



Harley-Davidson, Inc.

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# SERVICE MANUAL SUPPLEMENT FLHTP, FXRP, FXRP C.H.P.\* VERSION 1991

\*California Highway Patrol

Part No. 99483-91SP





**1991  
FLHTP, FXRP, FXRP C.H.P.\* VERSION  
MODELS**

\* California Highway Patrol

**SERVICE MANUAL  
SUPPLEMENT**

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# FOREWORD

This service and repair manual supplement is designed to be used with the 1991 FLT/FXR Service Manual and has been prepared with two purposes in mind. First, it will acquaint the reader with the construction of Harley-Davidson motorcycles and assist him in performing basic maintenance and repair. Secondly, it will introduce to the professional Harley-Davidson technician the latest field-tested and factory-approved major repair methods. We sincerely believe that this manual will make your association with Harley-Davidson motorcycles more pleasant and profitable.

## HOW TO USE YOUR SERVICE MANUAL SUPPLEMENT

This supplement is divided into numbered sections identical to the 1984 to 1990 FLT/FXR Models Service Manual. Use this supplement as follows:

1. Check the TABLE OF CONTENTS following this FOREWORD to find the subject desired.
2. If the information you seek is not in this supplement, refer to the corresponding section in the 1991 FLT/FXR Models Service Manual, Part No. 99483-91. Check the Title Page located in the front of the section to find the subject desired.
3. The number listed across from the subject consists of the section number and the page number within that section.
4. Information is presented in a definite order as follows:

Specifications  
General  
Troubleshooting  
Adjustment/Testing  
Removal/Disassembly  
Cleaning, Inspection and Repair  
Assembly  
Installation

In figure legends, the number following the name of a part indicates the quantity necessary for one complete assembly.

Procedures, in the FLT/FXR Models Service Manual, having FLHTC or FXRT in their titles apply to the FLHTP or FXRP unless specifically noted in this Service Supplement. Unless a specific exception is given in this Service Supplement, the FXRP C.H.P. Version is the same as the FXRP with fairing.

### NOTE

*All information for servicing a part should be read before repair work is started to avoid needless disassembly.*

## PREPARATION FOR SERVICE

Proper preparation is very important for efficient service work. A clean work area at the start of each job will allow you to perform the repair as easily and quickly as possible, and reduce the incidence of misplaced tools and parts. A motorcycle that is dirty should be cleaned before work starts. Cleaning will occasionally uncover trouble sources. Tools, instruments and parts needed for the job should be gathered before work is started. Interrupting a job to locate tools or parts is a needless delay. Special tools required for a job are listed at the end of Section 1 in the 1991 FLT/FXR service manual.

### WARNING

**Gasoline is extremely flammable and highly explosive under certain conditions. Always stop engine and do not smoke or allow open flame or sparks when refueling or servicing the fuel system.**

## SERVICE BULLETINS

In addition to the information given in this Service Supplement, Service Bulletins are issued to Harley-Davidson Dealers from time to time, which cover interim engineering changes and supplementary information. Service Bulletins should be consulted for complete information on the models covered by this manual.

## USE GENUINE REPLACEMENT PARTS

### WARNING

**When replacement parts are required, use only genuine Harley-Davidson parts or parts with equivalent characteristics including type, strength and material. Failure to do so may result in product malfunction and possible injury to the operator and/or passenger.**

Harley-Davidson products are manufactured under one or more of the following patents: U.S. Patents — 2986162, 2987934, 2998809, 3116089, 3144631, 3144860, 3226994, 3229792, 3434887, 3559773, 3673359, 3709317, Des. 225 626.



To ensure a satisfactory and lasting repair job, follow all instructions carefully and use only genuine Harley-Davidson replacement parts. Behind the emblem bearing the words GENUINE HARLEY-DAVIDSON is more than three quarters of a century of designing, research, manufacturing, testing and inspecting experience.

This is your assurance that the parts you are using will fit right, operate properly and last longer. When you use genuine Harley-Davidson parts, you use the best.

## PRODUCT REFERENCES

When reference is made in this manual to a specific brand name product, tool or instrument, an equivalent product, tool or instrument may be used in place of the one mentioned.

All tools mentioned in this Service Supplement with HD or J preceding the part number must be ordered through:

ATTN: Order Dept.

Kent-Moore Tool Group  
Sealed Power Corporation  
29784 Little Mack  
Roseville, Michigan 48066-9984  
Telephone: 1-800-345-2233

## Loctite® Products

Some procedures in this Supplement call for the use of Loctite products. If you have questions regarding correct use of Loctite products or where to obtain them, please call Loctite Corp. at 1-203-246-1223.

### WARNING

Follow the directions listed on all Loctite products. Read all labels, warnings and cautions carefully before using. Some Loctite products may irritate eyes or skin if accidental contact with eyes or skin occurs.

## CONTENTS

All photographs and illustrations may not necessarily depict the most current model or component, but are based on the latest production information available at the time of publication. Since product improvement is our continual goal, Harley-Davidson, Inc. reserves the right to change specifications, equipment or designs at any time without notice and without incurring obligations.

## WARNINGS AND CAUTIONS

Statements in this Supplement preceded by the words WARNING or CAUTION and printed in bold face are very important.

### WARNING

Means there is the possibility of personal injury to yourself or others.

### CAUTION

Means there is the possibility of damage to the vehicle.

We recommend you take special notice of these items.

### WARNING

Proper service and repair is important for the safe, reliable operation of all mechanical products. The service procedures recommended and described in this Service Supplement are effective methods for performing service operations. Some of these service operations require the use of tools specially designed for the purpose. These special tools should be used when and as recommended.

It is important to note that some warnings against the use of specific service methods which could damage the motorcycle or render it unsafe are stated in this Service Supplement. However, please remember that these warnings are NOT all inclusive. Since Harley-Davidson could not possibly know, evaluate and advise the service trade of all possible ways in which service might be done or of the possible hazardous consequences of each way, we have not undertaken any such broad evaluation. Accordingly, anyone who uses a service procedure or tool which is not recommended by Harley-Davidson must first thoroughly satisfy himself that neither his nor the operator's safety will be jeopardized by the service methods selected.



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## PRODUCT

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### NOTE

*When referring to the service procedures in the 1991 FLT/FXR Models Service Manual use only the information given under the titles FLHTC or FXRT unless stated otherwise in this supplement. Any procedures necessary to service the FLHTP or FXRP not covered in the 1991 FLT/FXR Models Service Manual will be given in this Service Supplement.*



# NOTES



# SERVICE

## REGULAR MAINTENANCE INTERVALS

### CAUTION

The following maintenance points have precedence over any corresponding service points in the Regular Maintenance Intervals Chart in the FLT/FXR Models Service Manual.

The engine oil tank has Harley-Davidson 20W 50 engine oil in it when it leaves the factory. During the initial 500 mile break-in period use only Harley-Davidson 20W 50 engine oil. Failure to use the recommended oil will result in improper break-in of the engine cylinders and piston rings. The following chart does not apply to FXRP C.H.P. version.

Regular Maintenance Intervals Chart

ODOMETER READING (miles)	SERVICE OPERATIONS (see chart code below)																					
	Pre-ride	500	2,500	5,000	7,500	10,000	12,500	15,000	17,500	20,000	22,500	25,000	27,500	30,000	32,500	35,000	37,500	40,000	42,500	45,000	47,500	50,000
Engine oil*	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R	I	R
Oil filter		R		R		R		R		R		R		R		R		R		R		R
Air cleaner		IL		IL		IL		IL		R		IL		IL		IL		R		IL		IL
Tappet oil screen		I		I		I		I		I		I		I		I		I		I		I
Rear belt	I	A	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Primary chain		I		I		I		I		I		I		I		I		I		I		I
Primary chaincase lubricant		R		R		R		R		R		R		R		R		R		R		R
Battery fluid level, connections*		I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Rear brake pedal height adjustment		I		I		I		I		I		I		I		I		I		I		I
Brake pad linings and discs for wear		I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Brake fluid level and condition*		I		I		I		R		I		I		R		I		I		R		I
Clutch adjustment		A		A		A		A		A		A		A		A		A		A		A
Fuel valve, lines and fittings for leaks		I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Front brake handlebar, throttle control cables, choke control cable, clutch control cable and handlebar		L		L		L		L		L		L		L		L		L		L		L
All fasteners except head bolts		T		T		T		T		T		T		T		T		T		T		T
Tire pressure and inspect tire for wear/damage		I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Engine low idle speed adjustment		I		I		I		I		I		I		I		I		I		I		I
Operation of throttle and enricher controls		I		I		I		I		I		I		I		I		I		I		I
Operation of all electrical equipment and switches		I		I		I		I		I		I		I		I		I		I		I
Ignition timing and vacuum operated electric switch (V.O.E.S.)		I		I		I		I		I		I		I		I		I		I		I
Spark plugs				I		R		I		R		I		R		I		R		I		R
Transmission lubricant*		R		R		R		R		R		R		R		R		R		R		R
Rear fork pivot nut		I		I		I		I		I		I		I		I		I		I		I
Engine mounts		I		I		I		I		I		I		I		I		I		I		I
Stabilizer links		I		I		I		I		I		I		I		I		I		I		I
Air suspension components		I		I		I		I		I		I		I		I		I		I		I
Front fork bearing adjustment		I		I		IL		I		IL		I		IL		I		IL		I		IL
Condition of rear shock absorbers		I		I		I		I		R		I		I		I		R		I		I
Throttle control grip sleeve, speedometer cable				L		L		L		L		L		L		L		L		L		L
Grease fittings (2), shift and brake lever pivots, rear brake linkage**				IL		IL		IL		IL		IL		IL		IL		IL		IL		IL
Condition of rear brake caliper mounting pins and boots				IL		IL		IL		IL		IL		IL		IL		IL		IL		IL
Wheel bearings*						IL				IL				IL				IL				IL
Front fork oil						R				R				R				R				R
Road test		X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X

\* Also perform prior to storage, or annually.  
 \*\* If applicable.

Chart Code:  
 I — Inspect, and if necessary correct, clean or replace. T — Tighten to proper torque.  
 A — Adjust. L — Lubricate with specified lubricant.  
 R — Replace or change. X — Perform.



# 30 NOTES

REGULAR MAINTENANCE  
INTERVALS

To ensure the best performance of the engine, use only the recommended oil. The oil should be changed at the intervals specified in the following table. The oil should be changed more frequently if the engine is used in severe conditions.

Oil Type	Interval (Miles)	Interval (Hours)	Oil Capacity (Quarts)	Oil Capacity (Liters)	Oil Weight (Lbs)	Oil Weight (Kgs)
SAE 10W-30	5000	500	4.0	3.8	8.8	4.0
SAE 15W-40	5000	500	4.0	3.8	8.8	4.0
SAE 20W-50	5000	500	4.0	3.8	8.8	4.0
SAE 30W	5000	500	4.0	3.8	8.8	4.0
SAE 40W	5000	500	4.0	3.8	8.8	4.0
SAE 50W	5000	500	4.0	3.8	8.8	4.0
SAE 10W-30	5000	500	4.0	3.8	8.8	4.0
SAE 15W-40	5000	500	4.0	3.8	8.8	4.0
SAE 20W-50	5000	500	4.0	3.8	8.8	4.0
SAE 30W	5000	500	4.0	3.8	8.8	4.0
SAE 40W	5000	500	4.0	3.8	8.8	4.0
SAE 50W	5000	500	4.0	3.8	8.8	4.0



# CHASSIS

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## NOTE

*This section explains procedures unique to the FLHTP/FXRP police model motorcycles. Any procedures not covered in this supplement will be covered in the 1991 FLT/FXR Service Manual. FLHTP service procedures will correspond to the FLHTC service procedures. FXRP service procedures will correspond to the FXRT service procedures.*



# NOTES

2/10/75

1. The first part of the notes discusses the general principles of the theory of relativity, including the special theory of relativity and the general theory of relativity. It covers the concepts of spacetime, the equivalence principle, and the curvature of spacetime.

2. The second part of the notes discusses the application of the theory of relativity to the study of black holes and the expansion of the universe. It covers the Schwarzschild solution, the event horizon, and the Big Bang theory.



# SPECIFICATIONS

## DIMENSIONS (in.)

	FLHTP		FXRP	
	WND*	FRG**	WND	FRG
Wheel Base . . . . .	62.94	62.94	64.7	64.7
Overall Length . . .	94.25	94.25	94.2	94.2
Overall Width . . . .	36.0	39.0	35.5	35.5
Road Clearance . . .	5.12	5.12	6.0	6.0
Overall Height . . . .	61.0	61.0	59.0	59.0
Saddle Height . . . .	28.0	28.0	30.0	30.0

\* Windshield — WND

\*\* Fairing — FRG

## WEIGHT (lbs.)

	FLHTP		FXRP	
	WND	FRG	WND	FRG
<b>DRY WEIGHT</b> (as shipped from the factory) . . . . .	686	722	630	650
GVWR . . . . .	1197	1197	1085	1085
GAWR — Front . . . .	427	427	390	390
GAWR — Rear . . . . .	770	770	695	695

**NOTE:**

*Gross Vehicle Weight Rating (GVWR) (maximum allowable loaded vehicle weight) and corresponding Gross Axle Weight Ratings (GAWR) are given on a label located on the front frame downtube.*

## CAPACITIES (U.S.)

	FLHTP	FXRP
<b>Fuel Tank</b> (gallons)		
Total . . . . .	5	4.2
Reserve . . . . .	0.7	0.4
<b>Oil Tank (quarts)</b>		
w/filter . . . . .	4	3.0
<b>Transmission (pints)</b> .	1	1
<b>Front Fork — Each</b> (ounces) (dry) . . . . .	8.5	11.5
<b>Primary Chaincase</b> (quarts) . . . . .	1.5	1.5

## TIRE DATA

### WARNING

**DUNLOP D402F front and D402 rear tires are not the same. Use the front tire ONLY for a front tire.**

Tire size, manufacturer's description and inflation pressure are listed below:

TIRE LOCATION	SIZE	MANUFACTURER'S DESIGNATION	TIRE PRESSURE PSI (Cold)
---------------	------	----------------------------	--------------------------

**FLHTP**

Front	MT90B16	Dunlop D402F	36
Rear	MT90B16	Dunlop D402	36

**FXRP**

Front	MM90S-19	Dunlop K181 PT	30
Rear	MT90S-16	Dunlop K181 PT	32

**FXRP**

RIM	
Front 2.50MT-19	Rear 3.00D-16

**FLHTP**

RIM	
Front and Rear 3.00D-16	

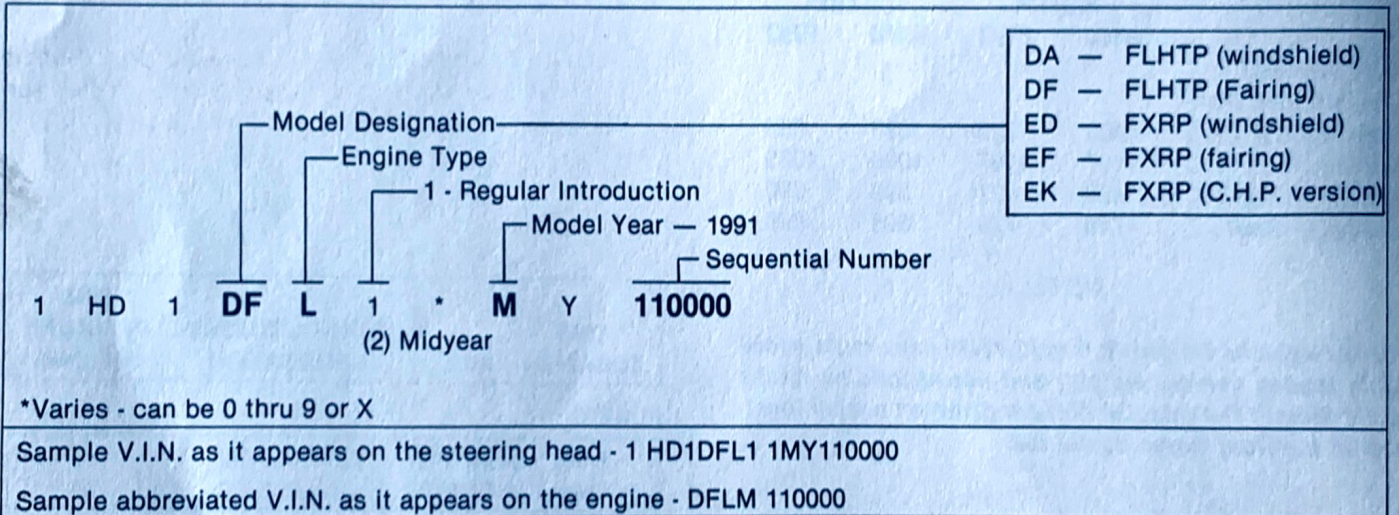


# VEHICLE IDENTIFICATION NUMBER (V.I.N.)

The full 17 digit serial, or Vehicle Identification Number (V.I.N.) is stamped on the steering head and on a label located on the right front frame downtube. An abbreviated V.I.N. is stamped on the left side crankcase at the base of the rear cylinder.

## NOTE

*Always give one of these numbers when ordering parts or making any inquiry about your motorcycle.*





# TIRES

## REMOVAL

1. Remove wheel. See WHEELS for proper removal procedure. Deflate tire and remove valve core.
2. Unseat the beads and remove the tire from the rim as described in the FLT/FXR Models Service Manual.

## INSTALLATION

1. Install a new valve core.
2. Lubricate both beads with a **non-silicone** lubricant and work beads over the rim flange into rim well as described in the FLT/FXR models Service Manual.
3. Using two smooth surfaced tire tools, insert one of the tools between wheel rim flange and tire sidewall lip. Pry the lip over the rim flange.
4. Leave the first tool in place. Insert the second tool

approximately eight inches from the first. Continue working the sidewall lip over the wheel rim flange by advancing the tools alternately along the rim perimeter in approximately eight inch increments.

