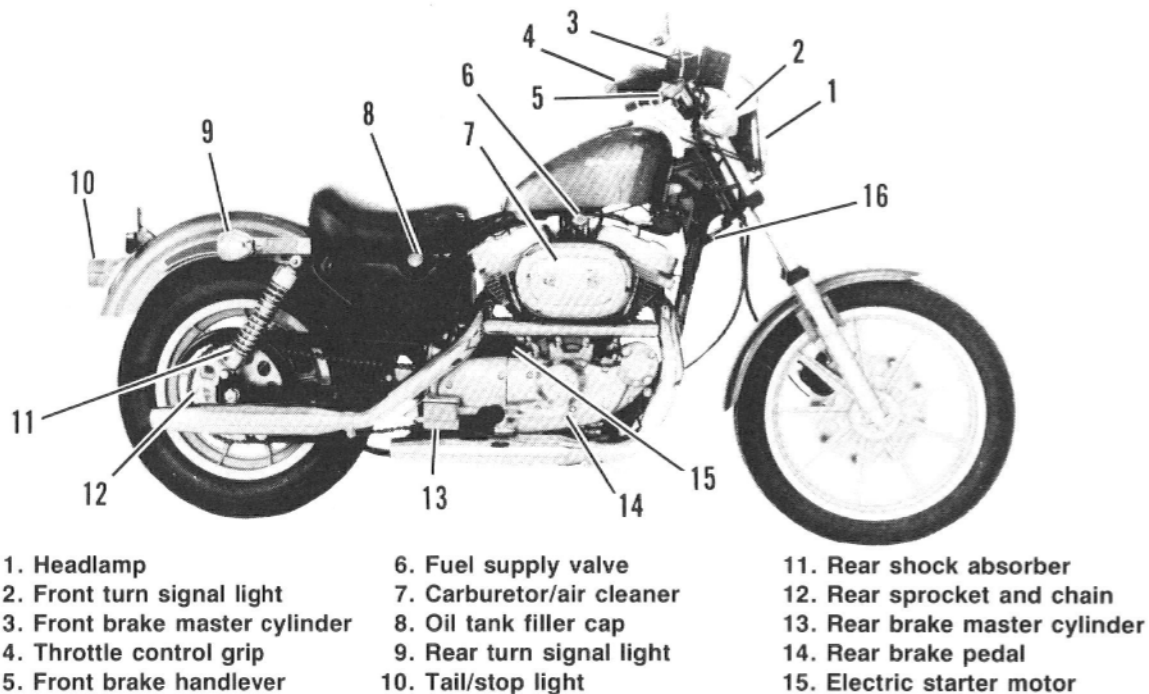


Figure 4. XLH 883 Right Side View

# NOTES

## IGNITION/LIGHT KEY SWITCH

See Figure 5. Electrical circuits are controlled by a key operated switch located below fuel tank on left side of motorcycle. From OFF vertical position, there are two positions to the right for ignition and lights. Both ignition and lights operate in either the two positions, as required by law in some localities.

Key can lock ignition and only be removed when switch is in OFF position. To protect yourself, always remove key when motorcycle is left unattended. Make a record of key number so it can be replaced in case of loss.

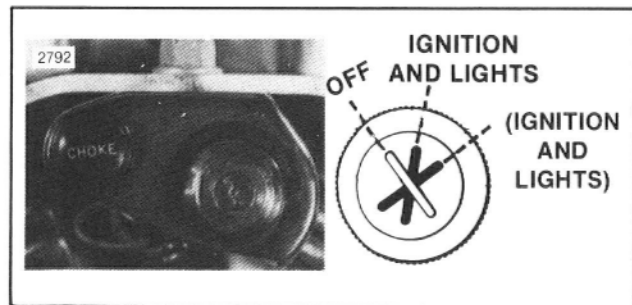


Figure 5. Ignition-Light Switch and Choke

## ELECTRIC STARTER

See Figure 7. The starter switch (4) is located on the right handlebar controls. With ignition on, engine stop switch (5) in RUN position and transmission in neutral, push START switch to operate starting motor.

## ENGINE STOP SWITCH

See Figure 7. Rocker switch (5) is located on the right handlebar controls. 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.

Switch must be in RUN position to operate engine.

## THROTTLE CONTROL GRIP

See Figure 7. The throttle control grip (9) is located on the right handlebar controls. 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. Turn the knob (11) outward so throttle returns to idle position when hand is removed from throttle grip. Turn the knob inward to increase friction on grip as desired 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.**

## CHOKE

See Figure 5. The carburetor choke knob is located below the fuel tank on the left side of motorcycle.

See Figure 6. The choke system is composed of a choke valve and a fast idle cam. The fast idle cam increases engine speed as the choke knob is pulled out. By moving the choke knob, the choke valve and high idle can be adjusted for a cold or warm engine.

The choke knob has four positions. In the first position, choke knob all the way in, the choke plate is fully open and the engine operates at low idle speed.

When the choke knob is pulled out to the second position, the choke plate is fully open and the fast idle cam moves the throttle valve to the high idle position.

In the third position, the choke plate is half open and the throttle plate opens more.

With the choke knob all the way out, the choke plate is fully closed for cold engine starting.

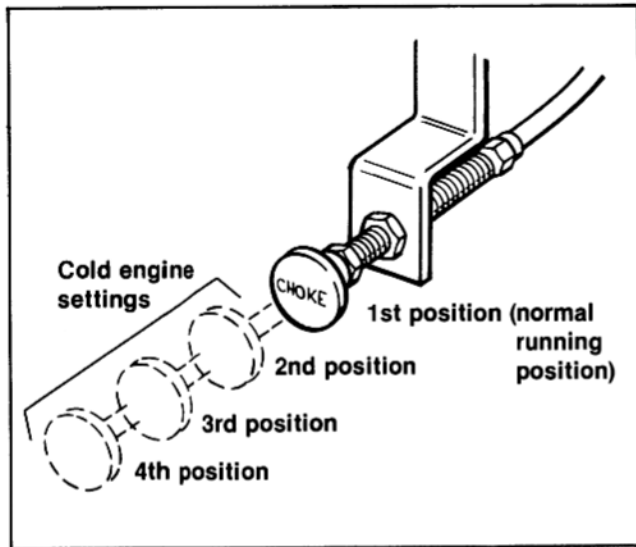


Figure 6. Setting the Choke

## CLUTCH HAND LEVER

### WARNING

Be sure fingers are not positioned between hand control levers and handlebar grips or operation of vehicle could be impaired.

See Figure 7. The clutch hand lever (7) is located on the left handlebar where it may be operated easily 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.

## SHIFTING GEARS

See Figure 7. To start moving with motorcycle upright and engine idling, pull the clutch lever (7) to fully disengage clutch. See Figure 8. 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 and lift the gear shifter pedal up to the end of its travel. Engage the clutch and operate the throttle

gradually. Repeat the same operation to engage third and fourth gears.

For correct operation of your motorcycle under average conditions, the following shifting points are recommended:

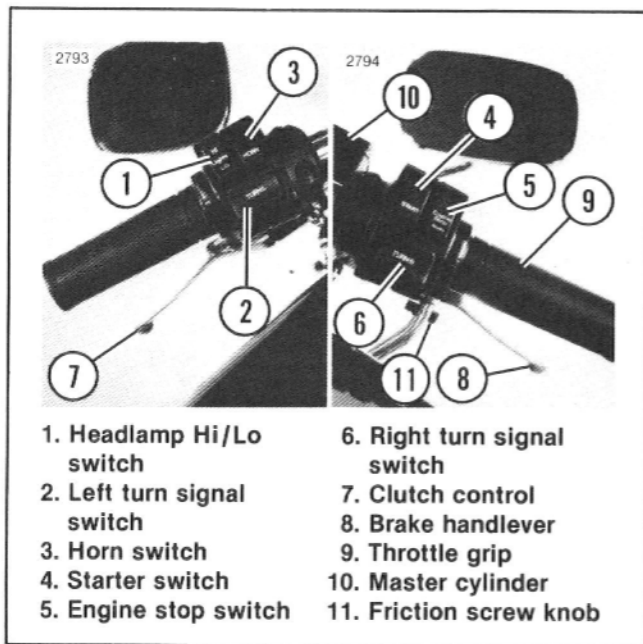


Figure 7. Handlebar Controls

Gear Change	Speed
Acceleration (Upshift)	
First to Second	15 mph (25 km/h)
Second to Third	25 mph (40 km/h)
Third to Fourth	40 mph (65 km/h)
Deceleration (Downshift)	
Fourth to Third	30 mph (50 km/h) or less
Third to Second	20 mph (30 km/h) or less
Second to First	10 mph (15 km/h) or less

To shift to lower gears, reverse the movement of the gear shifter pedal, disengaging the clutch completely before each gear change and only partially closing the throttle so that the engine will not drag when clutch is again engaged. Keep in mind that by lifting the gear shifter lever up, a high gear is engaged; by pushing the gear shifter lever down, a lower gear is engaged. When stopping, operate gear shift until neutral is reached. Note that neutral is 1/2 stroke up from first gear or 1/2 stroke down from second gear.

#### CAUTION

Do not shift gears without fully disengaging the clutch.

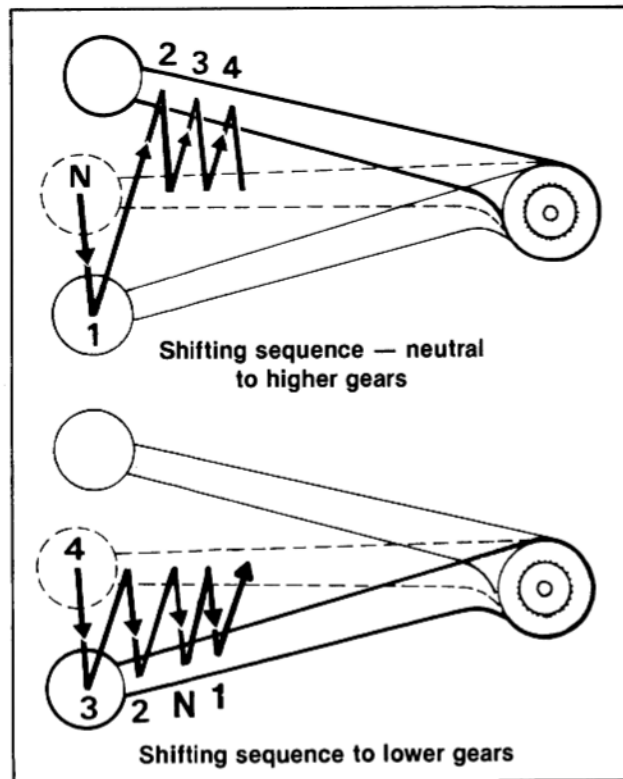


Figure 8. Shifting Sequence



## 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.

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 that the engine accelerates as soon as the clutch lever is pulled.

