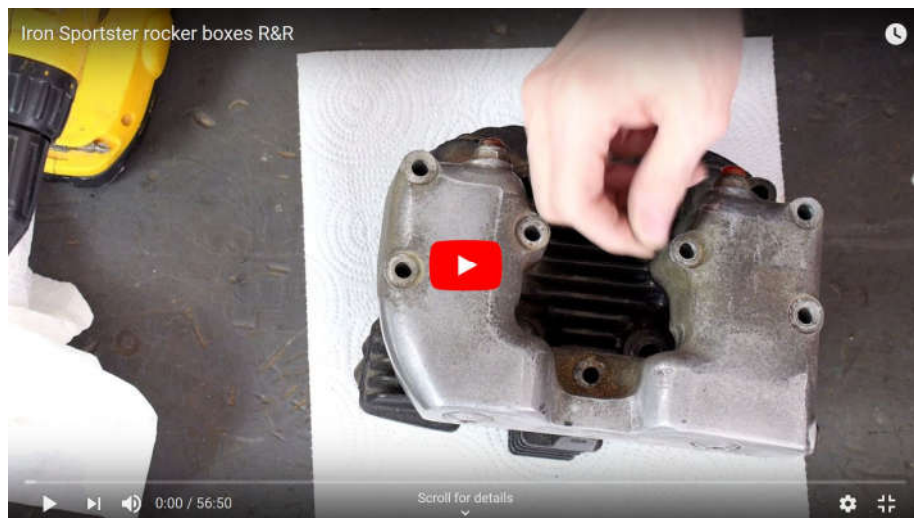


Iron Sportster rocker boxes R&R

Tips and tricks for removing and replacing the rocker boxes.

The tips and tricks:

1. **Make sure exhaust rocker has a spitter oil hole.**
2. **If rocker shaft spins with nut, use impact to get off.**
3. **Grind and relieve area at RH head bolts so they come out easily.**
4. **Use anti-seize on at assembly.**
5. **Lubricate with 60W oil or lithium grease.**
6. **Plastic lunch bags can keep parts clean and organized.**
7. **Protect holes and gasket surfaces when sanding polishing.**
8. **Don't chrome aluminum.**
9. **Have a bin or tray for all the parts.**
10. **As always, return the tools to the toolbox.**



Here are some tips and tricks for getting the rocker boxes off the cylinder heads, and then back on. (Click for video.)

Once you have the heads off the engine, you can take the aluminum rocker boxes off the heads. You can use the factory HD parts manual to check that you have the right fasteners and spacers. I add lock-washers, but the factory just used flat washers under the 5/16" bolts.

A half-inch deep-well socket and take all the bolts out. You might want to chase the threads in the head with a tap. A wire brush can clean up the bolts, but it might be better to just buy new bolts at the hardware store. Be sure to use anti-seize on the bolts when you re-assemble.

A 5/8" wrench will remove the nuts on the rocker shafts. Be sure the nuts are closed-end, like an acorn, to keep the shaft threads clean. If the shaft rotates, you might need an impact wrench to rattle off the nut. Sometimes you can hit a wrench with a hammer to get the same impact effect.



The rocker shaft is held in with a 5/8" nut that has a closed red plastic end to keep the threads clean. Note the thin non-standard washer that goes under the nut. Inside the box, there is thicker non-standard flat washer, a spring, and the rocker. On the other side of the shaft goes an O-ring, and a hex-drive cap. If the cap is stuck, be sure to hold the shaft in the vise by the narrow section in the middle so as not to scar up the bearing surfaces or where the shaft fits into the box.



Be sure the exhaust rocker with the little oil spitter hole is in the correct place. You can swap the exhaust and intake rockers across the two boxes and not notice the mistake.



If the machined pockets are too tight to let the head bolt with socket on it back out, you should grind or sand the pocket so that the right-side head bolts come out easily.

With the rocker boxes off, it is an ideal time to polish them. You can smooth and polish the whole surface, or just restore the small areas that they polish at the factory.

If you want to polish the whole box, start with 80-grit, then 120, 240, 320, 400, 600 and then use a buffing wheel to get the rocker box as shiny as chrome.

It is impossible to chrome these old rocker boxes. There is oil in the pores of the aluminum, and that will cause pits. Also the rocker box is a sand casting, which means it will be very hard to keep the chrome from peeling and discoloration. The fundamental problem with chroming aluminum is you are putting a very hard material over a very soft material. It might look good for a few years, but it will inevitably chip and peel. You can have better luck with billet and die-cast parts, but used sand-casting are better polished to a nice finish.