

94000529 - 2018 HARLEY-DAVIDSON® SERVICE MANUAL: SOFTAIL® MODELS

- Foreword
 - Foreword
 - General
 - Manual Layout
 - How to Use This Service Manual
 - Preparation For Service
 - Use Genuine Replacement Parts
 - Shop Practices
 - Cleaning
 - Disposal and Recycling
 - Tools and Materials
 - Product Registered Marks
 - H-D U.S.A., LLC Trademark Information
 - Contents
- Safety
 - Safety
 - Safety
- Maintenance
 - FASTENER TORQUE VALUES
 - Fastener Torque Values in this Chapter
 - General
 - Servicing a Motorcycle
 - Secure the Motorcycle for Service
 - MAINTENANCE SCHEDULE
 - General -[JPN]
 - FUEL AND OIL
 - Fuel
 - Gasoline Blends
 - Engine Lubrication
 - Winter Lubrication
 - REPLACE ENGINE OIL AND FILTER
 - Check Engine Oil Level
 - Change Oil and Oil Filter
 - REPLACE PRIMARY CHAINCASE LUBRICANT
 - Change Primary Chaincase Lubricant
 - REPLACE TRANSMISSION LUBRICANT
 - Check Transmission Lubricant
 - Change Transmission Lubricant
 - INSPECT TIRES AND WHEELS
 - General
 - Tires
 - Wheel Bearings
 - Wheel Spokes
 - LUBRICATE CABLES AND CHASSIS
 - General
 - Lubrication Points
 - INSPECT BRAKES
 - Inspect
 - Replace Front Brake Pads
 - Replace Rear Brake Pads
 - CHECK AND REPLACE BRAKE FLUID

- Check Brake Fluid Level
 - Drain and Replace Fluid
 - CHECK AND ADJUST CLUTCH
 - Check and Adjust
 - REBUILD FRONT FORK AND REPLACE OIL
 - Rebuild and Replace Fork Oil
 - ADJUST AND LUBRICATE STEERING HEAD BEARINGS
 - Prepare
 - Check and Adjust
 - Lubricate
 - Complete
 - INSPECT FUEL LINES AND FITTINGS
 - Inspect
 - INSPECT AND LUBRICATE JIFFY STAND
 - Inspect and Lubricate
 - INSPECT AND ADJUST DRIVE BELT AND SPROCKETS
 - Inspect
 - Measure Drive Belt Deflection
 - Adjust Belt
 - ADJUST SUSPENSION
 - Adjust Shock Absorber
 - INSPECT EXHAUST SYSTEM
 - Leak Check
 - INSPECT AIR FILTER
 - Remove
 - Clean and Inspect
 - Install
 - INSPECT BATTERY
 - Prepare
 - Remove
 - Install
 - Clean and Inspect
 - Voltage Test
 - Storage
 - Complete
 - CLEAN AND INSPECT SPARK PLUGS
 - Prepare
 - Remove
 - Clean and Inspect
 - Install
 - Complete
 - Storage
 - Place in Storage
 - Remove from Storage
 - Troubleshooting
 - Engine
 - Lubrication System
 - Electrical System
 - Transmission
 - Handling
 - BRAKES
- Chassis
 - FASTENER TORQUE VALUES
 - Fastener Torque Values in this Chapter
 - Specifications

Chassis

- VEHICLE IDENTIFICATION NUMBER (VIN)
 - Vehicle Identification Number (VIN)
- FRONT WHEEL
 - Prepare
 - Remove
 - Install
 - Disassemble
 - Clean and Inspect
 - Assemble
 - Complete
- REAR WHEEL
 - Prepare
 - Remove
 - Install
 - Disassemble
 - Clean and Inspect
 - Assemble
 - Complete
- WHEEL LACING
 - Wheel Lacing: Angle Flange Hub
- CHECKING AND TRUING WHEELS
 - General
 - Checking Wheel Runout
 - Laced Wheel Rim Offset
 - True Laced Wheels
- SEALED WHEEL BEARINGS
 - Prepare
 - Inspect
 - Remove
 - Install
 - Complete
- TIRES
 - General
 - Prepare
 - Remove
 - Clean, Inspect and Repair
 - Install
 - Check Tire Runout
 - Balance
 - Complete
- WHEEL ALIGNMENT
 - Prepare
 - Inspect
 - Adjust
 - Complete
- FRONT BRAKE MASTER CYLINDER
 - Prepare
 - Remove
 - Install
 - Disassemble
 - Clean and Inspect
 - Assemble
 - Complete
- FRONT BRAKE CALIPER

