2012 Touring

SERVICE MANUAL

Part Number 99483-12

ELECTRICAL DIAGNOSTICS

Part Number 99497-12

POLICE SERVICE SUPPLEMENT

Part Number 99855-12

FLHTCUSE7 SERVICE SUPPLEMENT

Part Number 99500-12

FLHXSE3 SERVICE SUPPLEMENT

Part Number 99600-12

TRIKE SERVICE SUPPLEMENT

Part Number 99601-12

2012 Touring (Continued)

FLTRXSE SERVICE MANUAL

Part Number 99525-12

2012 Harley-Davidson Touring Models
Service Manual

99483-12

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E.1 GLOSSARY

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FASTENER TORQUE VALUES 1.1

FASTENER TORQUE VALUES IN THIS CHAPTER

The table below lists torque values for all fasteners presented in this chapter.

FASTENER	TORQUE VALUE		NOTES
Air cleaner cover bracket screws	108-132 **in-lbs**	12.2-14.9 Nm	1.5 MAINTENANCE SCHEDULE, General
Air cleaner cover bracket screws	108-132 **in-lbs**	12.2-14.9 Nm	1.7 AIR CLEANER AND EXHAUST SYSTEM, Installation
Air cleaner cover screw	36-60 **in-lbs**	4.1-6.8 Nm	1.5 MAINTENANCE SCHEDULE, General
Air cleaner cover screw	36-60 **in-lbs**	4.1-6.8 Nm	1.7 AIR CLEANER AND EXHAUST SYSTEM, Installation/Use Loctite Medium Strength Threadlocker 243 (Blue)
Auxiliary lamp flange nut	15-18 ft-lbs	20.3-24.4 Nm	1.20 HEADLAMP ALIGNMENT, Auxiliary Lamp Alignment
Battery terminal bolt	60-70 **in-lbs**	6.8-7.9 Nm	1.5 MAINTENANCE SCHEDULE, General
Battery terminal bolt	60-70 **in-lbs**	6.8-7.9 Nm	1.22 BATTERY MAINTENANCE, Battery
Battery terminal bolt	60-70 **in-lbs**	6.8-7.9 Nm	1.22 BATTERY MAINTENANCE, Battery
Brake caliper (front) mounting screws	28-38 ft-lbs	37.9-51.5 Nm	1.16 BRAKE PADS AND DISCS, Brake Pad Replacement/metric
Brake caliper (rear) mounting screws	43-48 ft-lbs	58.3-65.1 Nm	1.16 BRAKE PADS AND DISCS, Brake Pad Replacement/metric
Brake caliper pad pin	75-102 **in-lbs**	8.5.-11.5 Nm	1.5 MAINTENANCE SCHEDULE, General
Brake caliper pad pin	75-102 **in-lbs**	8.5-11.5 Nm	1.16 BRAKE PADS AND DISCS, Brake Pad Replacement/Always use new pin
Brake caliper pad pin	75-102 **in-lbs**	8.5-11.5 Nm	1.16 BRAKE PADS AND DISCS, Brake Pad Replacement/Always use new pin
Clutch adjuster screw jam nut	72-120 **in-lbs**	8.1-13.6 Nm	1.5 MAINTENANCE SCHEDULE, General
Clutch adjuster screw jam nut	72-120 **in-lbs**	8.1-13.6 Nm	1.11 CLUTCH, Adjustment
Clutch cable adjustment jam nut	120 **in-lbs**	13.6 Nm	1.11 CLUTCH, Adjustment
Clutch inspection cover screw	84-108 **in-lbs**	9.5-12.2 Nm	1.9 PRIMARY CHAINCASE LUBRICANT, Changing Primary Chaincase Lubricant
Clutch inspection cover screws	84-108 **in-lbs**	9.5-12.2 Nm	1.5 MAINTENANCE SCHEDULE, General
Clutch inspection cover screws	84-108 **in-lbs**	9.5-12.2 Nm	1.11 CLUTCH, Adjustment
Engine oil drain plug	14-21 ft-lbs	19.0-28.5 Nm	1.5 MAINTENANCE SCHEDULE, General
Engine oil drain plug	14-21 ft-lb	19.0-28.5 Nm	1.6 ENGINE OIL AND FILTER, Changing Oil and Oil Filter
Engine to front engine mounting bracket	36-40 ft-lbs	49-54 Nm	1.23 ENGINE MOUNTS, Inspection
Fork bracket pinch bolt	53-57 ft-lbs	71.9-77.3 Nm	1.19 STEERING HEAD BEARINGS, Adjustment
Fork stem nut	70-80 ft-lbs	94.9-108.4 Nm	1.19 STEERING HEAD BEARINGS, Adjustment
Fork stem nut	70-80 ft-lbs	94.9-108.4 Nm	1.19 STEERING HEAD BEARINGS, Adjustment
Front engine mount end cap fastener	42-48 ft-lbs	56.9-65.0 Nm	1.23 ENGINE MOUNTS, Inspection
Front master cylinder reservoir cover screws	10-12 **in-lbs**	1.1-1.4 Nm	1.5 MAINTENANCE SCHEDULE, General
Front master cylinder reservoir cover screws	10-12 **in-lbs**	1.1-1.4 Nm	1.16 BRAKE PADS AND DISCS, Brake Pad Replacement
Handlebar switch housing screw	35-45 **in-lbs**	4.0-5.1 Nm	1.5 MAINTENANCE SCHEDULE, General
Primary chaincase drain plug	14-21 ft-lbs	19.0-28.5 Nm	1.5 MAINTENANCE SCHEDULE, General

