

# SERVICE BULLETIN



M-1060

November 19, 1996

## 1997 SUPPLEMENTAL SERVICE INFORMATION BULLETIN

This bulletin provides service updates for the 1997 model motorcycles:

### Battery Cable Routing

#### FLT Models

The following warning has been developed for all 1997 FLT Models to prevent damage or injury from battery cables being improperly routed through the hole in the frame cross member:

#### WARNING

Hole on left side of frame cross member is used for cruise cable routing only. Use of the hole for battery cable routing can result in contact with hot exhaust pipe causing melting or burning of the cable insulation, damage that can lead to driveability problems or fire hazard, possibly resulting in personal injury and/or property damage.

Route all battery cables through opening between tray of battery box and bottom of frame cross member, as shown in Figure 1 below.

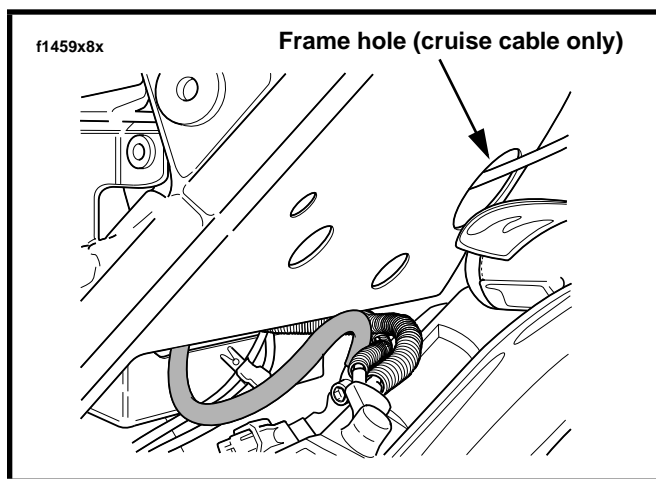


Figure 1. FLT Battery Cable Routing

#### Sportsters

The positive battery cable on Sportsters is shipped loose outside the battery box **and must be routed up through the hole in the rubber tray liner before being connected to the battery.** Do not route cable around the outside of the battery box, or through the opening in the side of the battery box.

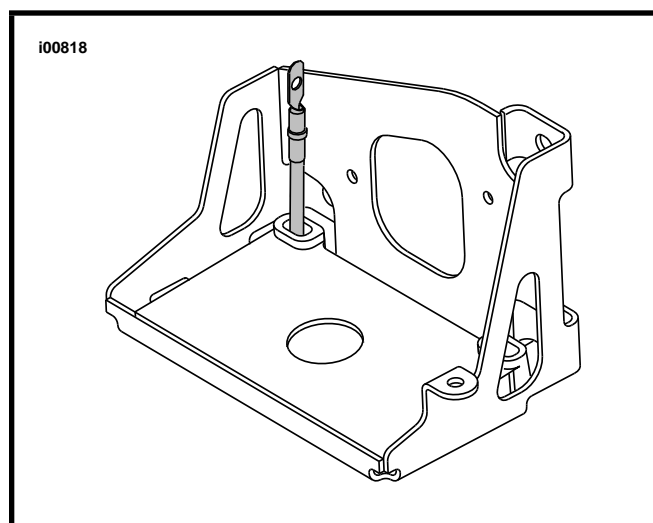


Figure 2. Sportster Positive Battery Cable Routing

### Fixing Bound Front Ends on FLSTS Models

The following is a procedure for fixing a bound front end on FLSTS model motorcycles. It should be noted that you cannot check any Springer by bouncing the front end. The proper procedure for checking the front end is to walk the motorcycle across the floor at a moderate pace and then apply the front brake. If the suspension does not move, you may have a bound front end. To confirm the problem, check for movement of the front end during a test ride. If the motorcycle fails both tests, then the front end is bound and you should use the following procedure for correcting the problem:

ROUTING	SERVICE MANAGER	SALES MANAGER	PARTS MANAGER	LEAD TECHNICIAN	TECHNICIAN NO. 1	TECHNICIAN NO. 2	TECHNICIAN NO. 3	TECHNICIAN NO. 4	RETURN THIS TO:
INITIAL HERE									

1996 Harley-Davidson® Motor Company

## NOTE

*A bound FLSTS suspension will not collapse when the front brake is applied with the motorcycle rolling across the floor.*

*The FLSTS will exhibit more initial resistance to suspension function than a FXSTS. This is a result of the additional spherical bearings and nylon inserts designed into the FLSTS front fender.*

