Kodak

Magnus VLF MCU
Jackscrew Assembly Safety Inspection

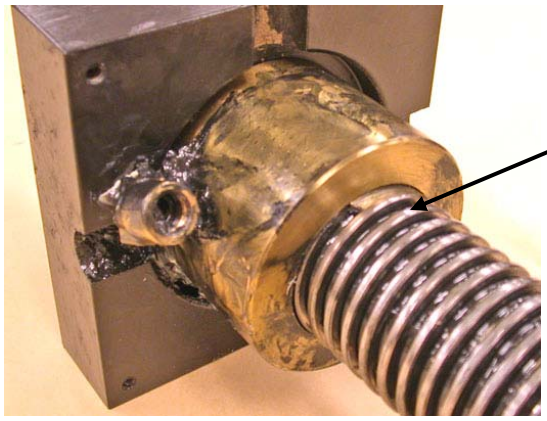
1. BACKGROUND

To determine the level of wear of the brass jackscrew nut used in the MCU jackscrew assembly, all customer MCUs must be inspected. The inspection will determine if the nut needs to be replaced by measuring the backlash or air gap between the jackscrew and the nut—see *Measuring the MCU Jackscrew Nut Backlash* (719-00643A). If time does not allow for a full inspection and measurement, then a visual inspection of the brass nut must be performed. If the nut needs to be replaced, see *MCU Jackscrew Nut Upgrade*.

2. VISUAL INSPECTION

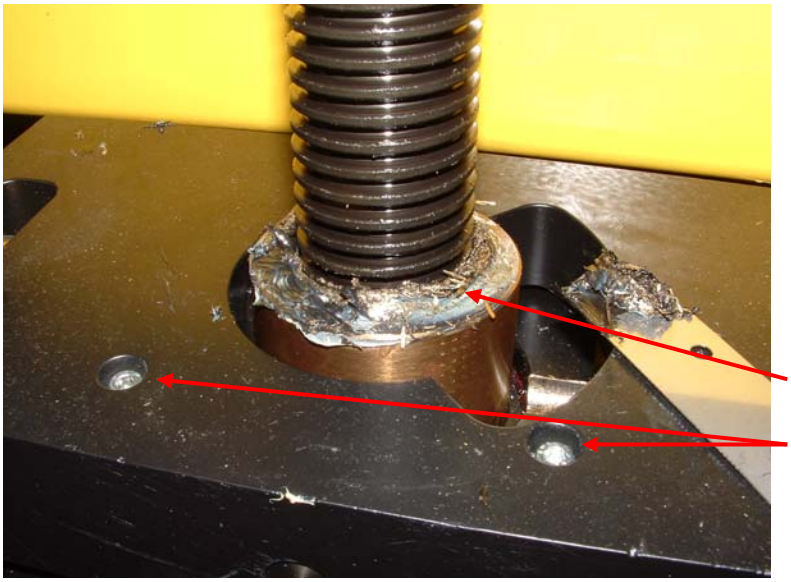
On MCUs that do not have the steel backup nut installed, do the following:

1. Check the jackscrew lubrication:
    a) If a lubricator is present, check that it is not 100% full (this would indicate that the lubricator is not working). If the lubricator is not working, remove it so that it is clear that the device must be manually lubricated.
    b) Visually check that the shaft is lubricated—the shaft should have a shiny reflection and not a matte look. If the shaft is a dull color, note how long it has been since the last time the shaft was lubricated.
    c) Use the MCU manual jog panel to move the forks up and down and listen for any squealing noises that would indicate poor lubrication or an alignment problem.
2. Check for signs of wear:
    a) Look for bronze shavings below the jackscrew nut. If there are any shavings, then a complete backlash measurement must be done. If there is a large amount of shavings (more than a light dusting) then replace the nut.
    b) Look for threads coming out of the top of the nut (when the nut threads are very close to failure, they will be weak enough to bend up). If you see any deformed threads, then replace the nut.



Damaged thread protruding above the top of the nut

3. Check that the two screws shown below are not tightened. If they are tightened, there is an alignment problem which could have caused high wear. **Remove these screws to ensure that they can never be tightened.**



Bronze shavings

Screws

These screws are improperly tightened, leading to high wear as shown. Tightening of these two screws causes alignment issues which could lead to high wear.

4. Manually grease the shaft with fresh Loctite Viperlube (Kodak part # 404-00135).

3. ACTIONS IF WEAR IS NOTED

Table 1: Actions following MCU inspections

Scenario	Actions Required
Signs are present showing that worn nut is possible: • Noises are noted by customer or by you • Shaft does not have a glossy look to it • Small amount of brass dust • There is an alignment issue (such as the nut plate screws are tightened) • There has been a period of more than 3 months without re-lubrication	• Take backlash measurement • Flag device for increased priority for the FCO upgrade
Signs are present showing that a high level of wear is present: • Large number of chips present • Threads coming out of the top of the nut • Backlash measurement is greater than 40 thousandths of an inch (1.0 mm) • Other signs of wear, coupled with a zero-backlash scenario (threads could be so thin they distort, causing the black-lash to be zero). To avoid false positives, make sure you are measuring the backlash correctly by first hammering the nut down before lifting up on it as described in the backlash procedure. Also look carefully for threads bent up at the top of the nut, which can be seen in this scenario.	• Lower MCU onto blocks, and disable the MCU • Contact Product Development • Do not run MCU until a new nut has been installed (preferably the entire FCO upgrade)

Table 2: Actions following the jackscrew nut backlash measurements

Measurement (thousandth's of inches)	Interpretation
0 to 6	Error in measurement – the dial is not touching the nut, is loose, or the nut has not been tapped down.
7 to 12	Like new, unworn nut. Excellent condition.
13 to 30	Nut is worn, but does not need to be replaced yet.
31 to 40	Nut is worn and needs to be replaced. Order replacement parts and replace the nut within 30 days. See Replacing the MCU Jackscrew Nut (719-00647A-A).
> 40	Nut is worn to unsafe levels. Order replacement parts and replace the nut immediately. Leave the forks on the blocks, and do not operate the MCU until the nut is replaced. Use proper lock-out procedures to prevent the MCU from being used.