

# SERVICE BULLETIN



M-941

January 16, 1987

## LATE 1987 FXR, FXST, FLST AND XLH REAR BRAKE SYSTEMS

### General

In our continuing effort to source parts and materials domestically Harley-Davidson has decided to use Hayes rear brake systems on all vehicles starting in late 1987 model year. This will not affect the FLT family of motorcycles as they now have Hayes rear brake systems and will remain as they are. Push rod free play adjustment is no longer required as this is now built into the master cylinder. The FLT models will require the free play adjustment as before.

### Identification

The new Hayes rear brake systems can easily be identified by the banjo fittings at the master cylinder and the rear brake caliper.

### Replacement Parts

A complete listing of the service parts for the new brake system is given in this bulletin. All the parts will be incorporated into the parts catalogs at the time of next revision. The pad sets are not interchangeable on right and left installations. The friction pad insulator profile is designed individually, for maximum noise suppression, on left and right applications.

### Servicing (Figure 1.)

Instructions on servicing the brake caliper can be found in the 1984-1987 FLT-FXR Service Manual pages 2-52

and 2-53. Full instructions on replacing the cartridge assembly (15) will be included with each repair kit. The cartridge assembly includes all the master cylinder internal parts and will be shipped assembled.

### NOTE

*When assembling dust boot (8) be sure to position the vent hole towards the bottom to prevent entry of contaminants and water. The inlet spout on master cylinder (18) must be pointing upward within plus or minus 15 degrees to insure a satisfactory flow of fluid to the cylinder*

Torque requirements during installation are:

- Banjo fitting bolt (11) 30-35 ft lb
- Cartridge assembly nut (3) 30-40 ft lb
- Reservoir cover screws (13) 6-8 in lb dry

The only adjustment that may require attention is pedal height adjustment. Flats are provided on push rods (16 and 17) for adjustment. Loosen the locknut then turn push rod (16 or 17) for proper pedal height. Tighten the locknut. Pedal height (dimensions) will remain the same as specified in the appropriate service manual. Push rod free play adjustment is not required. Proper free play is built into the master cylinder

| ROUTING:        | SERVICE<br>MANAGER | SALES<br>MANAGER | PARTS<br>MANAGER | CHIEF<br>MECHANIC | MECHANIC<br>NO. 1 | MECHANIC<br>NO. 2 | MECHANIC<br>NO. 3 | MECHANIC<br>NO. 4 | RETURN<br>THIS TO: |
|-----------------|--------------------|------------------|------------------|-------------------|-------------------|-------------------|-------------------|-------------------|--------------------|
| INITIAL<br>HERE |                    |                  |                  |                   |                   |                   |                   |                   |                    |

