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IH: Engine Mechanicals - Sub-09U

1982-1985 Top Mount Pics and Assembly

The order of installation written in the sections below can be adjust based on personal preference or ease of installation.

Use your own judgement but make sure all the top mounts are loose at once to allow the motor to be in it's relaxed position before tightening the top mounts.

Don't forget to shim as needed. The shimming is very important (for both the upper front and upper rear mounts). ¹⁾

Shim these wherever so that when you tighten the fasteners there is no stress on any of the adjacent parts. Otherwise the mounts will break from vibration.

[Click Here](#) to read more on shims in the Sportsterpedia.

The rear and lower front mounts should be done and tight before installing the top mounts.

The top mounts need to be vertically flat with their mating points to make a good solid connection that won't vibrate loose or end up breaking a mount.

If need be, you can loosen off the front and rear engine mounts and jiggling the whole engine around until the cylinders are centered to and flat to the backbone. ²⁾

It would not take much movement at the bottom mounts to rotate the motor that tiny bit and get the top mounts out of line.

If all else fails;

You could consider adding some shims on the rear mounts or the hogging out the holes a little on the front mounts to get the motor in the right position.

1982-1985 Head Strap

- 1982: The bracket attaches to the heads with a 7/16" x 15/16" x 1/8" thick washer under the strap and a 7/16" x 20 bolt on top (no washer under the bolt head).
- 1983-1985: The bracket attaches to the heads same as 79-82 but it has two washers that go on each bolt; one under the mount (or strap) and one on top of the mount. The same 1/8" washer as in previous years goes on the bottom of the strap (top of the head). Then the top washer (6495HW) goes under the head of the 7/16"x 20 thru bolt to tighten down the assembly.

Upper Front Mount

- Install the studs into the front two rocker box holes.
Two studs, (3412) install in the front rocker box to head holes instead of the normal bolts there.
A 1/16" thick washer, (6316HW) goes under each stud before installing into the rocker box.
- Place the mounting bracket over the studs. Per the parts books, the mounting bracket goes on top of the stud with no washer between the stud and bracket.
See below.
- Install and tighten the upper front mount to the frame.
The mount attaches under the frame neck using (2) 5/16" x 18 x 1-1/4" bolts (2871W) and 5/64" thick washers (6333).
- Shim if needed. [Click Here](#) to read more on shims in the Sportsterpedia.
The built in stud hex nuts are faced (machined flat where the bracket sits) for a flush fit.
Check to make sure there is no free space left under the mount (between the mount and rocker box) before tightening.
Don't allow any of the mounts to be "pulled" into position by tightening the bolts. ³⁾
- With "zero free space" left over, install a 5/16" x 18 x 9/32" locknut (7531) and 1/16" washer on top of the each stud and tighten the assembly.
The length of the stud above it's (built in) hex nut is 1/2".
The top of the stud should end up no shorter than flush to the top of the nut with the assembly installed and torqued.

Center Mount

There are 3 different versions of the center mount but they all install to the rocker box and frame the same way.

- Install a stud into each rocker box corner hole on the left side and tighten.
The studs, (3412) install in the rocker box to head holes instead of the normal bolts there.
A 1/16" thick washer, (6316HW) goes under each stud before installing into the rocker box.
- Place a 1/16" thick washer on top of each stud (nut) then the mounting bracket goes on.
Make sure the end of the center mount (to frame) is inside (top of mounting hole) of the frame bracket.
Place another 1/16" washer on top of each stud (top side of bracket) followed by a 5/16" x 18 x 9/32" locknut (7531).
Snug the assembly but do not tighten at this point.
The washers underneath should keep the bracket slightly lifted off the boxes to keep from breaking the mount from stress and vibration.
Checking for free space without snugging the nuts first can result in a "relaxed" condition that may not show the need the need for shims.
The OEM 1/16" washer should take care of that. But if you are using aftermarket washers, it's good to just make sure.
- Shim if needed. [Click Here](#) to read more on shims in the Sportsterpedia.
Check to make sure there is no free space left under the mount (between the mount and rocker box) before tightening.

Don't allow any of the mounts to be "pulled" into position by tightening the bolts.

- With "zero free space" left over, tighten the two nuts holding down the bracket to the rocker box. The length of the stud above it's (built in) hex nut is 1/2".

The top of the stud should end up no shorter than flush to the top of the nut with the assembly installed and torqued.

