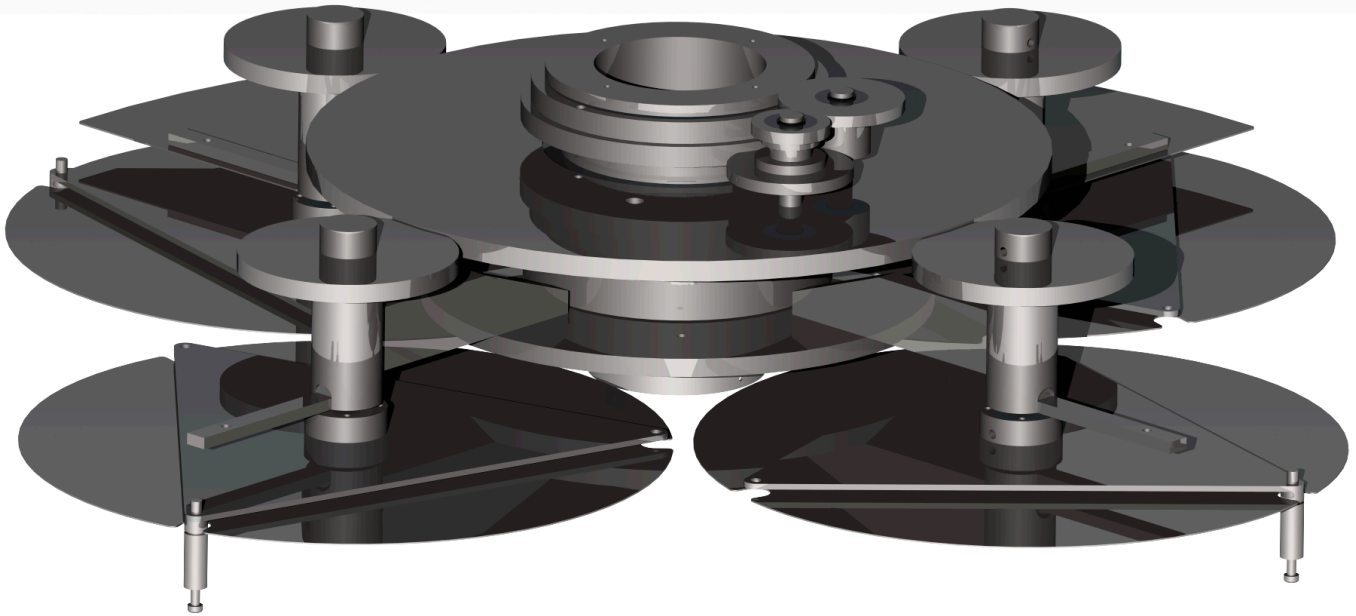


# Instruction Manual

MANPL-XX

Rev. A030410

## PL-XX PLANETARY



Serial Number: \_\_\_\_\_



**EDDYCO.COM**

**Eddy Company**

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NOTE:

THE INFORMATION AND DATA IN THIS MANUAL IS SUBJECT TO CHANGE. PLEASE CONTACT THE EDDY CO. FOR THE MOST UPDATED VERSION

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## **BASIC DESCRIPTION**

The PL-XX Planetary comes in two sizes, 36 inch and 48 inch. The 36 inch is called the PL-36U and can hold a maximum of (4) 13.5 inch planets.

The 48 inch comes in three basic configurations with two of them being interchangeable. The first basic configuration is a PL-4817U. This has (4) 17 inch planets.

There is the PL-481712U which has (8) 12 inch planets and has an added ring gear.

Then there is the PL-4814U which has (6) 14 inch planets and has an added ring gear.

Both the PL481712U & PL-481714U can with optional arms, planets, and shielding can be configured to hold one another's arms and planets including the 17 inch planets.

## LIMITED WARRANTY

This PL-XX Planetary is warranted against defects in materials and workmanship for a period of one year from the date of shipment to the original purchaser. This warranty will be void if the instrument is not properly operated under conditions of normal use and if normal and accepted maintenance protocols are not performed.

Defects resulting from, or repairs necessitated by, improper installation, misuse, negligence, accident or corrosion of the equipment or any cause other than defective materials or workmanship are not covered by this warranty. No other warranties are expressed or implied, including but not limited to the implied warranties of merchantability and fitness for a particular purpose. Eddy Company is not liable for consequential damages resulting from the use of this equipment.

