

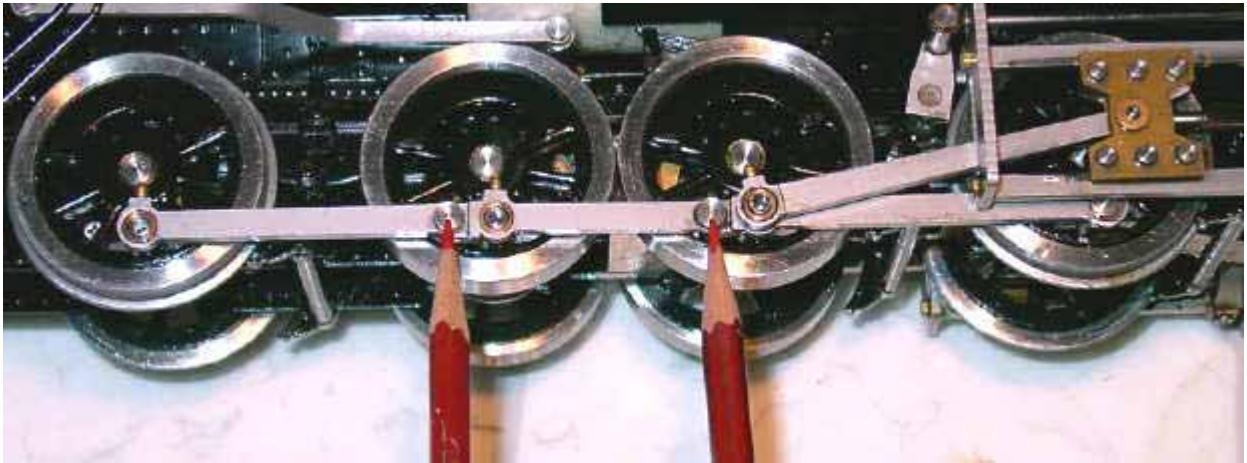
C-16 Side rod pin fix

Original Topic URL: http://www.mylargescale.com/forum/topic.asp?TOPIC_ID=32391

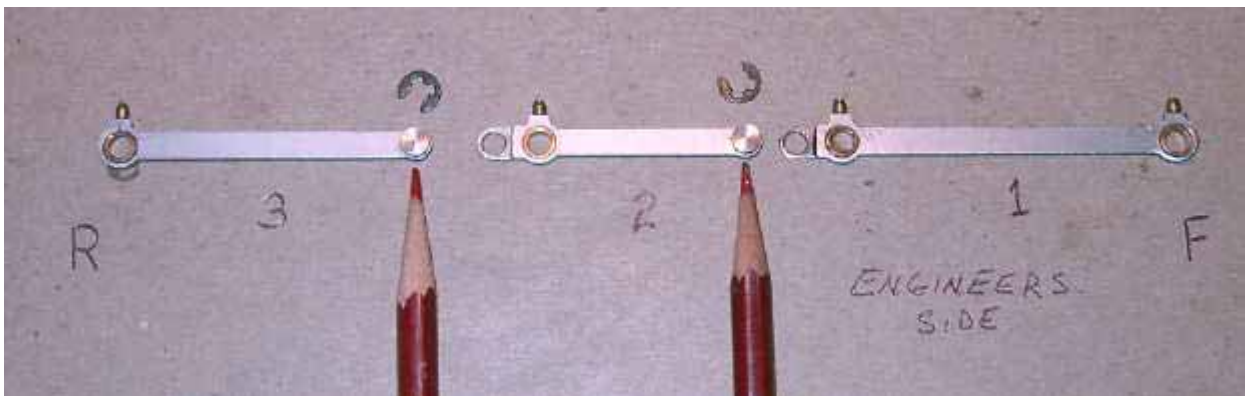
Topic author: highpressure
Posted on: 04 Aug 2005 14:34:49

Hello there,
I have started a new thread to get away from all of the misc on the old one. Checked my C-16 which only has about 1 hour run time. The pins are already loose. Thanks for telling me to check them Tim. Here's how I repaired mine & Tim's

The red pencils point out the pins we are going to repair.



Next step is to remove the engineer's side, side rods. Do these one side at a time & it will make life simpler. We are going to do the engineers side first. Take them apart and lay them out on a piece of paper and mark it as shown. Again the red pencils point at the pins we are going to secure. My next step was to turn the three rods over and mark them with a carbide scribe on the back IE; R1, R2 & R3. R being for the right side and the 1-2-3 is the rod position.



To proceed we need to clean them at the pin area very thoroughly. I use a rotating coarse wire brush in the drill press to clean the eye area and the pin. Careful it don't go flying across the room. Below you see the side rod with the pin installed and covered with Handi flux held in a third hand in the horizontal position ready to solder. The torch (Bernzomatic) is held so the flame (BLUE) contacts the rod at the center facing towards the pin. The heat will travel down the rod to the pin.

We do not want to heat it to fast, heat it slowly until the flux looks like dry plaster. Then we can step up the heating process at the center of the rod (NOT THE PIN). The rod will start changing colors, first a lite yellow then it starts towards purple, then dull red. STOP don't heat it any more it is ready for the silver solder. At this time the dry plaster flux starts to turn to a water look. Apply a bit (LEAST BIT) of silver solder at the pin joint. You will see it jump around the pin. **STOP. You only need solder in the pin joint, not gobbled all over it.**




Below you see the soldered joints before clean up. You can see how the solder capped thru the joint.



Here's the repaired side rods after the acid bath to remove all of the flux. My final clean up was with a kitchen sponge with the green hair on it (Brightboy 🧽) which returns them to their original color. You will have a bit of brass look right next to the pins which is the silver solder. If you have a bead cleaner it would work also, just be carefull to avoid the rod bearings & the pin surfaces.



See ya soon

Larry 

Replies:

Reply author: chooch

Replied on: 05 Aug 2005 04:50:52

Okay, I understand the problem, and I saw the fix. But the question I have is "why only the C-16 engine"? Aren't there others out there (even by other manufactures) that use the same design? Or is this unique to the C-16 because their design is different?

I guess I'm just checking to see if I should be concerned about other engines. Thanks for the help.

Reply author: fkrutzke

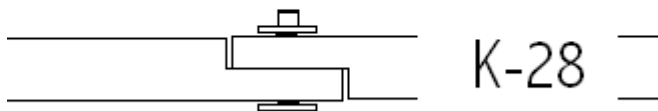
Replied on: 05 Aug 2005 07:48:16

Fred:

The K-27, GS4 and other more expensive locomotives use a forked design for the rod joint.

The Prototype K-28 like the C-16 used a lap joint, but after being brought to Cliff's attention, this has been changed to the forked design; see attached drawing.

Torry



Reply author: Dave Hottmann

Replied on: 05 Aug 2005 12:18:25

The forked joint is the better way to go, but the lapped joint is not as big of an issue on engines other than the C-16. In the c-16's case, a sloppy joint between #2 and #3 drivers affects the valve timing. The main rod drives the #2 driver, then the side rod drives #3 driver with the eccentrics. The lost motion in the side rod becomes a delay in valve timing.

A lapped joint on an engine eccentric crank arm on the main drive pin won't experience retarded valve timing like the C-16s

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