THE WAY THROUGH THE HOUSING! Insert a short ¼" bolt or clevis pin into the hole and use a pry bar between the plate (protect the plate with duct tape, piece of plywood, etc.) and the pin to break the housing free of the plate. While doing this, leave at least a couple of the long ¼" bolts with nuts loosely on them through the gear housing and plate so that the housing does not fall off and no side loads are put on the bearings & shafts in the drive when the housing breaks free of the adapter plate.

Inspection Intervals

The main drive housing should be removed from the adapter plate after the first 25 hours of flight to inspect the input shaft thrust bearing, sun gear, planet gears and the ring gear. If this inspection is satisfactory, the next inspection interval can be increased to 100 hours or at the following annual aircraft inspection, which ever comes first. If this inspection is satisfactory, inspection intervals can be increased to 250 hours. . A chip detector is now in development stages which will be retrofitable to all RD-1 gear drives. The use of this detector will eliminate the 25 and 100 hour inspection requirement.

Modifications

Please resist the urge to modify the design and construction of the RD-1. The design has evolved over several years and hundreds of hours of testing.
If you want to make any changes to the drive, please call and discuss it with us to ensure that the proposed changes do not compromise any critical parameters of the drive.

Notes to 3rd Gen 13B, Renesis and 20B users.

The RD-1A/B/C was developed and tested on 2nd Generation (1986 – 1991) 13B engines. These engines all had a common bellhousing bolt pattern regardless of transmission used. Later engines have basically the same bolt pattern but on 3rd Gen automatic transmission equipped engines, Renesis (RX-8) and 20B engines, one of the bolt holes is missing where the side mounted starter was installed. This is easily remedied by fabricating a bracket to get back the missing hole.
As shown in the photos below, a piece of ¾" angle iron is used to make the bracket for the Renesis and other engines with the "missing hole". The bolt holes on the side of the engine vary in size and spacing on the various engines. In the case of the Renesis engine, only the top hole was present. You can see that the bottom hole has only been drilled with a small pilot hole in the first photo. The hole in the engine housing was later drilled and tapped for an 8mm bolt (same size as top).