For the following steps, refer to the 1997 Softail Service manual for illustrations and detailed procedures:

1. Leaving the wheel in place with the axle nut torqued, remove the brake caliper from the caliper mounting bracket and secure out of the way.
2. Remove the cotter pin, nut, and washer from the screw that attaches the front fender to the brake caliper mounting bracket.
3. Remove the screw from the caliper bracket and fender.
4. To check for clearance and/or binding, rotate the fender forward and backward around the axle taking care not to drag the fender across the brake caliper bracket. The painted parts of the fender should not contact the rockers, rigid or spring fork parts, or suspension hardware. The fender should move freely with only a slight drag. Some minor slip/stick action may also be present. If the fender is tight, see step 7.
5. Reinstall the fender mounting screw, washer, and nut. Do not overtighten the nut, this is only to hold the fender in place while the wheel is removed.
6. Remove the axle hardware and axle and remove the wheel checking to make sure the hardware and spacers were installed correctly.
7. Remove the fender and inspect the spherical bearings. You should be able to rotate the bearings side-to-side. If the bearings appear to be bound, insert the axle and carefully try to break the bearing loose. If the bearing still will not rotate, the bearing bore may contain paint or E-coat. Look at the inboard side of the bearing housing and look at the position of the bearing housing relative to the fender bushing. The housing should be pressed flush to the fender bushing. The ball must protrude to provide clearance between the fender and the rocker. If necessary, replace fender.
8. Remove the screw, nut, and washer that attach the brake reaction link to the brake caliper mounting bracket. The caliper bracket must rotate about the sleeve pressed into the rocker. Remove the caliper bracket, thrust washer, and quad-ring from the pivot sleeve.
9. Rotate the reaction link about its rear connection to the fork leg bracket. Also, check the bearing at the disconnected end of the link by inserting the screw in the bearing and turning the ball side-to-side.

## NOTE

*Perform rocker inspection, steps 10 through 13 below, one rocker at a time. Complete the inspection of one rocker before removing the pivot screw from the other rocker.*

10. Remove the spring fork pivot screw that attaches one of the rockers to the fork leg bracket.

11. Check the spherical bearing that mounts the rocker to the spring fork in the same way the other spherical bearings were checked. If the bearing is bound and cannot be loosened, replace the rocker and adjust the rigid fork bearings accordingly.
12. Check that the rocker pivots about the rigid fork with 25-35 **in-lbs.** of resistance. If out of specification, adjust.
13. If all of the bearings are in acceptable condition, reassemble the rocker to the spring fork. Apply Loctite 242 (blue) to the threads on the spring fork pivot screw. Torque the nut to 45-50 ft-lbs. Note: the nut must be on the inboard side of the rocker.
14. Check the other rocker following steps 10 through 13.
15. Reassemble the rubber spacer, the thrust washer, and the brake caliper bracket, in that order, to the pivot sleeve making certain the gray side of the thrust washer faces the brake caliper bracket. Reassemble the brake link to the brake caliper bracket using a new locking acorn nut. Torque the nut to 34-40 ft-lbs.
16. Reinstall the front fender using a new locknut. Make sure the fender has the nylon insert assemblies in place. Slide the axle into place, then install and torque the fender hardware to 28-32 ft-lbs.
17. Pull out the axle and reinstall the front wheel making certain that the spacers are installed correctly.
18. Torque the axle nut to 60 ft-lbs. Check the castle nut for alignment with the hole in the axle. If required, tighten the axle until the hole is aligned, then install the cotter clip.
19. Reassemble the brake caliper to the caliper bracket.
20. Test ride motorcycle.

## FLSTS/FXSTS/FXSTSB 500 Mile Service Interval Correction

Rockers need to be adjusted on all Springer models at the 500 mile service interval. Please make this change to the service intervals chart on page 1-35 in your 1997 Softail Service Manual.

## Rocker Adjustment

For 1997, the rocker adjustment procedure has changed; however, the Service Interval of 10,000 miles remains the same. See the 1997 Softail Service Manual, page 2-66 for complete procedure.

## FLSTS Transmission Drain Plug

The transmission drain plug on FLSTS models can be removed by going in from the bottom left side of the exhaust pipe mounting bracket on the transmission. To do this you will need a 1/4" drive socket that fits the hex of a T-40 Torx bit (Snap-on Part No. FTX40E2), universal joint, 6-8" extension, and ratchet. The Torx bit **may** need to be shortened approximately 1/4" for proper alignment when removing the drain plug. First try the full length bit, and then grind as needed. Take care when installing plug to make sure plug is threaded straight into cover.

