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**– July 1993 –  
#34**

TECH TIPS #34  
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# TECHNICAL TIPS # 34

## JULY 1993

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### \*\* FL MODELS \*\*

#### *DISC ROTOR CHANGE*

All FL model family rear disc brakes have undergone a running change to their surface finish. Previously a ground finish, they now have a turned finish. The part number is unchanged.

#### *90th ANNIVERSARY ULTRA PODS*

If you are replacing a 90th Anniversary Ultra pod, contact RSI for an authorization as usual. A replacement pod **without** the limited edition sticker will be sent. The original pod, should be returned to RSI. **DO NOT** attempt to remove the original sticker. The sticker will be removed at RSI and returned to Milwaukee.

A new sticker is obtained by contacting your Parts and Accessory account representative for a replacement. Send the vehicle's Vehicle Identification Number (VIN) and the commemorative number of the vehicle; i.e. "123 of 1340". The sticker is not a sold part and replacements can only be obtained by following this procedure. The replacement sticker will be forwarded to you once the old sticker arrives in Milwaukee from RSI.

## *HAND CONTROLS*

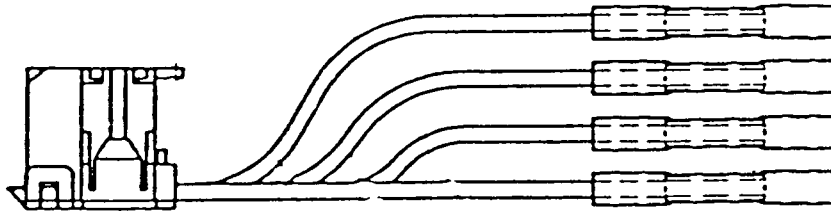
Some dealers have reported that some left side Ultra hand controls are loose after adjusting to customer preference. The fasteners are tight and no gap exists between the clamp halves. The vendor has addressed the situation. This situation can be corrected by filing slightly on the clamp half and touching up with black paint.

## **\*\* XL MODELS \*\***

### *NEW HEADLAMP/ NEW PLUG*

1992 and later Sportsters and FXR's have utilized a new style headlight bulb. Because the headlight assembly is slightly larger in size, the plug was also changed to maintain clearance inside the headlight bucket.

This new style of plug is available as a retrofit kit. This is especially important if you are retrofitting the new bulb to an older vehicle. Part number, **68705-93**, the headlamp plug assembly is pre-wired and butt splice connectors complete the connections to the existing wiring.



**REPLACEMENT VOLTAGE REGULATORS**  
1984 1/2 - 1990

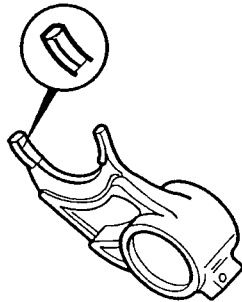
Replacement voltage regulators, part number 74523-84A, may not be exactly the same as the unit being replaced. Don't worry, the new part is the proper part and will work.

What is different is the wires exit from the regulator's housing. Original regulators had the wires exiting from the REAR of the regulator. Replacement regulators have the wires exiting from the SIDE.

These regulators are most easily installed by tilting the regulator, making it easier to slip into place between the frame downtubes.

**SHIFT FORK CHANGE**

Shift forks for 5 speed Sportster models have recently undergone a running change. A **chamfer** has been added to permit adequate clearance of the fork in the gear's fork groove. The chamfer is needed for clearance in the fork groove in the **FORGED** slider gears being used in 1994 motorcycles.



The part number of all three forks have changed:

<u>OLD</u>	<u>FORK</u>	<u>NEW</u>
34142-89B	1&2	34142-89C
34144-89B	3&5	34144-89C
34147-89B	4	34147-89C

It is important to remember that the new forks retrofit and can be used in any Sportster 5 speed transmission, BUT USE ONLY THE LATE STYLE FORKS IN 1994 TRANSMISSIONS.

The use of earlier forks, which may be in your dealership's inventory, can cause binding and damage to both forks and gears if used in a 1994 transmission.

