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IH: Specific Troubleshooting

Please note that a well tuned IronHead does not make any noise. Rather it is a symphony of sounds and, when well set up, you can hear all of them - the valve train, the intake, the exhaust. ¹⁾

A few decades back, I rode with a bunch of established riders that gathered at an indy shop on Sunday mornings. One day a young longhair showed up on an XL Roadster and asked if he could tag along. I was usually up front as the " Road Captain " and he was catching dust in the back. He gathered respect soon enough and I paid some more attention to him and his lovely wife. I noticed how long he had to crank the starter before it would run and then sometimes pop, spit and stall. I had my '76 CH with an extensively modified Super B, 10.5 Wiseco's, Morris Mag and 2>1 Jardine header. We would all wait for him to get running and then start ours. Mine would lite right up and do the symphony. His would shake, rattle and roll. It was that way for most of that season and he seemed to think that's how it was supposed to be. I finally felt comfortable enough with this person to ask if I could tune up his bike and he agreed. We did a top to bottom adjustment/tune up while I instructed him on how to keep it running right. It ran smooth, started easily and did the potato potato. He called me as soon as he got home and couldn't believe the new power and how much better it sounded at stop lights. He had the symphony. ²⁾

The next Sunday I was on route to the shop/ride, rounding a curve on a highway and saw 2 riders on the shoulder. One in a full out leather suit with a sport bike and the other my longhair pal. He was accelerating off a ramp, digging on the power and the symphony as never before. He hit third and his big end rod bearings grenaded. His motor had run so bad for so long it just could no longer take the power it was actually designed to produce. The sport bike rider had stopped to help. For all you guys that are new to the righteous world of Ironheads and their various peculiarities... Noises, as unpleasant as they may be , need to be diagnosed and addressed as soon as possible. Damage is being done anytime a motor isn't running correctly. Don't just assume it's an old design and supposed to be noisy. If you don't have the symphony, find someone who can help you get it. ³⁾

Installing your Iron Head Engine

Let's break the mount install into two procedures. ⁴⁾

1. **Mount to Frame.** You see that the mount has a machined surf that sets an a machined shelf on frame. That interface is what sets the mount 'square' to frame.
2. **Mount to motor** interface sets motor square to mount. Add the two together and the motor sits square to frame. That's important as it sets the motor's center of gravity over the frame centerline . = a light feel on the road.
 - 1. **Mount to Frame.**
 - When you install a motor in the frame, the first thing is to do is drop the mount on that shelf.
 - Then you install the 2 upper bolts with their lockwashers. As you draw those bolts up the motor rises off the frame tubes.

- Once the top bolts have almost drawn the mount to kiss frame casting, you go for the lower bolts and lockwashers.
- That's where the issue (if there is one) will show in lower bolt misalignment.
- The dry fitting is to make sure the mount holes align with the frame holes and all 4 bolts catch thread. If they don't catch, now is the time to rectify.
- When the actual engine is installed, you will do the same - top bolts almost drawn and lowers started, then tighten top bolts.
- Motor is now registered correctly. Tighten lowers.

Make sense so far?

The below procedure get's done on the bench previous to motor install.

• 2. Mount to motor

- 7 fasteners, three studs/nuts, 2 bolts with lock washers, and two oil tank stand-off with lockwashers.
- Slip mount in place and reinstall the 3 studs then remove/loosen nuts so mount is free on studs.
- Install the two top bolts and lock washers. Tighten to crush lock washers 1/2 way. Do the same with the standoffs.
- The 1/2 crushed lockwashers will keep the mount in contact with case.
- Now tighten stud nuts (don't forget the clip for chain oiler).
- Now tighten the 2 bolts, then the standoffs. be careful here too. Screw machine stock again the stand offs won't take as much torque as regular bolts. Following this assures the mount registers to cases correctly.
- Install kicker shaft and big gear. Tighten nut and bend lock tab.
- Kicker shaft oil seals have been obsolete. What do you have for this?
- Once kicker shaft is in, install motor in frame. Do top end re-assembly and primary assembly with motor in frame.

That's how to get motor in frame correctly. But, prior to motor install make sure kick stand and tab is up to the next 50yrs of service. Bent tabs allow bike to lean excessively. Bikes that lean too much are hard to start and can break crankcases if stand head flexes into case during kickstarting.

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IronMick of the XLFORUM <http://xlforum.net/forums/showthread.php?t=2018764&highlight=Symphony>

2)

Tim The Grim from the XLFORUM

<http://xlforum.net/forums/showthread.php?s=48f65af3f853cf3505d2ed16f702bb61&threadid=2020041>

3)

Tim The Grim from the XLFORUM <http://xlforum.net/forums/showthread.php?threadid=2020041>

4)

DR DICK of the XLFORUM

<http://xlforum.net/forums/showthread.php?t=1864035&highlight=Ironhead+Crankcase+Drain+Plug&page=4>

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