FASTENER	TORQUE VALUE		NOTES
Primary chaincase drain plug	14-21 ft-lbs	19.0-28.5 Nm	1.9 PRIMARY CHAINCASE LUBRICANT, Changing Primary Chaincase Lubricant
Rear axle cone nut (final)	95-105 ft-lbs	128.8-142.4 Nm	1.12 DRIVE BELT AND SPROCKETS, Setting Belt Deflection
Rear axle cone nut (preliminary)	15-20 ft-lbs	20-27 Nm	1.12 DRIVE BELT AND SPROCKETS, Setting Belt Deflection/For belt adjustment only
Rear frame-to-main frame fastener	40-50 ft-lbs	54.2-67.8 Nm	1.23 ENGINE MOUNTS, Inspection
Rear master cylinder reservoir cover screws	12-15 **in-lbs**	1.4-1.7 Nm	1.5 MAINTENANCE SCHEDULE, General
Rear master cylinder reservoir cover screws	12-15 **in-lbs**	1.4-1.7 Nm	1.16 BRAKE PADS AND DISCS, Brake Pad Replacement
Rear muffler fastener	96-144 **in-lbs**	10.9-16.3 Nm	1.12 DRIVE BELT AND SPROCKETS, Setting Belt Deflection
Spark plug	12-18 ft-lbs	16.3-24.4 Nm	1.5 MAINTENANCE SCHEDULE, General
Spark plug	12-18 ft-lbs	16.3-24.4 Nm	1.17 SPARK PLUGS, Inspection
Spoke nipple	55 **in-lbs**	6.2 Nm	1.5 MAINTENANCE SCHEDULE, General
Spoke nipple	55 **in-lbs**	6.2 Nm	1.8 TIRES AND WHEELS, Wheel Spokes
Top caddy mounting screw	72-96 **in-lbs**	8.1-10.9 Nm	1.5 MAINTENANCE SCHEDULE, General
Top caddy mounting screw	72-96 **in-lbs**	8.1-10.9 Nm	1.22 BATTERY MAINTENANCE, Battery
Top stabilizer link bolt	18-22 ft-lbs	24.4-29.9 Nm	1.23 ENGINE MOUNTS, Inspection
Top stabilizer link bolt	18-22 ft-lbs	24.4-29.9 Nm	1.23 ENGINE MOUNTS, Inspection
Transmission drain plug	14-21 ft-lbs	19.0-28.5 Nm	1.5 MAINTENANCE SCHEDULE, General
Transmission drain plug	14-21 ft-lb	19.0-28.5 Nm	1.10 TRANSMISSION LUBRICANT, Changing Transmission Lubricant
Transmission filler/check plug	25-75 **in-lbs**	2.8-8.5 Nm	1.5 MAINTENANCE SCHEDULE, General
Transmission filler/dipstick	25-75 **in-lbs**	2.8-8.5 Nm	1.10 TRANSMISSION LUBRICANT, Checking Transmission Lubricant Level
Transmission filler plug/dipstick	25-75 **in-lb**	2.8-8.5 Nm	1.10 TRANSMISSION LUBRICANT, Changing Transmission Lubricant
Turn signal lamp to mounting bracket screws	36-60 **in-lbs**	4.1-6.8 Nm	1.20 HEADLAMP ALIGNMENT, Auxiliary Lamp Alignment

GENERAL 1.2

SERVICING A NEW MOTORCYCLE

⚠WARNING

Perform the service and maintenance operations as indicated in the regular service interval table. Lack of regular maintenance at the recommended intervals can affect the safe operation of your motorcycle, which could result in death or serious injury. (00010a)

Service operations to be performed before customer delivery are specified in the applicable model year predelivery and set-up instructions.

