



REVOLUTION

HELICOPTER CORP., INC.



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September 22, 1999

RHCI Airworthiness Directive (AD) #092299

Affected Aircraft: All Mini-500 helicopters

AD Type: Mandatory (Recommended to comply before further operation)

Subject: Main Gearbox Modification

During our continuous testing and improvement program here at Revolution Helicopter, we have found a cause why some Main Gearboxes are experiencing multiple chiplights and pinion bearing failures. Although this condition has not yet contributed to an accident, if left as is, it could potentially cause a catastrophic Main Gearbox failure.

We have discovered that an O-Ring #0620 is interfering with the Transmission Pinion Bearing Retainer #0047, and not allowing proper crush to occur on the pinion bearings and sleeve. In time, the O-Ring can shrink or deform enough to allow looseness to occur and the bearing can slip on the pinion and rub against the sleeve, causing fine particles that set off the chip light. If this continues long enough, bearing failure can occur.

Corrective Action:

RHCI has redesigned part #0047 so that the O-Ring #0620 will not interfere with the pinion bearing crush. We have also designed part #0047 to withstand a increased crush factor, allowing the assembly to increase the torque installation from 35 ft/lb. to 45 ft/lb. To make it possible to perform this action in the field, RHCI has developed a kit consisting of a new replacement Part #0047 and O-ring, along with an installation tool and instructions. With this kit, it will not be necessary to remove the Main Transmission from the helicopter.

RHCI has set up manufacturing to build this upgrade kit as orders come in, and will provide it at a reduced price if ordered by October 22, 1999. After that date, the set up will be taken down, so any parts built later will include a new set up fee.

The upgrade kit can be ordered through RHCI as #S0047 for \$27.00, plus shipping, if ordered by **October 22, 1999**, or for \$87.00 if ordered after October 22, 1999. To order, call Customer Service at (816) 637-2800.

Once complied with this AD, please date and sign, then return or fax a copy to:

Revolution Helicopter Corp.
1905 West Jesse James Road
Excelsior Springs, MO 64024
Fax: (816) 637-7936

Signature: _____ Serial # _____ Date _____