## FLSTS Exhaust Baffles

Do not attempt to remove exhaust baffles from FLSTS motorcycle mufflers. Because of the muffler's offset baffle construction, attempting to remove baffles **will** result in muffler damage.

## FLT License Plate Bracket

Although Harley-Davidson license plate brackets meet SAE standards, license plates in some states that do not comply with SAE standards, will not fit the bracket. On FLT models, in states whose license plates don't meet SAE standards, the reflector on the bottom of the bracket must be peeled off to make room for the larger plate, and an HDI reflector assembly (Part No. 59251-90) must be installed on the rear fender, under the tail lamp, as a replacement.

## Radio Noise

AM static complaints can be reduced by installing a longer rear spark plug wire on the front cylinder spark plug, rerouting the radio antenna cable to the other side of the frame, and adding a ground cable (Part No. 70465-96) between the antenna and tourpak mounting bolt.

## SWR Adjustment

Use a metal coat hanger to adjust SWR. Straighten the hanger and insert it into the mount. Shorten the coat hanger until you get the lowest reading. Remove the coat hanger and measure its length. Calculate the difference between the antenna length and the coat hanger length and cut a piece of #14 copper wire to that length. Remove the ring terminal from the antenna lead coming out of the loading coil and clean the coating from the wire end. Tin on end of both wires. Solder the copper wire to the antenna lead (overlap wires 1/4"). Attach a new ring terminal (Part No. 9857) to the wire.

## Tour-Pak Lid

Running changes to 1997 Tour-Paks include: lengthening the Tour-Pak tether and relocating the tether attachment point (to reduce stress in the fiberglass), and redesigning the hasp.

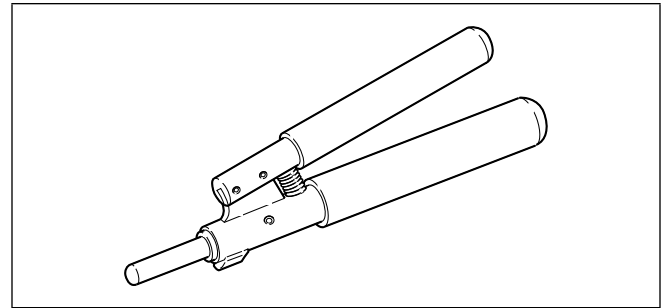
When installing the long tether lid on older style Tour-Paks with the short tether mount location, remove the long tether and install the original, short tether.

## Ignition Sensor Wires

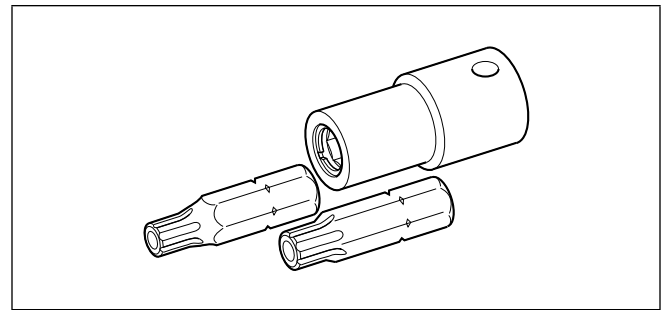
When you service any 1995 or 1996 FL models, remember to check for cam sensor wire contact with the oil pan. Powertrain movement could rub the insulation from the wires and cause a driveability complaint. EFI models will often generate a code 56 if this occurs.

## New Kent-Moore Specialty Service Tools

The following tools have been added to the list of Kent-Moore Specialty Service Tools:



**Part No. HD-34623-B Piston Clip  
Installer**



**Part No. HD-42508 T-40/T-45 Plus Torx Drivers**

## Cork Lower Rocker Box Gaskets

Cork Lower Rocker Box Gaskets are in inventory and available. Order Part No. 17373-84.

## Transmission Pawl Adjuster for FLSTS

In the 1997 Softail Service Manual, the tool used to adjust the gear engagement (transmission pawl adjuster) for the Heritage Springer is listed incorrectly as HD-39618A. The correct tool number is HD-42465. When performing the pawl adjustment, you will need to remove the coil to gain access to the jam nut on the transmission. Please make note of this in your Service Manual.