- Prepare
 - Remove
 - Install
 - Disassemble
 - Clean and Inspect
 - Assemble
 - Complete
- REAR BRAKE MASTER CYLINDER
 - Prepare
 - Remove
 - Install
 - Disassemble and Assemble: Master Cylinder
 - Complete
- REAR BRAKE CALIPER
 - Prepare
 - Remove
 - Install
 - Disassemble
 - Clean and Inspect
 - Assemble
 - Complete
- BRAKE LINES
 - Front Brake Line: Non-ABS
 - Rear Brake Line: Non-ABS
 - Brake Line: Front Master Cylinder (ABS)
 - Brake Line: Front Caliper (ABS)
 - Front ABS Lines
 - Brake Line: Rear Master Cylinder to ABS Module
 - Brake Line: Rear Caliper To ABS Module
- ABS MODULE
 - General
 - Prepare
 - Remove
 - Install
 - Complete
- BLEED BRAKES
 - Drain
 - Fill and Bleed
- LEFT SIDE COVER
 - Remove
 - Install
- RIGHT SIDE COVER
 - Remove
 - Install
- FRONT FORK
 - Check For Oil Leak
 - Prepare
 - Remove
 - Install
 - Disassemble and Assemble: Standard
 - Disassemble and Assemble: Inverted, Left Side
 - Disassemble and Assemble: Inverted, Right Side
 - Complete
- STEERING HEAD/FORK STEM AND BRACKET ASSEMBLY
 - Prepare

- Remove
 - Clean and Inspect
 - Install
 - Complete
- FORK LOCK
 - Prepare
 - Remove
 - Install
 - Complete
- REAR FORK
 - Prepare
 - Remove
 - Install
 - Disassemble
 - Clean and Inspect
 - Assemble
 - Complete
- BELT GUARDS
 - Prepare
 - Remove
 - Install
 - Complete
- REAR SHOCK ABSORBER
 - Prepare
 - Remove
 - Clean and Inspect
 - Install
 - Disassemble and Assemble: Rear Shock Adjuster
 - Complete
- CLUTCH CONTROL
 - Prepare
 - Remove
 - Clean and Inspect
 - Install
 - Disassemble
 - Assemble
 - Complete
- HEADLAMP NACELLE
 - Prepare
 - Remove
 - Install
 - Complete
- FAIRING
 - Remove and Install
 - Disassemble and Assemble
- WINDSHIELD
 - Remove
 - Install
 - Disassemble
 - Assemble
- HAND GRIPS
 - Remove
 - Install
- HANDLEBAR
 - Prepare

- Remove
 - Install
 - Disassemble
 - Assemble
 - Complete
- MIRRORS
 - Remove
 - Install
- FRONT FENDER
 - Remove
 - Install
 - Disassemble
 - Assemble
- REAR FENDER
 - Prepare
 - Remove
 - Install
 - Disassemble and Assemble: Full Fender
 - Disassemble and Assemble: Chopped Fender Without License Plate Bracket Lighting
 - Disassemble and Assemble: Chopped Fender With License Plate Bracket Lighting
 - Complete
- REAR FENDER WIRE CONDUIT
 - Prepare
 - Remove
 - Install
 - Complete
- SAREE GUARD
 - Remove
 - Install
- FRONT LICENSE PLATE BRACKET
 - Remove
 - Install
- REAR LICENSE PLATE BRACKET
 - General
 - Standard
 - Center Mount
 - Center Mount With Lighting
- LEFT FOOT CONTROLS
 - Prepare
 - Remove
 - Install
 - Disassemble and Assemble: Footboard
 - Disassemble and Assemble: Footpeg
 - Complete
- RIGHT FOOT CONTROLS
 - Remove and Install: Forward Foot Controls
 - Remove and Install: Mid Foot Controls
 - Disassemble and Assemble: Footboard
 - Disassemble and Assemble: Footpeg
- PASSANGER FOOTRESTS
 - Remove
 - Install
- JIFFY STAND
 - Prepare