### WARNING

**Do not inflate tire above maximum recommended pressure to seat the beads. Inflating the tire above maximum recommended pressure can cause the tire rim assembly to burst with force sufficient to cause personal injury. Follow these safety precautions: Be sure the tire is matched to rim size. Clean and liberally lubricate beads and rim. Set air line control valve to maximum inflation pressure. Lock tire and rim on mounting machine or in suitable restraining device. Use extension gauge and hose with clip-on chuck. Stand back when inflating. If the beads fail to seat at maximum recommended pressure, remove tire and repeat installation procedure.**

5. After the sidewall lip on both sides of the wheel is seated around the rim for approximately three fourths of the rim circumference, the beads may be seated with air pressure.



# THROTTLE CABLE ROUTING

See Figure 2-1. For FXRP models equipped with windshield, correct throttle control cable routing from the throttle hand control is through the cable clamp mounted to the frame, through the fuel tank clip on the underside of the fuel tank to the carburetor lever behind the air cleaner.

See Figure 2-2. For FXRP models with fairing, throttle control cable routing is identical to FXRP models with windshield.

Throttle cable routing for FLHTP with fairing is the same

as FLHTC. Throttle cable routing for FLHTP with windshield is the same as FLHS.

Be sure cable clamp is securely fastened at the fuel tank mounting bolt as shown.

## CAUTION

**Control cables must not pull tight when handlebar is turned to left and right fork stops. Be sure control cables and wires are clear of fork stops at steering head so they will not be pinched when fork is turned against stops.**

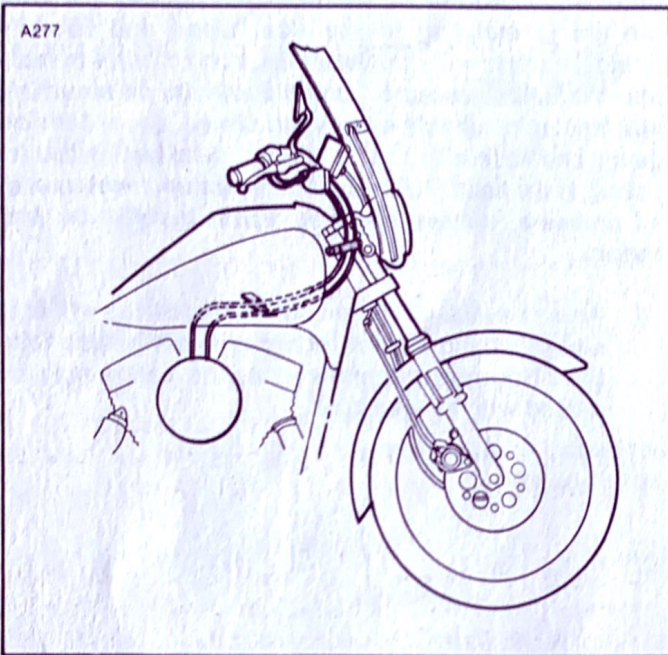


Figure 2-1. Throttle Cable Routing  
— FXRP with Windshield

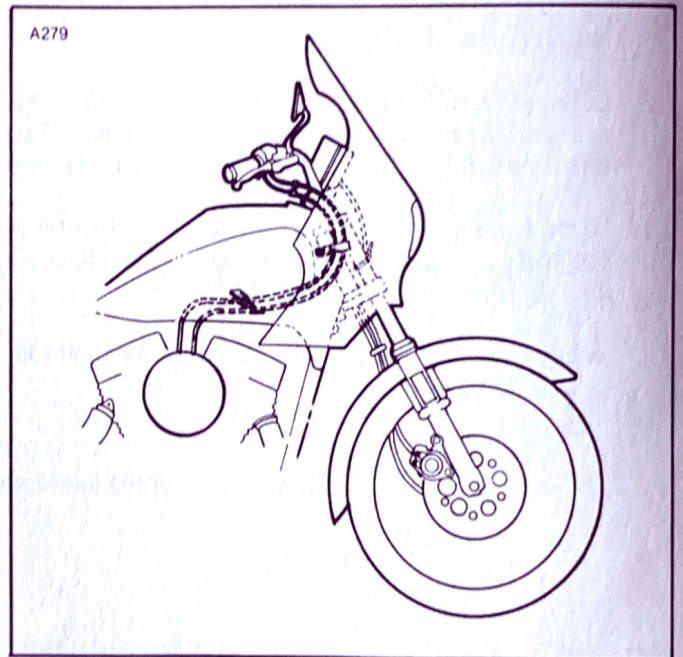


Figure 2-2. Throttle Cable Routing — FXRP with Fairing



# INSTRUMENTS — FXRP

## REMOVAL (Figure 2-3)

1. Remove clamp cover screws from the instrument mounting bracket. Be sure to retain spacers that are between the bracket and clamp cover.

### NOTE

*It is not necessary to disassemble the speedometer to replace the odometer reset knob. Use a Phillip's screwdriver to remove the odometer reset knob from the back of the instrument.*

2. Remove acorn nuts and washers from the instrument cover. Lift off the cover. Bulb sockets are accessible for replacement without further disassembly. Twist bulbs to remove them from sockets.

### NOTE

*See Section 8 for the bulb replacement chart.*

*Instruments are not repairable and must be replaced if faulty. Before replacing a malfunctioning instrument, check to see if connections are causing the malfunction.*

3. Disconnect the wires from the tachometer. Disconnect the cable from the speedometer.
4. Gently pull bulb sockets from the instrument.
5. Remove the wires from the clip. Remove the instrument from the gaskets and bracket.

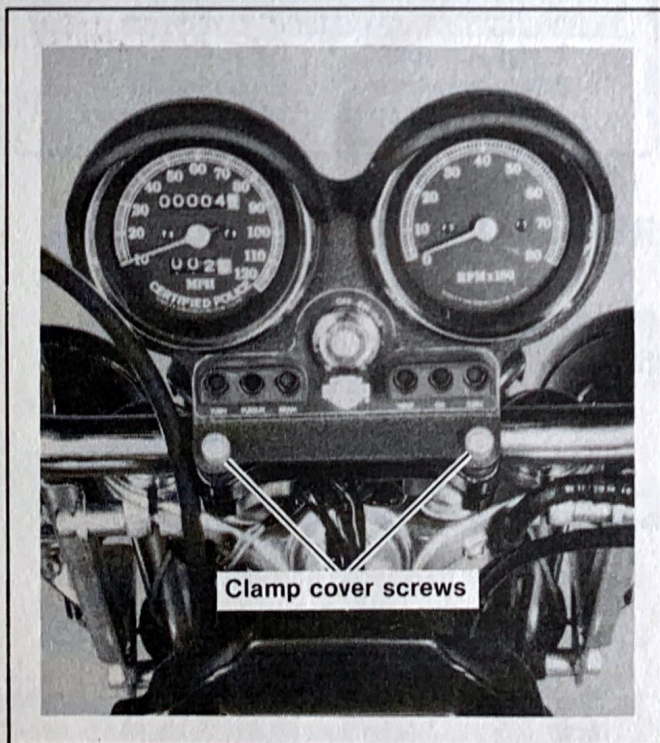


Figure 2-3. Instrument Removal

## INSTALLATION

1. Place a gasket with a visor over the rear of each instrument and slide it forward.

### NOTE

*Speedometer is installed in the left side of the bracket.*

2. See Figure 2-3. Install the instruments in the bracket.
3. Place a gasket without a visor over the rear of each instrument and slide it forward.
4. See Figure 2-4. Connect wires to the tachometer as shown. Install the speedometer cable.
5. Install instrument bulb sockets and secure the wires in the clip. Install new bulbs.
6. Install the covers on each instrument. Attach each cover with washers and acorn nuts. Before tightening the nuts, be sure the face of each instrument is properly adjusted and that wires are not pinched.
7. Place the clamp cover head screws through the instrument mounting bracket into the spacers and through the handlebar clamp cover and clamp. Thread a self-locking nut on each screw.

### CAUTION

**Be sure the mirror and front master cylinder do not interfere with the windshield when the handlebar is turned fully in either direction. Interference could affect handling and cause damage to the equipment.**

8. Adjust the handlebar so there is no interference with the mirror or front master cylinder. Tighten the clamp cover screws to 12-15 ft-lbs torque.

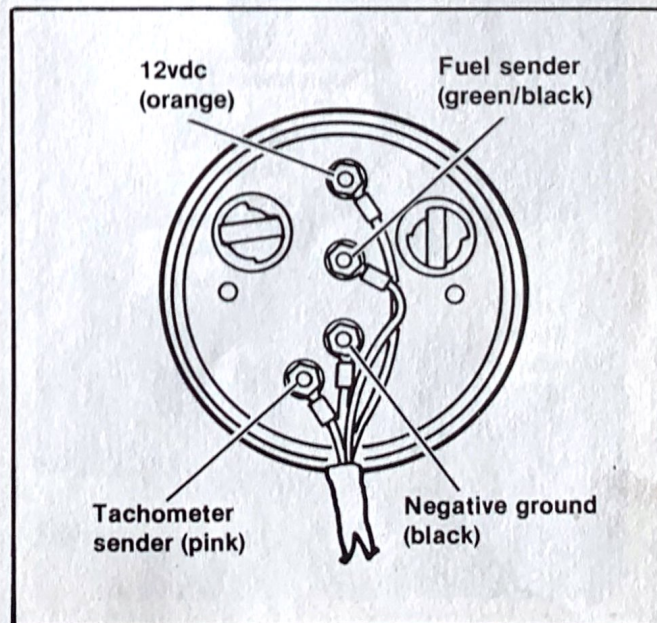


Figure 2-4. Tachometer Wire Connections



# SEATS

## ADJUSTMENT

### FLHTP (Figure 2-5)

The FLHTP solo seat has three adjustments for rider comfort.

1. The seat rests on an air adjustable shock absorber. Add or remove air from 0-50 psi as desired.

#### CAUTION

**Maximum air pressure in the air shock is 50 psi. Air components fill rapidly. To avoid possible damage to components, use low air line pressure.**

#### NOTE

*A no-loss air gauge should be used to accurately measure air pressure. Use low line air pressure or a hand air pump to add air. An Air Suspension Gauge with a hand air pump attached is available at your Harley-Davidson dealer.*

2. The seat mount on shock absorber shaft has two positions. Remove pin, rotate bracket, and adjust to desired position. Install pin.
3. The shock absorber damping can be adjusted to one of four positions. Rotate the thumbwheel to desired setting; the first setting is the softest and the fourth setting is the firmest.

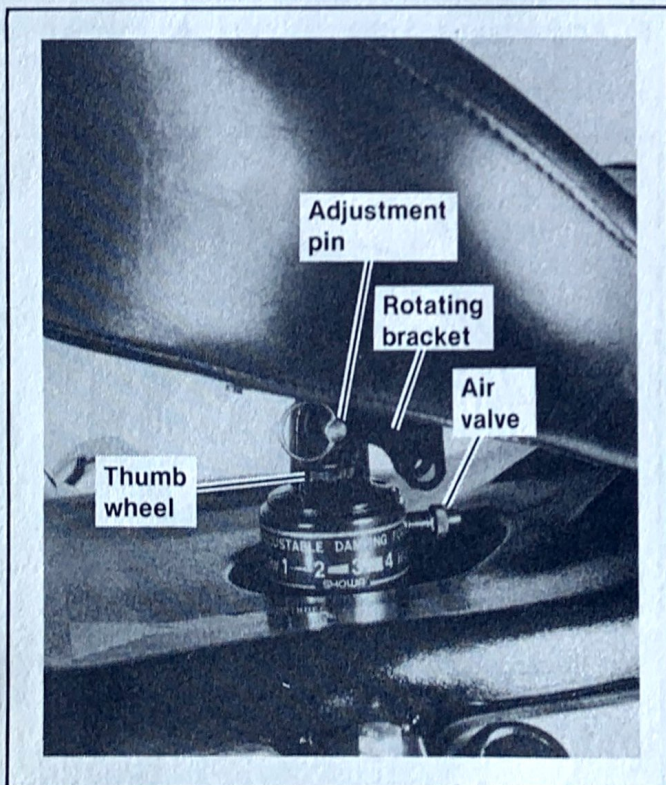


Figure 2-5. Solo Seat — FLHTP

### FXRP (Figure 2-6)

The FXRP solo seat has a two position adjustment. Placing the nut and bolt (1) in the rear hole will move the seat backward and tilt the front of the seat slightly downward. Placing the nut and bolt (1) in the forward hole will move the seat forward and raise the front of the seat to a level position.

1. Remove the nut and bolt (1) at the front bracket.
2. Position the seat and insert the nut and bolt through the holes in the seat and front bracket. Be sure the bolt is inserted fully through both holes in bracket (3).

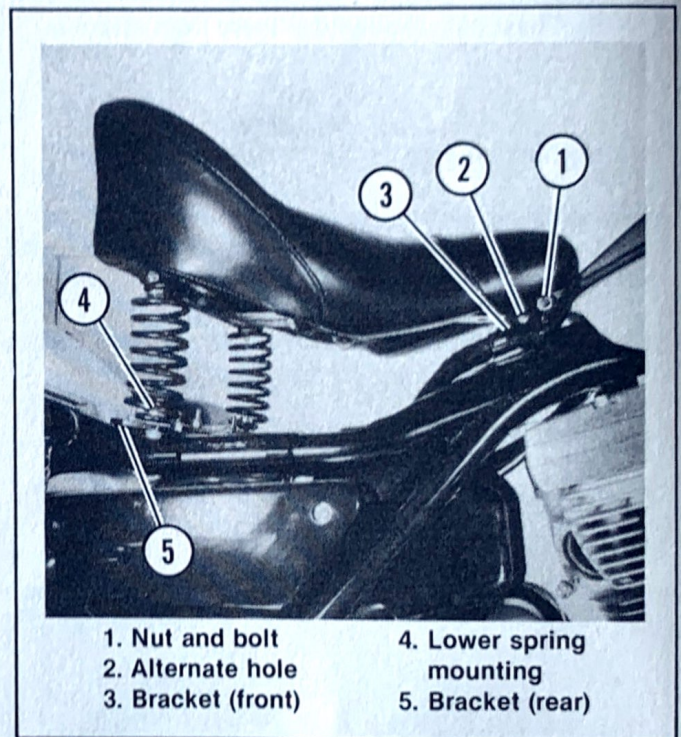


Figure 2-6. Solo Seat — FXRP

## REMOVAL

### FLHTP Solo Seat Shock Absorber

#### NOTE

*Solo seat shock absorber is a non-repairable item. If damaged, it can only be replaced.*

1. Remove left saddlebag and side cover.
2. See Figure 2-5. Remove adjustment pin.
3. See Figure 2-7. Remove shock absorber retaining bolt.
4. Tilt seat forward and remove shock absorber.



## FXRP (Figure 2-6)

The lower spring mounting consists of a bolt, nut and two washers separated by a spacer. The spacer allows the lower spring mounting to slide in the mounting bracket slot.

1. Remove the nut and bolt (1) at the front bracket.
2. Loosen the bottom nut at each spring and push the lower spring mounting (4) forward to the large diameter hole in bracket (5). The seat can now be removed.

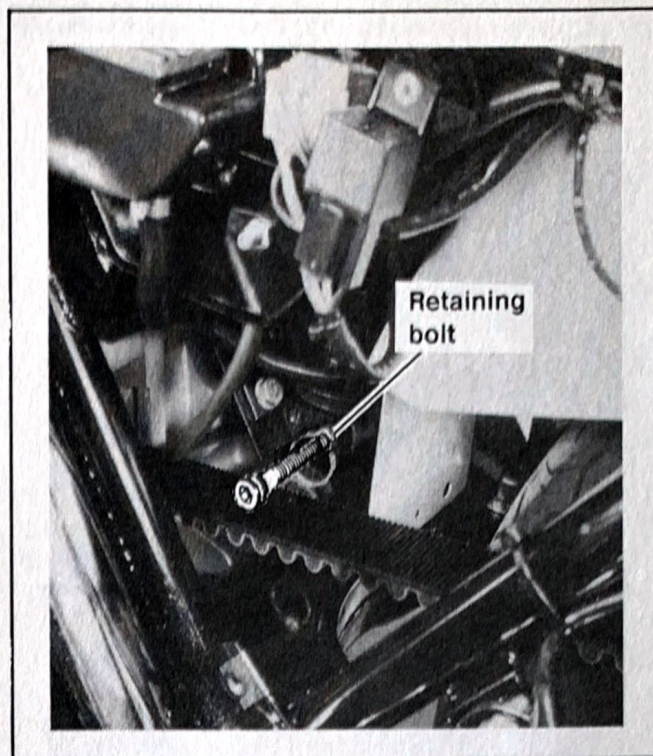
## INSTALLATION

### FLHTP

1. See Figure 2-7. Place shock absorber in position and install bolt. Tighten bolt to 30-33 ft-lbs torque.
2. See Figure 2-5. Install adjustment pin.
3. Install left side cover and saddlebag.

### FXRP (Figure 2-6)

1. Insert the lower spring mounting (4) at each spring into the front large diameter hole in bracket (5). The lower spring mounting (4) slides in the bracket slot between two washers. Slide each spring completely to the rear and tighten the bottom nut.
2. Align the hole in the seat plate with the desired hole in bracket (3) and insert nut and bolt (1). Be sure the bolt is inserted fully through both holes in bracket (3).



**Figure 2-7. Solo Seat Shock Absorber  
Retaining Bolt - FLHTP**



# SADDLEBAGS — FXRP

## REMOVAL (Figure 2-8)

### NOTE

Lubricate the saddlebag locking latches once a month.

### RIGHT

1. Open the saddlebag cover.
2. Remove the bolts (3) from inside saddlebag at front, back and bottom of saddlebag. Retain hardware for installation. The right hand saddlebag can now be removed.

### LEFT

1. Perform above steps 1 and 2 for the left hand saddlebag.
2. If siren amplifier is attached to bottom of saddlebag, disconnect the connector and remove saddlebag.

## INSTALLATION

### RIGHT

1. Place saddlebag into the carrier with hinge on the outside.
2. See Figure 2-8. Place a flat washer (5) on each bolt (3) and insert each bolt through a spacer (7), grommet (6) and the mating hole in the bag carrier (2). Turn an acorn nut (1) onto each bolt (3) and tighten securely.

