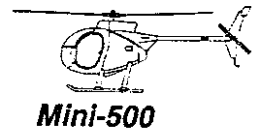




REVOLUTION

HELICOPTER CORP., INC.



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February 5, 1997

Service Information Letter #020597

Subject: Mini-500 Airframe Modification

Applicability: All Mini-500's shipped before September 18, 1996

Previously, RHCI issued Airworthiness Directive #090996. This entailed that all Mini-500's shipped before September 18, 1996 should install an added bracket located on the airframe behind the aft transmission mounts. This was to give added strength to that area in which a small number of aircraft had experienced cracks.

As of September 18, 1996, all frames have been manufactured with the bracket installed, and the 1" diameter 4130 chromolly tubes wall thickness was increased from 0.035" to 0.058".

At the request of some customers, RHCI has made available an upgrade kit that would give added strength to this area by increasing the tube wall thickness. The upgrade can be accomplished by following the directions in Figure 1 and Figure 2, by installing an insert tube inside each side of the frame and welding it in place.

The insert tubes can be fabricated from a 15/16" diameter X 0.086" wall 4130 chromolly tube, 8.5" long, two (2) each. Reduce outside diameter to 0.920", +0.000" -0.005". Or, RHCI has manufactured some of these tubes, ready for installation, at our cost of \$9.00 each.

This upgrade is not a mandatory change, but it will definitely increase the strength of the area so that it will not be as susceptible to excessive vibration from improper track and balancing. It is still most critical that the aircraft flies below the normal vibration perimeters of a .1 for the one per rev during hover, and between .6 to .8 for the two per rev during a 75 to 80 mph cruise flight, even if this upgrade is installed.

If this upgrade is performed, it is of the utmost importance that the transmission, engine and any other component containing bearings or electronic circuitry be removed or isolated during the time that any electro welding is being performed. Only tig weld on the frame, and do not use gas, mig or arc at any time. Stress relieve any re-welded areas. Re-paint where needed to prevent rust.

If you wish to purchase the tube upgrade, contact Parts Department at RHCI and arrange for payment and shipping. If you have any questions about the installation, contact RHCI Customer Service at (816) 637-2800.

Please print your name and date, then mail or fax a copy of this letter to Revolution Helicopter before March 7, 1997, whether you decide to do the upgrade or not, so that we know that you have been informed.

Name: _____

Date: _____

Aircraft Serial Number: _____

See attached diagrams

1. Fabricate a plate from 1/8" steel or aluminum as shown in Figure 3.
 2. Fabricate a wooden spacer to fit the gap between the plate and the vertical frame tube as shown in Figure 2. This will be used to relocate the threaded inserts and to prevent the frame from deforming during welding.
- Carefully cut the welded area off of the threaded insert to detach it from the 1" tube. A rotary tool with abrasive cutting wheel is recommended. Try not to damage the tube or threaded insert. After the weld is cut, it may be necessary to use a long bolt or all-thread with a slide weight, and gently tap the threaded insert off of the 1" tube as shown in Figure 1.
3. Drill 1/4" holes in four places per tube as shown in Figure 1. Three of the holes go all the way through the tube and one only goes through one side of the tube.
 4. Using an oval shaped file, deburr the inside of the 1" tube at all welded locations and holes so that the insert tube will slide in easily.
 5. Fabricate two insert tubes from 15/16" Dia. X 0.086" wall 4130, or purchase tubes from RHCI finished. Install insert tubes into 1" tubes. Note: Do Not Pound on the end of the insert tube with hardened objects, because swelling of the insert tubes end will prevent it from sliding all the way in. If necessary, use a piece of aluminum to soften the blow on the end of the insert tubes.
 5. After insert tube is installed, bolt the threaded inserts onto the fabricated plate. Use a "C" clamp to secure the plate, wooden spacer and threaded inserts into the original location on the frame as shown in Figure 2.
 6. Tig weld the threaded inserts to the 1" tube, and then Tig weld all fourteen (14) holes, joining the insert tube to the 1" tube. Grind the weld on the holes smooth, stress relieve and repaint.

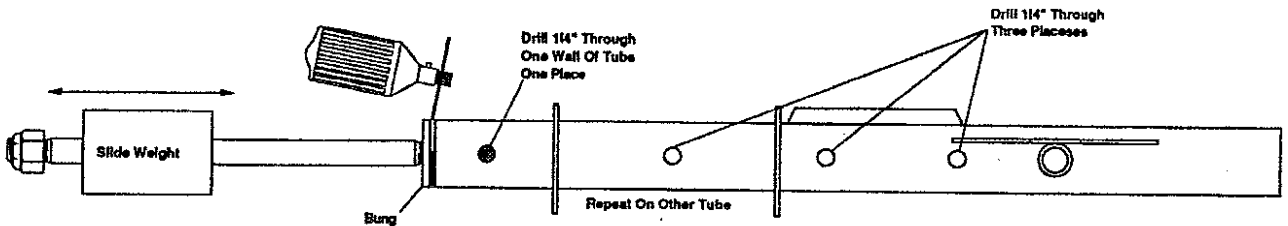


Fig. 1

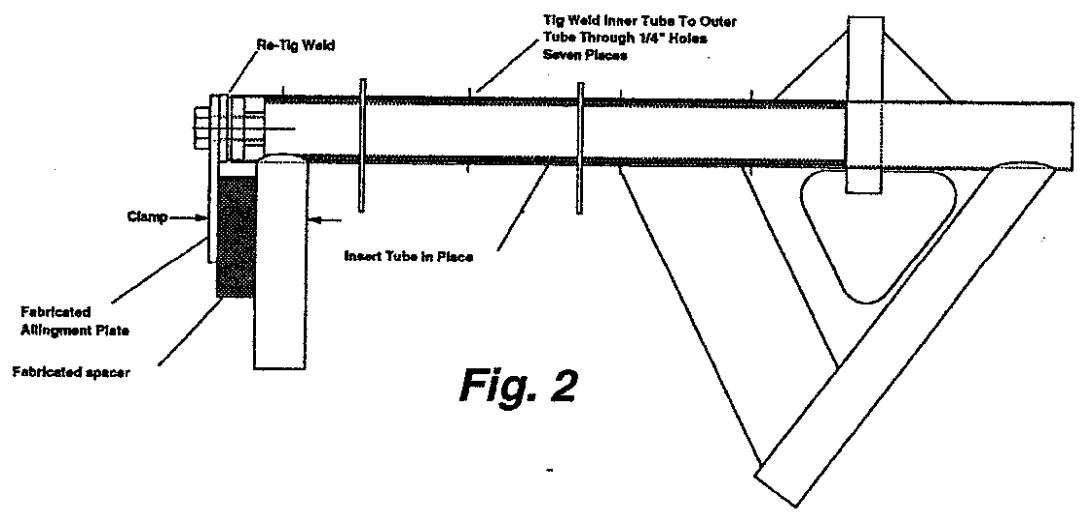


Fig. 2

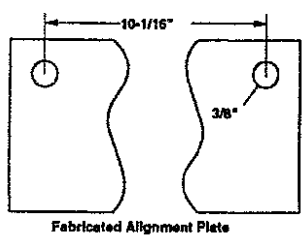


Fig. 3

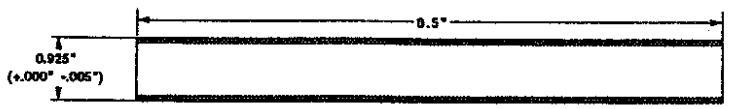


Fig. 4