- Remove
 - Install
 - Disassemble
 - Assemble
 - Complete
- SEAT
 - Remove
 - Install
- FRAME CROSSMEMBER
 - Prepare
 - Remove
 - Install
 - Complete
- SADDLEBAGS
 - Remove and Install: Standard
 - Remove and Install: Quick Disconnect
 - Disassemble and Assemble: Standard
 - Disassemble and Assemble: Quick Disconnect
- MEDALLIONS, BADGES, TANK EMBLEMS AND ADHESIVE STRIPS
 - Remove
 - Install
- Engine
 - FASTENER TORQUE VALUES
 - Fastener Torque Values in this Chapter
 - Specifications
 - Engine
 - SERVICE WEAR LIMITS
 - ENGINE OIL FLOW
 - Operation
 - OIL PUMP OPERATION
 - General
 - Operation
 - BREATHER OPERATION
 - General
 - Oil Pressure
 - Operation
 - Oil Pressure Check
 - Troubleshooting
 - Typical Symptoms
 - Compression Test
 - Cylinder Leakdown Test
 - Measure Crankshaft Runout
 - Diagnose Valve Train Noise
 - Diagnose Smoking Engine or High Oil Consumption
 - CRIMP CLAMPS
 - Remove
 - Install
 - OIL COOLER
 - Prepare
 - Remove
 - Install
 - Oil Check Valve
 - Complete
 - OIL COOLANT LINES
 - Prepare

- Remove
 - Install
 - Complete
- FRONT ENGINE MOUNT
 - Prepare
 - Remove and Install: Lower Front Engine Mount
 - Remove and Install: Upper Front Engine Mount
 - Complete
- LEFT SIDE ENGINE MOUNT
 - Prepare
 - Remove
 - Install
 - Complete
- UPPER ROCKER COVERS
 - Prepare
 - Remove
 - Install
 - Complete
- BREATHERS
 - Prepare
 - Remove
 - Install
 - Complete
- LOWER ROCKER COVERS
 - Prepare
 - Remove
 - Install
 - Complete
- ROCKER ARMS
 - Prepare
 - Remove
 - Clean and Inspect
 - Install
 - Complete
- PUSHRODS, LIFTERS AND COVERS
 - Prepare
 - Remove
 - Clean and Inspect
 - Inspect Lifters
 - Assemble Pushrod Cover
 - Install
 - Complete
- CYLINDER HEADS
 - Prepare
 - Remove
 - Clean
 - Install
 - Disassemble
 - Clean and Inspect
 - Valve and Seat Repair
 - Assemble
 - Complete
- CYLINDERS
 - Prepare
 - Remove

- Install
 - Clean and Inspect
 - Deglaze Cylinder
 - Complete
- PISTONS
 - Prepare
 - Remove
 - Install
 - Disassemble
 - Clean and Inspect
 - Check Piston Ring Gap
 - Assemble
 - Complete
- CAM COMPARTMENT AND COMPONENTS
 - Prepare
 - Remove and Install: Camshaft Cover
 - Remove
 - Inspect Cam Component
 - Install
 - Complete
 - Camshaft Needle Bearings
- Oil Pump
 - Prepare
 - Remove
 - Disassemble and Inspect
 - Assemble
 - Install
 - Complete
- REPLACE ENGINE
 - Prepare
 - Remove
 - Install
 - Complete
- Crankcase
 - Prepare
 - Disassemble
 - Clean and Inspect
 - Assemble
 - Repair Right Crankcase Half
 - Repair Left Crankcase Half
 - Sprocket Shaft Bearing Inner Race
 - Cylinder Studs
 - Plugs and Oil Fittings
 - Complete
- FLYWHEEL AND CONNECTING RODS
 - Symptoms
 - Prepare
 - Inspect
 - Complete
- OIL PAN
 - Prepare
 - Remove
 - Install
 - Complete
- Drive and Transmission