### LEFT

1. Perform above Steps 1 and 2 for the left hand saddlebag.

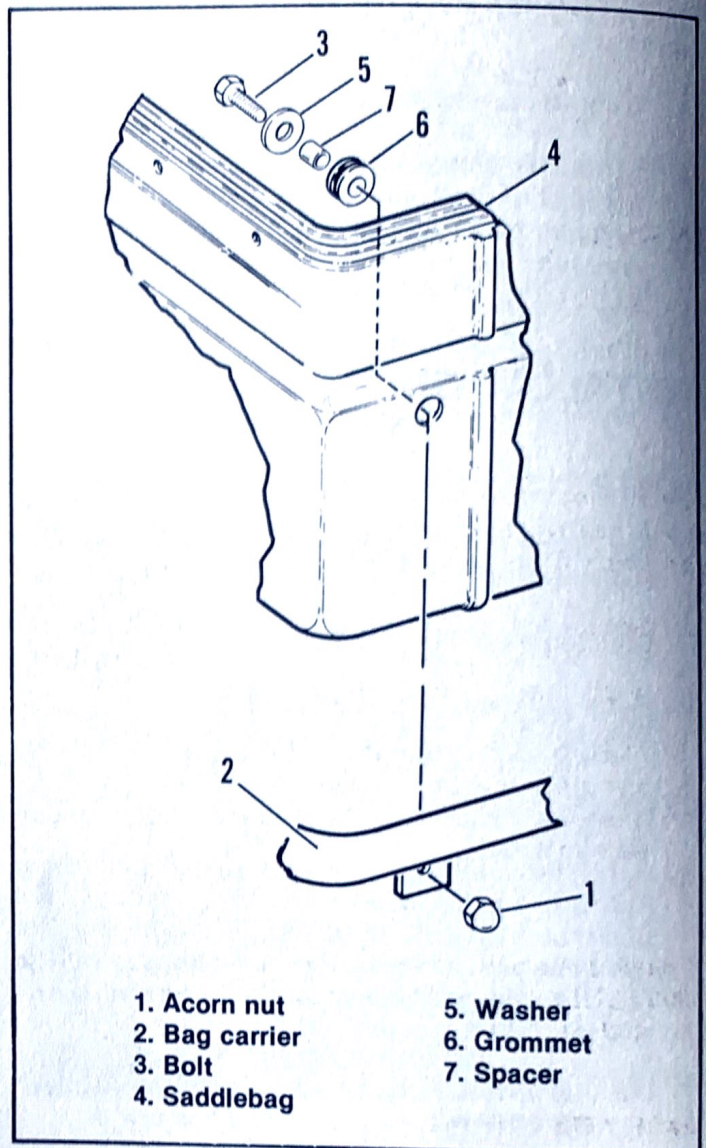


Figure 2-8. Saddlebag Mounting

2. Connect the siren amplifier harness to the motorcycle harness.



# WINDSHIELD — FXRP

## REMOVAL (Figure 2-9)

1. Remove bolts (1), washers (2) and nuts (3) from the left and right side windshield adjusting brackets.
2. Remove the windshield.

## INSTALLATION

1. Align windshield left and right side adjusting brackets (7) with the left and right side pursuit lamp brackets (8).

### NOTE

*Adjust windshield height to suit the rider. The rider should see over the top of the windshield. Raise or lower windshield accordingly at adjusting bracket.*

2. Secure the windshield adjusting brackets to the fork bracket assembly with bolts, washers, lock-washers and nuts as shown.

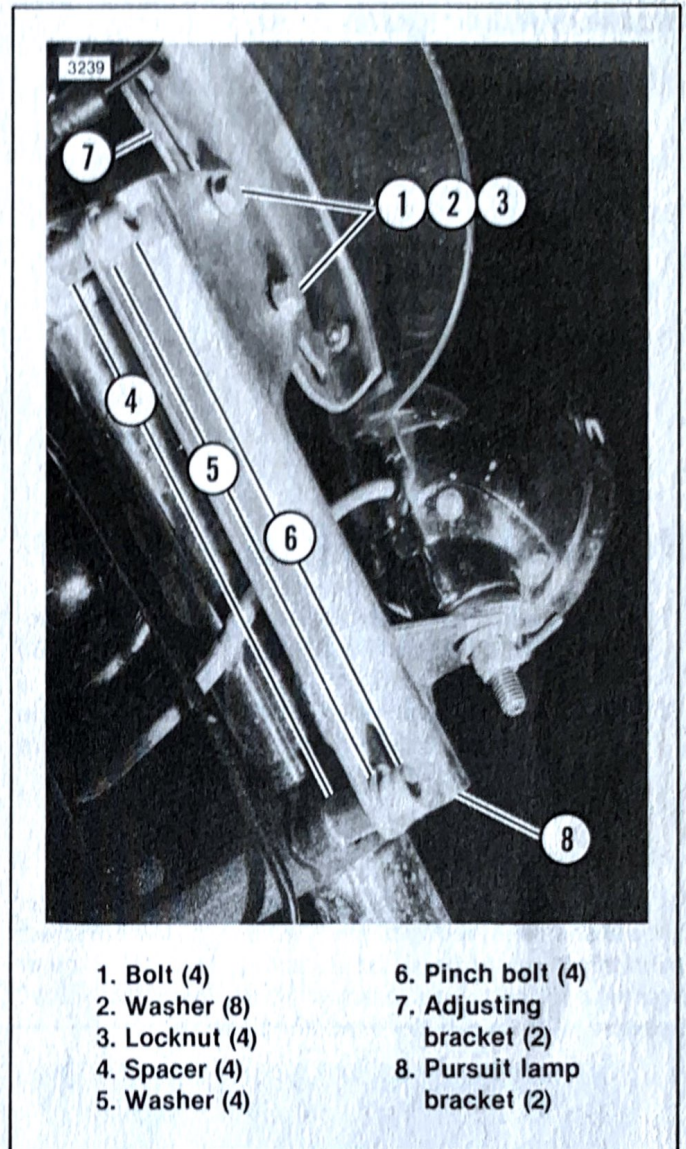
Place the bolts through the pursuit lamp bracket (8) and then through the adjusting bracket (7). Place a washer on each bolt and another washer under each locknut.

### WARNING

**If pinch bolts (6) are loosened or removed, see 1984 to 1990 FLT/FXR Service Manual for proper fork tube position and pinch bolt torque.**

### FXRP WITH FAIRING

Tighten windshield screws to 3-5 in-lbs torque.



- |                |                             |
|----------------|-----------------------------|
| 1. Bolt (4)    | 6. Pinch bolt (4)           |
| 2. Washer (8)  | 7. Adjusting bracket (2)    |
| 3. Locknut (4) | 8. Pursuit lamp bracket (2) |
| 4. Spacer (4)  |                             |
| 5. Washer (4)  |                             |

Figure 2-9. Windshield Mounting — FXRP



# WINDSHIELD — FLHTP

## REMOVAL (Figure 2-10)

1. Remove bolts (1), washers (2), lockwashers (3) and nuts (4) from the right and left side windshield adjusting bracket (5).
2. Remove windshield.

## INSTALLATION (Figure 2-10)

1. Align slots in windshield left and right side adjusting brackets (5) with holes in outer brackets (6).
2. Secure the windshield adjusting brackets to the outer brackets (6) with bolts, washers, lockwashers and nuts as shown.

### NOTE

*Adjust windshield height to suit the rider. The rider should see over the top of the windshield. Raise or lower windshield accordingly at adjusting bracket. If outer brackets (6) and lamp bracket (7) are removed, install spacers (8) between the brackets as shown.*

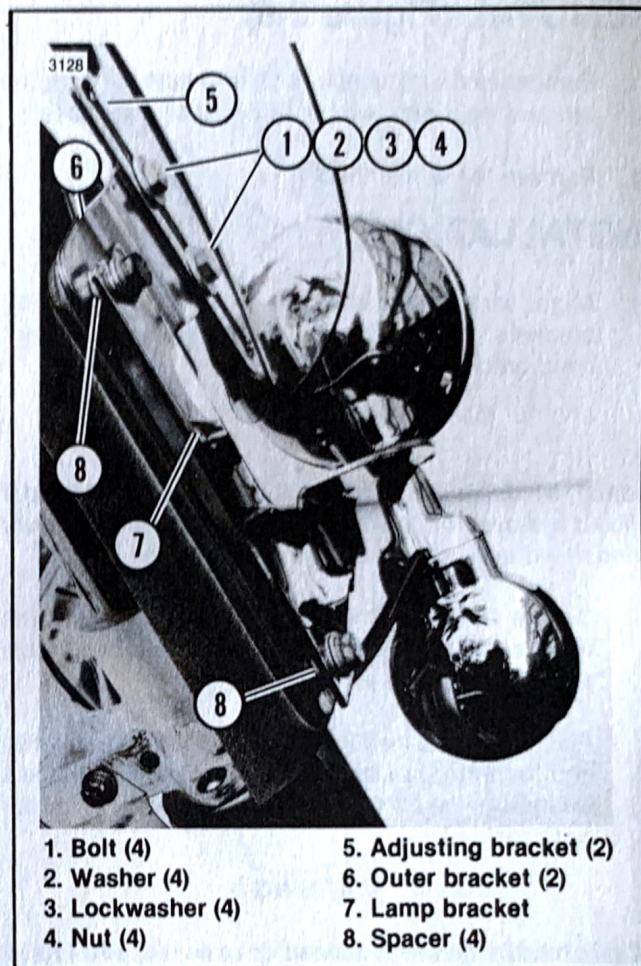


Figure 2-10. Windshield Mounting — FLHTP



# REAR FENDER — FXRP

## WARNING

To avoid accidental start-up of vehicle and possible personal injury, disconnect battery cables (negative cable first) before performing any of the following procedures.

## REMOVAL

1. Place motorcycle on a center stand with rear wheel raised.
2. See Figure 2-11. Remove screw (5) and nut (4) at rear of saddlebag frame. Remove through bolt (2) and nut (3). Remove screw (1).
3. See Figure 2-12. Remove bolt from saddlebag carrier and lower frame. Be sure to retain spacer. Remove bolts and nuts attaching bag frame brace at rear of vehicle to saddlebag carrier. The saddlebag carrier and the radio carrier can now be removed.
4. Remove the left side cover. Disconnect the 6-pin socket at inboard side of terminal board where wiring for rear lights terminates.
5. Remove shock absorbers and lower the wheel and swing arm.
6. From beneath the fender, remove the screw at the front of the fender. Fender is now free from the frame and can be removed.

## NOTE

If a replacement fender is to be installed, transfer lights with wiring to new fender.

## INSTALLATION

1. Position fender aligning hole at front of fender with tapped hole in frame. Install mounting screw.
2. See Figure 2-11. Place radio carrier over fender and at inboard side of frame. Align mounting holes and install screw (1) to hold components in place.
3. Connect 6-pin socket at terminal board. Install left side cover. Tighten screws to 5-8 in-lbs torque.
4. Place fender support (8) and then saddlebag carrier (9) over shock mounting stud (10). Align fender support (8) and saddlebag carrier (9) mounting holes. Insert screw (5) through saddlebag carrier fender support, radio carrier and fender. Secure screw (5) with nut (4).
5. From inside fender, insert screw (2) through fender (6), radio carrier (7), frame, fender support (8) and saddlebag carrier (9).

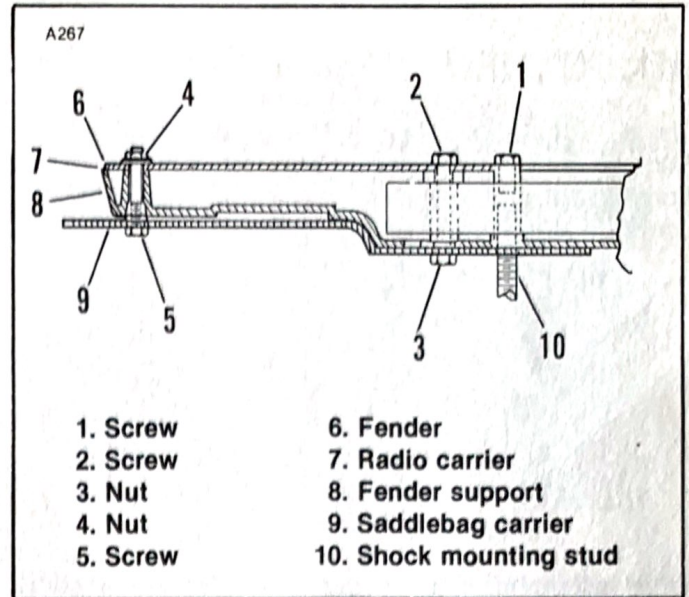


Figure 2-11. Fender, Radio Carrier and Saddlebag Carrier Mounting

6. See Figure 2-12. Insert bolt (1) through washer (2), saddlebag carrier (3), spacer (4) and frame. Place a lockwasher on the bolt. Thread a nut onto the bolt and tighten securely.
7. Install bag frame brace.
8. Raise rear wheel and install shock absorbers.
9. Connect the battery, positive cable first.
10. Test rear light function.

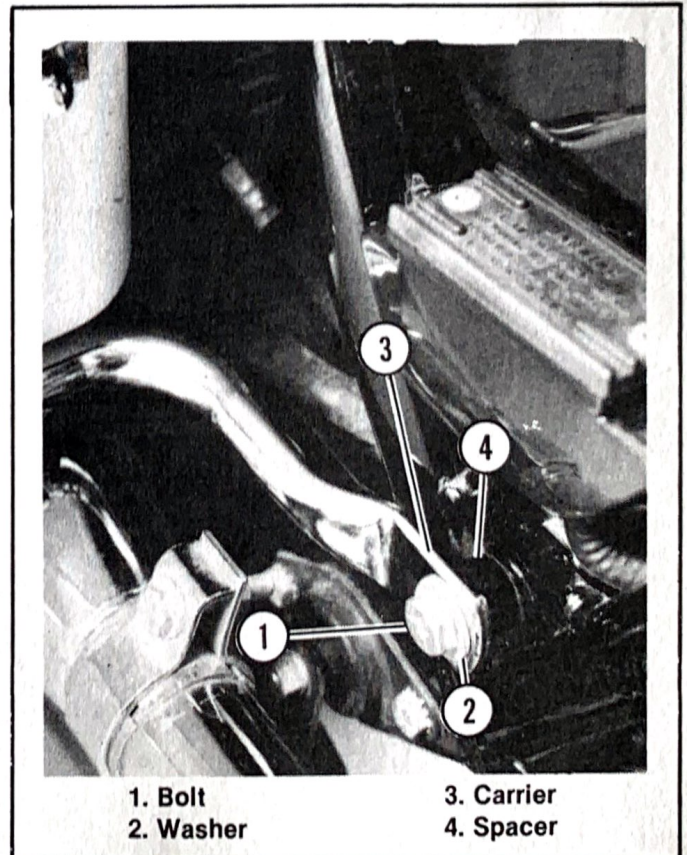


Figure 2-12. Saddlebag Carrier Lower Mounting



# FOOTBOARDS — FLHTP

## ADJUSTMENT (Figure 2-13)

The FLHTP is equipped with adjustable footboards. Remove the socket head screws and move the footboard to either of the two alternate positions. Install the screws and tighten to 50 ft-lbs torque.

### WARNING

After adjusting right footboard and/or brake pedal height, check for minimum clearance of 2.25 in. between bottom of brake pedal and footboard. Brake pedal free play must be set to 0.09 - 0.12 in. clearance. See the FLT/FXR Service Manual.

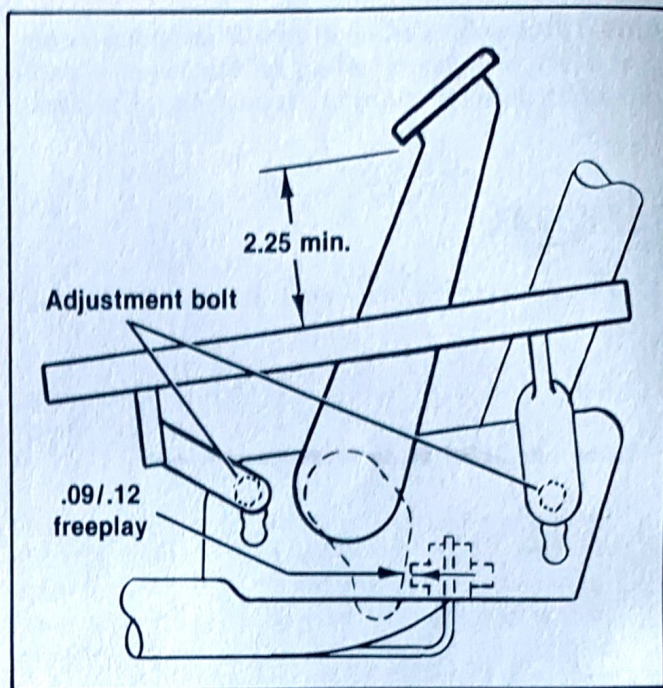


Figure 2-13. Footboard Adjustment — FLHTP



# REAR BRAKE PEDAL ADJUSTMENT — FXRP

## GENERAL

The rear master cylinder does not require free-play adjustment. See Figure 2-14. The brake pedal position may be adjusted by loosening the locknut (1) forward of the master cylinder push rod (2) and turning the push rod.

### WARNING

Do not un-thread push rod (2) beyond the point where the exposed thread length is greater than 3/4 in. Un-threading push rod further could cause failure of the brake linkage and loss of rear brake.

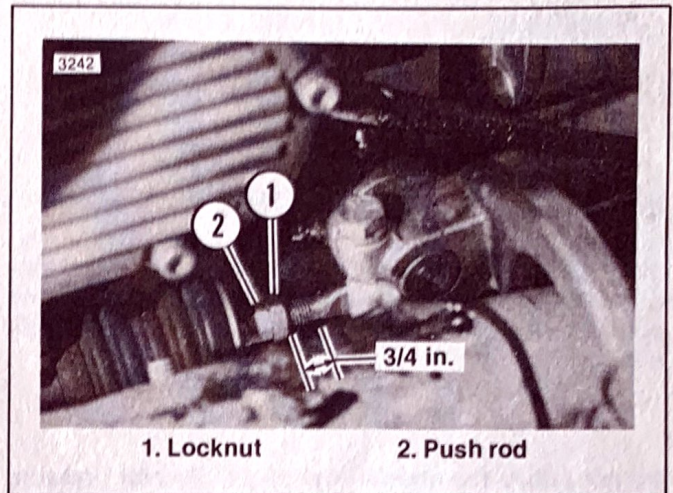


Figure 2-14. FXRP Brake Pedal Adjustment



# SHOCK ABSORBER, FLHTP

## GENERAL

The 1990 FLHTP models have air shocks.