See Gear Shifter in the OPERATION switch.

## BRAKES

See Figure 9. The brake pedal controls the rear wheel brake and is located on the right side where it is operated by the right foot. See Figure 7. The brake hand lever (8) controls the front wheel brake and is located on

the right handlebar, where it is operated by the fingers of the right hand.

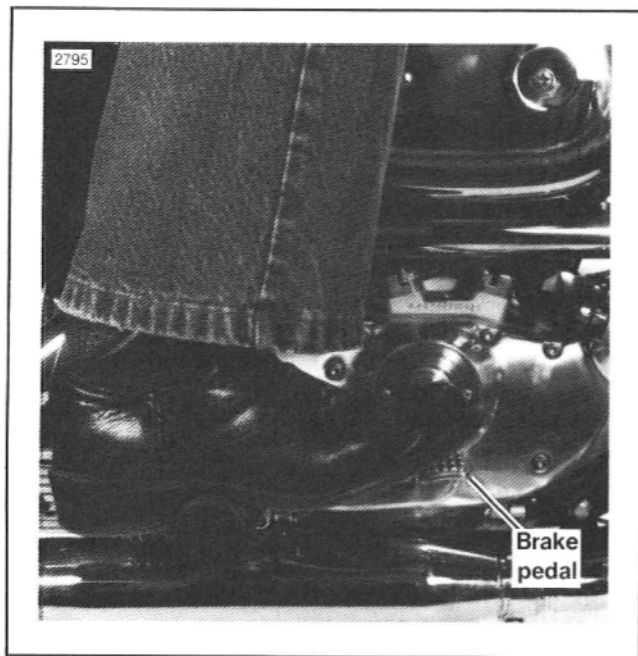


Figure 9. Brake Pedal

Brakes should be applied uniformly and gradually to prevent wheels from locking. A balance between rear and front braking is generally best. Begin braking with the rear brake and then apply the front brake lightly as more braking force is needed.

#### **WARNING**

**Do not apply either brake strongly enough to lock the wheel. This may cause the wheel to skid with possible loss of control of the motorcycle.**

## **TURN SIGNAL SWITCHES**

See Figure 7. The turn signal switch (6) operates the right front and right rear flashing lamps. The turn signal switch (2) operates the left front and left rear flashing lamps. Front turn signal lamps also function as running lights.

Turn signal switches are detented. Press switch in, past detent and it will stay in (turn signal will flash) until you press the switch again to release it. To make a lane change, press switch in, but not past detent. Release switch when lane change is complete.

#### **WARNING**

**The new turn signal lamp switches may be “locked” in the ON position. The rocker switch must be released by pressing again to turn off or cancel the turn signal**

**lamps. Make certain you cancel turn signal lamps after completing a turn. Failure to cancel the turn signal lamp before executing another turn could cause you to eliminate your intended signal. Having the wrong signal lamp flashing, or both right and left flashing, could confuse other motorists and could cause an accident.**

## **HEADLAMP DIMMER SWITCH**

See Figure 7. The headlamp dimmer switch (1) on the left handlebar controls the headlamp high and low beams.

#### *NOTE*

*See Figures 10, 11. BEAM indicator light remains lit when high beam is on.*

## **INDICATOR LIGHTS**

See Figures 10, 11. Four indicator lights are located on the instrument panel which is attached to the upper handlebar clamp. The red OIL (oil pressure) indicator light, when on, signals that oil is not circulating through the engine. During proper operation, light is off. The blue BEAM indicator light, when on, signals that the high beam headlamp filament is operating. The headlamp dimmer switch on the left handlebar controls the headlamp high and low beams. The green NEUTRAL

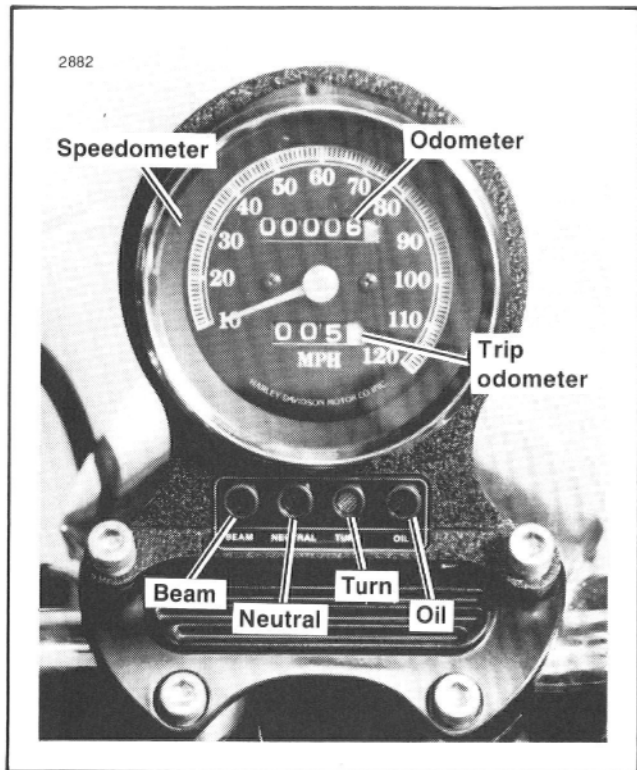


Figure 10. Indicator Lights and Speedometer/Odometer  
— XLH 883

light turns on to indicate when transmission is in neutral. The yellow TURN indicator will flash when turn signals are activated.

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 approximately 1000 rpm.

If the oil pressure indicator light fails to go off at speeds above idling, it is usually due to an empty oil tank or to diluted oil. In freezing weather the oil feed may clog with ice and sludge, thus preventing circulation of the oil. A grounded oil signal switch wire, faulty signal switch, damaged or improperly installed check valve and/or trouble with the oil pump will also cause the light to remain illuminated.

#### 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 drive further until the trouble is located and the necessary repairs are made.

## TACHOMETER

See Figure 11. The tachometer registers the engine speed in revolutions per minute (rpm).

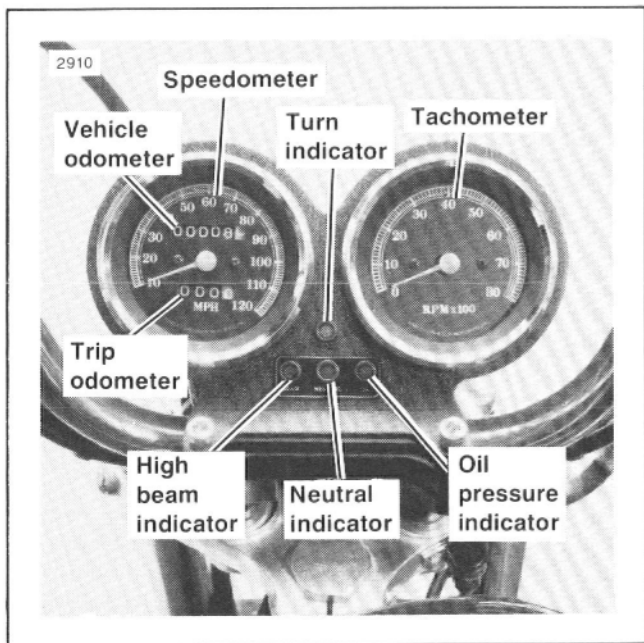


Figure 11. Indicator Lights, Speedometer and Tachometer - XLH 1100

### CAUTION

Do not operate the engine at rpm in the red zone.

Lower the rpm by upshifting to a higher gear or reducing the amount of throttle feed.

## SPEEDOMETER/ODOMETER

See Figures 10, 11. 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.

### CAUTION

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

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

## MIRROR

Adjust the mirror(s) to clearly reflect the area behind the motorcycle.

#### NOTE

*Adjust mirror(s) 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 vehicle.*

## HORN

See Figure 7. The horn is operated by the horn switch (3) on the left handlebar control.

## JIFFY STAND

See Figure 12. 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.

#### WARNING

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.

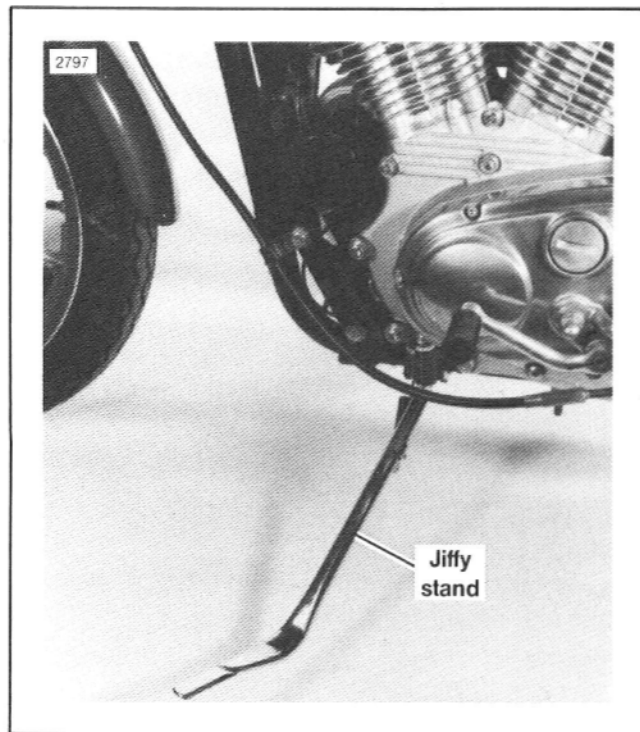


Figure 12. Jiffy Stand

## STEERING LOCK

See Figure 13. The steering 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. Use of the padlock will discourage unauthorized use or theft when parking your motorcycle.

## FUEL SUPPLY VALVE

See Figure 14. The fuel supply valve is located under the fuel tank. Fuel supply to carburetor is shut off when handle is in horizontal position. Turning the handle down to vertical position turns on main fuel supply; turning handle up to vertical position turns on reserve supply.