- Install the mount to frame bolt: The center mount bracket and the frame surfaces will be parallel. If they aren't, then something is amiss.

Shim if needed. [Click Here](#) to read more on shims in the Sportsterpedia.

Check that there is no free space between the mounting bracket and the frame bracket. Shim as needed before tightening the bolt.

With "zero free space" left over between the mount and frame bracket, install and tighten the nut and bolt.

A 3/8" x 24 bolt with a 1/16" thick washer under the head installs from underneath thru the frame bracket and motor mount.

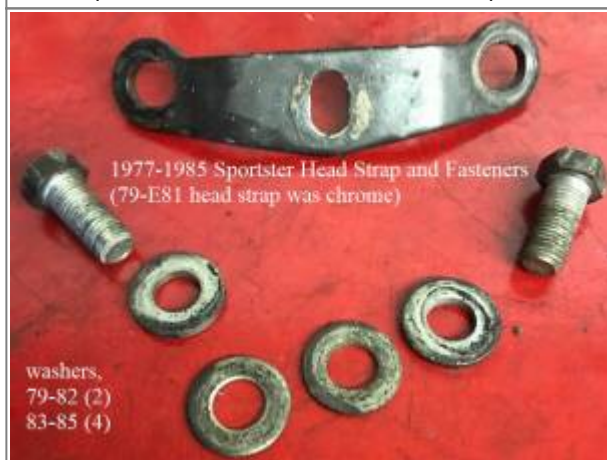
(with a 1/16" thick washer and 3/8" x 24 locknut on the top).

Pics of Top Mount Locations for 1982-1985 Models (as mounted)

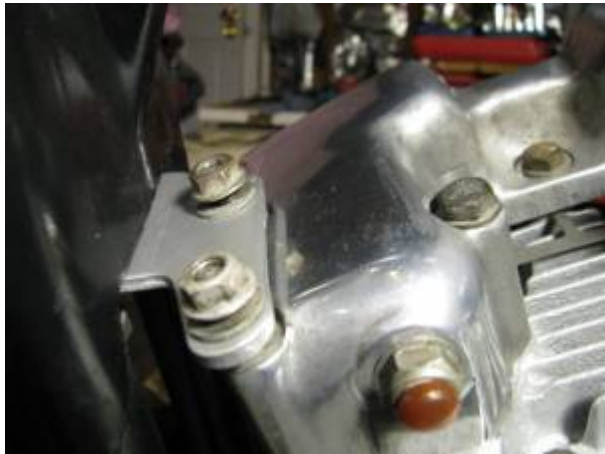
The pics below are specifically for showing the location / orientation of the mounts. Washer count and placement may vary on used motors.

See the information above for washer specific information.

1977-1985 head strap and fasteners.
(1979-E1981 XLS was chrome). ⁴⁾



1982 XLH Top Mount Location Pics



5)



6)



7)

1983 XLH Top Mount Location Pics



8)



9)



10)

1983 XLX Top Mount Location Pics

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1)

IronMick of the XLFORUM

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/ironhead-sportster-motorcycle-talk-1957-1985/158774-front-rocker-box-motor-mount?t=1699859>

2)

Hopper of the XLFORUM

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/ironhead-sportster-motorcycle-talk-1957-1985/71315-motherf-n-top-mount?t=486945>

3)

Pan55 of the XLFORUM

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/ironhead-sportster-motorcycle-talk-1957-1985/167782-seat-and-motor-mount-help/page2?t=1801757&page=2>

4)

photo courtesy of Ebay seller, Evil Genius M/C Parts. [Link to Ebay Store](#)

5) 6) 7)

photo by mosey of the XLFORUM

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/ironhead-sportster-motorcycle-talk-1957-1985/158778-top-motor-mount-82-sportster?t=1699863>

8) 9) 10)

photo by flthd31 of the XLFORUM

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/ironhead-sportster-motorcycle-talk-1957-1985/202302-83-project/page2?t=2079459&page=2>

11)

photo by 83XLX of the XLFORUM

12)

photo by 83XLX of the XLFORUM

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/ironhead-sportster-motorcycle-talk-1957-1985/115648-82-have-a-top-motor-mount/page2?t=1108737&page=3>

13)

photo by 83XLX of the XLFORUM

<https://www.xlforum.net/forum/sportster-motorcycle-forum/sportster-motorcycle-era-specific-and-model-specific/ironhead-sportster-motorcycle-talk-1957-1985/158767-top-motor-mount-for-82-sportster?t=1699851>

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