## SHOCK AIR PRESSURE

See Figure 2-15. These shock absorbers may be operated with 0-50 psi pressure. The rider should adjust the pressure and damping to suit the road and load conditions.

### CAUTION

Do not inflate the shocks over 50 psi. Greater pressure could damage the shock seals.

## REMOVAL

Refer to the FLT/FXR Service Manual for removal instructions.

## INSTALLATION

### CAUTION

Install the shocks with the valves facing forward. Make certain 0.16 in. thick spacer (1) is installed between inside shock eye surface and swingarm. A spacer (1) and washer (16) must be installed between shock eye and fender support (top). Failing to install spacers could cause belt to contact left shock absorber.

See Figure 2-15. Refer to the FLT/FXR Service Manual for installation instructions.

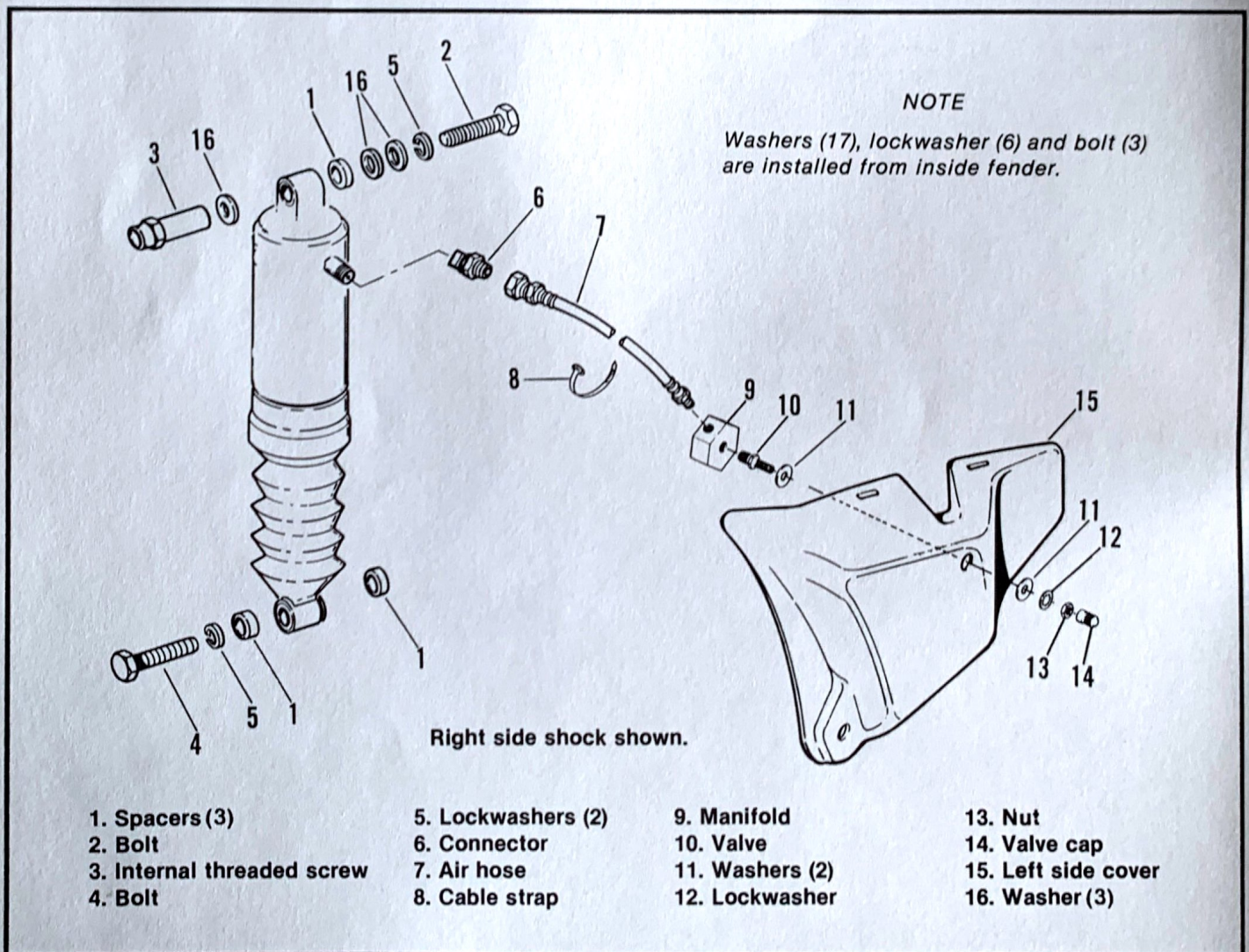


Figure 2-15. Rear Shock Absorbers, FLHTP



## ENGINE

### NOTE

*All engine service procedures in the 1991 FLT/FXR Service Manual apply to the FXRP and FLHTP model motorcycles.*



# NOTES



## **FUEL SYSTEM**

### **NOTE**

*All fuel system service procedures in the 1991 FLT/FXR Service Manual apply to the FXRP and FLHTP model motorcycles.*



# NOTES



## **ELECTRIC STARTER**

### **NOTE**

*FLHTC/FXRT Electric Starter service procedures in the 1991 FLT/FXR Service Manual apply to the FXRP and FLHTP model motorcycles.*



# NOTES

RETRACTS STARTED

1974

RETRACTS STARTED  
1974



## DRIVE

### NOTE

*FLHTC/FXRT Drive service procedures in the 1991 FLT/FXR Service Manual apply to the FXRP and FLHTP model motorcycles.*



# NOTES

DRIVE

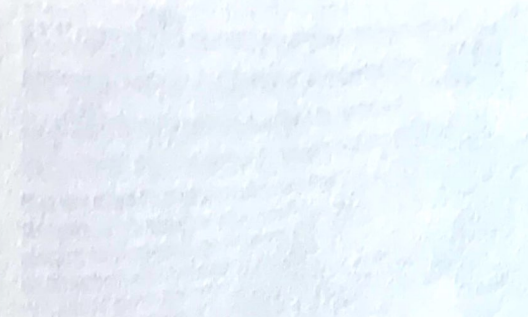
1378

1. ADDITIONAL BASE INFORMATION FOR THE 1978-1979 SEASON IS TO BE PROVIDED BY THE BUREAU OF LAND MANAGEMENT.



ADJUSTMENT (Figure 7-1)

The shifter pedal should be adjusted so that the shifter cable is not too tight or too loose. The shifter cable should be adjusted so that the shifter pedal is not too high or too low. The shifter pedal should be adjusted so that the shifter cable is not too tight or too loose. The shifter pedal should be adjusted so that the shifter cable is not too tight or too loose.



# TRANSMISSION

SUBJECT	PAGE NO.
1. Shifter Pedal Adjustment — FXRP .....	7-1

### NOTE

*FLHTC/FXRT Transmission service procedures in the 1991 FLT/FXR Service Manual apply to the FXRP and FLHTP model motorcycles.*



# NOTES



# GEAR SHIFTER — FXRP

## ADJUSTMENT (Figure 7-1)

The foot shift linkage is set at the factory and normally needs no adjustment. The heel-toe shifter pedal should be positioned to allow ample height under the rear of the shifter to prevent hitting the footboard when shifting. An adjustment can be made as follows:

### CAUTION

The foot shifter pedal should never hit the footboard when shifting.

### NOTE

One end of ball joint stud (1) and its mating ball joint assembly (2) have left-hand threads. Turning ball joint stud will lengthen or shorten shift linkage and adjust shifter pedal position.

1. Hold ball joint assembly (2) with a wrench placed on "flats" and with another wrench loosen locknut (3).
2. Repeat step 1 on other end of shift linkage.
3. Turn ball joint stud to position shifter pedal to desired location.
4. Tighten both locknuts (3).

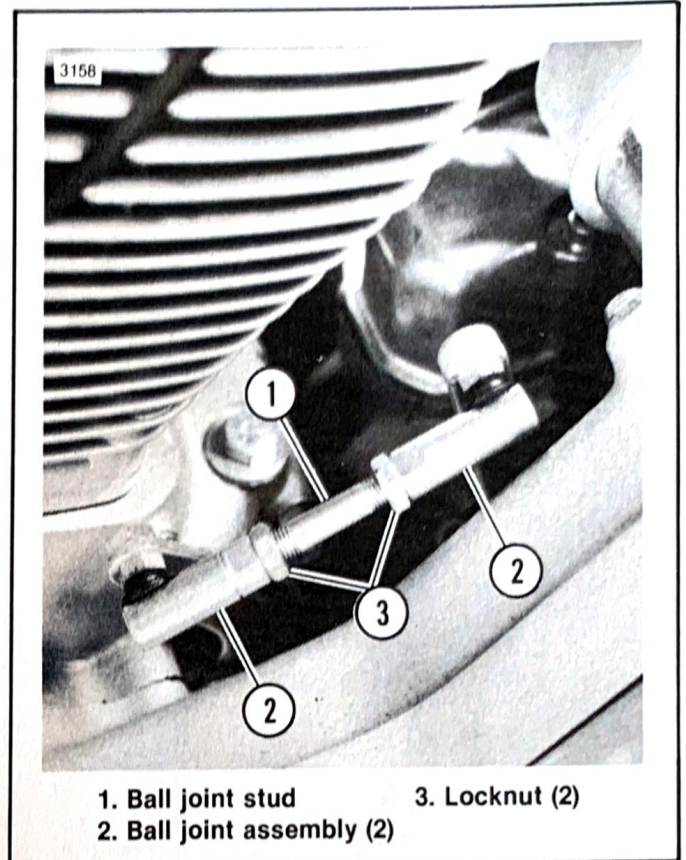


Figure 7-1. Shifter Pedal Adjustment — FXRP



# NOTES

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## CONCLUSION

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## APPENDIX

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## ELECTRICAL

SUBJECT	PAGE NO.
1. Specifications .....	8-1
2. Headlamp — FXRP .....	8-2
3. Front Directional and Running Lamps .....	8-3
4. Pursuit Lamps .....	8-4
5. Rear Marker Lamps — FXRP .....	8-5
6. Taillight/Brake Light and Rear Signal Lights .....	8-6
7. Siren and Public Address System — FLHTP and FXRP Models .....	8-7
8. Speaker .....	8-12
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11. Microphone and Jack .....	8-20
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14. Turn Signal Switches — FXRP (C.H.P. Version) .....	8-24
15. Mounting Motorola Radio Speaker — FXRP .....	8-25

### NOTE

*This section explains procedures unique to the FLHTP/FXRP police models motorcycles. Any procedures not covered in this supplement will be covered in the 1991 FLT/FXR Service Manual. FLHTP service procedures will correspond to the FLHTC service procedures; FXRP service procedures will correspond to the FXRT service procedures.*



# NOTES



# SPECIFICATIONS

The charts below give the light bulb locations and requirements for FXRP and FLHTP models.

## BULB CHART — FXRP

LAMP DESCRIPTION (ALL LAMPS 12 V)	NUMBER OF BULBS REQUIRED	(AMPERAGE) CURRENT DRAW	HARLEY-DAVIDSON PART NUMBER WINDSHIELD FAIRING
Headlamp High Beam Low Beam	1	67698-81A 67697-81 3.9 4.7 2.73 4.3	67698-81A 67697-81
Tail and Stop Lamp Tail Lamp Stop Lamp	1	0.59 2.1	68165-64 68165-64
Turn Signal Lamps Front — Turn Signal and Running Lamp Rear — Turn Signal Rear (C.H.P.)	2 2 2	2.1, 0.59 2.1 2.1	68165-64 68165-64 68572-64A 68572-64A — — 68572-64A
Instrument Lamps Turn Signal Indicator High Beam Indicator Neutral Indicator Oil Pressure Indicator Pursuit Lamp Indicator Speedometer Fuel Gauge/Tachometer Pursuit Lamps License Plate Lamps	2 1 1 1 1 1 2 2 2	0.08 0.04 0.08 0.08 0.80 0.27 0.12 2.34 0.19	68468-86 68468-86 68597-86 68597-86 68574-86 68574-86 68489-86 68489-86 68429-84 68429-84 71090-64 71090-64 67136-85 67136-85 68727-64A 68727-64A 59989-84 59989-84
Strobe Lamp	1	3.5	N/A

## BULB CHART — FLHTP

LAMP DESCRIPTION (ALL LAMPS 12 V)	NUMBER OF BULBS REQUIRED	CURRENT DRAW (AMPERAGE)	HARLEY-DAVIDSON PART NUMBER
Headlamp High Beam Low Beam	1	4.7 4.3	67697-81
Tail and Stop Lamp Tail Lamp Stop Lamp	1	0.59 2.1	68165-64
Turn Signal Lamps Front Turn Signal and Running Lamp Pursuit Lamps Rear	2 2 2	2.1, 0.59 2.34 2.1	68165-64 68727-64A 68572-64A
Fender Tip Lamps	2	2	53439-79
Instrument Panel Lamps	9	1	71099-74
Strobe Lamp	1	3.5	N/A



# HEADLAMP — FXRP

## REPLACING

For FXRP models with windshield, follow the procedure for replacing FXRS headlamp in the FLT/FXR Service Manual.

For FXRP models with fairing, follow the procedure for replacing the FXRT headlamp in the FLT/FXR Service Manual.

## ADJUSTMENTS

For FXRP models with windshield, follow the adjustment procedure for FXRS models in the FLT/FXR Service Manual.

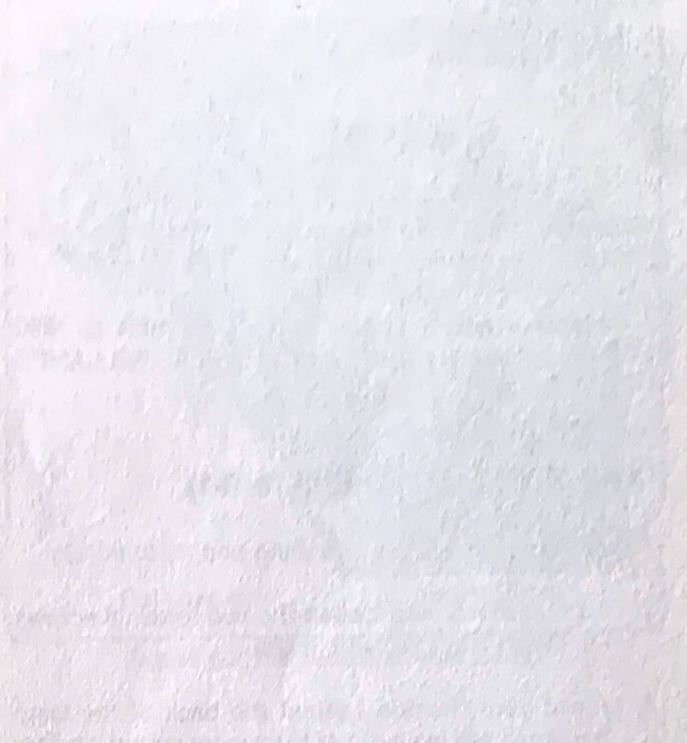
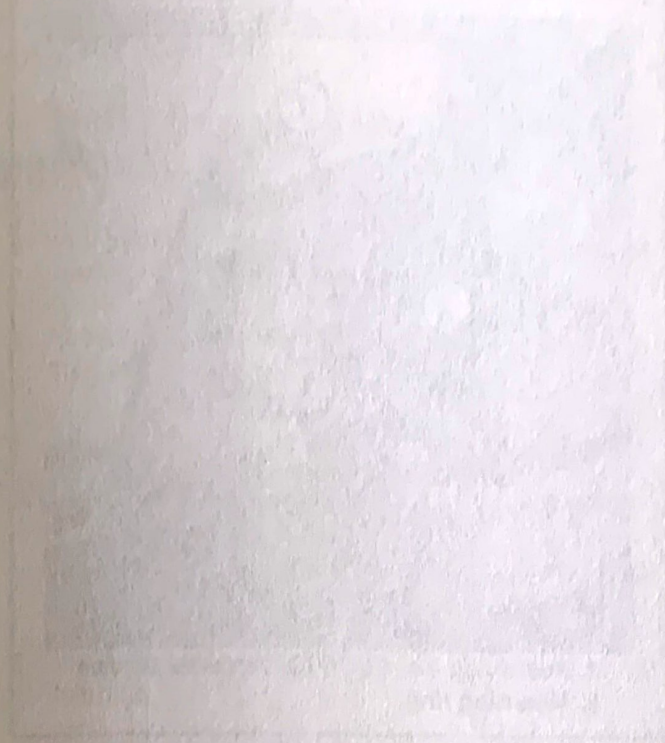
For FXRP models with fairing, follow the adjustment procedure for FXRT models in the FLT/FXR Service Manual.



# FRONT DIRECTIONAL AND RUNNING LAMPS

For FXRP models with windshield, follow the procedure in the FLT/FXR Service Manual for FXR models.

For FXRP models with fairing, follow the procedure for FXRT models in the FLT/FXR Service Manual.



## INSTALLATION

### FXRP WITH FAIRING

#### CAUTION

Do not attempt to adjust the beam of the running lamp to compensate for excessive wear.

If the lamp is not working, check the fuse and the wiring.

Remove the lamp cover by turning the cover clockwise.

### FXRP WITH WINDSHIELD

Remove the lamp cover by turning the cover clockwise.

#### CAUTION

Do not attempt to adjust the beam of the running lamp to compensate for excessive wear.



# PURSUIT LAMPS

## REMOVAL

### FLHTP

#### NOTE

The pursuit lamps are sealed beam units. When filament burns out, the entire lamp is replaced.

To replace or adjust pursuit lamps, see 1984 to 1990 FLT/FXR Service Manual - Section 8, PASSING LAMPS — FLHTC.

### FXRP with Fairing (Figure 8-1)

1. Remove the screws attaching pod (1) to fairing.
2. Turn pod over and loosen the two terminal screws (3). Disconnect the wire leads.
3. Place your thumbs against the back of the lamp and push the lamp out of the rubber mounting ring.