### WARNING

**Valve should always be closed when engine is not running to prevent accidentally flooding engine or surroundings with gasoline.**



Figure 13. Steering Lock

## NOTE

To always maintain a reserve supply, do not operate the

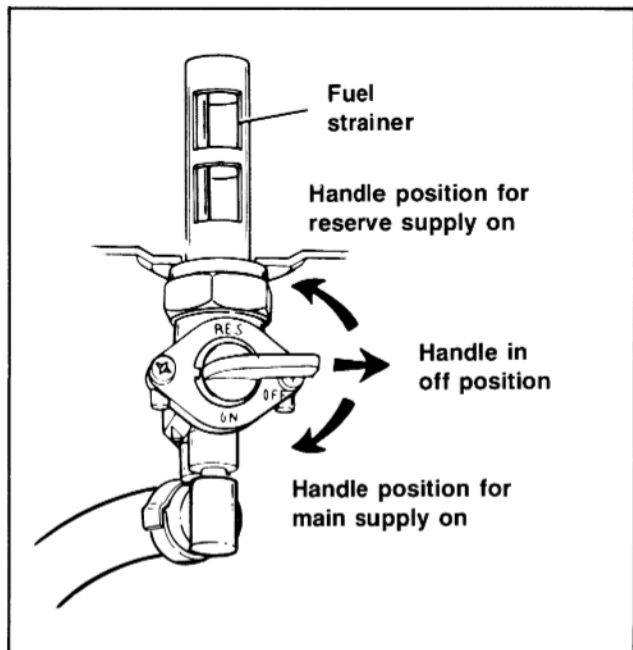


Figure 14. Fuel Supply Valve

motorcycle with the valve in the reserve (RES) position after refueling.

## FUEL FILLER CAP

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.

### WARNING

Fill fuel tank slowly to prevent fuel spillage. 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 fuel through the filler cap vent onto surrounding areas. After refueling, make sure filler cap is securely tightened.

### WARNING

Do not use decorative “spinner” or “bullet” type fuel cap covers, which may possibly cause loosening of the cap from the tank upon impact.

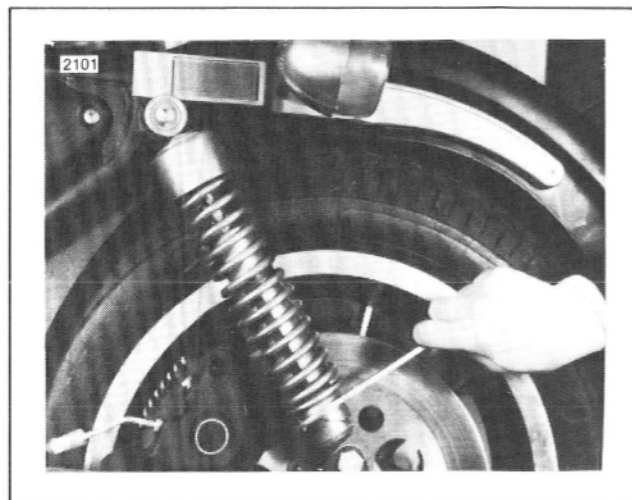
## REAR SHOCK ABSORBER SPRING ADJUSTMENT

See Figure 15. The rear shock absorber springs can be adjusted for the weight the motorcycle is to carry. The shock absorbers have three positions. The average weight solo rider might use the extended spring position (off cam or first cam step). A heavy solo rider might require the position with springs slightly compressed (second cam step); buddy seat riders require the fully compressed spring position (third cam step).

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

### WARNING

**Both cushion spring adjusting cams must be adjusted to the same position.**



**Figure 15. Shock Adjustment**

When returning to off-cam position, cams should be backed off in opposite direction. A spanner wrench for this purpose is available from your Harley-Davidson dealer.



# OPERATING RECOMMENDATIONS

## CAUTION

Do not run the engine at extremely high RPM with clutch disengaged or transmission in neutral. Do not exceed 6000 rpm under any conditions. Do not exceed maximum recommended safe engine speed. Do not idle the engine unnecessarily for more than a few minutes with motorcycle standing still.

An engine run long distances at high speed must be given closer than ordinary attention to avoid overheating and possible consequent damage. Have the engine checked regularly and keep it well tuned. Valve seating and good compression is particularly important. This applies particularly to a motorcycle equipped with windshield and splash shields or lap apron.

## WARNING

**Resting your feet on the highway footrests alters the air flow to the rear cylinder head. When ambient temper-**

**ature exceeds 95° F. it is possible that the rear cylinder head temperature will exceed the 500° F. critical point. Continued operation will result in engine damage.**

## 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.**

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 brakes which may cause overheating of the brakes and reduced 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 without removing the drive chain.

## 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 driving 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.
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.

## PRE-RIDING CHECK LIST

### NOTE

*Read sections on CONTROLS AND INDICATORS before riding your motorcycle.*

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

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

### WARNING

**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 over-filled tank to overflow fuel through the filler cap vent to surrounding areas. After refueling, be sure filler cap is securely tightened.**

2. Check oil tank oil level. See Figure 19 in 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 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 chain adjustment and lubrication. Service as necessary.
9. Check to be sure all fasteners are tight, except head bolts.

## STARTING THE ENGINE

### WARNING

**Before starting engine, always shift transmission to neutral to prevent accidental movement which could cause possible damage to motorcycle and/or personal injury.**

Use recommended oil for expected temperatures. See engine lubrication chart in the MAINTENANCE AND LUBRICATION Section.

### WARNING

**Never accelerate the engine above 2000 rpm after a cold start. The engine should be allowed to run slowly for a few minutes during warm weather and for a longer time in cold weather. This will allow the engine to warm up and let oil reach all surfaces needing lubrication.**

See Figure 6. The carburetor choke control knob is located under the fuel tank on the left side of the motorcycle.

To start a cool engine at temperatures above 50°F, open throttle twice, then fully release. Pull choke knob to first detent (fast idle) position (above 65°F, fast idle may not be required). Turn the ignition switch on and press starter switch to operate the electric starter.

To start a cold engine at temperatures below 50°F, open throttle twice, then fully release. Pull the choke knob outward to the fully closed (choke) position; turn the ignition switch on and press starter switch to operate the electric starter.

#### NOTE

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

See Figure 6. As soon as engine starts, open choke to fast idle position (2nd detent).

To start a warm or hot engine, set throttle 1/4 open, turn on ignition switch and operate the electric starter. (DO NOT USE CHOKE.)

#### 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, open choke all the way, turn ignition on and operate starter with choke and throttle wide open.*

## STOPPING THE ENGINE

See Figure 7. Stop the engine by turning off the engine stop switch (5) 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.

## GEAR SHIFTER

See Figure 16. The gear shifter is located on left side, where it may be operated conveniently with the toe of the left foot. 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

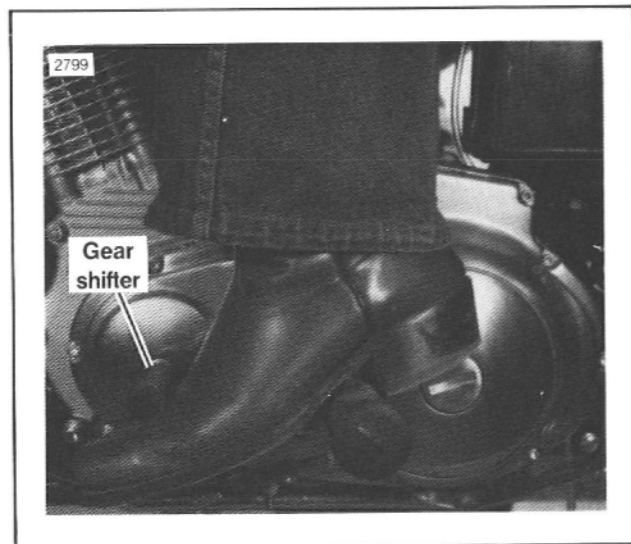


Figure 16. Gear Shifter

the next higher gear. The operator must release 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. The shift to neutral can also be made from second gear by pushing lever downward one-half stroke.

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 CONTROLS AND INDICATORS section.

# 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. Chains for proper tension. Rear chain lubrication.
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. Headlight, taillight and directional light operation.

## 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 driven its first 500 miles the motorcycle should be taken to the dealer from whom it was purchased for initial service operations with which the dealer is familiar. If it is impossible to take the motorcycle to a dealer at the mileage intervals mentioned, the owner should at least give the following outlined attention, or arrange to have it given, 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 or any other qualified service outlet or individual.

### 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.**

### 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.**

## CHECK AT FIRST 500 MILES

1. Drain oil tank through drain plug and refill with fresh oil.
2. Replace oil filter.
3. Drain primary chaincase and transmission through magnetic drain plug. Clean plug, and refill with fresh lubricant.
4. Check and adjust chains.
5. Check rear wheel alignment.
6. Check battery electrolyte level and add distilled water if necessary.
7. Check rear brake pedal adjustment.
8. Inspect brake fluid level and condition. Check hydraulic brake lines and fittings for leaks.
9. Check brake pad linings and discs for wear.
10. Check clutch adjustment.
11. Clean fuel tank filter screen.
12. Check fuel valve, lines and fittings for leaks.
13. Check oil lines for leaks.
14. Lubricate rear chain if necessary.
15. Lubricate all points indicated for 5000 miles attention in the REGULAR MAINTENANCE INTERVAL chart.
16. Check front fork bearing adjustment.
17. Check tightness of all fasteners, except head bolts.
18. Check wheel spoke tightness, if applicable.
19. Check tire pressure and inspect tread.

20. Inspect and service air cleaner.
21. Check engine low and high idle speed adjustment.
22. Check throttle and choke control adjustment.
23. Check operation of all electrical equipment and switches.
24. Road test.

## REGULAR MAINTENANCE INTERVALS

Regular lubrication and maintenance will help you keep your new Harley-Davidson operating at peak performance, and will give you lower operating costs, longer motorcycle life, and greater riding pleasure. Your Harley-Davidson dealer knows best how to service your motorcycle with factory approved methods and equipment assuring you of thorough and competent workmanship for every job. See the following pages for a REGULAR MAINTENANCE INTERVALS chart.

### NOTE

*The performance of regular service operations is 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. Also, any alterations to the emission system components, such as the carburetor and exhaust system, may be in violation of Federal and State laws.*



## Regular Maintenance Intervals — XLH Models

ODOMETER READING (miles)	Pre-ride	500	2,500	5,000	7,500	10,000	12,500	15,000	17,500	20,000	22,500	25,000	27,500	30,000	32,500	35,000	37,500	40,000	42,500	45,000	47,500	50,000	Spring & Fall
		SERVICE OPERATIONS																					
Engine oil (see chart code below)*	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R	
Oil filter		R		R		R		R		R		R		R		R		R		R		R	
Air cleaner		IL		IL		IL		IL		R		IL		IL		IL		R		IL		IL	
Primary chain		I		I		I		I		I		I		I		I		I		I		I	
Rear chain**	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Primary chaincase lubricant, clean magnetic drain plug		R		R		R		R		R		R		R		R		R		R		R	
Battery fluid level, connections		I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Rear brake pedal height adjustment and free play		I		I		I		I		I		I		I		I		I		I		I	
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	I
Brake fluid level and condition		I		I		I		R		I		I		R		I		I		R		I	I
Clutch adjustment		A		A		A		A		A		A		A		A		A		A		A	
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	I
Front brake handle, throttle control cables, choke control cable, clutch control cable and handle		L		L		L		L		L		L		L		L		L		L		L	
All fasteners except head bolts		T		T		T		T		T		T		T		T		T		T		T	
Tire pressure and inspect tire for wear/damage	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I

\*Also perform prior to storage, or annually.