The performance of new motorcycle initial service is required to keep warranty in force and to verify proper emissions systems operation. See 1.5 MAINTENANCE SCHEDULE.

SAFE OPERATING MAINTENANCE

NOTES

- *Do not attempt to tighten engine head bolts or engine damage may result.*
- *During the initial break-in period, use only GENUINE HARLEY-DAVIDSON H-D 360 MOTORCYCLE OIL 20W50. Failure to use the recommended oil will result in improper break-in of the engine cylinders and piston rings.*

A careful check of certain equipment is necessary after periods of storage, and frequently between regular service intervals, to determine if additional maintenance is required.

Check:

1. Tires for correct pressure, excessive wear or any signs of tire damage.
2. Drive belt tension and condition.
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, crimping and free operation.
6. Engine oil and transmission fluid levels.
7. Headlamp, auxiliary lamp, tail lamp, brake lamp, horn and turn signal operation.

SHOP PRACTICES

Repair Notes

General maintenance practices are given in this section.

NOTES

- *Repair = Disassembly/Assembly.*
- *Replacement = Substitute a **new** part for existing component.*

All special tools and torque values are noted at the point of use.

All required parts or materials can be found in the parts catalog.

Safety

Safety is always the most important consideration when performing any job. Be sure you have a complete understanding of the task to be performed. Use common sense. Use the proper tools. Protect yourself and bystanders with approved eye protection. Don't just do the job - do the job safely.

Removing Parts

Always consider the weight of a part when lifting. Use a hoist whenever necessary. Do not lift heavy parts by hand. A hoist and adjustable lifting beam or sling are needed to remove some parts. The lengths of multiple chains or cables from the hoist to the part should be equal and parallel and should be positioned directly over the center of the part. Be sure that no obstructions will interfere with the lifting operation. Never leave a part suspended in mid-air.

⚠WARNING

Be sure to check capacity rating and condition of hoists, slings, chains and cables before use. Exceeding capacity ratings or using lifting devices that are in poor condition can lead to an accident, which could result in death or serious injury. (00466c)

Always use blocking or proper stands to support the part that has been hoisted. If a part cannot be removed, verify that all bolts and attaching hardware have been removed. Check to see if any parts are in the way of the part being removed.

When removing hoses, wiring or tubes, always tag each part to verify proper installation.

Cleaning

If parts are to be reused, follow good shop practice and thoroughly clean the parts before assembly. Keep all dirt out of parts to promote better component operation and longer life. Seals, filters and covers are used in this vehicle to keep out extraneous dirt and dust. These items must be kept in good condition to guarantee satisfactory operation.

When instructed to clean fastener threads or threaded holes, proceed as follows: Clean all threadlocking material from fastener threads and threaded holes. Use a wire brush to clean fastener threads. Use a thread chaser or other suitable tool to clean threaded holes. Use PJ1 cleaner or equivalent to remove all traces of oil and contaminants from threads. Clean all threaded holes with low pressure compressed air.

Clean and inspect all parts as they are removed. Be sure all holes and passages are clean and open. After cleaning, cover all parts with clean lint-free cloth, paper or other material. Be sure the part is clean when it is installed.

Always clean around lines or covers before they are removed. Plug, tape or cap holes and openings to keep out dirt, dust and debris.

Always verify cleanliness of blind holes before assembly. Tightening a screw with dirt, water or oil in the hole can cause castings to crack or break.

Disassembly and Assembly

Always assemble or disassemble one part at a time. Do not work on two assemblies simultaneously. Be sure to make all necessary adjustments. Check your work when finished to be sure that everything is done.

Operate the vehicle to perform any final check or adjustments. If all is correct, the vehicle is ready to go back to the customer.

Checking Torques on Fasteners

Attempt to turn the fastener using a torque wrench set to the minimum torque specification for that fastener. If the fastener does not rotate, the fastener torque has been maintained. If the fastener rotates, remove it to determine if it has a thread-locking agent.

If it has a threadlocking agent, clean all threadlocking material from the threaded hole. Replace the fastener with a **new** one or clean the original fastener threads and apply the appropriate threadlocking product (see the specific procedure). Install and tighten the fastener to specification.