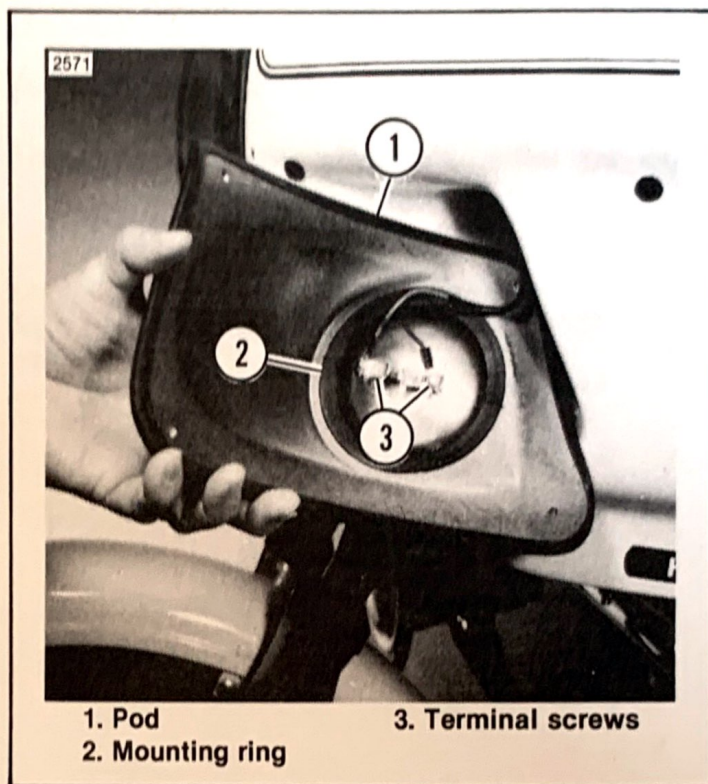


Figure 8-1. Replacing Pursuit Lamp

### FXRP (C.H.P. Version)

Both pursuit lamps on C.H.P. motorcycles are red. With pursuit lamp switch "ON", the left lamp is on constantly, while the right lamp flashes. Removal and installation of sealed beam units is the same as FXRP with fairing.

### FXRP With Windshield

1. Loosen the screw securing the lamp molding to the sealed beam.

#### CAUTION

The lamp molding and lamp are removed as an assembly.

2. Remove molding and lamp from the lamp housing.
3. Loosen the screws and disconnect the wire leads.

## INSTALLATION

### FXRP With Fairing

#### CAUTION

Do not attempt to rotate the lamp in the mounting ring by gripping the electrical terminals.

1. Insert a new lamp under the flange of the mounting ring.
2. Connect the wires to the terminals and install the pod.

### FXRP With Windshield

1. Connect the wire leads to the terminals of the new lamp.
2. Place lamp pin in molding.
3. Place lamp and molding on housing and secure with screw.



## REAR MARKER LAMP — FXRP

See Figure 8-2. The blue lamps on each side of the license plate combine the filament and blue lens in one integral component. When the filament burns out, the entire lamp is replaced.

### REMOVAL

1. Pull pin connector (1) free of pin socket at rear of marker lamp (2).
2. Grasp the lamp and rotate counterclockwise to free lamp from mounting.

### INSTALLATION

1. Insert new lamp in opening and turn clockwise to lock in place.
2. Push pin connector (1) into pin socket at rear of lamp (2).
3. Test operation of lamps.

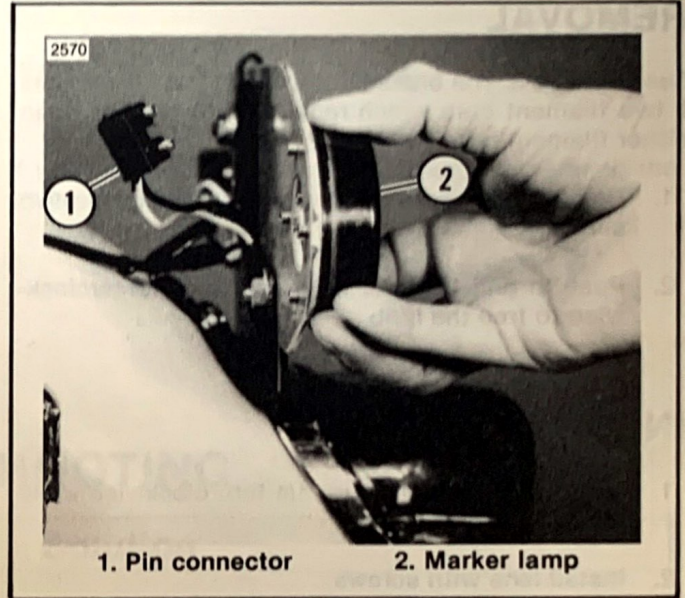


Figure 8-2. Replacing Marker Lamp



# TAILLIGHT/BRAKE LIGHT AND REAR SIGNAL LIGHTS

## REMOVAL

See Figure 8-3. The brake light and taillight circuit uses a two filament bulb which requires replacement when either filament burns out.

1. Remove the red lens cover by removing the two screws.
2. Push in and turn the bulb 1/4 turn counterclockwise to free the bulb.

## INSTALLATION

1. Insert new bulb and turn 1/4 turn clockwise while pushing inward.
2. Install lens with screws.

## FXRP (C.H.P. Version)

The C.H.P. motorcycles have an additional left and right signal light. These lights are mounted on the left and right rear fender braces. Bulb removal and replacement is the same as that given for tail/brake light.

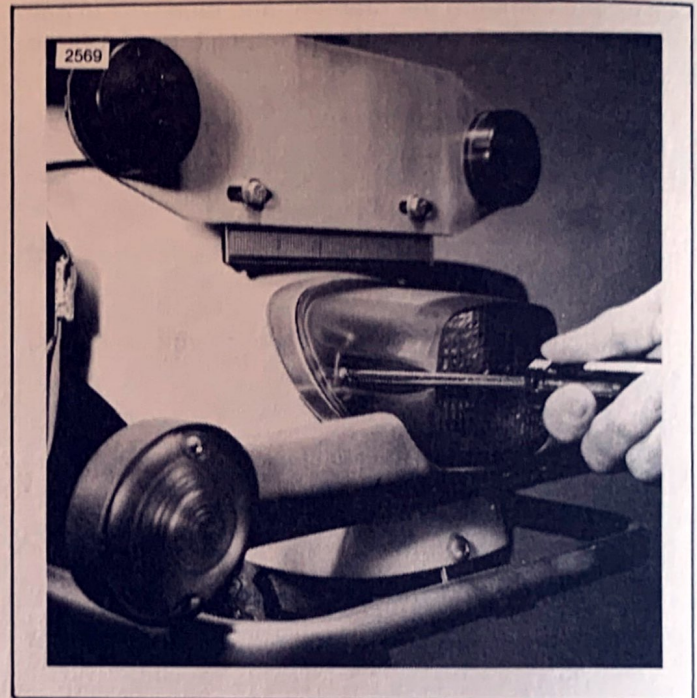


Figure 8-3. Replacing Taillight and Brake Light



# SIREN AND PUBLIC ADDRESS SYSTEM ALL FLHTP AND FXRP MODELS

## GENERAL

The siren and public address (PA) system consists of: amplifier, speaker, microphone, microphone jack, siren relay, siren and horn/siren switches and connecting wiring.

## TROUBLESHOOTING

If siren and/or PA system are inoperative, refer to the following troubleshooting chart.

## TROUBLESHOOTING

Problem	Cause	Solution
<p>1. Siren and PA not operational</p>	<p>1.1 Water and corrosion in amplifier - to motorcycle connector.</p> <p style="text-align: center;"><i>NOTE</i></p> <p><i>The Whelen siren amplifier, Part No. 91150-87 does not have PA internal circuitry. The 100 watt Whelen siren amplifier, Part No. 91150-88 has PA circuitry.</i></p>	<p>1.1.1 Unplug connector and blow water out of connector with compressed air. Apply wheel bearing grease to connector pins and sockets.</p> <p style="text-align: center;"><b>CAUTION</b></p> <p><b>Do not use a grease containing silicone. Silicone is an insulator and could prevent a good electrical connection.</b></p> <p>Connect connector halves.</p> <p style="text-align: center;"><b>CAUTION</b></p> <p><b>Make sure connector halves are properly indexed before tightening retainer ring. Improper indexing could cause bent connector pins and/or retainer ring failure.</b></p> <p style="text-align: center;"><i>NOTE</i></p> <p><i>See Figure 8-4. If adapter cable, Part No. 70348-87, is installed, perform SOLUTION 1.1.1 at both connectors. Also check that the screw connections on amplifier, Part No. 91150-82 are clean and tight. If amplifier 91150-82A is installed, check the four bullet connectors to verify good electrical connections.</i></p>



## TROUBLESHOOTING (Cont'd)

Problem	Cause	Solution
1. Siren and PA not operational	1.2 Faulty amplifier or speaker	1.2.1 Substitute a known-good amplifier and check system function. If system is still inoperative, substitute a known-good speaker and recheck for system operation.  <p style="text-align: center;"><i>NOTE</i></p> <p style="text-align: center;"><i>If neither an amplifier or speaker is available, perform the SPEAKER TROUBLESHOOTING check given later in the section and if speaker checks "good" continue at 1.3.1.</i></p>
	1.3 Faulty siren relay	1.3.1 Substitute a known-good siren relay or see SIREN RELAY given later in this section.
	1.4 Faulty siren or siren/horn switch or shorted or open control circuitry on motorcycle.	1.4.1 See VOLTAGE CHECKS and RESISTANCE AND CONTINUITY CHECKS following this chart.  <p style="text-align: center;"><i>NOTE</i></p> <p style="text-align: center;"><i>If all applicable voltages and resistances specified are obtained during testing, the motorcycle siren control circuitry is functioning properly. The voltage and continuity checks apply to Late 1987 and later models only.</i></p>
2. Siren functions PA not operational	2.1 Inoperative microphone	2.1.1 Substitute known-good microphone. If known-good microphone, not available, see MICROPHONE AND JACK covered later in this section.
	2.2 Microphone jack or connecting leads not providing good electrical connection.	2.2.1 See MICROPHONE AND JACK later in this section.
	2.3 Wrong microphone	2.3.1 Federal and Whelen microphones are electrically different and cannot be inter-changed.



# VOLTAGE CHECKS

## All Late 1987 and Later Models

See Table 1 and Figure 8-5. Measure the voltages at the motorcycle siren harness connector (pins 2, 3 and 4) as listed in Table 1. The ignition switch must be "ON" while checking voltages. Connect common or negative lead of voltmeter to a good ground. If voltages specified in Table 1 are not present, refer to applicable wiring diagram to diagnose problem.

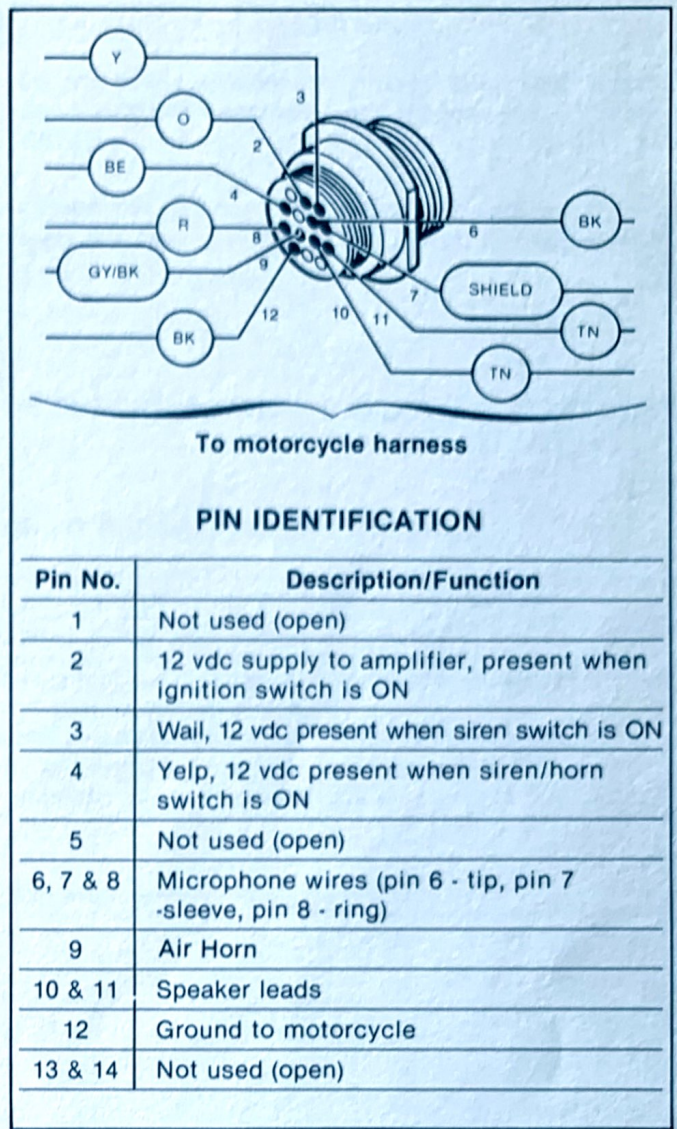


Figure 8-5. Pin Connector From Motorcycle Harness Late 1987 and Later FXRP, FLHTP Models

TABLE 1. VOLTAGE CHECKS AT MOTORCYCLE SIREN HARNESS

SWITCH	SWITCH POSITION	VOLTAGE MEASURED AT PINS		
		2	3	4
Ignition	ON	12 vdc	Don't measure	Don't measure
Siren Siren/horn	OFF ON	Don't measure	0 vdc	12 vdc
Siren Siren/horn	ON OFF	Don't measure	12 vdc	0 vdc
Siren Siren/horn	ON ON	Don't measure	0 vdc	12 vdc*

\* With siren/horn switch "ON", siren relay is energized and 12 vdc must be present at pin 4, regardless of whether siren switch is "OFF" or "ON".



# NOTES



# RESISTANCE AND CONTINUITY CHECKS

## CAUTION

Do not connect ohmmeter probes to a "live" circuit. Damage to ohmmeter will result if connected to a "live" circuit.

See Figure 8-5 and Table 2 for all FLHTP and FXRP models. Perform checks with both battery cables removed.

If ohmmeter readings in Table 2 are not obtained, refer to applicable wiring diagram at rear of this manual to diagnose the problem.

**TABLE 2. FXRP AND FLHTP RESISTANCE/CONTINUITY CHECKS (BATTERY CABLES DISCONNECTED)**

OHMMETER PROBE LOCATION (PINS)	OHMMETER READING	COMPONENT AND WIRING BEING CHECKED
10 & 11	6 - 10 ohms	Speaker voice coil and leads from pin connector to speaker
6 & 8	Infinity	Verifies Push-to-talk (PTT switch is open (OFF)
Press and hold PTT switch with probes on pins 7 & 8.	0 - 1 ohm	Verifies PTT switch is functioning and two microphone leads from connector have continuity. (To check 3rd lead, place one probe on pin 6 and the other probe on the "tip" terminal of microphone jack. See Figure 8-16 for microphone jack connections.)
Common probe to ground, other probe to pin 12	0 - 1 ohm	Checks amplifier to motorcycle ground.



# SPEAKER

## GENERAL

A new speaker capable of handling 100 watts was introduced on 1988 model vehicles. The new speaker leads are terminated with a 2-pin connector, while the old speaker leads have two single pin connectors.

### CAUTION

Do not use old (1987 and earlier) speaker with a 100 watt amplifier, since speaker damage may result.

## TROUBLESHOOTING

If speaker is inoperative, check voice coil impedance as follows:

1. Disconnect speaker leads and measure impedance by connecting ohmmeter leads to speaker leads.
2. Measured resistance must be 6-10 ohms.
3. Replace speaker if resistance is not within above range.

### NOTE

A binding voice coil or torn speaker cone could also cause speaker to be inoperative. To check for these conditions, connect speaker to shop stereo. If speaker operates, it's OK.

## REMOVAL (Figure 8-6)

1. Disconnect the two single or dual pin connectors (1).
2. Remove the self-locking nut from bolts (2) at the side and top of the speaker. Remove the bolts, metal washers and rubber washers and retain them for reuse.
3. Remove screw (3) from the back of the mounting bracket and remove speaker.

## INSTALLATION (Figure 8-6)

1. Install a new speaker in the mounting bracket. Secure the speaker at the rear of the bracket with screw (3).

### NOTE

Be sure the speaker voice cord drain hole is facing down to provide good drainage.

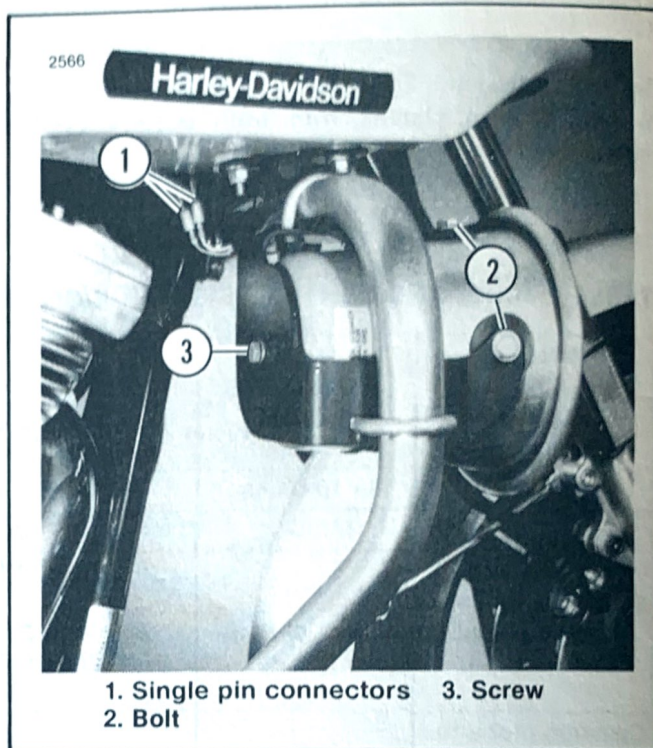


Figure 8-6. Replacing Speaker

2. Secure the speaker to the bracket side and top using bolts (2) with metal and rubber washers and self-locking nuts.
3. Connect the two single or dual pin connectors.

### NOTE

See Figure 8-7. If speaker center cone is removed to make installation easier, apply 2-3 drops of Loctite 242 (blue) on center cone threads and tighten cone securely with hand.