\*\*Lubricate every 300 miles.

### Chart Code:

I — Inspect, and if necessary correct, clean or replace.

A — Adjust.

R — Replace or change.

T — Tighten to proper torque.

L — Lubricate with lubricant specified in Owner's Manual.

X — Perform.

### Regular Maintenance Intervals — XLH Models (Cont'd)

ODOMETER READING (miles)	Pre-ride	500	2,500	5,000	7,500	10,000	12,500	15,000	17,500	20,000	22,500	25,000	27,500	30,000	32,500	35,000	37,500	40,000	42,500	45,000	47,500	50,000	Spring & Fall
SERVICE OPERATIONS																							
Engine low and fast idle speed adjustment	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	
Operation of throttle and choke controls	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	
Operation of all electrical equipment and switches	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	
Ignition timing and vacuum operated electric switch (V.O.E.S.)		I		I		I		I		I		I		I		I		I		I		I	
Spark plugs				I		R		I		R		I		R		I		R		I		R	
Transmission lubricant*		R	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R	
Rear fork pivot nut and engine mounts		I		I		I		I		I		I		I		I		I		I		I	
Rear fork bearing*		L		L		L		L		L		L		L		L		L		L		L	
Front fork bearing adjustment		I		I		IL		I		IL		I		IL		I		IL		I		IL	
Condition of rear shock absorber		I		I		I		I		R		I		I		I		R		I		I	
Throttle control grip sleeve, speedometer cable				L		L		L		L		L		L		L		L		L		L	
Rear brake linkage grease fittings (2)				I		L		I		L		I		L		I		L		I		L	
Swing arm bearings		L		L		L		L		L		L		L		L		L		L		L	
Condition of rear brake caliper mounting pins and boots				IL		IL		IL		IL		IL		IL		IL		IL		IL		IL	
Wheel bearings*						IL				IL				IL				IL				IL	
Front fork oil		R				R				R				R				R				R	
Road test		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

\*Also perform prior to storage, or annually.

**Chart Code:**

- I — Inspect, and if necessary correct, clean or replace.
- A — Adjust.
- R — Replace or change.

- T — Tighten to proper torque.
- L — Lubricate with lubricant specified in Owner's Manual.
- X — Perform.

## ENGINE LUBRICATION

Engine oil is a major factor in the performance and service life of the engine. Use the proper grade of oil for the lowest temperature expected before the next oil change. Refer to the chart below. Your Harley-Davidson dealer has the proper grade oil to suit your requirements.

Air Temperature (Cold Engine Starting Conditions)	Use Harley-Davidson Oil Grade
10° to 100°F. plus normal & severe operating conditions	Power Blend Super Premium
Below 40°F. Above 40°F. Above 60°F. Severe operating conditions at air temperatures above 80° F.	Special Light Medium Heavy Regular Heavy Extra Heavy Grade 60

Use Harley-Davidson POWER BLEND SUPER PREMIUM OIL for normal and severe usage in air temperatures between 10°F and 100°F. For other conditions, or if POWER BLEND SUPER PREMIUM is not available, use oils as shown in the chart at left.

## CHECK OIL LEVEL

See Figures 17, 18 and 19. Engine oil level should be

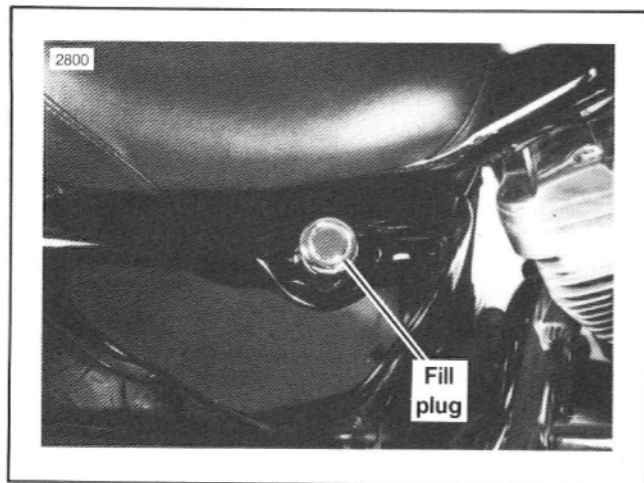
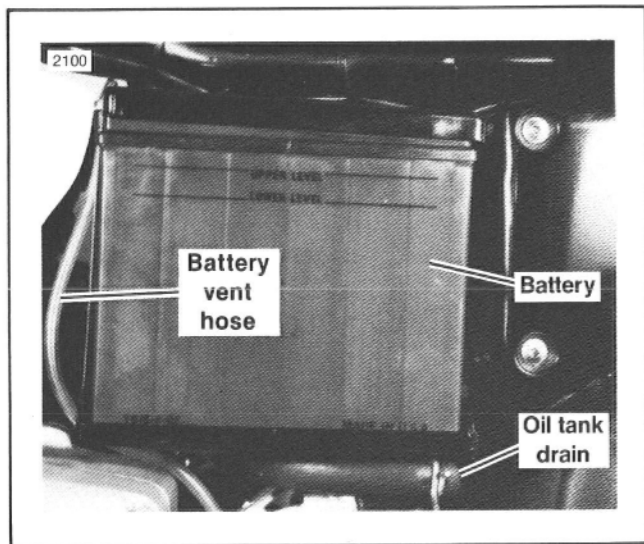


Figure 17. Oil Tank Fill Plug

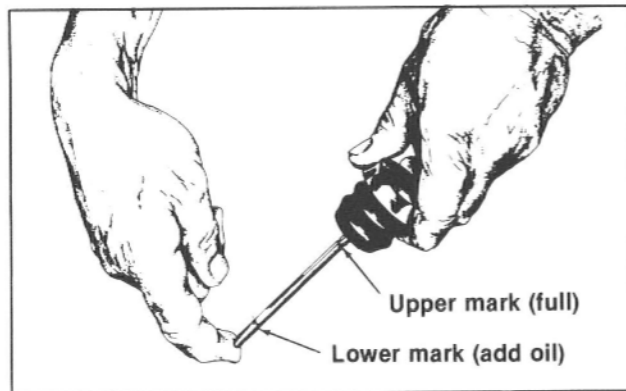


**Figure 18. Oil Drain Hose/Battery**

checked only when engine is at normal operating temperature. Naturally, the engine will require a longer warm up period in colder weather. Preferably, the motorcycle should be driven to assure oil is hot and normal operating oil pressure is achieved. When the above conditions are met, turn the engine off. Position motorcycle STRAIGHT UP and completely level. Locate the oil tank

fill plug on the right side of the motorcycle. It is a friction fit in the filler neck. Remove it by pulling straight out with a rocking or twisting motion. The plug has a dipstick attached to indicate oil level in the tank.

Wipe off dipstick and insert into tank with plug pushed completely into filler neck. Remove and note oil level. See Figure 19. If oil level is down to or below lower mark on dipstick add only enough oil to bring level to upper mark on dipstick. Do not fill above upper mark on dipstick.



**Figure 19. Oil Level Dipstick**

### CAUTION

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

### CAUTION

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

Oil mileage normally should be at least 1500 miles per quart. Mileage will depend on nature of service, fast or moderate driving, and how well tuned an engine is kept. A new engine may use more oil until the piston rings are fully seated. After the break-in period, if mileage is not within this range, see your Harley-Davidson Dealer.

Remove oil tank fill plug and **CHECK OIL SUPPLY WHENEVER REFUELING** motorcycle.

Oil should be changed after the first 500 miles for a new engine, and thereafter annually or 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 fill with fresh oil. If service is extremely hard or on dusty roads, drain and fill at shorter intervals.

Drain oil after a ride while oil is hot. It is not necessary to drain the crankcase as it does not accumulate used oil.

At the time of the first 500 mile oil change, and at least every second oil change thereafter, thoroughly flush and clean out tank to remove any sediment and sludge that may have accumulated. Your dealer has facilities for quick flushing and cleaning of oil tank. Replace the oil filter every time the oil is changed.

Additional information is contained in the **OWNER'S MAINTENANCE GUIDE**, available through your Harley-Davidson dealer.

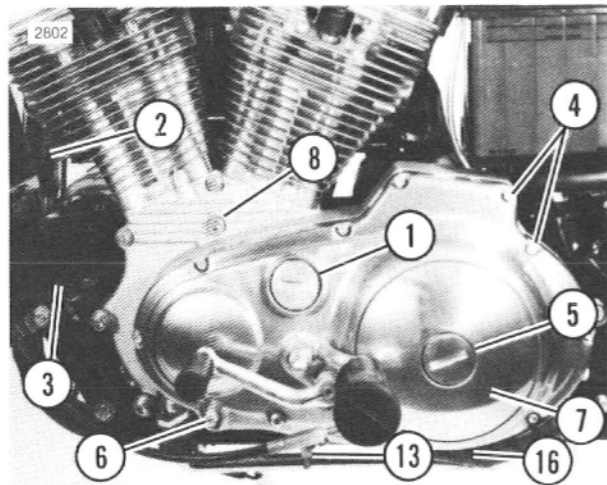
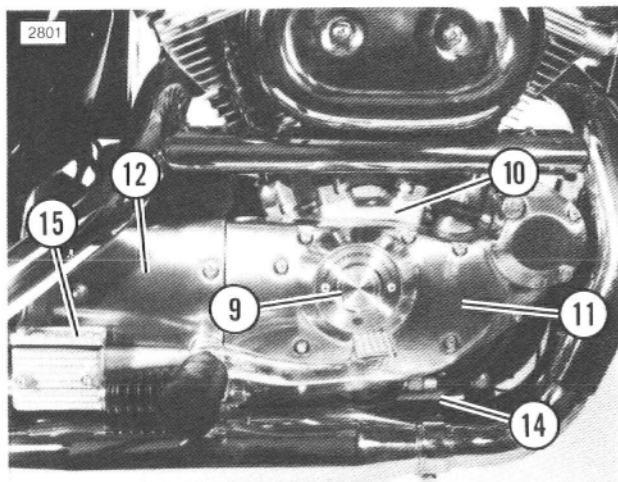
## OIL FILTER

See Figure 20. Completely drain oil tank before removing oil filter (3). Clean filter gasket contact surface on mounting plate. Surface should be smooth and free of any debris. Apply a thin film of oil to gasket contact surface on mounting plate and to gasket on new oil filter.