If the fastener does not use a threadlocking agent, install and tighten it to specification.

Magnetic Parts Trays

Magnetic parts trays are common in the service facility because they are convenient and can keep parts from becoming lost during a repair procedure. However, hardened steel parts can become magnetized when held in magnetic parts trays.

Metal fragments from normal wear are ordinarily washed away by the engine oil and trapped in the oil filter or by the magnetic drain plug. Magnetized parts in the engine can retain these fragments, potentially causing accelerated engine wear and damage.

Parts that will be returned to service inside the vehicle's powertrain such as gears, thrust washers and especially bearings should never be kept in magnetic parts trays.

REPAIR AND REPLACEMENT PROCEDURES

Hardware and Threaded Parts

Install thread repair inserts when threaded holes in castings are stripped, damaged or not capable of withstanding specified torque.

Replace bolts, nuts, studs, washers, spacers and small common hardware if missing or damaged. Clean up or repair minor thread damage with a suitable tap or die.

Replace all damaged or missing lubrication fittings.

Use Teflon pipe sealant or LOCTITE 565 PIPE SEALANT WITH TEFLON on pipe fitting threads.

Threadlocking Agents

Always follow specific service manual procedures when working with fasteners containing preapplied threadlocking agents when fastener replacement is recommended. When re-using fasteners containing threadlocking agents, be sure to completely remove all existing threadlocking agent from fastener threads with a wire brush or wire wheel. Also, be sure to remove residual threadlocking agent from fastener hole using an appropriate thread chasing device and compressed air. Always use the recommended threadlocking agent for the specific procedure.

Wiring, Hoses and Lines

Hoses, clamps, electrical wiring, electrical switches or fuel lines if they do not meet specifications.

Instruments and Gauges

Replace damaged or defective instruments and gauges.

Bearings

Anti-friction bearings must be handled in a special way. To keep out dirt and abrasives, cover the bearings as soon as they are removed from the package.

When bearings are installed against shoulders, be sure that the chamfered side of the bearing always faces the shoulder. Lubricate bearings and all metal contact surfaces before pressing into place. Only apply pressure on the part of the bearing that makes direct contact with the mating part. Install bearings with numbered side facing out.

Always use the proper tools and fixtures for removing and installing bearings.

Only remove bearings if necessary. Removal usually damages bearings requiring them to be replaced with **new** parts.

Bushings

Do not remove a bushing unless damaged, excessively worn or loose in its bore. Press out bushings that must be replaced.

When pressing or driving bushings, be sure to apply pressure in line with the bushing bore. Use a bearing/bushing driver or a bar with a smooth, flat end. Never use a hammer to drive bushings.

Inspect the bushing and the mating parts for oil holes before installation, and be sure all oil holes are properly aligned during installation.

Gaskets

Always discard gaskets after removal. Replace with **new** gaskets. Never use the same gasket twice. Be sure that gasket holes match up with holes in the mating part. But be aware that sections of a gasket may be used to seal passages.

Lip-Type Seals

Lip seals are used to seal oil or grease and are usually installed with the sealing lip facing the contained lubricant. Seal orientation, however, may vary under different applications.

Seals should not be removed unless necessary. Only remove seals if required to gain access to other parts or if seal damage or wear dictates replacement.

Leaking oil or grease usually means that a seal is damaged. Replace leaking seals to prevent overheated bearings.

Always discard seals after removal. Do not use the same seal twice.

O-Rings (Pre-Formed Packings)

Always discard O-rings after removal. Replace with **new** O-ring. To prevent leaks, lubricate the O-rings before installation. Apply the same type of lubricant as that being sealed. Be sure

that all gasket, O-ring and seal mating surfaces are thoroughly clean before installation.

Gears

Always check gears for damaged or worn teeth.

Remove burrs and rough spots with a honing stone or crocus cloth before installation.

Lubricate mating surfaces before pressing gears on shafts.

Shafts

If a shaft does not come out easily, check that all nuts, bolts or retaining rings have been removed. Check to see if other parts are in the way before using force to remove.

Shafts fitted to tapered splines should be very tight. If shafts are not tight, disassemble and inspect tapered splines. Discard parts that are worn. Be sure tapered splines are clean, dry and free of burrs before putting them in place. Press mating parts together tightly.

Clean all rust from the machined surfaces of **new** parts.

Part Replacement

Always replace worn or damaged parts with **new** parts.