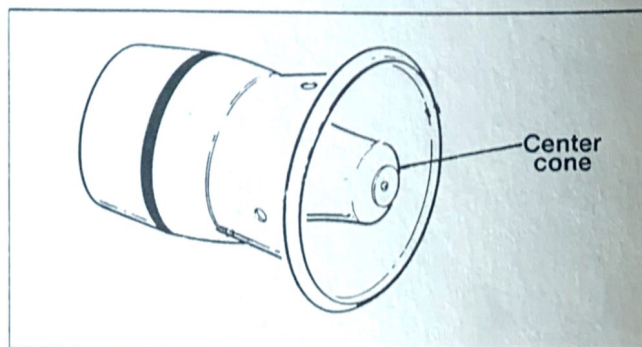


Figure 8-7. Speaker Center Cone



# SIREN AMPLIFIER

## GENERAL

Five different amplifier assemblies have been used on 1984-1990 models. The following tabulation lists amplifier part numbers and descriptions.

H-D PART NO.	DESCRIPTION (See Figure 8-8)	MODELS USED ON
91150-82	Federal Signal Corp. Model: HDK1*SRN	FXRP, Early 1984 - Early 1987 FLHTP, 1985 - Early 1987 (Also used on FLH models.)
91150-87	Whelen Engineering Co. 58 watt output Part No. WS310PAM	FLHTP, FXRP, Late 1987
91150-88	Whelen Engineering Co. 100 watt output Part No. WS310PAM (Labelled 100 watt)	FXRP and FLHTP, 1988 and later models Requires 100 watt speaker

## AMPLIFIER CONNECTION TO MOTORCYCLE

### Wiring Harness

The main wiring harnesses on late 1984 - early 1987 FXRP models and 1985 - early 1987 FLHTP models are designed to accept direct connection to Federal amplifier, Part No. 91150-82. Federal amplifier, Part No. 91150-82A can also be connected, by replacing spade connectors with bullet connectors. Late 1987 and later FXRP and FLHTP main wiring harnesses have provisions to allow direct connection of the following amplifiers:

PART NO.	DESCRIPTION/MANUFACTURER
91166-88	Federal - 58 watt
91150-87	Whelen - 58 watt
91150-88	Whelen - 100 watt

## SIREN JUMPER CABLE

See Figure 8-4. A jumper or adapter cable, Part No. 70348-87 is available to allow connecting Federal amplifier, Part No. 91150-82, to late 1987 and later FXRP and FLHTP models.

## REMOVAL

### WARNING

To avoid accidental start-up of vehicle and possible personal injury, disconnect the battery cables (negative cable first) before performing any of the following procedures.

### Federal Amplifiers, Part No. 91150-82A, 91166-88

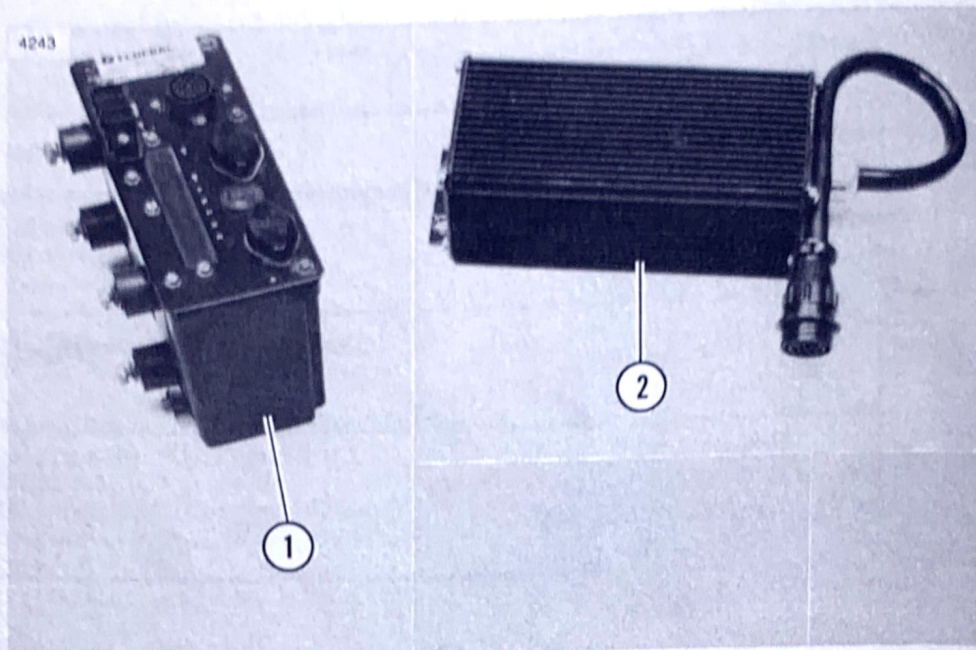
#### FLHTP

#### NOTE

See Figure 8-9. The amplifier is located on a bracket attached to the left saddlebag guard.

1. Remove nuts (1) and lockwashers (2) securing amplifier to bracket (3).
2. Disconnect the amplifier cable from the motorcycle.
3. Remove amplifier.





1. Part No. 91150-82  
2. Part No. 91150-87

— Part No. 91150-88 (Same configuration as 91150-87, marked "100 watt")

Figure 8-8. Siren Amplifiers

**FXRP**

**NOTE**

See Figure 8-10. The amplifier is mounted directly to the left saddlebag guard.

1. Disconnect the amplifier cable from the motorcycle.
2. Remove the mounting bolts (1), nuts (2) and washers (3) securing the amplifier to the saddlebag guard and remove the amplifier.

**Whelen Amplifiers,  
Part No. 91150-87, 99150-88**

**FLHTP**

See Figure 8-11. The Whelen amplifiers are mounted to  
**8-14**

the outside front of the left saddlebag with four screws, washers and nuts. To remove amplifier, disconnect connector, loosen and remove four mounting bolts.

**CAUTION**

**Note location of mounting fasteners and save for use when mounting amplifier. Large washers must be used inside saddlebag to prevent saddlebag breakage.**

**FXRP**

See Figure 8-12. The amplifier is mounted to the outside bottom of the left saddlebag. To remove amplifier, disconnect connector and remove four bolts, washers and nuts.

**CAUTION**

**Note location of mounting fasteners and save for use when mounting amplifier. Large washers must be used inside saddlebag to prevent saddlebag breakage.**



# INSTALLATION

## Federal Amplifier, Part No. 91150-82A

### FLHTP

1. Mount new amplifier on bracket and install lock-washers and nuts.

#### CAUTION

Apply wheel bearing grease on connector pins and sockets before connecting connector. Make sure connector is properly indexed before tightening retainer ring or retainer ring may be damaged.

2. Plug in the socket connector. Tighten retainer ring.

#### NOTE

If amplifier, Part No. 91150-82A is being connected, see Figure 8-4 for proper hook-up of four bullet connectors.

### FXRP

1. See Figure 8-10. Install amplifier using bolts, nuts and washers removed from old amplifier.
2. Perform step 2 of FLHTP including CAUTION and NOTE if applicable.

## Whelen Amplifiers, Part No. 91150-87, 91150-88

### FLHTP

1. See Figure 8-9. Install amplifier as shown.

#### CAUTION

Be sure large washers are placed on four bolts inside saddlebag to prevent saddlebag breakage.

2. Tighten mounting bolts to 6 ft-lbs torque.
3. Perform step 2 given for FLHTP Federal amplifier and observe "CAUTION" that precedes step 2.

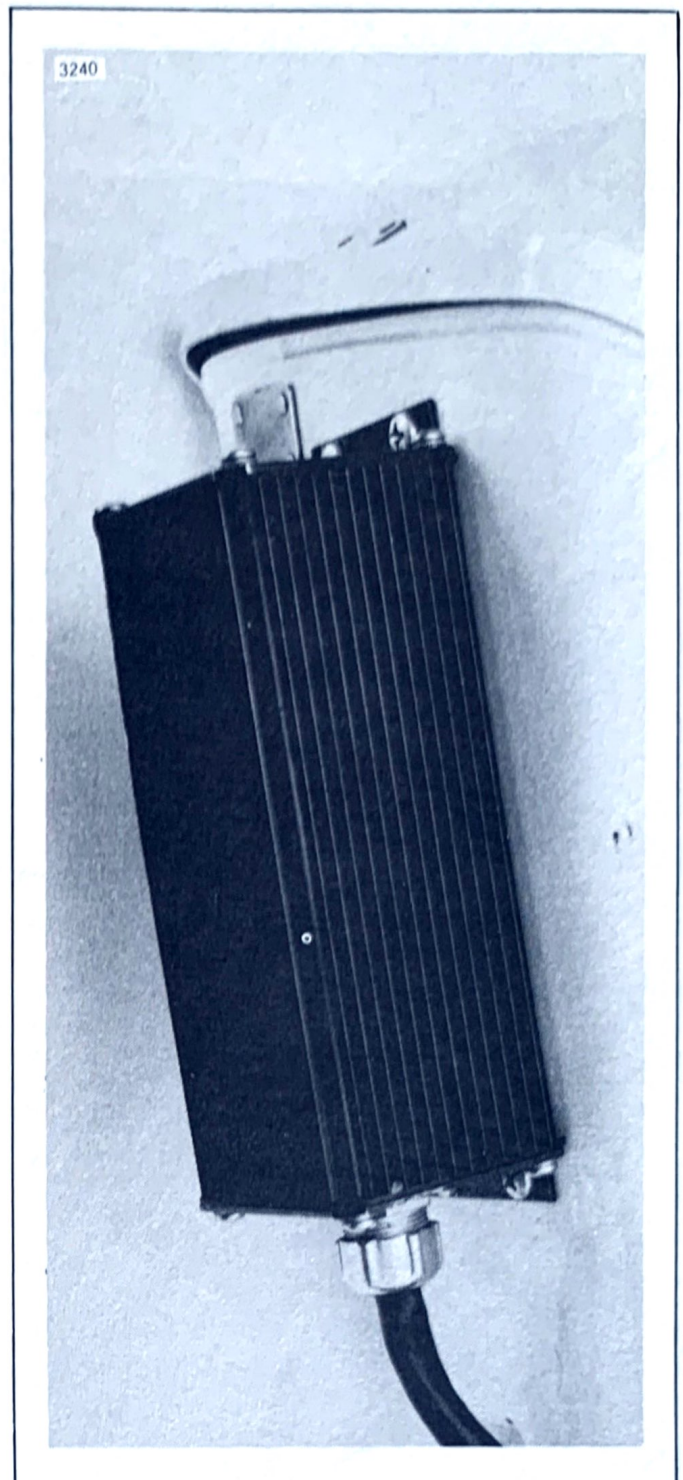


Figure 8-9. Whelen Amplifier Mounting — FLHTP



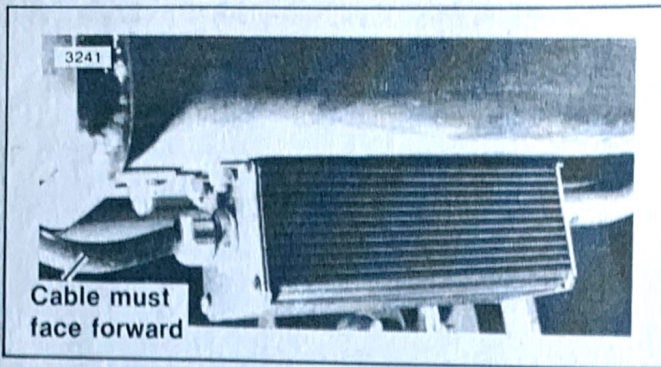


Figure 8-10. Whelen Amplifier Mounting — FXRP

#### FXRP

1. See Figure 8-10. Mount amplifier as shown.

#### CAUTION

Be sure large washers are placed on four bolts inside saddlebag to prevent saddlebag breakage.

2. Tighten mounting bolts to 6 ft-lbs torque.

#### CAUTION

Apply wheel bearing grease on connector pin and sockets before connecting connector. Make sure connector is properly indexed before tightening retainer ring or retainer ring may be damaged.

3. Plug in the connector. Tighten retainer ring.



# ADJUSTING PUBLIC ADDRESS GAIN ON WHELEN 100 WATT SIREN AMPLIFIER, PART NO. 91150-88

## GENERAL

The Public Address (PA) gain is set at the manufacturer and normally does not require adjustment. If feedback, low volume or distortion are present, adjust the gain as follows:

### Gain Adjustment:

1. Remove amplifier from saddlebag.
2. See Figure 8-11. Remove four screws from the amplifier end plate containing the cable.
3. Gently move the end plate to expose the adjusting screw high-lighted with the arrow in Figure 8-11.
4. Press Push-to-talk switch on microphone, speak into microphone in normal manner and while speaking, carefully turn adjusting screw, with a proper size screwdriver, to obtain maximum distortion free output.
5. Gently move end plate back into the installed position, install four screws securing end plate and install amplifier on saddlebag.

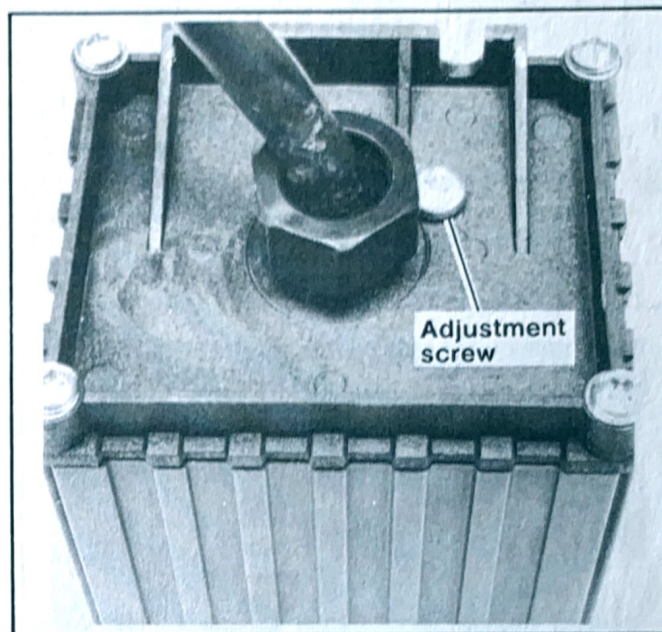


Figure 8-11. PA Gain Adjustment Screw



# SIREN RELAY

## REMOVAL

### FLHTP

1. Remove left saddlebag and side cover.
2. See Figure 8-12. Before removing the siren relay, unplug the connector and substitute a new relay or perform the following tests.

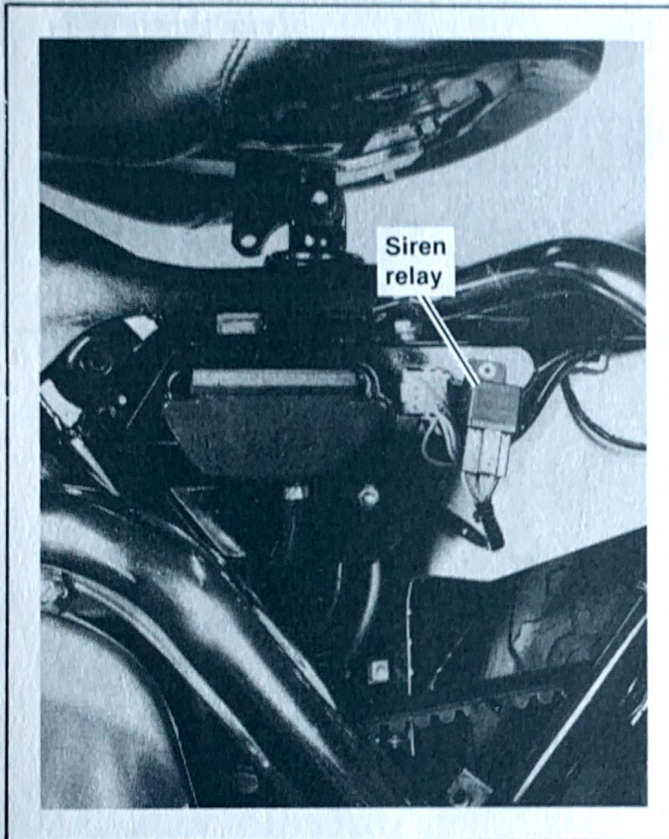


Figure 8-12. Siren Relay — FLHTP

3. See Figure 8-13, Test 1. Check for continuity between terminals 30 and 87A. If continuity does not exist - replace relay. If continuity is present, continue at step 4.
4. See Figure 8-13, Test 2. Connect the battery leads to terminals 86 and 85 to energize the relay. Check for continuity between terminals 30 and 87. A good relay will show continuity (continuity tester lamp on or a zero ohm reading on the ohmmeter). A defective relay will not have continuity and should be replaced.

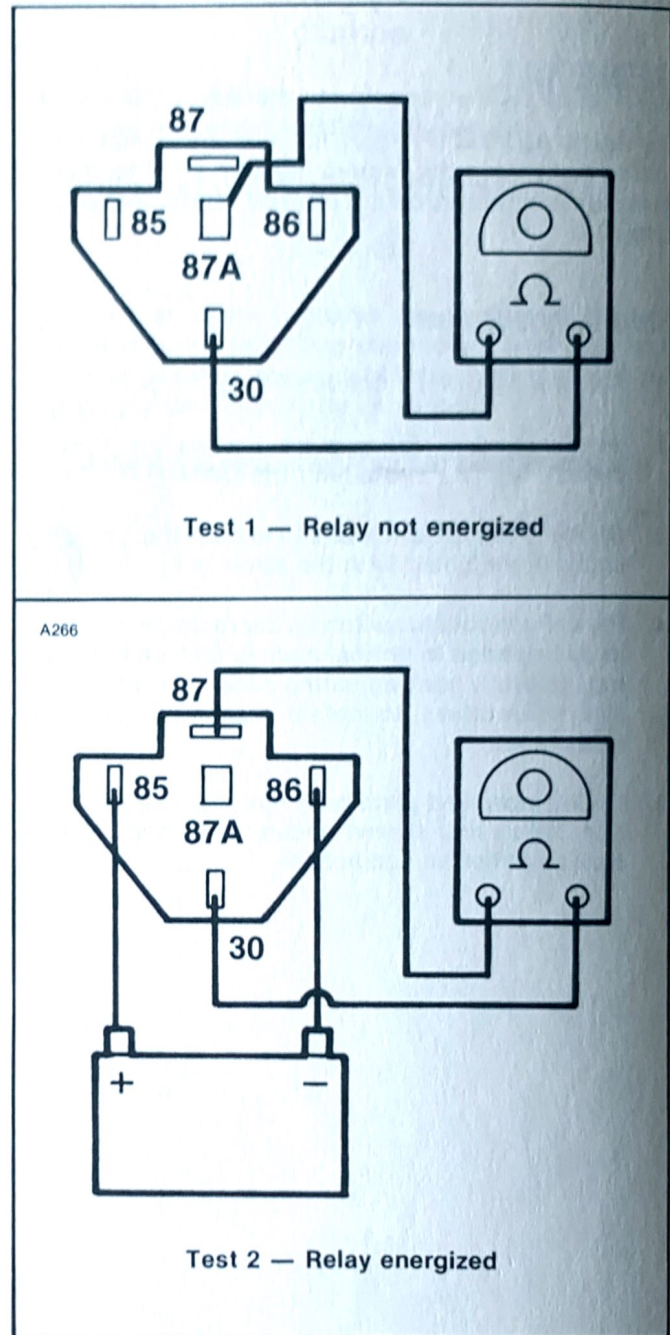


Figure 8-13. Siren Relay Test

## INSTALLATION

### FLHTP

1. See Figure 8-12. If either of the tests (Steps 2 through 4) indicate a defective relay, replace the relay.
2. Install left side cover.