Pour approximately four ounces of engine oil into filter. Screw filter onto adapter until gasket contacts plate surface. Hand tighten another 1/4 to 1/2 of a turn.

### CAUTION

**Do not overtighten. Overtightening will cause leakage at the gasket surface.**



1. Transmission and primary chaincase lubricant filler screw
2. Regulator
3. Oil filter
4. Front chain cover screws
5. Clutch access screw
6. Primary chaincase and transmission lubricant level plug
7. Primary chain cover
8. Ignition timing inspection hole

9. Ignition timer cover
10. Serial number (VIN)
11. Gear cover
12. Rear sprocket cover
13. Primary chain adjuster
14. Oil pump
15. Rear brake master cylinder
16. Transmission drain plug

Figure 20. XLH Models Engine

## NOTE

*Always check the oil level after performing an oil and filter change.*

## 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 engine is driven long enough to thoroughly warm crankcase, most of this water is again vaporized and blown out through the breather. However, a moderately driven engine, making only short runs now and then and seldom getting thoroughly warmed up, is likely to accumulate an increasing amount of water in the oil tank. This water will, in freezing weather, become slush or ice, and if allowed to accumulate too long, may block the oil lines and cause damage to the engine. Also, 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 farther below freezing the temperature drops, the shorter the oil change interval should be.

## CHASSIS

### Greasing/Lubrication

1. Use wheel bearing grease for steering head bearings and wheel bearings. Use a multi-purpose chassis grease for other applications.
2. Repack front and rear wheel bearings every 10,000 miles, or annually. Check each time wheel is removed.
3. Remove and lubricate handlebar throttle control grip sleeve with graphite every 5000 miles, once each year, or when operation indicates lubrication is necessary.
4. Remove and lubricate speedometer drive cable with graphite every 5000 miles.
5. Pack rear swing arm pivot bearings with fresh grease at 5000 mile intervals. Inspect rear swing arm pivot bearings.
6. Pack the steering head bearings with fresh grease at 10,000 mile intervals or two years, whichever occurs first.

## 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 annually. If fork does not appear to be working properly or an appreciable amount of oil leakage should develop, attention should be given by a Harley-Davidson dealer. Incorrect recoil action will result if there is insufficient oil in either side of fork. If fork should at any time become submerged in water, drain and refill immediately.

## PRIMARY CHAINCASE AND TRANSMISSION LUBRICATION

Use Harley-Davidson PRIMARY CHAINCASE LUBRICANT, Part No. 99887-84 for all operating temperatures. Capacity of primary chaincase and transmission is 1½ U.S. pints. Draining should be done while lubricant is hot.

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

See Figure 20. The drain plug (17) is located on the underside of the chaincase. The filler access (1) is located near the top of the chaincase cover. The lubricant level plug (6) is located near the bottom of the chaincase 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.
2. Remove transmission and primary chaincase lubricant filler screw (1) and lubricant level plug (6).

#### 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. Install drain plug and tighten to 10 ft-lbs torque before proceeding with next step.*

#### CAUTION

**Do not over-tighten drain plug.**

3. Add lubricant until it begins to overflow through lubricant level hole. Let excess lubricant continue to flow from lubricant level hole until it ceases to run. This establishes correct lubricant level.
4. Install and tighten lubricant level plug (6) and filler screw (1).



Drain transmission and primary chaincase lubricant. Refill to correct level with fresh, clean lubricant after the first 500 miles and thereafter annually or every 5000 miles, whichever comes first.

### CAUTION

**When draining and refilling the oil tank or transmission, be careful that dirt and debris does not get into case or oil tank. Do not allow draining lubricants to get on rear wheel or tire.**

## REAR CHAIN LUBRICATION

The rear chain should be checked and lubricated every 300 miles under normal operating conditions. Brush off the dirt and lubricate chain with Harley-Davidson CHAIN SPRAY or CHAIN LUBE PLUS. Apply at room temperature to both chain side plates and rollers.

If motorcycle is operated under extremely dirty, wet or high speed conditions, additional cleaning and lubrication of the rear chain may be advisable.

## CHAIN INSPECTION

Inspect the adjustment of the front (primary) chain at 500 miles and 5000 mile intervals thereafter, and the rear chain as part of the pre-ride inspection.

See Figure 20. Remove screw (1) to check front chain adjustment through the filler opening. Should front chain adjustment be required, see your Harley-Davidson dealer for this service. See REAR CHAIN ADJUSTMENT that follows.

If chains are allowed to run too loose, they will cause the motorcycle to jerk when running at low speed, and both the chains and sprockets will wear excessively.

Adjust both front and rear chains so they have the correct amount of free up and down movement, midway between sprockets. Do not adjust tighter, because running chains too tight is even more harmful than running them too loose. As chains wear and stretch in service, they will run tighter at one point on the sprockets than at another; always check adjustment at the tightest point.

Inspect chains occasionally for links in bad condition. If any are found, have your Harley-Davidson dealer replace the entire chain.

## REAR CHAIN ADJUSTMENT

See Figure 21. A properly adjusted rear chain should have 1/2 in. total free up and down movement midway between the transmission sprocket and the rear wheel sprocket.

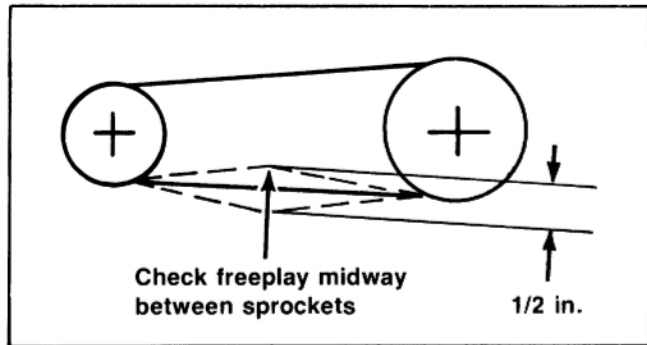


Figure 21. Rear Chain Free Play

**NOTE**

*Make rear chain adjustment with the motorcycle upright and the weight of one rider sitting on motorcycle.*

1. Loosen axle nut on right side.
2. With the motorcycle upright and one rider sitting on it, turn the axle adjuster nuts on both sides of the rear wheel an equal amount of turns to keep the rear wheel in alignment. See Service Manual for correct REAR WHEEL ALIGNMENT.

**CAUTION**

**Check rear wheel alignment. Wheel must run centrally in the swing arm.**

3. With 1/2 in. total free up and down movement established in chain midway between sprockets, tighten axle nut to 60-65 ft-lbs torque.
4. Check rear brake caliper position on rear brake disc. Disc must run true within brake caliper.

**WARNING**

**Misalignment of rear wheel and/or brake caliper could cause rear brake disc to bind-up resulting in severe damage and/or personal injury.**

**WARNING**

**To avoid possible personal injury, DO NOT operate the motorcycle without the primary drive cover in place.**

## FUEL STRAINER

See Figure 14. A screen type fuel strainer is located on top of the fuel supply valve inside the fuel tank. Check the fuel valve, lines and fittings for leakage as part of the pre-ride inspection. Screen should be cleaned at 5000 mile intervals.

## AIR CLEANER

See Figure 22. The carburetor air cleaner is equipped with a plastic foam air filter element which is oil saturated.

Remove air cleaner cover and inspect filter element after the first 500 miles and every 5000 miles thereafter, or more often under dusty conditions. The need for servicing is indicated by the appearance of the outside surface of the filter. Filter should be cleaned and re-oiled if a film of dirt has built up covering the surface pores, or if light spots show on the surface which means that dust is drying out the oil. A dirty, dark appearance is normal, as long as pores in the filter remain open and covered with an oil film.

1. To clean filter, remove it from wire mesh core and wash it in a non-flammable petroleum solvent or detergent and water. Allow to dry thoroughly.
2. Evenly apply 1 - 1½ tablespoons of engine oil to the filter element with an atomizer or work oil into the filter element by hand. There should be no excess.
3. Replace element on wire mesh core and install on backplate.

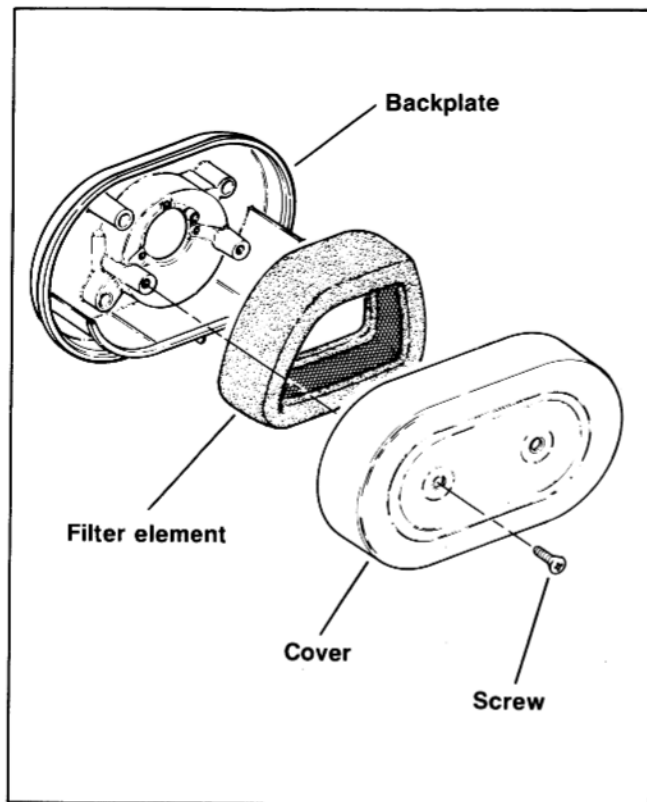


Figure 22. Air Cleaner

### CAUTION

**Do not run engine without filter element in place.**

## CARBURETOR

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

Carburetor controls include throttle, choke and low/high idle speed adjusting screws. Operation should be checked and adjusted after the first 500 miles and every 5000 miles thereafter.

### CAUTION

**Operation at higher altitudes (approximately 4000 ft. elevation) may require carburetor modifications for best engine performance. See your Harley-Davidson dealer.**

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

## SPARK PLUGS

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

### CAUTION

**Do not pull on cables since 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.

Be sure that your motorcycle has the correct spark plug, which is the Harley-Davidson No. 6R12.

Spark plugs must be tightened to 11-18 ft-lbs torque in the cylinder heads for proper sealing and heat transfer. If a torque wrench is not available, tighten plugs finger tight and tighten an additional one quarter turn with a spark plug wrench.

See Service Manual for complete spark plug service instructions.