# REAR BRAKE MASTER CYLINDER

| INDEX NO. | PART NO.  | NAME  | REVISION | USED ON  |
|-----------|-----------|---|----------|--|
| 1         | 6366      | WASHER, boot retainer .....                   |          | Late 87 to *- FXR Models, FXST Models, FLST Models, XLH Models |
| 2         | 7855W     | NUT, rear master cylinder mtg. ....           |          | Late 87 to *- FXR Models, FXST Models                          |
| 3         | 35078-79  | LOCKNUT .....                                 |          | Late 87 to *- XLH Models, FLST Models                          |
| 4         | 40902-87  | ADAPTER, return spring .....                  |          | Late 87 to *- FLST Models, XLH Models                          |
| 5         | 40903-87  | RETAINING RING, spring .....                  |          | Late 87 to *- FXR Models, FXST Models, FLST Models, XLH Models |
| 6         | 40918-87  | RETAINING RING, spring .....                  |          | Late 87 to *- FXR Models, FXST Models                          |
| 7         | 40920-87  | SPRING, return pedal .....                    |          | Late 87 to *- FXR Models, FXST Models, FLST Models, XLH Models |
| 8         | 40922-87  | DUST BOOT .....                               |          | Late 87 to *- FXR Models, FXST Models, FLST Models, XLH Models |
| 9         | 40956-87  | HOSE, rear brake .....                        |          | Late 87 to *- FXR Models                                       |
|           | 40957-87  | HOSE, rear brake .....                        |          | Late 87 to *- FLST Models                                      |
|           | 44438-87  | HOSE, rear brake .....                        |          | Late 87 to *- XLH Models                                       |
|           | 45156-87  | HOSE, rear brake .....                        |          | Late 87 to *- FXST Models                                      |
| 10        | 41731-82  | WASHER (4) .....                              |          | Late 87 to *- FXR Models, FXST Models, FLST Models, XLH Models |
| 11        | 41747-82A | BOLT (2) .....                                |          | Late 87 to *- FXR Models, FXST Models, FLST Models, XLH Models |
| 12        | 42331-87  | LOCKPLATE .....                               |          | Late 87 to *- FXR Models, FXST Models                          |
| 13        | 42375-87  | SCREW, master cylinder cover .....            |          | Late 87 to *- XLH Models, FLST Models                          |
| 14        | 42381-87  | COVER, master cylinder (chrome) .....         |          | Late 87 to *- XLH Models                                       |
|           | 45004-85  | COVER, master cylinder (black) .....          |          | Late 87 to *- FLST Models                                      |
| 15        | 42382-87  | MASTER CYLINDER REPAIR KIT .....              |          | Late 87 to *- FXR Models, FXST Models, FLST Models, XLH Models |
| 16        | 42436-87  | PUSH ROD, master cylinder .....               |          | Late 87 to *- XLH Models                                       |
| ➡         | 50992-87  | PUSH ROD, master cylinder .....               |          | Late 87 to *- FLST Models                                      |
| 17        | 42448-87  | PUSH ROD .....                                |          | Late 87 to *- FXR Models, FXST Models                          |
| 18        | 42452-87  | BODY REPAIR KIT master cylinder .....         |          | Late 87 to *- FXR Models, FXST Models                          |
| 19        | 42471-87  | BODY REPAIR KIT, master cylinder .....        |          | Late 87 to *- XLH Models, FLST Models                          |
|           | 42472-87  | BODY REPAIR KIT, master cyl. (HDI only) ..... |          | Late 87 to *- XLH Models                                       |
|           | 42473-87  | BODY REPAIR KIT, master cyl. (HDI only) ..... |          | Late 87 to *- FLST Models                                      |
| 20        | 44126-87  | RETAINER, return spring .....                 |          | Late 87 to *- FXR Models, FXST Models, FLST Models, XLH Models |
| 21        | 45005-85  | GASKET, cover reservoir .....                 |          | Late 87 to *- FLST Models, XLH Models                          |
| 22        | 45042-82  | REPAIR KIT, sight glass (HDI only) .....      |          | Late 87 to *- FLST Models, XLH Models                          |
| 23        | 63546-87  | HOSE, reservoir .....                         |          | Late 87 to *- FXST Models                                      |
|           | 63561-87  | HOSE, reservoir .....                         |          | Late 87 to *- FXR Models                                       |