### **RETROFIT OIL TANK**

Two retrofit oil tank kits will be available in early August for earlier Sportster models. This oil tank will retrofit to all 1982 to 1993 Sportster models, except the XR-1000. All earlier tanks will be obsoleted and replaced with these two kits.

<u>PART NUMBER</u>	<u>APPLICATION</u>
62472-93	1982 - early 1987 - with flared brake lines
<u>62473-93</u>	late 1987 - 1993 - with banjo brake lines

**\*\* DYNA MODELS \*\***

### **HORN TONE QUALITY**

Some Dyna vehicles have reported a varying horn tone that changed as the battery box was loosened or tightened. Battery boxes/horn bracket assemblies built after November 1992 used thinner plate material to allow the bracket to resonate with the horn. Newer brackets to correct tone quality complaints are available through Parts & Accessories. Part number, **47132-93**.

### ***FRONT WHEEL OFFSET***

The 1993 Dyna-Glide Service Manual does not contain the offset measurement for truing the front wheel on Wide-Glide models. The Wide-Glide hub has only a single disc rotor flange. The correct hub offset is the same as the **FXSTC**; 1993 Service Manual, page 2-19. The off-set should be 1.58 - 1.66".

### **\*\* FX MODELS \*\***

### ***REAR FENDER DENTING***

There have been some reports that the pillion seat mounting tab is denting the rear fender on some Softail models. If you experience this problem replace the pillion.

### ***INSTRUMENT PANELS***

If you have encountered instrument panel cracking on Softail models, you can correct this by using SAE flat washers to shim the instrument panel cover. Install the washers on the instrument panel cover mounting stud to take up the space between the instrument panel cover and the mounting plate. This will take a trial and error method to find the proper number of washers to fill the gap and still gain enough clamp load to keep the instrument panel cover gasket in place.

**\*\* ALL MODELS \*\***

***HANDLEBAR ADJUSTMENTS***

When adjusting handlebars, either during pre-delivery and set up or for customers, be careful not to bend the front brake line at the banjo fitting. The proper method of adjusting the handlebars requires you to loosen the banjo bolt along with the two clamp screws to position the brake line prior to moving the master cylinder. Loosening the screws and repositioning the master cylinder will cause the brake line to contact the handlebars and bend the brake line. Should this occur replace the line. Do not try to bend the brake line back into position since this could cause the brake line to crack at the joint.

***FUEL GAUGE MOUNTING SCREWS***

There has been a torque specification established for fuel gauge sending unit mounting screws. The torque specifications are as follows:

DYNA	18-22 in./lbs.
FLT	23-27 in./lbs.
FXR	23-27 in./lbs.

When tightening these fasteners, it is best to torque them to specification and let them set for a short period of time. Then re-torque to specification.



**\*\* MISCELLANEOUS \*\***

***FLYWHEEL PINION RACE REBURBISHING  
PROGRAM -- UPDATE***

The factory flywheel refurbishing program provides an easy, low cost method for the dealer to resize inner pinion bearing races when refitting pinion bearings. See Tech. Tips #32.  
(Oct. '92)

Please note: Refurbished flywheel pinion races are returned to the dealer in the STANDARD sizes ONLY. During rebuild, the race is replaced and sized to the same size as one used in production. Oversizing of inner races is not available.

***SERVICE LITERATURE CORRECTION***

There is a misprint in the 1993 FX and FXR Service Manuals for the upper motor mount to cylinder head torque specification. The printed torque was 22-28 ft./lbs. It should be 28-35 ft./lbs.

***TIRE MOUNTING***

A number of different lubricants have been used over the years to aid in tire mounting. Although success has been achieved with these lubricants there are some drawbacks. Water based lubricants may contribute to corrosion of the rim. Oil based lubricants can cause deterioration of the rubber of either the inner tube or the tire itself. It is recommended that you use a lubricant that is compatible with the rim and rubber components. There are a number of lubricants, commercially available, that meet these criteria. Products like "Slick Stick" or "Ru-Glyde" can be sourced locally.