## HYDRAULIC TAPPETS

Tappets are self-adjusting, hydraulic type. They automatically adjust length to compensate for engine expansion and valve mechanism wear, and thus keep 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 tend to be slightly noisy until the hydraulic units completely refill

with oil. If at any time, other than 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 lubricating 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. See your Harley-Davidson dealer for service.

## CLUTCH

See Figure 23. Adjustment of the clutch and clutch control cable lubrication is required every 5000 miles to compensate for lining wear. The need for attention to clutch and controls is indicated by the clutch slipping under load, or dragging in released position.

If the clutch continues to slip under load or drag in released position, the clutch friction plates may be worn and require replacement.

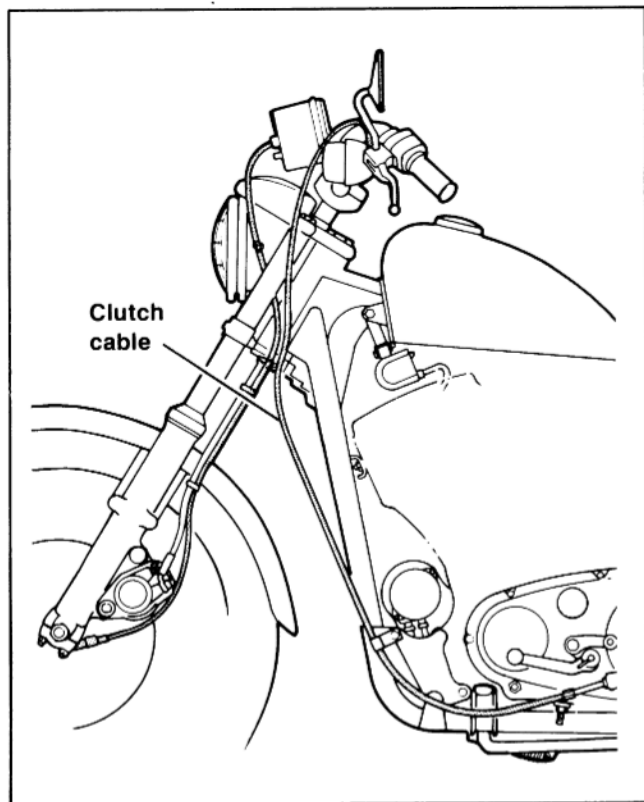


Figure 23. Clutch Cable

When the clutch must be adjusted or taken apart, you should have it serviced by a Harley-Davidson dealer where any needed new parts are at hand.

#### WARNING

Do not attempt to disassemble clutch components. These components are under pressure and improper disassembly could result in personal injury. This procedure requires special tools and correct replacement parts. We recommend that you see your Harley-Davidson dealer.

## BRAKES

#### 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.

Every 5000 miles, check the fluid level in the master cylinder reservoir, also check brake pads and brake discs for wear. Check all hydraulic lines, connections and calipers for leaks. Use only D.O.T. 5 HYDRAULIC BRAKE FLUID that is approved for brake system use. It is available from your Harley-Davidson dealer.

## WARNING

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

See Figure 24. Visual inspection of brake pads can be made without removing the caliper by viewing the lower rear 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.

The rear brake outer pad on all models can be measured from the caliper bracket side using a 6 in. rule. Place the rule against the brake disc through the notch in the bracket.

See Figure 25. 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.*

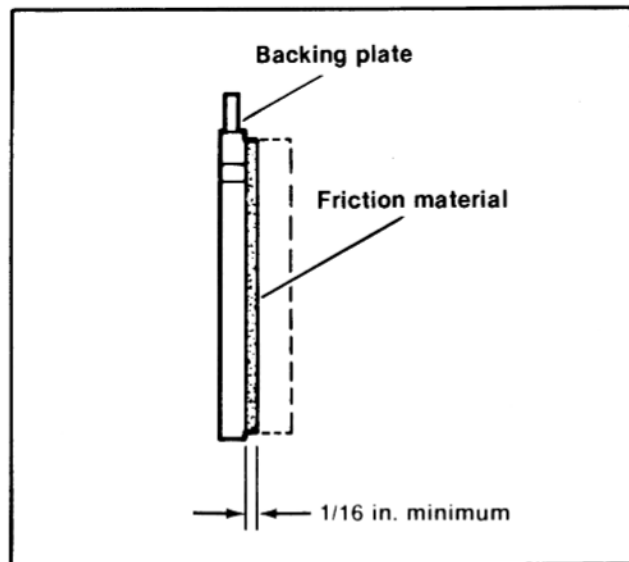


Figure 24. Brake Pad Side View

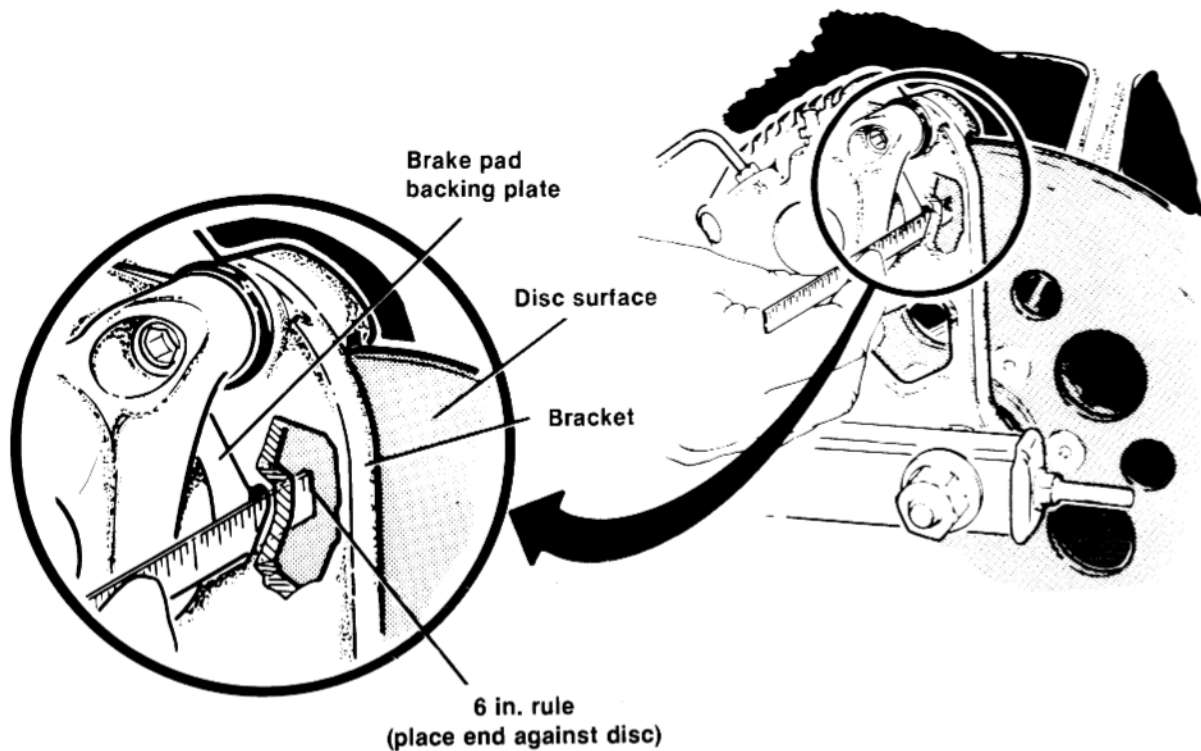


Figure 25. Measuring Rear Brake Outer Pad



## WHEEL BEARINGS

Bearings should be repacked at 10,000 mile intervals, or annually. Use wheel bearing grease and new seals. Excessive play or roughness indicates worn bearings and they will require replacement. Check the condition of the bearings each time wheel is removed.

## TIRES

Care should be taken to keep tires properly inflated. See TIRE DATA, for correct cold tire inflation pressures. The tire inflation pressure should be checked before riding, when tires are cold. Do not over-inflate tires.

### WARNING

**Improper tire inflation will cause abnormal tread wear and could result in unstable handling. Under-inflation could result in the tire slipping on the rim.**

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

Rim bands must be used on tube type laced (wire spoke) wheels, but are not required on tubeless type cast wheels.

### WARNING

**Riding with excessively worn, unbalanced or improperly inflated tires is hazardous and will adversely affect traction, steering and handling.**

**Replacement tires must be the same as original equipment tires. Other tires will not fit correctly and may be hazardous to use.**

Tire, tubes, air valves and wheels are critical safety items, and servicing of these items requires special tools and skills. We recommend you see your Harley-Davidson dealer for these services.

## SHOCK ABSORBERS

Shock absorbers and rubber bushings should be inspected for wear every 5000 miles.

## FRONT FORK BEARING

Check front and rear fork for proper bearing adjustment at 500 miles and every 5000 miles thereafter. With front end of motorcycle raised off the floor, make 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, if necessary, according to the procedure in Service Manual.

### **WARNING**

**Adjustment of front and rear fork bearings is critical. Improperly adjusted bearings will adversely affect motorcycle handling and stability. It is recommended that fork bearing adjustments be performed by your Harley-Davidson dealer.**

## **ALTERNATOR CHARGING RATE AND RECTIFIER/REGULATOR**

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

## **BATTERY**

See Figure 18. The battery is located on the left side of the motorcycle.

It is the care given a battery, rather than time and miles of service, which is most important in determining its life.

Inspect the level of the battery solution at least once monthly, adding pure distilled water to keep the solution at the upper level line on battery case. If the battery is not used for an extended period of time, check solution level before placing in service.

Remove battery and take out filler plugs. With a hydrometer or syringe, add distilled water to each cell to raise level of solution to upper level limits shown on battery.

Clean connections and check tightness every 2500 miles.

### **WARNING**

**Batteries contain sulfuric acid. 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.**

**Eyes — Flush with water and get immediate medical attention.**

## WARNING

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

## CAUTION

**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 overtighten terminal connections. To prevent battery case damage caused by pressure build-up, be sure vent hose is properly routed and not kinked or obstructed.**

## CIRCUIT BREAKERS

To protect the motorcycle wiring, there are four circuit breakers: main, lighting, accessory, and ignition. The circuit breakers are located under the seat.

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.

For electrical problems, it is best to see your Harley-Davidson dealer who has necessary parts and equipment to perform electrical service.

## BULB CHART

The chart below gives the light bulb locations and requirements for your Harley-Davidson motorcycle.