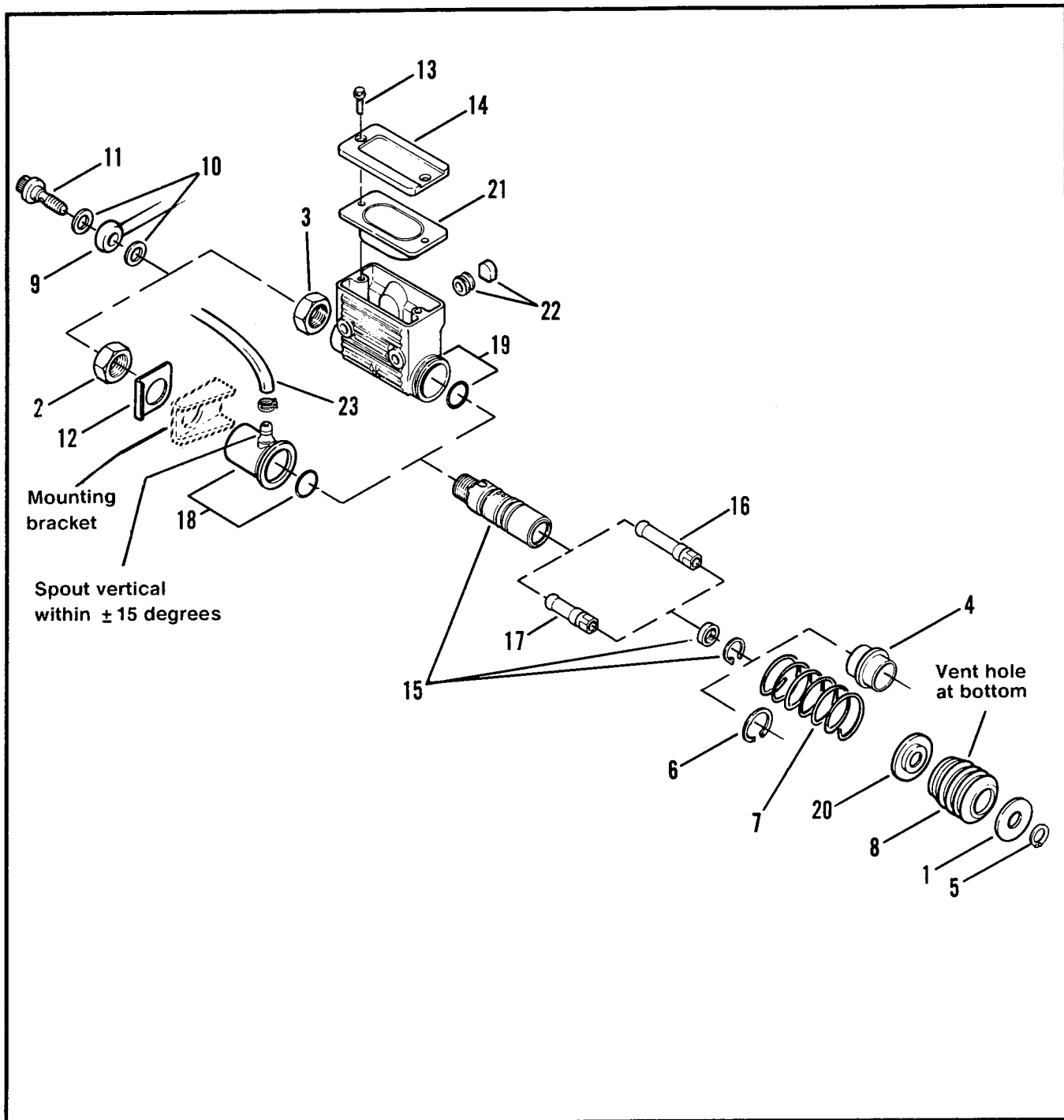


Figure 1. Master Cylinder Assembly

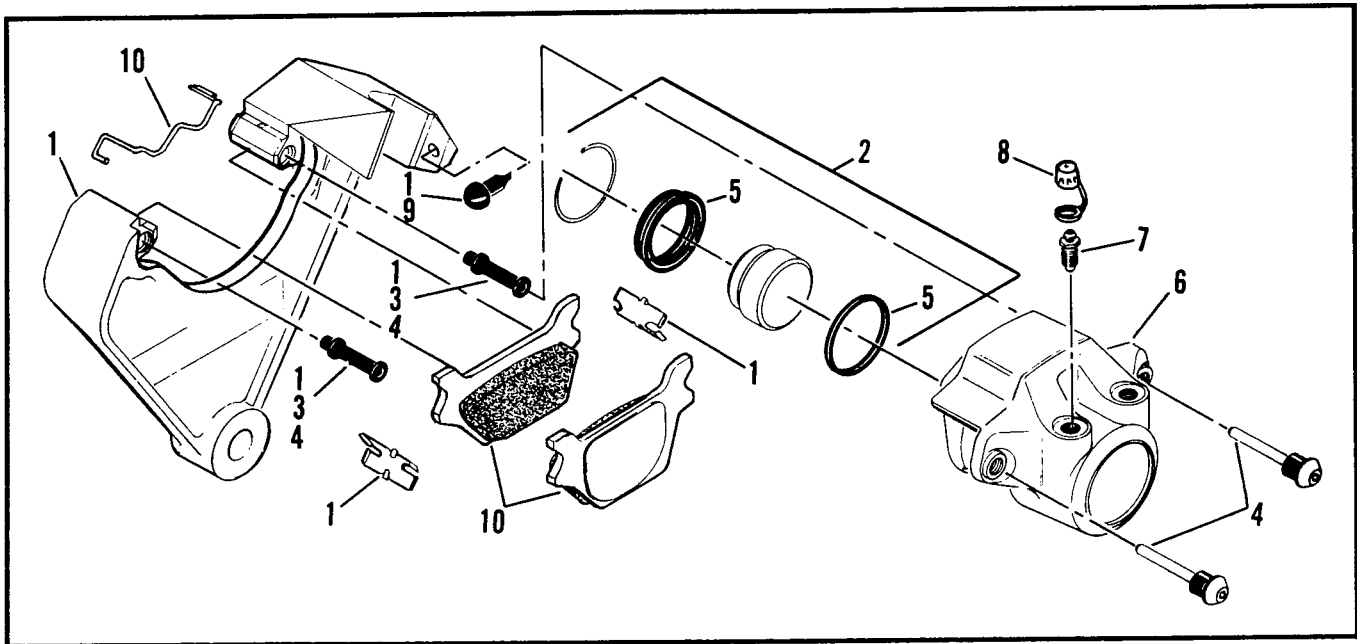


Figure 2. Rear Brake Caliper

## REAR BRAKE CALIPER

| INDEX NO. | PART NO. | NAME                                      | USED ON  |
|-----------|----------|---|--|
| 1         | 40929-87 | MOUNTING BRKT. KIT w/bshgs & shims .....  | Late 87 to *- XLH Models                                       |
|           | 44205-87 | MOUNTING BRKT. KIT w/bshgs &shims .....   | Late 87 to *- FXR Models,                                      |
|           | 44207-87 | MOUNTING BRKT. KIT w/bshgs & shims .....  | Late 87 to *- FXST Models, FLST Models                         |
| 2         | 43946-86 | PISTON REPAIR KIT .....                   | Late 87 to *- FXR Models, XLH Models, FXST Models, FLST Models |
| 3         | 44035-86 | BUSHING .....                             | Late 87 to *- FXR Models, XLH Models, FXST Models, FLST Models |
| 4         | 44039-86 | MOUNTING KIT w/guide pins & bshgs .....   | Late 87 to *- FXR Models, XLH Models, FXST Models, FLST Models |
| 5         | 44045-87 | SEAL & BOOT KIT .....                     | Late 87 to *- XLH Models, FXR Models, FXST Models, FLST Models |
| 6         | 44050-87 | CALIPER ASSY. (black) .....               | Late 87 to *- FXR Models, XLH Models, FXST Models, FLST Models |
| 7         | 44146-77 | BLEED SCREW .....                         | Late 87 to *- FXR Models, XLH Models, FXST Models, FLST Models |
| 8         | 44147-87 | CAP, bleeder screw .....                  | Late 87 to *- FXR Models, XLH Models, FXST Models, FLST Models |
| 9         | 44199-79 | BUMPER, mounting bracket .....            | Late 87 to *- XLH Models, FXR Models, FXST Models, FLST Models |
| 10        | 44209-87 | PAD SET KIT w/retainer (right side) ..... | Late 87 to *- FXR Models, FXST Models, FLST Models             |
|           | 44213-87 | PAD SET KIT w/retainer (left side) .....  | Late 87 to *- XLH Models                                       |

## PARTS ASSOCIATED WITH HAYES BRAKE (Not Illustrated)

| INDEX NO. | PART NO. | NAME   | USED ON   |
|-----------|----------|--|---|
|           | 3526     | BOLT, pedal mounting .....                   | Late 87 to * - FXST Models                                      |
|           | 41549-87 | REAR FORK ASSEMBLY, (maroon) .....           | Late 87 to * - FXSTC  |
|           | 42301-87 | STUD, master cylinder mtg. ....              | Late 87 to * - FLST Models                                      |