Purchaser's sole and exclusive remedy under the above warranty is limited to Eddy Company, at its option, repairing or replacing any item which proves to be defective during the warranty period provided the item is returned to Eddy Company together with a written statement of the problem encountered. Any such obligation on the seller's part is subject to the following requirements: 1) Defect must be promptly reported to the seller, 2) If so advised by the seller, component must be returned to the seller, no later than seven (7) days after the end of the warranty period, and 3) On examination by the seller the part or component must be found to comply with the above warranty. Any item claimed to be defective during the warranty period must be returned to the builder with the transportation charged prepaid. Return transportation charges will be paid by the purchaser. In the event that the seller elects to refund the purchase price, the instrument shall be the property of the seller and shall be promptly shipped back to the seller at the seller's expense. Eddy Company reserves the sole right to determine whether service is covered by the warranty.

If there are any questions about any of the equipment, parts or service call Eddy Company. For all repairs, whether or not they are covered by the warranty, call Eddy Company service line or our internet address.

Phone Number: 760-961-8457

Internet: [www.eddyco.com](http://www.eddyco.com)

If the equipment needs to be returned for any reason you will be given a Return Material Authorization (RMA) number.

## UNPACKING

1. Completely unpack the instrument. Your PL-XX was released to the carrier in good condition and properly packed. It is essential to examine the contents of the shipment to ensure that no damage occurred during transit.
2. Compare the shipped materials to the packing list. Items included with your PL-XX Planetary are:
  - a. PL-XX Planetary.
  - b. 4, 6, or 8 Planets\*.
  - c. Drive Motor
  - d. Ferro Fluid FDTH
  - e. Substrate Pins
  - f. 4, 6 or 8 Planet Arms\*
  - g. Shielding\*
  - h. Motor Control
  - i. Idler Gear
  - j. Uniformity Masks

\* - Number of planets, arms, and shielding will depend on the model ordered.

3. Call Eddy Company first if there are any problems.

Phone: 760-961-8457

Fax: 760-961-8458

Email: [tech\\_support@eddyco.com](mailto:tech_support@eddyco.com)