FASTENER TORQUE VALUES

- Fastener Torque Values in this Chapter
- Specifications
 - Drive Specifications
 - Transmission Specifications
 - SERVICE WEAR LIMITS
- TRANSMISSION OPERATION
 - Power Flow
- DRIVE BELT
 - Prepare
 - Remove
 - Install
 - Complete
- SHIFTER LINKAGE
 - Shifter Rod
 - Foot Shift Lever
 - Shifter Rod Lever, Front
- CLUTCH RELEASE COVER
 - Prepare
 - Remove
 - Install
 - Disassemble
 - Clean and Inspect
 - Assemble
 - Complete
- PRIMARY CHAINCASE COVER
 - Prepare
 - Remove
 - Install
 - Complete
- DRIVE COMPONENTS
 - Prepare
 - Remove
 - Install
 - Complete
- CLUTCH
 - Prepare
 - Disassemble and Assemble: Clutch Pack
 - Disassemble and Assemble: Hub
 - Complete
- PRIMARY CHAINCASE HOUSING
 - Prepare
 - Remove
 - Inspect
 - Install
 - Mainshaft Bearing and Seal
 - Mainshaft Bearing Inner Race
 - Shifter Shaft Bushing
 - Complete
- ENGINE OIL FILL SPOUT
 - Prepare
 - Remove
 - Install
 - Complete
- TRANSMISSION SPROCKET

- Prepare
 - Remove
 - Clean and Inspect
 - Install
 - Complete
 - Transmission
 - Prepare
 - Remove
 - Install
 - Disassemble
 - Clean and Inspect
 - Assemble
 - Complete
 - MAIN DRIVE GEAR AND BEARING
 - Prepare
 - Remove
 - Clean and Inspect
 - Install
 - Replace Needle Bearings
 - Replace Mainshaft Seal
 - Complete
 - TRANSMISSION CASE
 - Prepare
 - Remove
 - Install
 - Disassemble
 - Clean and Inspect
 - Assemble
 - Complete
- Fuel and Exhaust
 - FASTENER TORQUE VALUES
 - Fastener Torque Values in this Chapter
 - SPECIFICATIONS
 - Specifications
 - AIR CLEANER BACKPLATE ASSEMBLY
 - Prepare
 - Remove and Install: Round
 - Remove and Install: Oval
 - Complete
 - CONSOLE
 - Prepare
 - Remove and Install: Dual Instrument
 - Remove and Install: Single Instrument with Panel
 - Remove and Install: Single Instrument without Panel
 - Complete
 - DECORATIVE FUEL CAP
 - Remove
 - Install
 - FUEL PRESSURE TEST
 - Prepare
 - Test
 - Complete
 - PURGE FUEL LINE
 - Prepare
 - Lift Rear Of Fuel Tank

- Purge
 - Secure Fuel Tank
 - Complete
- FUEL LINE
 - Prepare
 - Remove
 - Install
 - Complete
- FUEL TANK
 - Prepare
 - Remove
 - Install
 - Complete
- FUEL PUMP
 - Prepare
 - Remove
 - Clean and Inspect
 - Install
 - Disassemble
 - Assemble
 - Complete
- VENT TUBE
 - Prepare
 - Remove
 - Install
 - Complete
- VAPOR VALVE
 - Prepare
 - Remove
 - Install
 - Complete
- TEMPERATURE MANIFOLD ABSOLUTE PRESSURE (TMAP) SENSOR
 - Prepare
 - Remove
 - Install
 - Complete
- TWIST GRIP SENSOR (TGS)
 - Prepare
 - Remove
 - Install
 - Complete
- FUEL INJECTORS
 - Prepare
 - Remove
 - Install
 - Complete
- INDUCTION MODULE
 - Prepare
 - Remove
 - Install
 - Disassemble
 - Assemble
 - Complete
- INTAKE LEAK TEST
 - Leak Tester

