SERVICE BULLETIN



M-1099

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1999 AND 2000 MODEL SERVICE INFORMATION

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<u>1999</u>

Engine Sensor Harness

(FL and DYNA Models)

There have been reports of engine hesitation and/or hard starting on some 1999 Twin Cam 88 model vehicles (both carbureted and EFI) after being ridden in the rain or on wet roads. In most cases, troubleshooting with the Scanalyzer has indicated the existence of historic trouble codes 41, 42 and 56.

Further investigation typically reveals moisture/corrosion inside the engine sensor harness connector (8-place Mini-Deutsch), which is anchored to the threaded hole at the rear right side of the crankcase. Moisture/corrosion corrupt the signals from the camshaft and crankshaft position sensors causing drivability problems and the resulting trouble codes.

To correct this problem, disconnect the engine sensor harness connector and blow out any moisture using low pressure compressed air. Liberally apply dielectric grease to the inside of both pin and socket halves of the connector. If corrosion is present, replace the connector and any corroded terminals. [Complete a warranty claim using labor code 5048. Prior authorization is required for vehicles out of warranty.]

NOTE

Twin Cam 88 powered motorcycles built after July 1, 1999 have both harness and connector changes to prevent moisture related problems.

If problems still persist, remove the oil pressure sending unit wire from the connector (Green/Yellow wire in chamber 1).

Cut off the terminals and mate ends of wires using a heatsealed butt splice connector. Cable strap the wire to the engine sensor harness conduit when finished. [Complete a warranty claim using labor code 5043. Prior authorization is required for vehicles out of warranty.]

NOTE

For instructions on properly removing wire terminals, see APPENDIX A of the 2000 FLT Models Service Manual, DEUTSCH ELECTRICAL CONNECTORS, page A-3. For butt splicing instructions, see SEALED BUTT SPLICE CONNECTORS, page A-19.

Voltage Regulator Cables

(FL Models Only)

Chafed voltage regulator cables can cause low voltage problems. To diagnose, visually inspect the entire length of the voltage regulator cables for any signs of contact or chafing. Inspect the cables for contact with the front and rear edge of the lower front motor mount, with the machined surface at the bottom of the crankcase (under the cam cover), and with the bottom rear oil filler spout screw. In fact, wherever there is possible contact with the powertrain or road debris, further cable strap the cables as necessary to prevent damage. For more information, see the 2000 FLT Models Service Manual and/or Service Bulletin M-1077.

1999 and 2000

5 Inch Speedometer

(FL and SOFTAIL Models)

The white lettering on some 5 inch Delco speedometers may "gas" when exposed to high ambient temperatures caused by direct sunlight. The "gassing" can result in a permanent horseshoe shaped fog on the inside of the glass, thereby becoming a cosmetic issue. This condition is not to be confused with moisture related fogging, as described in Service Bulletin M-1053. [Complete a warranty claim using labor code 6003. Prior authorization is required for vehicles out of warranty.]

NOTE

Some complaints of lense scratching or staining also have been received, but investigation has revealed that this is occuring to the antifog coating on the outside of the lense, and not the glass itself. To restore the surface to a "like new" appearance, simply remove the antifog coating using a glass cleaner or mild solvent.



Figure 1. Check/Modify Routing of In-Tank Tubes

<u>2000</u>

EFI Fuel Gauge

(FL Models Only)

There have been some reports of an inaccurate fuel gauge on early 2000 model year EFI vehicles. In some cases, foreign material on the contact surfaces of the fuel level sender may be the cause. Before removing the in-tank fuel pump/filter canister/fuel level sender assembly, run through a tank of gas or two to exercise the float rod.

If the problem is not corrected, then the float rod may be contacting internal tubing. Proceed as follows:

FLHTC/U-I, FLTR-I :

- 1. Remove the console pod and canopy. See the 2000 FLT Models Service Manual, CONSOLE POD/CANOPY REMOVAL, page 9-100.
- 2. Raise float rod to determine if contact is made with pump-to-filter tube. See A of Figure 1. If contact is

made, remove hose clamp from filter inlet port and turn tube as necessary to coil or twist away from float rod. Install new hose clamp at filter inlet port. Verify that tube is not pinched or kinked.

 Install the console pod and canopy. See the 2000 FLT Models Service Manual, CONSOLE POD/CANOPY INSTALLATION, page 9-101. [Complete a warranty claim using labor code 7465.]