LAMP DESCRIPTION (ALL LAMPS 12 V.)	NUMBER OF BULBS REQUIRED	CURRENT DRAW (Amperage)	HARLEY-DAVIDSON PART NUMBER
Headlamp High Beam Low Beam	1	3.9 2.73	67698-81A
Tail and Stop Lamp Tail Lamp Stop Lamp	1	0.59 2.1	68165-64
High Beam Indicator Light	1	0.04	68597-86
Oil Pressure Signal light	1	0.08	68489-86
Neutral Indicator		0.08	68574-86
Turn Signal Indicator		0.08	68468-86
Speedometer, Tachometer Lights	1	0.27	71090-64
Turn Signal Lamps (front)	2	2.1	68165-64
Turn Signal Lamps (rear)	2	2.1	68572-64A

## GENERAL MAINTENANCE

Chrome and aluminum parts must be maintained regularly to ensure that they retain their original shine and luster. Several of these service procedures are outlined in the OWNER'S MAINTENANCE GUIDE. See the SERVICE LITERATURE list following the WARRANTY information. Care should be taken to keep your new Harley-Davidson motorcycle cleaned and waxed as often as possible to inhibit rust and corrosion.

## STORAGE

If your 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, preserve the battery and to prevent the build-up of gum and varnish in the carburetor.

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

Complete storage instructions are found in the OWNER'S MAINTENANCE GUIDE available through your local Harley-Davidson dealer.

### WARNING

**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 assure proper clutch disengagement.**

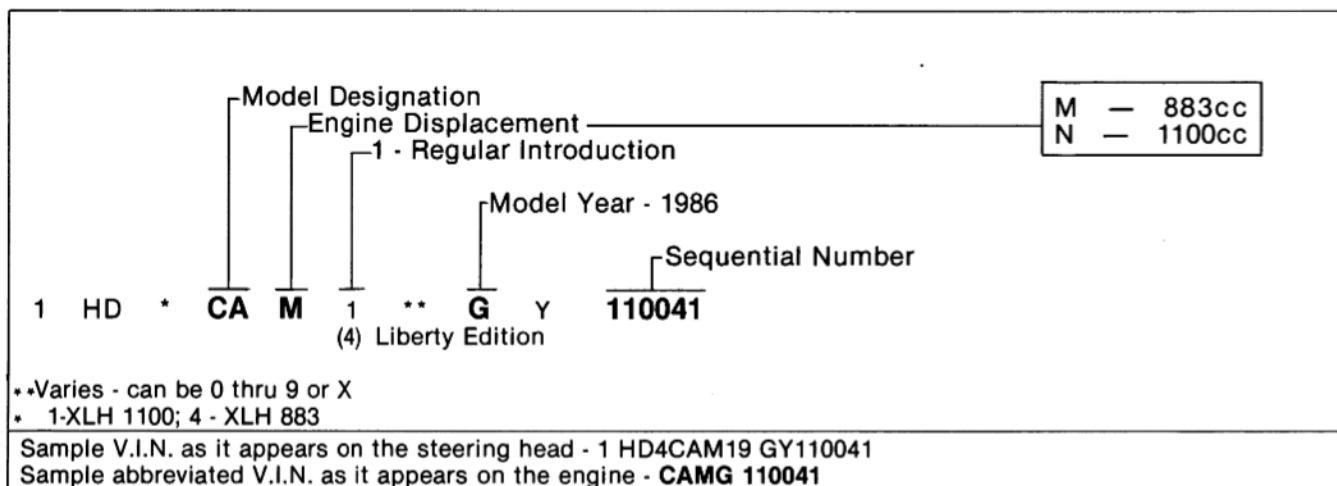
# NOTES

## 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 right side crankcase near the front of the engine.

### NOTE

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



# NOTES



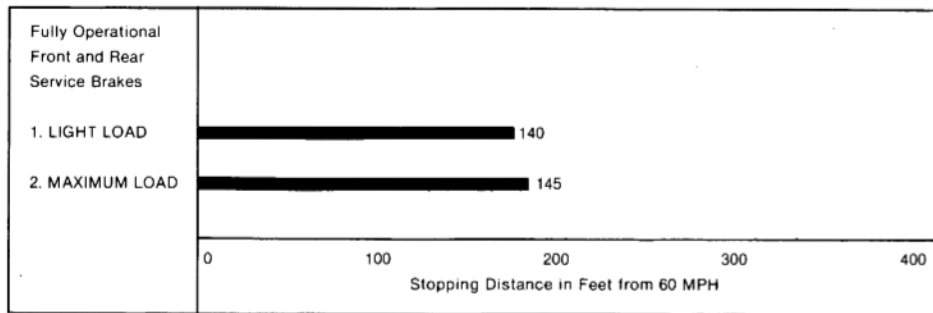
## STOPPING DISTANCE

Required by Federal Consumer Information Regulations.

This figure indicates braking performance that can be met or exceeded by the vehicle to which it applies,

without locking the wheels, under different conditions of loading.

Notice: The information presented represents results obtainable by skilled drivers under controlled road and vehicle conditions, and the information may not be correct under other conditions.



1. Light Load Vehicle Weight . . . . . includes  
200 lb. driver - no accessories
2. Maximum Loaded Vehicle Weight . . . . . includes  
300 lb. driver and passenger  
load plus full accessory equipment.

## DIMENSIONS (in.)

Wheel Base .....	60
Overall Length .....	87.5
Overall Width	
XLH 883cc .....	32
XLH 1100cc .....	33
Road Clearance .....	6.75
Overall Height	
XLH 883cc .....	47.5
XLH 1100cc .....	49.75

## WEIGHT (lbs.)

Dry Weights (as shipped from the factory)	
XLH 883cc .....	468
XLH 1100cc .....	462
GVWR .....	900
GAWR — Front .....	320
GAWR — Rear .....	580

### 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

Fuel Tank	
Total .....	2.25 U.S. Gallons
Reserve .....	0.25 U.S. Gallons
Oil Tank .....	3 Quarts
Transmission .....	1½ Pints
Front Fork (each) — Dry .....	6.40 Ounces
Wet .....	5.40 Ounces

## ENGINE

Number of Cylinders .....	2
Type .....	4-Cycle, 45 Degree V-Type
Bore	
XLH 883cc .....	3.000 in. (76 mm)
XLH 1100cc .....	3.350 in. (84 mm)
Stroke .....	3.812 in. (96.8mm)
Piston Displacement	
XLH 883cc .....	53.9 cu. in. (883 cc)
XLH 1100cc .....	67.2 cu. in. (1100cc)
Compression Ratio .....	9.0 to 1
Horsepower/rpm	
XLH 883cc .....	52/6000
XLH 1100cc .....	62/6000
Torque lb-ft @ rpm	
XLH 883cc .....	53 @ 4250
XLH 1100 cc .....	63 @ 4000

## IGNITION SYSTEM

Spark Plugs ..... Harley-Davidson No. 6R12  
Gap ..... 0.038 - 0.043 in.

## TRANSMISSION

### General

Type ..... Constant Mesh, Foot Shift  
Speeds ..... 4 Forward

### Number of Sprocket Teeth

Engine ..... 34      Transmission ..... 21  
Clutch ..... 59      Rear Wheel ..... 48

### Gear Ratios

First (Low) Gear .... 10.00      Third Gear ..... 5.48  
Second Gear ..... 7.24      Fourth (High) Gear ... 3.97

## FUEL

Use a good quality leaded or unleaded gasoline (89 pump octane or higher). Octane rating is usually found on the pump.

### WARNING

**Fill fuel tank slowly to prevent fuel spillage. Do not fill**

**fuel tank above the bottom of the filler neck insert. Leave air space to allow for fuel expansion. Expansion can cause an overfilled tank to overflow fuel.**

Today's service station pumps are increasingly of the high capacity variety. With the high flow of fuel into a motorcycle tank, air entrapment and pressurization is a possibility. The air may force fuel to escape through whatever opening is available. This could soil clothing and may create a potential fire hazard.

## TIRE DATA

Dunlop Tires Only		Front	Rear
Tire Pressure (PSI) (Cold)	Up to 300 lb. load including rider with passenger and cargo	26	30
	Up to GVWR* maximum load	26	32

\*GVWR is given on a label located on the frame steering head.

### **WARNING**

**Maximum tire inflation pressure must not exceed specification located on tire sidewall.**

### **WARNING**

**For your own personal safety, tires, tubes 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, causing rapid tire deflation. In addition, using tires, tubes and air valves other than those specified may adversely affect motorcycle stability. Use only tube type tires on all Harley-Davidson laced (wire spoke) wheels and tubeless type tires on all Harley-Davidson cast wheels. Tire sizes are molded on the tire sidewall. Tube sizes are printed on the tube.**

## **CALIFORNIA EVAPORATIVE EMISSION CONTROL**

All new 1986 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.

Kits are available through authorized Harley-Davidson dealers to convert non-California vehicles to California specifications. If this need should arise, see your local California Harley-Davidson dealer for details.

## OWNER'S IDENTIFICATION CARD

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 Co., Inc.

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 assistance.

## 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 taken care of. All of the specified maintenance services must be performed to keep your warranty in force. Dealer charges for the recommended service procedures are nominal.

Bring this Owner's Manual along 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, and could cause an accident with possible injury to yourself or others. Removing 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 Dealers are independently owned and operated and may sell parts and accessories other than 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.

## **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.

## **EPA NOISE REGULATIONS**

EPA noise regulations require that the following statements be included in the Owner's Manual.

**TAMPERING WITH NOISE CONTROLS 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**

**Your selling dealer is responsible for providing the warranty repair work on your motorcycle.** Should you move from your present address, tour a long distance or re-

quire emergency warranty repair work, the warranty repair work may be performed by any authorized Harley-Davidson dealer. (Consult your Limited Warranty for complete details.)

For normal service work or warranty work under the above conditions, you may obtain the name and location of your nearest Harley-Davidson dealer by calling **1-800-558-2001** (toll free), in any state except Wisconsin, Alaska, and Hawaii. In Wisconsin, call **1-800-242-3102** (toll free). Service is 24 hours a day, 365 days per year.

## HARLEY-DAVIDSON LIMITED WARRANTY (12 MONTHS/UNLIMITED MILEAGE)

*Harley-Davidson warrants to the first retail purchaser and his authorized transferees of our new 1986 model motorcycles/sidecars that our Selling 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 Selling Dealer, with no mileage limitation.
2. Any unexpired portion of this limited warranty may be transferred, with written authorization, upon the resale of the motorcycle/sidecar during the first 12 months of ownership. To obtain authorization, a transfer application must be filed with Harley-Davidson together with a fee of \$25.00 to cover administrative costs, and the motorcycle/sidecar must pass inspection by one of our participating 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 the Selling Dealer, or to any other authorized Dealer if you have moved a long distance, are touring a long distance, or need emergency service. 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 his normal business hours and as soon as possible, depending upon his service department's workload 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 other 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, 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.
3. Motorcycle battery after the first 6 months following the date of original retail motorcycle purchase, however, if your battery is found to be defective, within the terms of this limited warranty, between

the seventh through twelfth months, you will be charged for the full cost of our dealer's installation labor and for the cost of the battery's replacement, on a pro-rated basis. (See your dealer for complete details.)