Procedure

- HEATED OXYGEN SENSORS (HO2S)
 - Prepare
 - Remove
 - Install
 - Complete
- MUFFLERS
 - Prepare
 - Remove
 - Install
 - Complete
- EXHAUST SYSTEM
 - Prepare
 - Remove
 - Install
 - Disassemble and Assemble: Standard
 - Disassemble and Assemble: Upswept
 - Disassemble and Assemble: Two Into One
 - Complete
- PURGE SOLENOID: CALIFORNIA EMISSIONS
 - Prepare
 - Remove
 - Install
 - Complete
- CHARCOAL CANISTER: CALIFORNIA EMISSIONS
 - Remove
 - Install
- PURGE LINES: CALIFORNIA EMISSIONS
 - Prepare
 - Remove
 - Install
 - Complete
- Electrical
 - FASTENER TORQUE VALUES
 - Fastener Torque Values in this Chapter
 - SPECIFICATIONS
 - Specifications
 - FUSES
 - Prepare
 - Remove
 - Install
 - Complete
 - POWER DISCONNECT
 - Main Fuse
 - Negative Battery Cable
 - STARTER
 - Prepare
 - Remove
 - Install
 - Complete
 - ALTERNATOR
 - Prepare
 - Remove
 - Install
 - Complete

VOLTAGE REGULATOR

- Prepare
- Remove
- Install
- Complete
- SPARK PLUG CABLES
 - Remove
 - Install
- IGNITION COIL
 - Prepare
 - Remove
 - Install
 - Complete
- HANDLEBAR CONTROL MODULES
 - General
 - Solder Procedure
- LEFT HAND CONTROL MODULE (LHCM)
 - Prepare
 - Remove
 - Install
 - Switch Caps
 - Clutch Switch Replacement
 - Complete
- RIGHT HAND CONTROL MODULE (RHCM)
 - Prepare
 - Remove
 - Install
 - Switch Caps
 - Front Brake Switch Replacement
 - Complete
- INSTRUMENT MODULE (IM)
 - General
 - Prepare
 - Remove and Install: Handlebar Mount
 - Remove and Install: Console With Panel
 - Remove and Install: Console Without Panel
 - Remove and Install: Dual Instrument
 - Complete
- TACHOMETER
 - Prepare
 - Remove
 - Install
 - Complete
- INDICATOR LAMPS
 - Prepare
 - Remove
 - Install
 - Complete
- OIL PRESSURE SWITCH
 - Prepare
 - Remove
 - Install
 - Complete
- NEUTRAL INDICATOR SWITCH
 - Prepare

- Remove
 - Install
 - Complete
- HORN
 - Prepare
 - Remove
 - Install
 - Disassemble
 - Assemble
 - Complete
- HEADLAMP
 - Bulb Replacement: Standard Round
 - Bulb Replacement: Nacelle Mounted
 - Bulb Replacement: Oblong
 - Bulb Replacement: Horizontal
 - Prepare
 - Remove and Install: Standard Round
 - Remove and Install: Nacelle Mounted
 - Remove and Install: Oblong
 - Remove and Install: Horizontal
 - Align
 - Adjust
 - Complete
- FRONT LIGHT BAR
 - Prepare
 - Remove and Install: Standard Lighting
 - Remove and Install: Integrated LED Lighting
 - Complete
- AUXILIARY LAMPS
 - Bulb Replacement
 - Prepare
 - Remove and Install: Standard Lighting
 - Remove and Install: Integrated LED Lighting
 - Align
 - Adjust
 - Complete
- FRONT TURN SIGNAL LAMPS
 - Bulb Replacement
 - Prepare
 - Remove and Install: Handlebar Mount
 - Remove and Install: Light Bar Mount
 - Complete
- REAR TURN SIGNAL LAMPS
 - Bulb Replacement
 - Prepare
 - Remove and Install: Fender Mount
 - Remove and Install: Light Bar Mount
 - Remove and Install: Center Mount
 - Complete
- TAIL LAMP
 - Bulb Replacement
 - Prepare
 - Remove and Install: Standard
 - Remove and Install: Tombstone
 - Remove and Install: License Plate Bracket Mount