FLHR/C-I:

- 1. Remove the instrument console and canopy. See the 2000 FLT Models Service Manual, INSTRUMENT CONSOLE/CANOPY REMOVAL, page 9-101.
- 2. Reaching into the fuel tank, route the free end of the supply tube toward the rear, so that it passes under and behind the return tube before coming forward at the top of the tunnel. Contact with the return tube (which is retained by weld clip) will hold the supply tube back away from the float rod assembly. See B of Figure 1.
- 3. Install the instrument console and canopy. See the 2000 FLT Models Service Manual, INSTRUMENT CON-SOLE/CANOPY INSTALLATION, page 9-102. [Complete a warranty claim using labor code 7465.]

NOTE

All vehicles shipped from the York, Pennsylvania assembly plant after November 1, 1999, have had the pump-to-filter (FLHTC/U-I, FLTR-I) and supply tubes (FLHR/C-I) routed as described and should be problem free.

Tail Lamp Bulb

(All Models)

A new tail lamp bulb introduced on all 2000 model vehicles has a filament support that significantly increases the life of the bulb in high rpm or high vibration applications. See Figure 2. If hard use shortens the service life of the front <u>turn</u> <u>signal/running lamps</u>, the new bulb also can be installed at these locations for improved results.



Figure 2. Use New Bulb for Improved Service Life





Starter Relay

(FL Models Only)

A new starter relay (P/N 31522-00) was introduced on all 2000 Dyna, Softail and FL model vehicles. Some 2000 FL model owners have since reported intermittent loss of radio while riding on rough pavement, and the new starter relay was found to be the cause. To correct the problem, an improved relay (P/N 31522-00A) with a gray case has been installed on <u>all</u> vehicles shipped from the York, Pennsylvania assembly plant after January 1, 2000. To avoid any problem,

all earlier 2000 FL model vehicles <u>with</u> <u>radios</u> should have the old style starter relay with the black case replaced with the new gray relay. [Complete a warranty claim using labor code 5832.] The old style relay can continue to be used on <u>non-radio equipped</u> vehicles. See the table in Figure 3.

Tour-Pak Side Marker Bulb/ Lense Replacement

(FL Models Only)

Since the space between the lense and mounting bracket is too narrow for bulb removal and installation, disassembly must be taken one step further than that described in the 2000 FLT Models Service Manual. Use this procedure for lense replacement also.

1. From inside Tour-Pak, remove three T15 TORX screws to release lense assembly.

- Using the blade of an X-Acto knife or small screwdriver, gently pry up three eyelets on inboard side of mounting bracket. See Figure 4. Remove eyelets and then remove mounting bracket from lense. Discard eyelets if damaged.
- 3. Remove bulb from socket and discard. Install **new** bulb in socket.
- Align holes in mounting bracket with those in lense. Push three eyelets through mounting bracket holes into bosses of lense. Use **new** eyelets if damaged.
- Place lense assembly into position at side of Tour-Pak, but exercise caution to avoid pinching or kinking wires. Note that center rib on inboard side of lense has a stepped area for routing of the top wire. See Figure 4.
- 6. From inside Tour-Pak, install three T15 TORX screws.

Tour-Pak Mounting

(FL Models Only)

Some dealers are installing the late 2000 model year Tour-Pak mounting bolts upside down. In these cases, the ends of the bolts can tear the molded liner and scratch objects, such as helmets, stored inside the Tour-Pak.

When the vehicle is first shipped from the factory, the two rear Tour-Pak mounting bolts on the left and right side are installed upside down, and then held in place with pushnuts. See A of Figure 5. The Tour-Pak is placed over the bolts and secured using two flange nuts with oversized shipping washers. This configuration is only intended to faciliate crating and shipping of the vehicle.

During predelivery and setup, the Tour-Pak must be shifted to its most rearward position for seat installation. To avoid dropping or scratching the Tour-Pak, disconnect the radio antenna cable and Tour-Pak lights connectors and feed



Figure 4. Remove Eyelets to Release Mounting Bracket From Lense



Figure 5. Install Tour-Pak Mounting Bolts

wiring out through hole at front of Tour-Pak (after removing grommet). On Ultra models, repeat the procedure to release the CB antenna cable and connector.

Next, place a protective blanket aross the frame tubes in the seat area. Remove the flange nuts and oversized shipping washers and then lift the Tour-Pak off the mounting bolts setting it on the blanket. Remove the pushnuts from the mounting bolts, and pull the bolts from the luggage rack (although the spacers may be left in place between the luggage rack rail and the license plate bracket).