### 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.





## **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 Co., Inc., 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 CO., INC., 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 EMISION CONTROL SYSTEM WARRANTY.

Harley-Davidson Motor Co., Inc., 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 CO., INC., P.O. Box 653 Milwaukee, Wisconsin 53201 U.S.A.**

## NOTES

**500 MILE**  
(800 km)  
**MAINTENANCE**

\_\_\_\_\_  
Date

\_\_\_\_\_  
Mileage

\_\_\_\_\_  
Dealer (or other) Signature

**OWNER RECORD**

**500 MILE**  
(800 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**

## 500 MILE MAINTENANCE

1. Change engine oil.
2. Replace oil filter.
3. Change primary chaincase and transmission lubricant.
4. Clean primary chaincase and transmission magnetic drain plug.
5. Inspect air cleaner and service as required.
6. Check and adjust chains.
7. Check rear brake pedal adjustment.
8. Inspect brake fluid level and condition.
9. Check brake pad linings and discs for wear.
10. Check clutch adjustment.
11. Clean fuel tank filter screen.
12. Check oil lines and brake system for leaks.
13. Lubricate rear chain (if required).
14. Lubricate the following: Front brake handlever, throttle control cable, choke control cable, clutch control cable and handlever.
15. Check front fork bearing adjustment.
16. Check tightness of all fasteners.
17. Check wheel spoke tightness.\*
18. Check tire pressure and inspect tread.
19. Check engine low and fast idle speed adjustment.
20. Check operation of throttle and choke controls.
21. Check operation of all electrical equipment and switches.
22. Road test.

\*If applicable to equipment.

## 500 MILE MAINTENANCE

1. Change engine oil.
2. Replace oil filter.
3. Change primary chaincase and transmission lubricant.
4. Clean primary chaincase and transmission magnetic drain plug.
5. Inspect air cleaner and service as required.
6. Check and adjust chains.
7. Check rear brake pedal adjustment.
8. Inspect brake fluid level and condition.
9. Check brake pad linings and discs for wear.
10. Check clutch adjustment.
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16. Check tightness of all fasteners.
17. Check wheel spoke tightness.\*
18. Check tire pressure and inspect tread.
19. Check engine low and fast idle speed adjustment.
20. Check operation of throttle and choke controls.
21. Check operation of all electrical equipment and switches.
22. Road test.

\*If applicable to equipment.

**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 chains.
3. Inspect battery fluid level and connections.
4. Inspect brake pad linings 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 choke controls.
8. Inspect operation of all electrical equipment and switches.
9. Inspect transmission lubricant.
10. Road test.

## 2500 MILE MAINTENANCE

1. Inspect engine oil.
2. Inspect chains.
3. Inspect battery fluid level and connections.
4. Inspect brake pad linings 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 choke controls.
8. Inspect operation of all electrical equipment and switches.
9. Inspect transmission lubricant.
10. Road test.



**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.
- 2. Replace oil filter.
- 3. Grease rear fork bearings.
- 4. Change primary chaincase and transmission lubricant.
- 5. Clean primary chaincase and transmission magnetic drain plug.
- 6. Replace spark plugs.
- 7. Inspect air cleaner and service as required.
- 8. Check and adjust chains.
- 9. Check battery electrolyte level. Check and clean connections.
- 10. Check rear brake pedal adjustment.
- 11. Inspect brake fluid level and condition.
- 12. Check brake pad linings and discs for wear.
- 13. Check clutch adjustment.
- 14. Check fuel tank filter screen.
- 15. Check fuel valve, lines and fittings for leaks.
- 16. Check oil lines and brake system for leaks.
- 17. Lubricate rear chain.
- 18. Lubricate the following: Front brake handlever, throttle control cable, choke control cable, clutch control cable and handlever.
- 19. Lubricate the following: Throttle control grip sleeve and speedometer cable.
- 20. Check rear shock rubber bushing condition.
- 21. Check front fork bearing adjustment.
- 22. Change front fork oil.
- 23. Check tightness of all fasteners.
- 24. Check wheel spoke tightness.\*
- 25. Check tire pressure and inspect tread.
- 26. Check ignition timing.
- 27. Check engine low and fast idle speed adjustment.
- 28. Check operation of throttle and choke controls.
- 29. Check operation of all electrical equipment and switches.
- 30. Road test.

\*If applicable to equipment.

## 5000 MILE MAINTENANCE

- 1. Change engine oil.
- 2. Replace oil filter.
- 3. Grease rear fork bearings.
- 4. Change primary chaincase and transmission lubricant.
- 5. Clean primary chaincase and transmission magnetic drain plug.
- 6. Replace spark plugs.
- 7. Inspect air cleaner and service as required.
- 8. Check and adjust chains.
- 9. Check battery electrolyte level. Check and clean connections.
- 10. Check rear brake pedal adjustment.
- 11. Inspect brake fluid level and condition.
- 12. Check brake pad linings and discs for wear.
- 13. Check clutch adjustment.
- 14. Check fuel tank filter screen.
- 15. Check fuel valve, lines and fittings for leaks.
- 16. Check oil lines and brake system for leaks.
- 17. Lubricate rear chain.
- 18. Lubricate the following: Front brake handlever, throttle control cable, choke control cable, clutch control cable and handlever.
- 19. Lubricate the following: Throttle control grip sleeve and speedometer cable.
- 20. Check rear shock rubber bushing condition.
- 21. Check front fork bearing adjustment.
- 22. Change front fork oil.
- 23. Check tightness of all fasteners.
- 24. Check wheel spoke tightness.\*
- 25. Check tire pressure and inspect tread.
- 26. Check ignition timing.
- 27. Check engine low and fast idle speed adjustment.
- 28. Check operation of throttle and choke controls.
- 29. Check operation of all electrical equipment and switches.
- 30. Road test.

\*If applicable to equipment.

**7500 MILE**  
(4000 km)  
**MAINTENANCE**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Mileage**

\_\_\_\_\_  
**Dealer (or other) Signature**

**OWNER RECORD**

**7500 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**

## 7500 MILE MAINTENANCE

1. Inspect engine oil.
2. Inspect chains.
3. Inspect battery fluid level and connections.
4. Inspect brake pad linings 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 choke controls.
8. Inspect operation of all electrical equipment and switches.
9. Inspect transmission lubricant.
10. Road test.

## 7500 MILE MAINTENANCE

1. Inspect engine oil.
2. Inspect chains.
3. Inspect battery fluid level and connections.
4. Inspect brake pad linings 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 choke controls.
8. Inspect operation of all electrical equipment and switches.
9. Inspect transmission lubricant.
10. Road test.

**10,000 MILE**  
(16,000 km)  
**MAINTENANCE**

\_\_\_\_\_  
**Date**

\_\_\_\_\_  
**Mileage**

\_\_\_\_\_  
**Dealer (or other) Signature**

**OWNER RECORD**

**10,000 MILE**  
(16,000 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**

## 10,000 MILE MAINTENANCE

1. Change engine oil.
2. Replace oil filter.
3. Grease rear fork bearings.
4. Change primary chaincase and transmission lubricant.
5. Clean primary chaincase and transmission magnetic drain plug.
6. Replace spark plugs.
7. Inspect air cleaner and service as required.
8. Check and adjust chains.
9. Check battery electrolyte level. Check and clean connections.
10. Check rear brake pedal adjustment.
11. Inspect brake fluid level and condition.
12. Check brake pad linings and discs for wear.
13. Check clutch adjustment.
14. Check fuel tank filter screen.
15. Check fuel valve, lines and fittings for leaks.
16. Check oil lines and brake system for leaks.
17. Lubricate rear chain.
18. Lubricate the following: Front brake handlever, throttle control cable, choke control cable, clutch control cable and handlever.
19. Repack wheel bearings with grease.
20. Repack rear fork bearings with grease.
21. Check front fork bearing adjustment.
22. Change front fork oil.
23. Check tightness of all fasteners.
24. Check wheel spoke tightness.\*
25. Check tire pressure and inspect tread.
26. Check ignition timing.
27. Check engine low and fast idle speed adjustment.
28. Check operation of throttle and choke controls.
29. Check operation of all electrical equipment and switches.
30. Road test.

\*If applicable to equipment.

## 10,000 MILE MAINTENANCE

1. Change engine oil.
2. Replace oil filter.
3. Grease rear fork bearings.
4. Change primary chaincase and transmission lubricant.
5. Clean primary chaincase and transmission magnetic drain plug.
6. Replace spark plugs.
7. Inspect air cleaner and service as required.
8. Check and adjust chains.
9. Check battery electrolyte level. Check and clean connections.
10. Check rear brake pedal adjustment.
11. Inspect brake fluid level and condition.
12. Check brake pad linings and discs for wear.
13. Check clutch adjustment.
14. Check fuel tank filter screen.
15. Check fuel valve, lines and fittings for leaks.
16. Check oil lines and brake system for leaks.
17. Lubricate rear chain.
18. Lubricate the following: Front brake handlever, throttle control cable, choke control cable, clutch control cable and handlever.
19. Repack wheel bearings with grease.
20. Repack rear fork bearings with grease.
21. Check front fork bearing adjustment.
22. Change front fork oil.
23. Check tightness of all fasteners.
24. Check wheel spoke tightness.\*
25. Check tire pressure and inspect tread.
26. Check ignition timing.
27. Check engine low and fast idle speed adjustment.
28. Check operation of throttle and choke controls.
29. Check operation of all electrical equipment and switches.
30. Road test.

\*If applicable to equipment.

## SERVICE LITERATURE

For further technical information the following publications are available (Fall of 1985) through your Harley-Davidson dealer. Order by part numbers below.

<b>Publication</b>	<b>Part No.</b>
Owner's Maintenance Guide .....	99952-86
Service Manual .....	99484-86
Parts Catalog .....	99451-86

# NOTES



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### PATENT NOTICE

Harley-Davidson products are manufactured under one or more of the following patents: U.S. Patents — 2986162, 2987934, 2998809, 3116089, 3144631, 3144860, 3226994, 3229792, 3434887, 3559773, 3673359, 3709317, Des. 225, 626.

To the best knowledge of Harley-Davidson Motor Co., Inc., the material contained herein is accurate as of the date this publication was approved for printing. Harley-Davidson Motor Co., Inc., reserves the right to change specifications, equipment, or designs at any time without notice and without incurring obligation.

HARLEY-DAVIDSON MOTOR CO., INC.



**Harley-Davidson Motor Co., Inc.**  
Technical Communications Dept.  
Milwaukee, WI 53201



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