## FXRP

See Figure 8-14. FXRP siren relay is located behind the left side cover. To remove, test or install, follow procedures given for FLHTP.

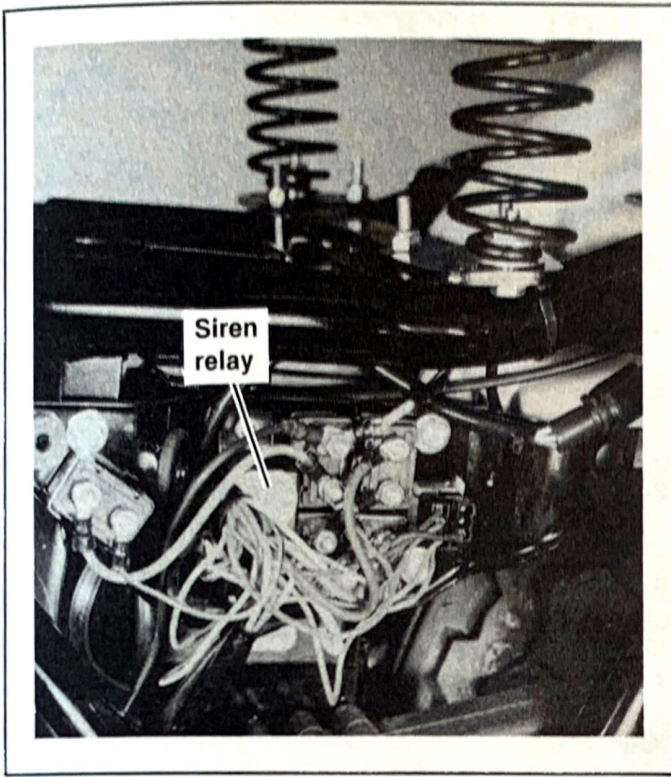


Figure 8-14. Siren Relay — FXRP



# MICROPHONE AND JACK

## MICROPHONE

### Troubleshooting

1. See Figure 8-15. To verify that Push-To-Talk (PTT) switch is functioning properly, connect probes of ohmmeter to tip and ring of microphone plug.
2. With PTT switch off (not depressed) no continuity must exist.
3. Depress PTT switch, ohmmeter must read 0 - 1 ohm. Replace microphone if continuity is not present.

## REMOVAL/INSTALLATION

The microphone is a plug-in unit, so removal/installation are self explanatory.

## MICROPHONE JACK

### Removal

#### FLHTP

1. The jack is mounted in the inner fairing below the left handlebar tube.
2. Remove the plastic radio opening cover and handlebar cover.
3. Remove microphone jack nut and washer, and reach through radio opening to remove jack.
4. Unsolder leads from jack terminals.

#### FXRP

1. The jack is mounted in the front of the fuel tank console.

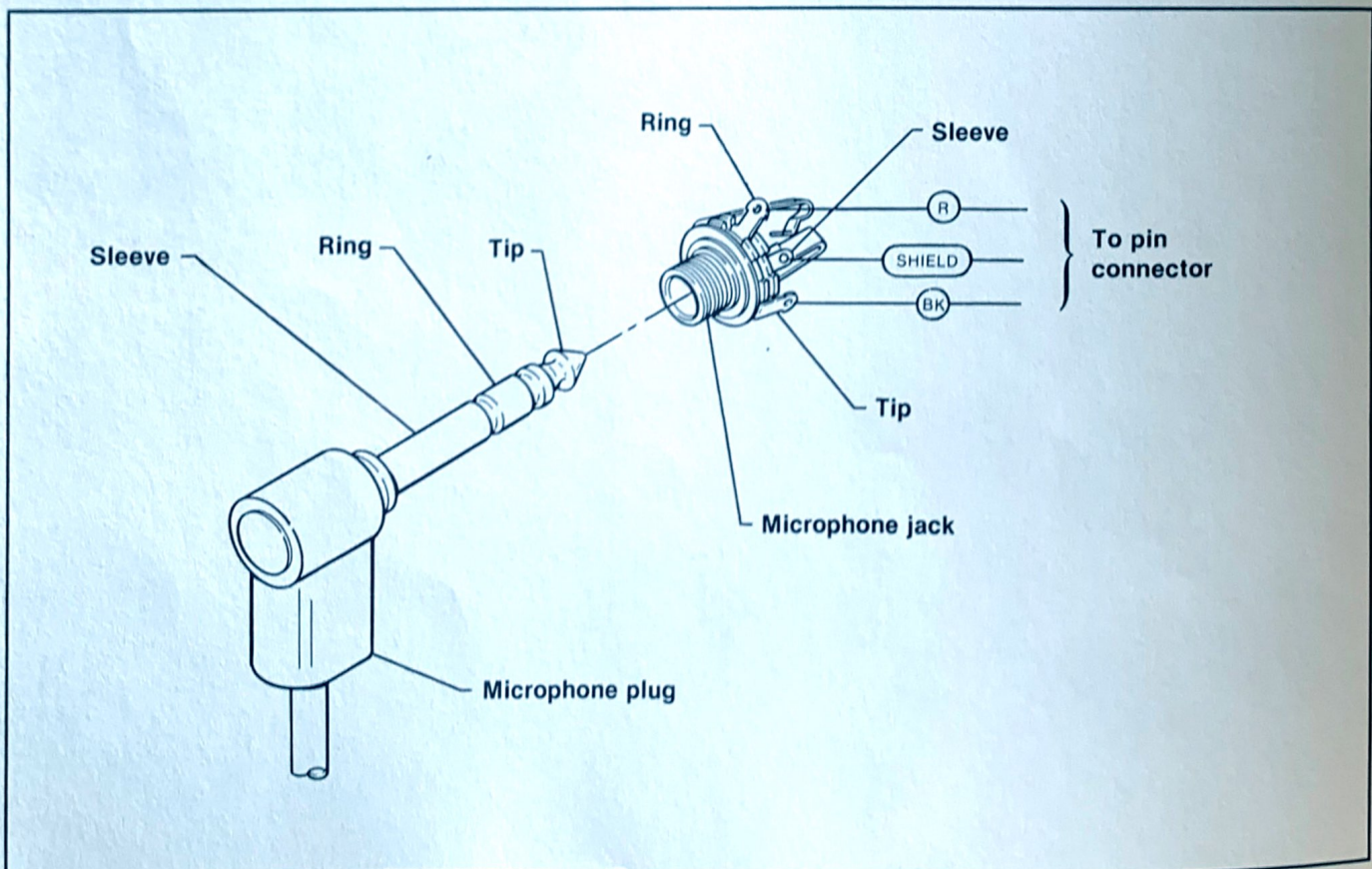


Figure 8-15. Microphone and Jack Connections



2. Remove the two screws ahead of fuel filler cap and one screw ahead of seat.
3. Remove nut and washer from jack.
4. Remove fuel filler cap, gently lift console and remove jack.
5. Unsolder leads from jack terminals.

## Installation

### ALL MODELS

1. See Figure 8-15. Solder leads to jack terminals as shown.
2. Install jack and secure with washer and nut.
3. Replace all parts removed to gain access to jack.



# NOTES



# IGNITION SWITCH — FXRP

## WARNING

Disconnect the battery (negative cable first) to avoid accidental start-up of vehicle and possible personal injury.

Gasoline is extremely flammable and highly explosive under certain conditions. Do not smoke or allow open flame or sparks anywhere in the area when refueling or servicing the fuel system.

## REMOVAL

Remove face nut and washer securing the ignition switch to the bracket. Remove switch.

## INSTALLATION

See Figure 8-17. Place switch in position in bracket and install washer and face nut.

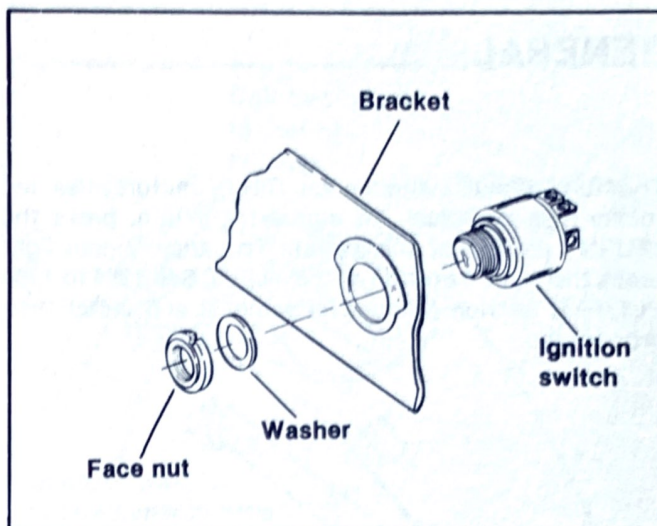


Figure 8-17. Ignition Switch Installation

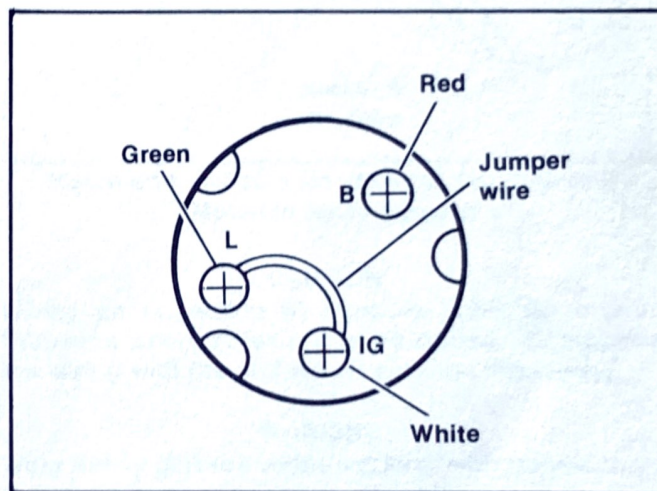


Figure 8-18. Ignition Switch Connections



# TURN SIGNAL SWITCHES — FXRP (C.H.P. Version)

## GENERAL

The turn signal switches on C.H.P. motorcycles are rocker-type switches. To signal for a turn, press the "TURN" portion of the switch. To cancel signal light press the "OFF" portion of the switch. See 1984 to 1990 FLT/FXR Service Manual for removal and installation procedures.

## WARNING

When the "TURN" portion of the signal light switch is pressed, the switch is locked in the "ON" position. Make certain you cancel turn signal lamps after completing a turn by pressing the "OFF" portion of the switch. Failure to cancel the turn signal lamp before executing another turn could cause you to eliminate your intended signal. Having the wrong signal lamp flashing, or both right and left flashing, could confuse other motorists and could cause an accident.



# MOUNTING MOTOROLA RADIO SPEAKER -FXRP

## GENERAL

Your customer may want a Motorola radio speaker mounted to the console. Mounting hardware is shipped with the vehicle in the right saddlebag.

If your customer has requested that you mount the Motorola radio speaker, follow these instructions.

If you are not mounting the speaker inform your customer of these instructions.

### IMPORTANT

- These procedures are for mounting Motorola radio speakers only.
- It is necessary to permanently modify the console to mount the speaker.
- The speaker is to be supplied by the vehicle owner. It is recommended that the speaker be available prior to beginning the console modification.

## CONSOLE MODIFICATION (Figure 8-20)

### NOTE

Read these instructions completely before you begin the console modification.

### WARNING

Disconnect the battery (negative cable first) to avoid accidental start-up of vehicle and possible personal injury.

1. A template is found on page 8-27. Cut out the template. Place the template, printed side up, on the console. Be sure the right-angled corner of the template is flush against the right side of the console and the lower holes on the template align with the "dimples" in the console. Mark the center of the four holes with a sharp pointed instrument. Remove the template.
2. Remove the three console mounting screws.
3. Remove the cap from the fuel tank.
4. Carefully lift up on the left side of the console. With the console lifted away from the fuel tank, install the gas cap to prevent foreign matter from falling into the fuel tank.
5. Tape the wiring away from the console area to be drilled.

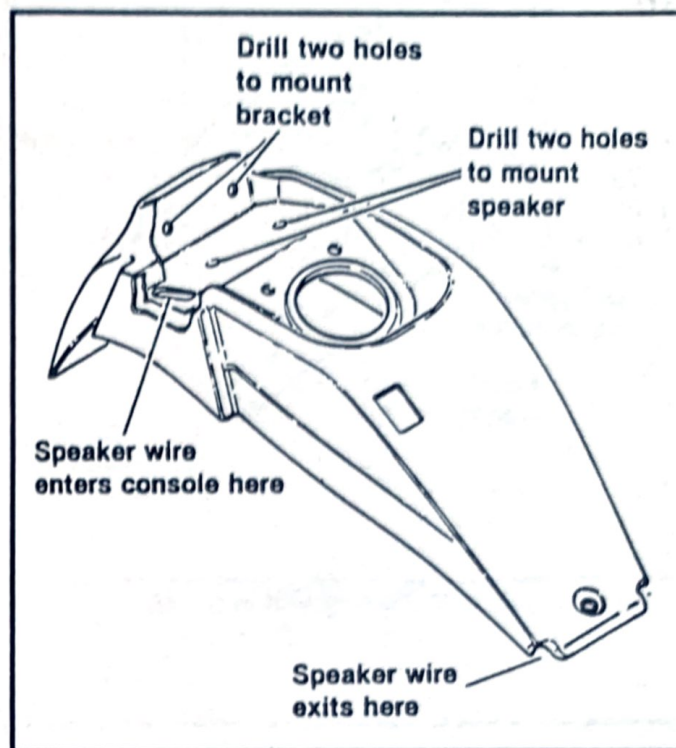


Figure 8-19. Console Modification for Mounting Motorola Radio Speaker

### CAUTION

Wiring on underside of console must be moved from area where holes are to be drilled. Contacting the wiring with the drill would damage the wiring.

### WARNING

Wear safety glasses when working with power tools to prevent eye injury or loss of sight.

6. See Figure 8-20. Cut slot on the left side of the console using a drill and a 3/8 in. drill bit. Drill three holes as shown. Finish cutting the slot using a small rotary file.
7. See Figure 8-21. Cut away the left corner using a drill and a 3/8 in. drill bit. Drill a hole as shown and finish cutting the left rear corner to match the right rear corner.
8. Using a drill and a 1/4 in. drill bit, drill the four mounting holes at the locations marked in step 1.

## INSTALL SPEAKER AND CONSOLE

1. See Figure 8-22. Mount the bracket to the console as shown. Then mount the Motorola radio speaker to the bracket and secure it to the console as shown.
2. Remove the tape holding the wiring.