After re-positioning the Tour-Pak, re-install the two mounting bolts from <u>inside</u> the Tour-Pak using the smaller flat washers and flange nuts provided. Three additional mounting bolts (along with associated hardware) are installed in the same manner. See B of Figure 5. The pushnuts and oversized shipping washers removed during setup are discarded.

AGM Batteries

(All Models)

A line of new permanently sealed, maintenance-free AGM type batteries are now available for replacement of the old style Yuasa batteries on earlier model vehicles, as follows:

Old Part Number (Yuasa)	New Part Number (AGM)	CCA		
65989-97	65989-97A	270		
66010-97	66010-97A	300		
65991-82A	65991-82B	260		
65989-90A	65989-90B	260		
66010-82A	66010-82B	280		
-	65948-00	200		
66007-84	Same (Wet-Type)	240		
66006-70	Same (Wet-Type)	74		

AGM Type Replacement Batteries

NOTE

AGM type batteries for 1973-75 FXE models, 1982 and later XL models, and 1991-96 Dyna models, have battery dimensions that may not allow use of accessory battery covers 66358-83, 66340-78, and 66347-91.

Police Model Tires

(FL Models Only)

The rear tire on 2000 police model motorcycles is fit for solo riding <u>only</u>. If converted to a two-up bike, that is, configured for passenger use (with luggage), then the rear tire needs to be changed to one with a higher rating. Since it has long been Harley-Davidson policy not to mix different types of tires on the same vehicle, we strongly recommend that <u>both</u> front and rear tires be replaced. In order to alert the customer to this safety issue, the following warning appears on a label fitted to the rear fender (approximately 1/4 inch behind the seat mounting hole).

This vehicle has tires with weight ratings for one person operation. If this vehicle is modified to carry two people, the tires must be changed. See your local Harley-Davidson dealer for the proper replacement tires. Failure to follow this warning could cause tire failure which could result in death or serious injury.

NOTE

Use the tires recommended for civilian/pleasure vehicles of the same year and model family. See the table below.

Police Model Replacement Tires

Tire	Solo Riding Only (OE)	Two-Up Riding (Passenger and Luggage)		
Front 43762-96		43022-91*		
Rear 40549-96		43102-91A*		
* Blackwall only. See the Harley-Davidson 2000 Genuine Parts and Accessories Catalog for other options.				

Automatic Volume Control Diagnostics

(FL Models Only)

The diagnostic flow chart under Automatic Volume Control (AVC) Inoperative, Hardware Diagnosis, on page 8-176 of the 2000 FLT Models Service Manual has several errors. For future reference, please copy the <u>corrected</u> flow chart on page 6 of this bulletin and insert it into the appropriate spot in your service manual.

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

2000 Harley-Davidson[®] Motor Company

4. AUTOMATIC VOLUME CONTROL (AVC) INOPERATIVE HARDWARE DIAGNOSIS

HARDWARE DIAGNOSTIC NOTES

The reference numbers below correlate with those on the diagnostic flow chart.

- (1) See Software Diagnosis, page 8-175.
- Use Harness Connector Test Kit (HD-41404), brown pin probe and patch cord.
- Connect Speedometer Tester (HD-41354) to speedometer sensor connector [65] located under the seat (3place Deutsch). For a signal that duplicates 3 MPH, enter the number "70" on the keypad and watch for a voltage drop on the W/GN wire. If the tester is not available, elevate the rear wheel and spin briskly while looking for voltage drop.
- To enable Diagnostic Mode, depress odometer reset switch and turn Ignition/Light Key Switch to IGNITION. To clear codes, depress and hold reset switch for ten seconds. To return speedometer to normal operating mode, cycle Ignition/light Key Switch.
- Leaving Speedometer Connector [39] connected, insert probe into wire end of connector [39B] until contact is made with backside of terminal. If necessary, use a fine paper clip to avoid damage.

NO



After Correction of Problem, Refer to SETUP and FUNCTIONALITY to Verify Proper Operation.

FLHTC/U Wire Harnes	s Connectors
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No.	Description	Туре	Location
[17]	Cruise Module	10 - Place Packard	Under Left Side Cover
[27]	Radio	23 - Place Amp (Black)	Back of Radio (Right Side)
[30]	Turn Signal Module	8 - Place Deutsch	Cavity at Top of Frame Backbone (Under Seat)
[39]	Speedometer	12 - Place Packard	Inner Fairing - Back of Speedometer