|           | 42331-87 | LOCKPLATE, master cylinder mtg. ....         | Late 87 to * - FXR Models FXST Models                           |
|           | 42407-87 | LEVER ASSEMBLY, foot pedal .....             | Late 87 to * - FLST Models                                      |
|           | 42431-87 | SUPPORT, foot pedal .....                    | Late 87 to * - FLST Models                                      |
|           | 42459-87 | LEVER ASSEMBLY, foot pedal .....             | Late 87 to * - XLH Models                                       |
|           | 42507-87 | MOUNTING BRACKET, master cyl.& foot pedal. . | Late 87 to * - FXST Models                                      |
|           | 42523-87 | LEVER ASSEMBLY, rear brake .....             | Late 87 to * - FXR Models                                       |
|           | 42531-87 | WASHER, pedal retainer .....                 | Late 87 to * - FXST Models                                      |
|           | 44198-87 | LABEL, caliper insert .....                  | Late 87 to * - FXR Models, XLH Models, FXST Models, FLST Models |
|           | 47203-87 | FRAME ASSEMBLY .....                         | Late 87 to * - FXR, FXRS, FXRT, FXRP                            |
|           | 47204-87 | FRAME ASSEMBLY (HDI only) .....              | Late 87 to * - FXR, FXRS, FXRT, FXRP                            |
|           | 47205-87 | FRAME ASSEMBLY .....                         | Late 87 to * - FXLR, FXRSL                                      |
|           | 47206-87 | FRAME ASSEMBLY (HDI only) .....              | Late 87 to * - FXLR, FXRS,/SE                                   |
|           | 47220-87 | FRAME ASSEMBLY (blue) .....                  | Late 87 to * - FXRC   |
|           | 47221-87 | FRAME ASSEMBLY (blue) (HDI only) .....       | Late 87 to * - FXRC   |
|           | 47573-87 | REAR FORK ASSEMBLY, (black) .....            | Late 87 to * FXST Models, FLST Models                           |
|           | 47815-87 | REAR FORK ASSEMBLY, (blue) .....             | Late 87 to * - FXSTC  |
|           | 63561-87 | HOSE, reservoir .....                        | Late 87 to * - FXR Models                                       |
|           | 65605-87 | MUFFLER, front .....                         | Late 87 to * - XLH Models                                       |
|           | 65766-87 | MUFFLER, front (HDI only) .....              | Late 87 to * - XLH Models                                       |