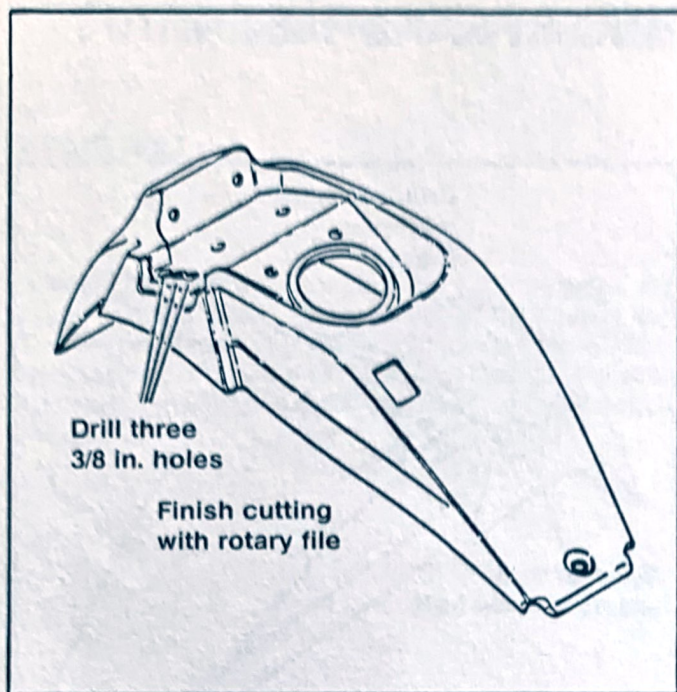


Figure 8-20. Cutting Slot in Console

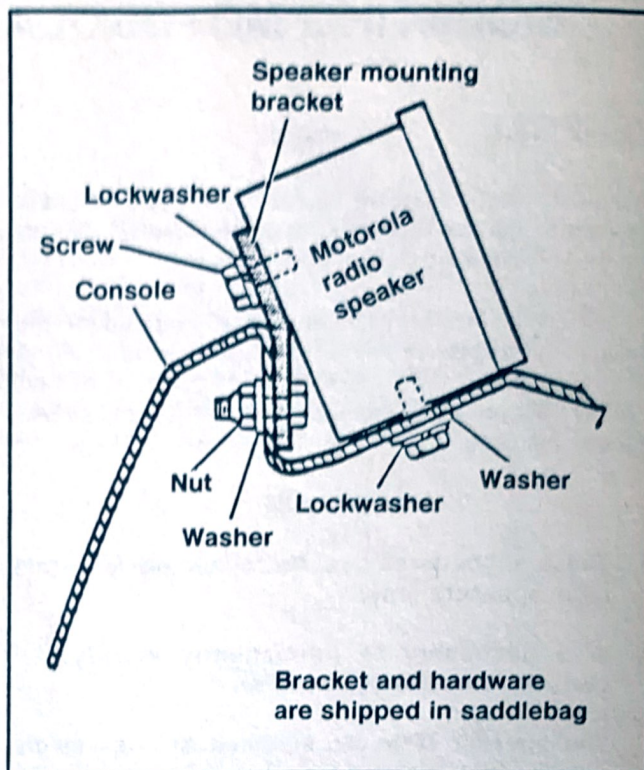


Figure 8-22. Bracket and Speaker Mounted to Console

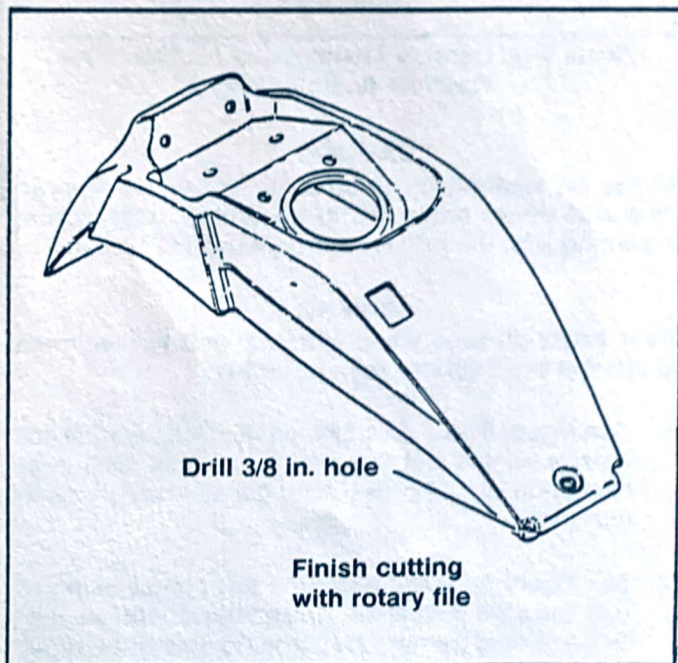


Figure 8-21. Modifying Left Rear Corner of Console

3. Remove the gas cap.
4. Place the console on the fuel tank and align the three mounting holes. Make sure the gasket is in place around the filler neck.
5. Install the gas cap and the three console mounting screws.



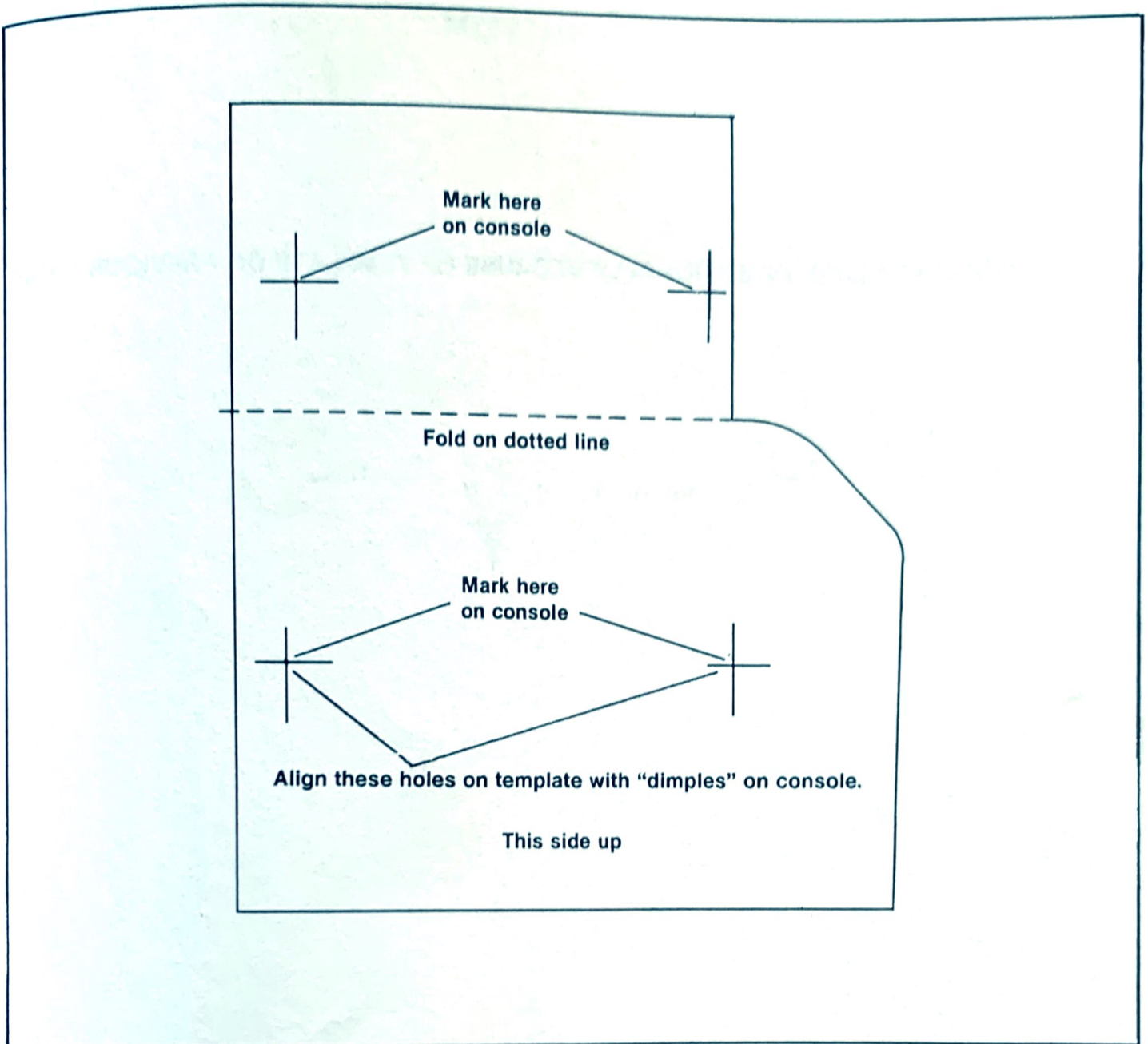


Figure 8-23. Template — FXRP Console Modification



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# NOTES



## NOTES

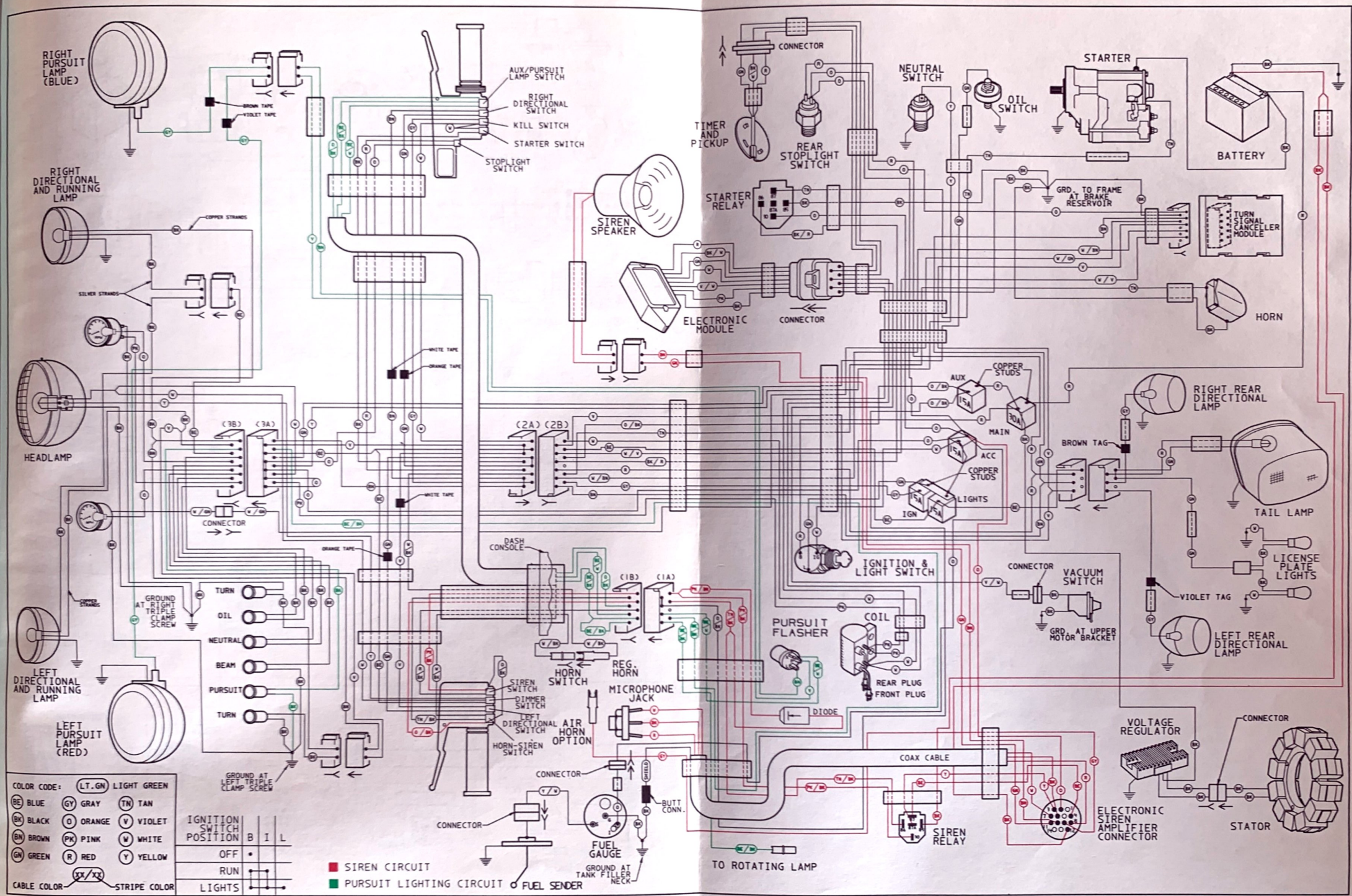


# NOTES



# NOTES





1991 FXRP WITH WINDSHIELD

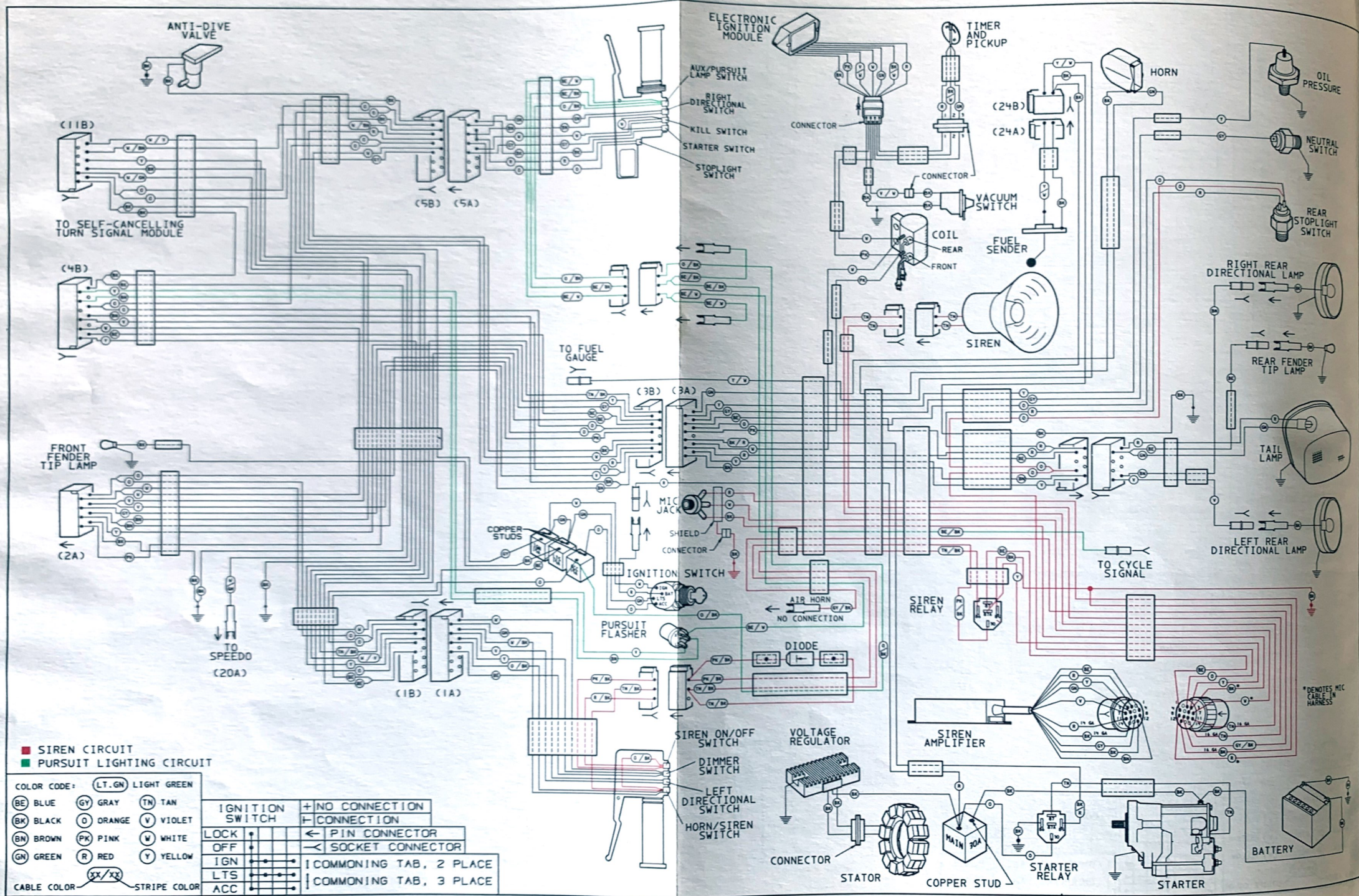












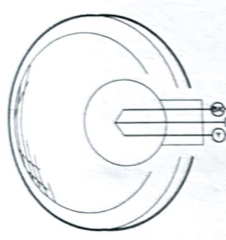
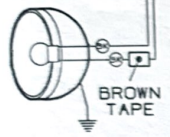
1991 FLHTP WITH WINDSHIELD (SHEET 1 OF 2)



RIGHT PURSUIT LAMP

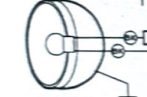


RIGHT DIRECTIONAL RUNNING LAMP



HEADLAMP

VIOLET TAPE

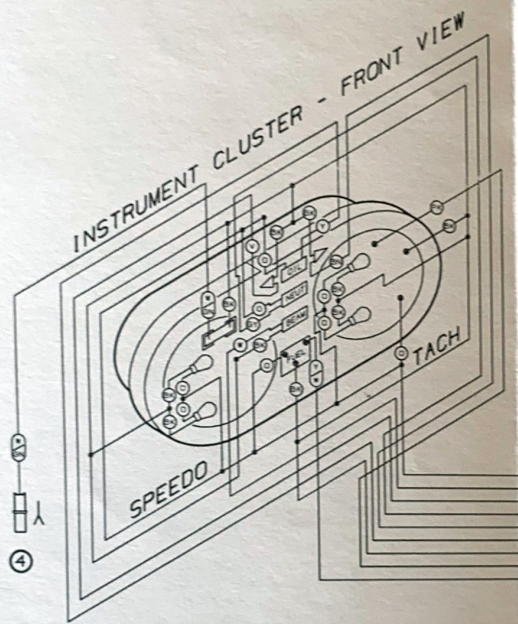


LEFT DIRECTIONAL RUNNING LAMP



LEFT PURSUIT LAMP

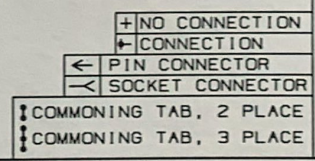
TO FRONT HARNESS



INSTRUMENT CLUSTER - FRONT VIEW

SPEEDO

TACH



COLOR CODE :

(BK)	BLACK
(BN)	BROWN
(GY)	GRAY
(O)	ORANGE
(PK)	PINK
(V)	VIOLET
(W)	WHITE
(Y)	YELLOW
(W/GN)	WHITE/GREEN
(Y/W)	YELLOW/WHITE





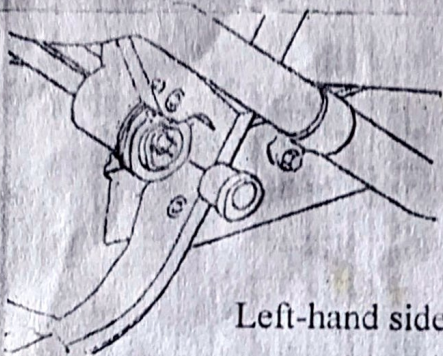
**Harley-Davidson, Inc.**  
Technical Communications Dept.  
Milwaukee, WI 53201



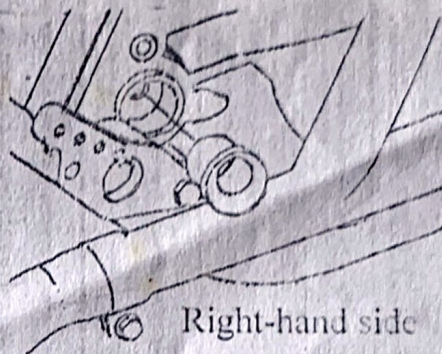
**SWING-ARM STABILIZER**  
**FXR, FLT, FLHR Type Frames (rubber mount)**

**Instructions**

Installs behind the (swingarm) mounting bracket, inside the rubber mount, line up the hole on the rubber mount with the roll pin on the rear fork bracket. Apply vaseline to inside of side mount and STA-BO during installation. Refer to illustrations below.



Left-hand side



Right-hand side

**TORQUE SPECS**

Rear Fork (Swingarm) Bracket Bolts 34-42 ft-lbs

**INNOVATIONS-STA-BO, LLC**

**Murfreesboro, TN 37130**

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