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IH: Engine Mechanicals - Sub-09P

Discrepancies with Motor Mount Illustrations in the HD Manuals (57-76)

Center Mount Straddle Bracket

This section is dedicated to the assembly positioning of the 1/8" washers during assembly for the top motor mount straddle on 1957-1976 models.

This also includes the 77-78 "head strap" between the heads (but does not tie back to the frame).

There are no instructions or mention of how to attach these mounts in the FSMs other than basic statements to the effect of "install the bolts".

Why does it matter if the washers are on top or below the straddle mount?

According to Dr Dick and others on the XLForum, the washers being on top under the bolt head is responsible (at least in part) for cracked heads at the threaded mounting holes for this mount.

Without further guidance or information from the manuals and/or parts catalogs, it's difficult to decide exactly how the mount should be assembled to properly steady the motor.

The illustrations in the parts catalogs differ from the ones in the FSMs for the most part.

Below is a list of discrepancies compiled from 57-78 manuals.

Service Manuals:

Looking at illustrations in the FSMs:

- In the 1964 FSM, there are 2 illustrations in the book showing the left side of the bike and a very good detail of straddle mounted.
On page 1B-7 picture (1B-2), in the front of the book, shows the washers on the bottom of the mount.
On page 3A-17 picture (3A-8), in the engine section, shows the washers on top of the mount under the bolt head.
- The 1967, 1969, 1976 and 1978 FSMs all show the washers between the head and the straddle. These old books were printed using dot printers and scanning a picture to get a better view is not that easy as the dots in the ink get bigger as well.
But the washer doesn't show up on top in these books.

So even if one were to try and research from the manuals, it's still a crap shoot from there deciphering washer orientation depending on what manual you have.

Parts Catalogs:

The parts catalogs, in general, show exploded views of how the parts go together (which is generally a good visual for installation).

However, below are some confusing aspects found in the parts books.

- 1957-1978 parts books all show the washer under the bolt head (on top of the straddle mount).
- 1979-1985 parts books all show the washer under the straddle mount between the heads. Starting in 1979, the head straddle (head strap) is no longer tied back to the frame. It just supports between the heads.
- 1957 parts book doesn't show the cross brace to frame bolt nor does it list the part number for it (shows up in the -58 supplement).
It also shows all three cross brace to frame washers below the straddle mount (or side by side depending on perspective)
The cross brace is missing as is the cross brace to straddle bolt and washer.
All of these parts show up in the 1959 parts book however.
- 1957-1978 parts books (except for 1959) all show the original cross brace illustration with though the end was lengthened and holed for the horn bracket.

CAN YOU ASSEMBLE THE WASHERS ON TOP OF THE STRADDLE MOUNT?

Of course you can. There are many, many Ironheads running around right now with them on top.

You may have to run a rat tail file in the straddle holes to gain some clearance or even grind some off the straddle itself.

Placing the washer on top of the mount also decreases the height of the straddle which adds more space between the cross brace and frame mount.

So you'll need more spacers there to make up that difference.

The intake manifold fit determines head and cylinder position. ¹⁾ It's a bad idea to turn the cylinders just to make the mount work.

This is critical on an O-ring style joints. Too big of a gap and the O-rings may not seal correctly and create an air leak.

But all in all, it can be done while paying close attention to the assembly process.

However, due to the possibility of cracking the head at the tapped holes for the straddle mount if it doesn't line up correctly;

[Click Here](#) to reference **Factory Top Mount Installation per Dr Dick** on the main Ironhead motor mount page of the Sportsterpedia.

Swapping the washers around to the bottom of the straddle is a lot less painful or concerning.

You may find that the holes line up better which puts less stress on the motor.

And there shouldn't be any added stress to the motor when tightened down to the frame.

Whichever way you choose to assembly the parts, there should be no space to "tighten down" to close up any space remaining after assembling the spacers.

And there should be no binding between the straddle mount and the heads prior to or after tightening.

In fact, you can induce added vibration and potential for cracks in the mounts or cases if the mounts aren't installed properly.

Washers on top of the straddle mount (71 XLCH). (as shown in the parts books and most FSMs) ²⁾	Machined area on head for the straddle mount. (notice the binding that occurred in the left pic) ³⁾
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Center Mount Cross Brace

- The -57 parts catalog doesn't show or list the cross brace or the bolt to the frame. However, it does show all three (frame bolt) cross brace washers to be under the straddle mount which is wrong of course.

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1)

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<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/ironhead-sportster-motorcycle-talk-1957-1985/189737-top-motor-mount-bracket-hole-mis-alignment?threadid=2023240>

2)

photo by piniongear of the XLFORUM

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/ironhead-sportster-motorcycle-talk-1957-1985/117858-wiring-placement-pictures-or-diagrams/page3?t=1139862&page=3>

3)

combined pics from Ebay sellers, Vintage Parts Suppliers, [Link to Ebay Store](#) and Rusty Dusty Motorcycle Parts [Link to Ebay Store](#)

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