Exhaust System Leakage

In the event of an exhaust system leak at a muffler or header pipe connection location, disassemble and clean all mating surfaces. Replace any damaged components. If the leak still exists, disassemble and repair the leak by applying a bead of Permatex Ultra Copper or LOCTITE 5920 Flange Sealant (or an equivalent oxygen sensor/catalyst-safe alternative). Assemble components, wipe off any excess sealant and allow adequate curing time following sealant product instructions before operating vehicle.

CLEANING

Part Protection

Before cleaning, protect rubber parts (such as hoses, boots and electrical insulation) from cleaning solutions. Use a grease-proof barrier material. Remove the rubber part if it cannot be properly protected.

Cleaning Process

Any cleaning method may be used as long as it does not result in parts damage. Thorough cleaning is necessary for proper parts inspection. Strip rusted paint areas to bare metal before priming and repainting.

Rust or Corrosion Removal

Remove rust and corrosion with a wire brush, abrasive cloth, sand blasting, vapor blasting or rust remover. Use buffing crocus cloth on highly polished parts that are rusted.

Bearings

Wash bearings in a non-flammable petroleum cleaning solution. Never use a solution that contains chlorine. Knock out packed lubricant by tapping the bearing against a wooden block. Wash bearings again.

⚠WARNING

Using compressed air to "spin dry" bearings can cause bearing to fly apart, which could result in death or serious injury. (00505b)

Cover bearings with a clean shop towel and allow to air dry. Do not spin bearings while they are drying. Never use compressed air to dry bearings.

When dry, coat bearings with clean oil. Wrap bearings in clean paper.

TOOL SAFETY

Air Tools

- Always use approved eye protection equipment when performing any task using air-operated tools.
- On all power tools, use only recommended accessories with proper capacity ratings.
- Do not exceed air pressure ratings of any power tools.
- Bits should be placed against work surface before air hammers are operated.
- Disconnect the air supply line to an air hammer before attaching a bit.
- Never point an air tool at yourself or another person.
- Protect bystanders with approved eye protection.

Wrenches

- Never use an extension on a wrench handle.
- If possible, always pull on a wrench handle and adjust your stance to prevent a fall if something suddenly releases.
- Always keep the wrench squarely installed on the fastener.
- Never use a hammer on any wrench other than a STRIKING FACE wrench.
- Discard any wrench with damaged or battered points.
- Never use a pipe wrench to bend, raise or lift a pipe.

Pliers/Cutters/Pry Bars

- Plastic- or vinyl-covered pliers handles are not intended to act as insulation. Do not use them on live electrical circuits.
- Do not use pliers or cutters for cutting hardened wire unless they were designed for that purpose.
- Always cut at right angles.
- Do not use any pry bar as a chisel, punch or hammer.

Hammers

- Never strike a hammer against a hardened object, such as another hammer.
- Always grasp a hammer handle firmly, close to the end.
- Strike the object with the full face of the hammer.
- Never work with a hammer which has a loose head or cracked handle.
- Discard hammer if face is chipped or mushroomed.
- Wear approved eye protection when using striking tools.
- Protect bystanders with approved eye protection.

Punches/Chisels

- Never use a punch or chisel with a chipped or mushroomed end. Dress mushroomed chisels and punches with a grinder.
- Hold a chisel or a punch with a tool holder if possible.
- When using a chisel on a small piece, clamp the piece firmly in a vise and chip toward the stationary jaw.
- Always wear approved eye protection when using these tools.
- Protect bystanders with approved eye protection.

Screwdrivers

- Do not use a screwdriver for prying, punching, chiseling, scoring or scraping.
- Use the right type of screwdriver for the job. Match the tip of a screwdriver to the fastener.
- Do not interchange POZIDRIV, PHILLIPS or REED AND PRINCE screwdrivers.
- Screwdriver handles are not intended to act as insulation. Do not use them on live electrical circuits.
- Do not use a screwdriver with rounded edges because it will slip. Redress with a grinder.

Ratchets and Handles

- Periodically clean and lubricate ratchet mechanisms with a light grade oil. Do not replace parts individually. Ratchets should be rebuilt with the entire contents of service kit.
- Never hammer on a ratchet or put a pipe extension on a ratchet handle for added leverage.
- Always support the ratchet head when using socket extensions, but do not put your hand on the head or you may interfere with the action of its reversing mechanism.
- When breaking a fastener loose, apply a small amount of pressure as a test to be sure the ratchet's gear wheel is engaged with the pawl.