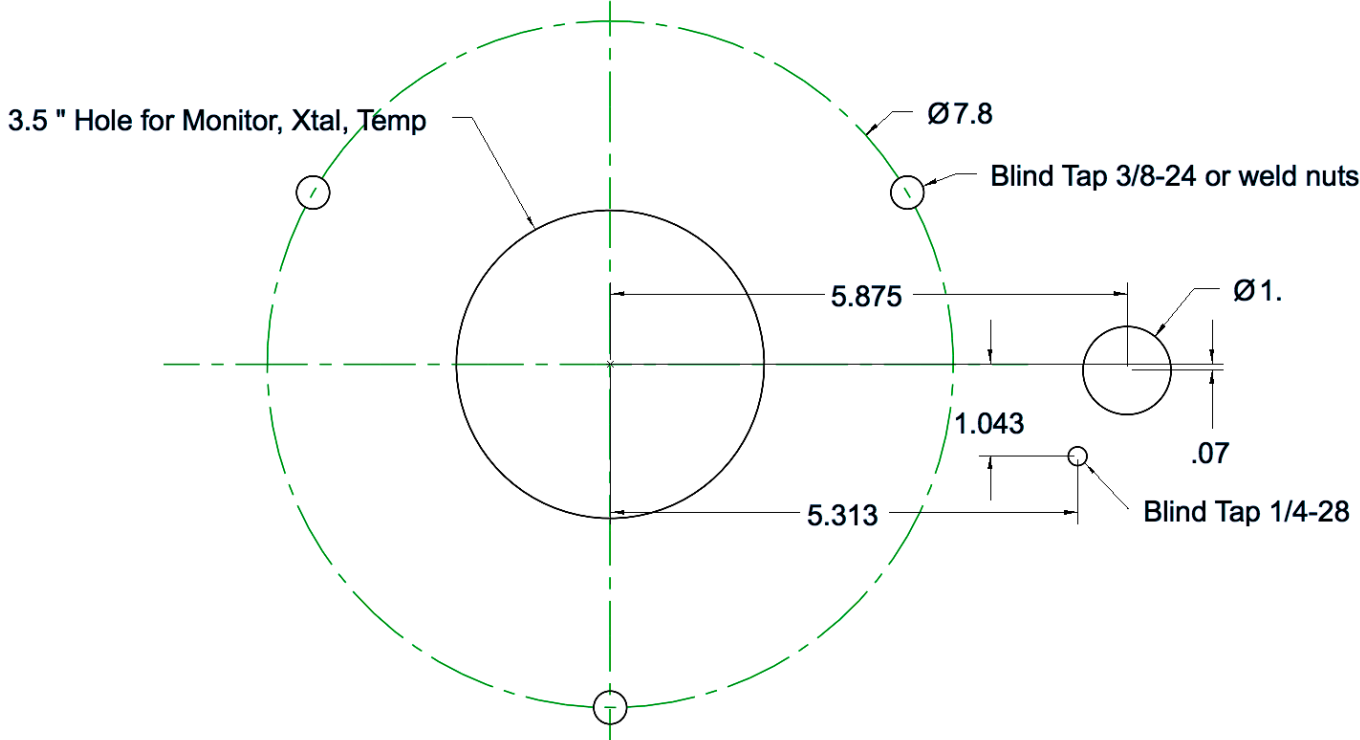
### USER RESPONSIBILITY

The equipment will perform in accordance with the instructions and information contained in the user's manual when the equipment is installed, operated, and maintained in compliance with the instructions. Equipment should be checked periodically, routine maintenance performed and broken or non-working parts replaced immediately.

The user/purchaser shall have sole responsibility for any malfunctions resulting from their improper use or lack of maintenance of the equipment.

# PL-XX Description

This is the suggested mounting of the PL-36U, PL-4817U, PL-481712U & PL-481714U.