- Remove and Install: Center Mount
 - Complete
- REAR STOPLAMP SWITCH
 - Prepare
 - Remove
 - Install
 - Complete
- LICENSE PLATE LAMP
 - Bulb Replacement
 - Prepare
 - Remove and Install: Center Mount
 - Remove and Install: License Plate Bracket Mount
 - Remove and Install: Side Mount
 - Complete
- TERMINATING RESISTOR
 - Prepare
 - Remove
 - Install
 - Complete
- ELECTRONIC CONTROL MODULE (ECM)
 - Prepare
 - Remove
 - Install
 - Complete
- BODY CONTROL MODULE (BCM)
 - Prepare
 - Remove
 - Install
 - Complete
- SECURITY SYSTEM ACTIVATION
 - Activation
 - Fob Assignment
- PERSONAL IDENTIFICATION NUMBER (PIN)
 - General
 - Changing the PIN
- SECURITY SYSTEM MAINTENANCE
 - Service Mode
 - Transport Mode
 - Fob Battery
 - Security Siren Battery
- SECURITY SIREN
 - Prepare
 - Remove
 - Install
 - Complete
- SECURITY SYSTEM ANTENNA
 - Prepare
 - Remove
 - Install
 - Complete
- CRANKSHAFT POSITION SENSOR (CKP)
 - Prepare
 - Remove
 - Install
 - Complete

ENGINE TEMPERATURE (ET) SENSOR

- Prepare
- Remove
- Install
- Complete
- KNOCK SENSOR (KS)
 - Prepare
 - Remove
 - Install
 - Complete
- AUTOMATIC COMPRESSION RELEASE (ACR)
 - Prepare
 - Remove
 - Install
 - Complete
- VEHICLE SPEED SENSOR (VSS)
 - Prepare
 - Remove
 - Install
 - Complete
- FRONT WHEEL SPEED SENSOR (WSS)
 - Prepare
 - Remove
 - Install
 - Complete
- REAR WHEEL SPEED SENSOR (WSS)
 - Prepare
 - Remove
 - Install
 - Complete
- JIFFY STAND SENSOR (JSS)
 - Prepare
 - Remove
 - Install
 - Complete
- FRONT ELECTRICAL CADDY
 - Prepare
 - Remove
 - Install
 - Complete
- USB CADDY
 - Prepare
 - Remove
 - Install
 - Disassemble
 - Assemble
 - Complete
- ECM CADDY
 - Prepare
 - Remove
 - Install
 - Complete
- BCM CADDY
 - Prepare
 - Remove

- Install
 - Complete
 - REAR LIGHTING CADDY
 - Prepare
 - Remove
 - Install
 - Complete
 - BATTERY TRAY
 - Prepare
 - Remove
 - Install
 - Complete
 - ENGINE GROUND CABLE
 - Prepare
 - Remove
 - Install
 - Complete
 - ENGINE WIRE HARNESS
 - Prepare
 - Remove
 - Install
 - Complete
 - BACKBONE WIRE HARNESS
 - Prepare
 - Remove
 - Install
 - Complete
 - MAIN WIRE HARNESS
 - Prepare
 - Remove
 - Install
 - Disassemble
 - Assemble
 - Complete
 - Wiring
 - WIRING DIAGRAMS
 - General
 - Wiring Diagrams
 - WIRE HARNESS CONNECTORS
 - General
 - Connector End Views
 - Reference
 - GLOSSARY
 - Acronyms and Abbreviations
 - METRIC CONVERSION
 - Conversion Table
 - FLUID CONVERSION
 - United States System
 - Metric System
 - British Imperial System
 - Backmatter
 - Backmatter
 - Backmatter
 - Backmatter

Refer to the Safety section before performing any procedures on a vehicle.

This service manual is organized into chapters, sections and topics. Each section is laid out in the following manner:

- Prepare
- Remove
- Install
- Disassemble (if applicable)
- Clean/Inspect (if applicable)
- Assemble (if applicable)
- Complete

The purpose of the **Prepare** topics is to provide an outline of procedures required before beginning a specific task. Links to the necessary procedures are provided in the topic.

The **Remove** and **Install** topics allow the technician to only remove and install the component - which may be all that is required. If a component can be repaired, **Disassemble**, **Assemble** and **Clean/Inspect** topics are provided as appropriate.