Sockets

- Never use hand sockets on power or impact wrenches. Select only impact sockets for use with air or electric impact wrenches.
- Select the right size socket for the job.
- Always keep the wrench or socket squarely on the fastener.
- Replace sockets showing cracks or wear.
- Keep sockets clean.
- Always use approved eye protection when using power or impact sockets.

Storage Units

- Do not open more than one loaded drawer at a time. Close each drawer before opening another to prevent the cabinet from unexpectedly tipping over.
- Close lids and lock drawers and doors before moving storage units.
- Do not pull on a tool cabinet. Always push tool cabinets in front of you.
- Set the brakes on the locking casters after the cabinet has been rolled into position.

FUEL AND OIL 1.3

FUEL

Always use a good quality unleaded gasoline. Octane ratings are usually found on the pump. Refer to Table 1-1.

⚠WARNING

Avoid spills. Slowly remove filler cap. Do not fill above bottom of filler neck insert, leaving air space for fuel expansion. Secure filler cap after refueling. Gasoline is extremely flammable and highly explosive, which could result in death or serious injury. (00028a)

⚠WARNING

Use care when refueling. Pressurized air in fuel tank can force gasoline to escape through filler tube. Gasoline is extremely flammable and highly explosive, which could result in death or serious injury. (00029a)

Modern service station pumps dispense a high flow of gasoline into a motorcycle fuel tank making air entrapment and pressurization a possibility.

Table 1-1. Octane Ratings

SPECIFICATION	RATING
Pump Octane (R+M)/2	91 (95 RON)

GASOLINE BLENDS

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

NOTICE

Do not use gasoline that contains methanol. Doing so can result in fuel system component failure, engine damage and/or equipment malfunction. (00148a)

- Gasoline containing METHYL TERTIARY BUTYL ETHER (MTBE): Gasoline/MTBE blends are a mixture of gasoline and as much as 15% MTBE. Gasoline/MTBE blends can be used in your motorcycle.
- ETHANOL fuel is a mixture of ethanol (Grain alcohol) and unleaded gasoline. While ethanol does have an impact on fuel mileage, fuels with an ethanol content of up to 10% may be used in your motorcycle without affecting vehicle performance. U.S. EPA regulations currently indicate that fuels with 15% ethanol (E15) are restricted from use in motorcycles at the time of this publication. Motorcycles delivered in some countries are calibrated to operate with higher ethanol concentrations to meet the fuel standards in those countries.
- REFORMULATED OR OXYGENATED GASOLINES (RFG): Reformulated gasoline is a term used to describe gasoline blends that are specifically designed to burn cleaner than other types of gasoline, leaving fewer tailpipe emissions. They are also formulated to evaporate less when you are filling your tank. Reformulated gasolines use additives to oxygenate the gas. Your motorcycle will run normally using this type of gas and Harley-Davidson recommends you use it when possible, as an aid to cleaner air in our environment.
- Do not use race gas. Use of these fuels will damage the fuel system.
- Harley-Davidson recommends using SCREAMIN' EAGLE SUPER OCTANE BOOST to raise fuel octane. This is the only octane booster that has been extensively tested and approved for use with Harley-Davidson engines and components.

Some gasoline blends might adversely affect the starting, driveability or fuel efficiency of the motorcycle. If any of these problems are experienced, try a different brand of gasoline or gasoline with a higher octane blend.

ENGINE LUBRICATION

⚠CAUTION

Prolonged or repeated contact with used motor oil may be harmful to skin and could cause skin cancer. Promptly wash affected areas with soap and water. (00358b)

⚠CAUTION

If swallowed, do not induce vomiting. Contact a physician immediately. In case of contact with eyes, immediately flush with water. Contact a physician if irritation persists. (00357c)

NOTICE

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

Engine oil is a major factor in the performance and service life of the engine. Always use the proper grade of oil for the lowest temperature expected before the next scheduled oil change. Your authorized dealer has the proper oil to suit your requirements. Refer to Table 1-2.

This motorcycle was originally equipped with Genuine H-D 360 Multi-Grade 20W50 engine oil, and is the preferred oil under normal operating conditions. If operation under extreme cold or heat are expected, refer to Table 1-2 for alternative choices.

If it is necessary to add oil and Harley-Davidson oil is not available, use an oil certified for diesel engines. Acceptable diesel engine oil designations include: SH, CH-4, CI-4 and CJ-4.

The preferred viscosities for the diesel engine oils in descending order are: 20W50, 15W40 and 10W40.

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

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