#### 4 SPEED SPORTSTER - ALTERNATOR REPAIRS

Occasionally, components wear requiring replacement. When rapidly rotating parts contact each other, the results can be rapid and spectacular. This is the case when the rotating magnets on a clutch mounted alternator come in contact with the stationary stator windings.

In production, it was necessary to maintain a very close air gap, of only 0.060", between these parts. The closer the magnetic lines of flux are to the stator's windings, the greater the AC output of the alternator.

With a clutch mounted alternator, there are many tolerance stackups which can influence this gap. When performing repairs, it is important to be aware of ALL of the influencing factors and address any which might have contributed to the occurrence. Most importantly, this can prevent the unpleasant possibility of a repeat occurrence.

These are some of the items to check during the repair process:

\*\* Bearing wear. Several bearings are used to support the clutch shell/alternator rotor. Check the condition of the large ball bearing in the access door. Also the two smaller bearings that support the clutch gear on the main shaft. Don't forget the bearing that supports the clutch hub in the clutch shell.

\*\* Spline wear. Power pulses will wear the spline fit of the clutch gear to the clutch hub. Proper repair involves the replacement of both parts.

\*\* Primary chain and it's adjustment. Correct primary chain adjustment is critical. Overtightening a primary chain MAY help reduce an engine noise problem, BUT it also can place a severe loading on bearings and prematurely reduce the air gap between the rotor and stator.

# **- I M P R O V E D - TECHNICAL SERVICE P H O N E   S U P P O R T**

In an effort to improve our assistance to your Service Department, the H-D Technical Service Department is extending its hours from:

**7 a.m. 'til 7 p.m. CST** (Central Standard Time)

**Tuesday thru Friday**

We will begin these extended hours on Tuesday, June 29 and continue them until September 3, 1993.

Also, beginning June 28, we will be offering you a toll free number:

**1-800-464-4544 for**

**Policy Adjustment Authorizations ONLY.**

In order to service each caller in a timely and efficient manner, only policy adjustment authorizations will be given on this line.

Please help us make this work for everyone by not tying up this line with technical problem solving. The people answering the 800 number will not be taking messages or providing technical assistance.

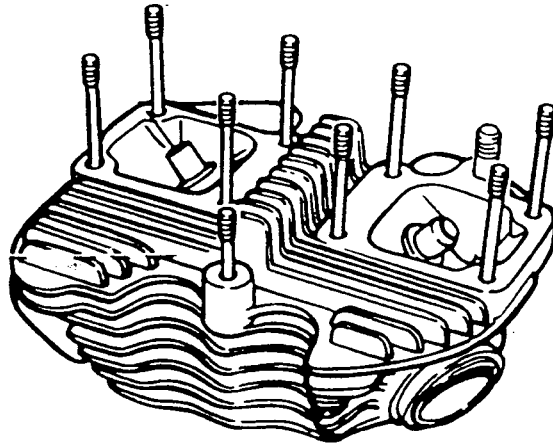
Technical assistance and problem-solving are still available on 414-935-4887.

When calling the 800 number please have the following information ready:

- Dealer Number
- Customer's Name
- VIN
- Mileage
- Date of Purchase
- Warranty Claim Form Number



# "NO LEAD" SHOVELHEAD CYLINDER HEAD PROGRAM



HEY! ITS TIME TO GET THE LEAD OUT !!

The "NO LEAD" SHOVELHEAD EXCHANGE PROGRAM CAN BE THE TICKET TO PROFITS.

REBUILT HEADS ARE AVAILABLE FOR ALL SHOVELHEADS- 1974 to 1983.

Just send your useable core cylinder heads and Harley will quickly exchange with *unleaded* fuel compatible rebuilds.  
*\*\* Parts & Accessories Bulletin #423 has all the details \*\**

16700-66WW Front Cyl.- 1200cc

16702-66WW Rear Cyl.- 1200cc

17160-81WW Front Cyl.- 1340cc

17161-81WW Rear Cyl.- 1340cc