Complete topics provide a list of procedures that need to be performed to return the vehicle to ride-ready condition. If additional removal procedures need to be performed, move to the next section without performing the Complete topics in the current section.

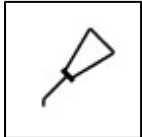
Each topic contains steps to complete the procedure. These steps are laid out in numeric and alpha steps.

The purpose of the numeric steps is to provide the experienced technician with high-level information to complete the procedure.

The alpha steps provide a less-experienced technician with step-by-step instructions to perform the procedure.

Symbols are used in some graphics to provide information about parts. Refer to **Table 1** for symbol definitions.

Table 1. Symbols

| | |
|---|---|
| | |
|  | Apply Lubricant: Indicates a part that should be lubricated during installation. |



Discard/Do Not Reuse: Indicates a part that must be replaced with a **new** part during installation.



Apply Sealant: Indicates a part that must be installed with a threadlocker or sealant.



Special Tool: Indicates that a special tool is recommended.



Measure: Indicates a part that should be measured or gauged to verify that it is within specification.

A cross-reference shown as **2.2 SPECIFICATIONS** refers to chapter 2 CHASSIS, heading 2.2 SPECIFICATIONS.

All pages contain a chapter number followed by a page number. For example, **page 3-5** refers to page 5 in Chapter 3.

In figure legends and tables, the number in parentheses that follows the part name indicates the quantity of that part necessary for one complete assembly.

Example:

2. Rocker cover screw (4)

In a procedure step or paragraph, the number in parentheses that follows a part name indicates the legend item of the part in the figure referenced by the text.

Example:

1. Remove rocker cover screws (2).

Acronyms and abbreviations are used in this document. See the **Acronyms and Abbreviations** for a list of acronyms, abbreviations and definitions.

- Start each job with a clean work area.
- Clean the motorcycle before work begins.
- Gather any tools, instruments and parts needed for the job before work begins.
- Carefully read all related service information, including service bulletins, before service work begins.

 **WARNING**

Harley-Davidson parts and accessories are designed for Harley-Davidson motorcycles. Using non-Harley-Davidson parts or accessories can adversely affect performance, stability or handling, which could result in death or serious injury. (00001b)

To achieve satisfactory and lasting repairs, carefully follow the service manual instructions and use **only** genuine Harley-Davidson replacement parts.

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. Verify that no parts are in the way of the part being removed.

Always tag hoses, wiring or tubes to verify proper installation.

Thoroughly clean all parts to be reused before assembly. Clean parts promote better component operation and longer life. Seals, filters and covers used in this vehicle keep out extraneous dirt and dust. Keep these items in good condition to guarantee satisfactory operation. See **Cleaning**.

Check torque using a torque wrench set to the minimum specification for that fastener. If the fastener does not rotate, the torque has been maintained. If the fastener rotates, remove it to determine if it has a threadlocking agent.

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

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

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.

Always clean around lines or covers before they are removed. When cleaning parts:

- Plug, tape or cap holes and openings to keep out dirt, dust and debris.
- Clean and inspect all parts as they are removed.
- Cover all clean parts with clean lint-free cloth, paper or other material.
- Verify that the part is clean when installed.

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.

To attain proper clamp load, always clean fastener threads and threaded holes prior to assembly.

NOTE

Never use a thread-cutting tap or die to clean threads.

- Clean all threadlocking material from fastener threads and threaded holes.
- Use a wire brush or thread-chasing die to clean fastener threads.
- Use a thread chaser to clean threaded holes.
- Use PJ1 cleaner or equivalent to remove all traces of oil and contaminants from threads.
- Clear all threaded holes with low-pressure compressed air.

Never use cleaners containing chlorine or ammonia on plastic parts. Chlorine will cause parts to become distorted and brittle resulting in cracks. Ammonia will cause cloudiness and brittleness in windshields and cause non-painted parts to form a white haze.

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.

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.

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. Allow bearings 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.

Thank you so much for reading.
Please click the “Buy Now!”
button below to download the
complete manual.



After you pay.

You can download the most
perfect and complete manual in
the world immediately.

Our support email:

ebooklibonline@outlook.com