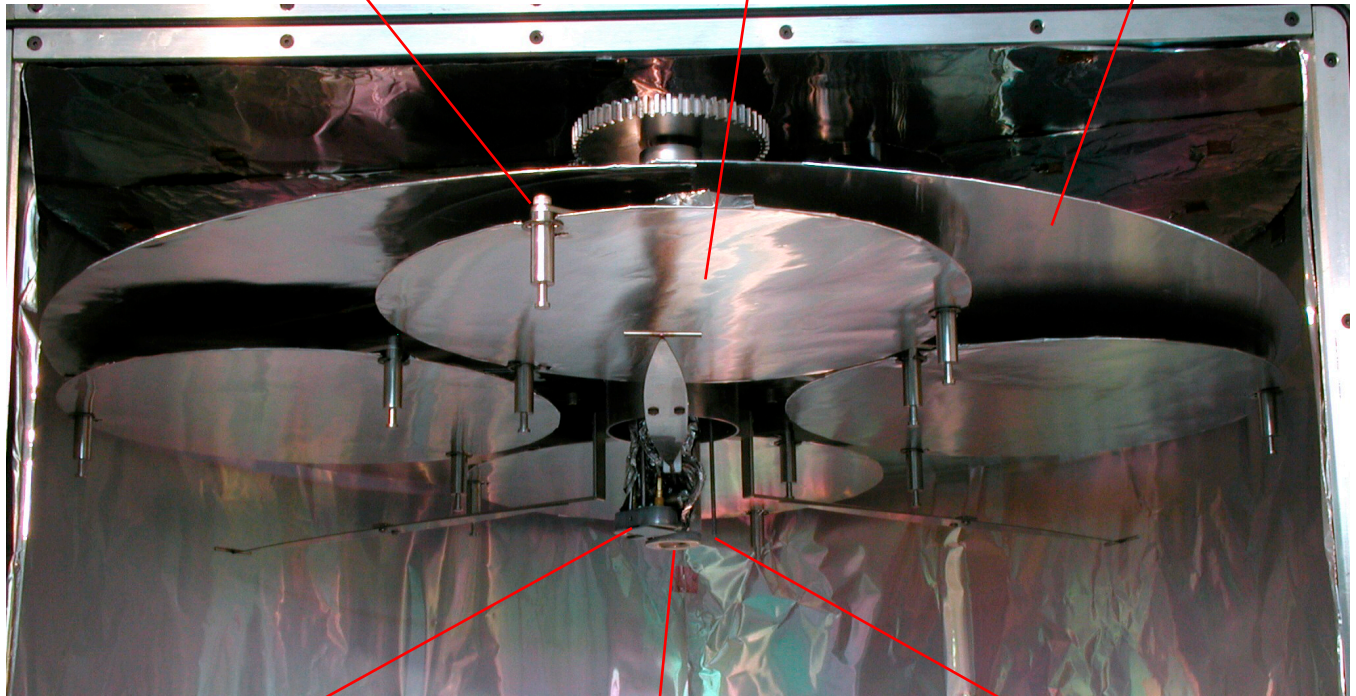


## PL-XX Description

Substrate Pin - Alternate lengths are available

Planet - Each planet has it's own shield and 3 substrate mounting points

Main Shield



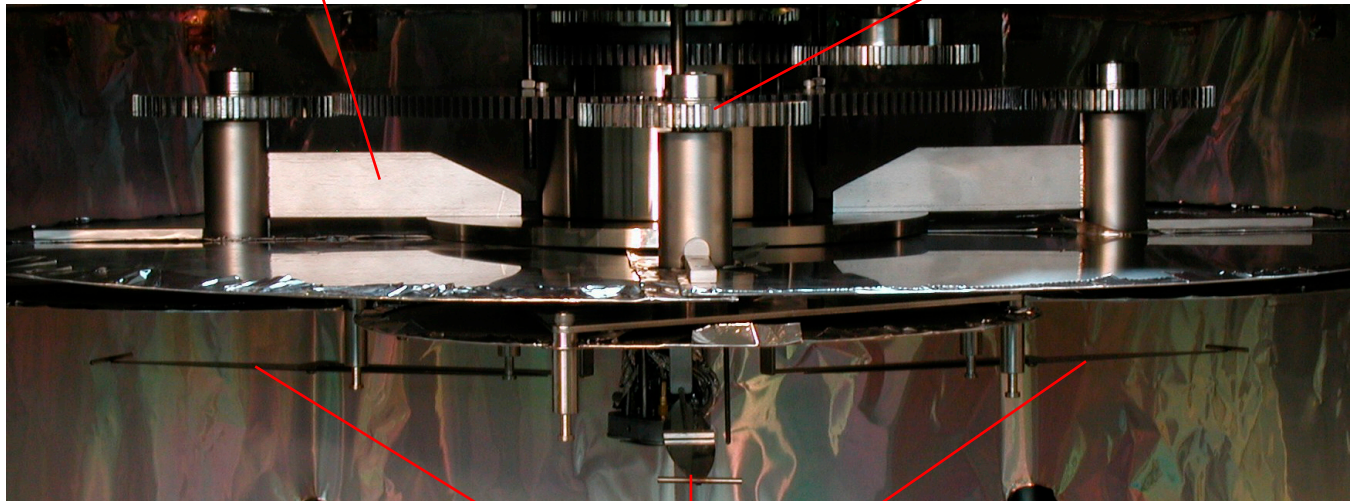
Crystal Dual Sensor Head

CC-40 or CC-60  
Chip Changer

RTD Temp. Probe

Individual planet assemblies allow for quick configuration to optimize capacity

Stainless Steel alloy gears and special bearings for long life

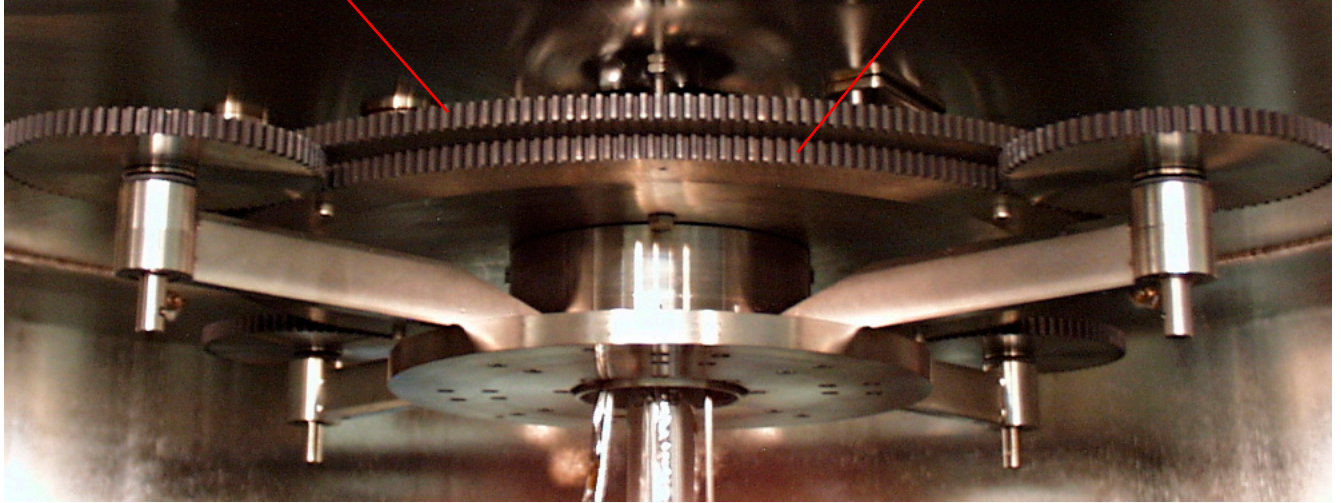


3 Counter-Rotating Uniformity Masks

## PL-XX Description

Main Gear

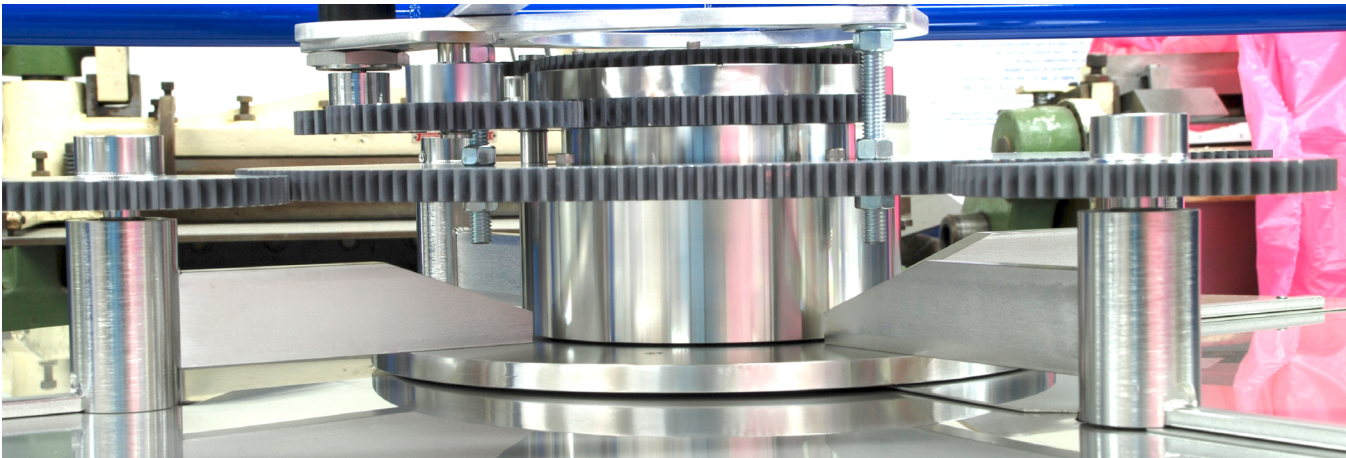
Ring Gear



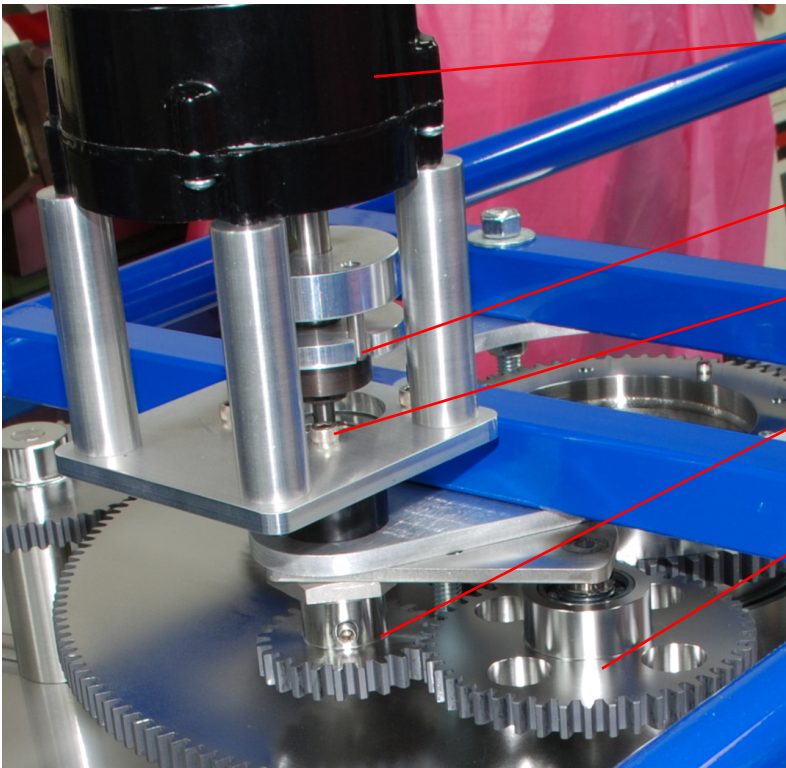
The Ring Gear is included with the PL-481712U and the PL-481714U planetaries. It can be added to a PL-4817U as an upgrade. This allows for the addition of (6) 14 inch or (8) 12 inch planets.



# PL-XX Description



Each gear needs to be coated with a graphite / molybdenum film. This provides the protection they need to operate at up to 300° C in a vacuum. This should be applied as needed to maintain gear life. Also, all threaded parts should be coated to prevent sticking.



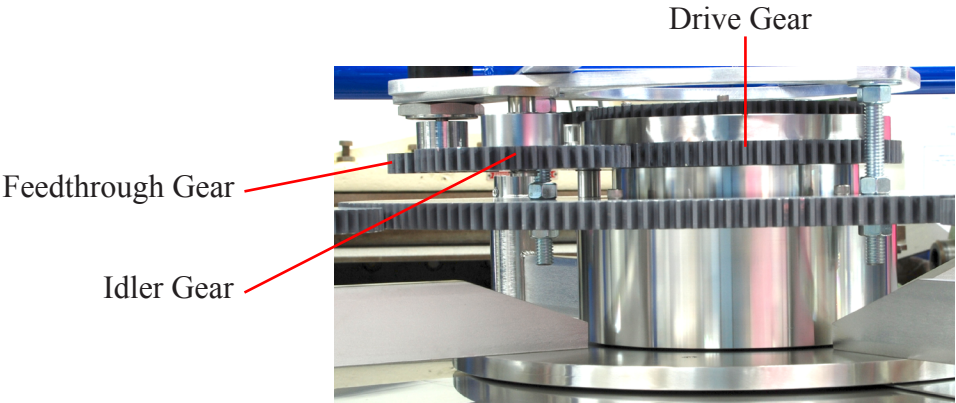
Planetary Drive Motor / variable speed drive

Unidirectional Clutch

Ferrofluid Feedthrough

Feedthrough Gear

Idler Gear



Drive Gear

Feedthrough Gear

Idler Gear

## PL-XX Description



The planetary is mounted on (3) 3/8" dia. threaded rods. Typically we recommend 3/8-24. There should be a minimum of (3) nuts on each rod, one up against the chamber, one up against the top of the main gear and one up against the bottom of the main gear. For added safety and security you can double these up.

When installing the planetary measure the distance between the top of the chamber and the top of the main gear. Measure around in 3 spots closest to each mount point. Get all three mount points as close as possible to each other. The closer these are the less wear there will be between the Drive Gear and the Idler Gear. When engaging the Idler Gear to the Drive Gear, mesh the two together, then back out the Idler Gear about 0.01". This will allow room for thermal variations in the gears.

## TROUBLESHOOTING

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- Does not spin freely
    - Check the distance between the idler gear and drive gear. Need to be a minimum of 0.01” apart.
    - Check bearings for wear. See if spacing material in bearing is wearing down.
    - Check gears for wear.

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  - Makes noise
    - Check bearings for wear. See if spacing material in bearing is wearing down.
    - Check gears for wear.
    - Check for foil rubbing.
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