

RD-1C Assembly Instructions Updated: 08/29/04

******PLEASE READ INSTRUCTIONS COMPLETELY BEFORE STARTING ASSSEMBLY******

Note! **Check all packing material for small parts before discarding.**

1. Your engine should already be equipped with an automatic transmission counter-weight of the appropriate year to match the engine. The eccentric shaft nut should be installed with Loctite (Blue, Medium strength) and torqued to 350 foot-pounds. Your engine must also be equipped with a 1986 – 91 automatic transmission flywheel to be compatible with the RD-1A/B/C.

2. Mount the automatic transmission flywheel to the counterweight. I suggest using the stock Mazda flywheel bolts which are of very high quality and have integral washer shoulders. If you have the stock Mazda washer plate for the flywheel, install it as well. Note that the washer plate goes on top of the flywheel, not between the counter-weight and the flywheel. The flywheel bolts should be installed with medium strength Loctite. Clean the threaded holes of the counter-weight and the bolts with acetone before applying Loctite.

3. Before mounting the damper, make certain that there is no pilot needle bearing in the end of the crankshaft. Engines that were equipped with manual transmissions may have this bearing and it must be removed before the input shaft pilot will fit into the crankshaft. These can sometimes be difficult to remove. I have had to resort to carefully grinding through the outer race with a small stone in a Dremel tool in order to remove some of the more stubborn ones. Clean the crankshaft pilot hole and liberally apply a good quality wheel bearing grease. Before mounting the damper, make sure that the pilot on the input shaft/sun gear assembly will slide into the crankshaft pilot hole without binding. Refer to the drawing on Damper / Flywheel assembly details during the following instructions. First install four 7/16" damper bolts with medium size diameter washers (marked 7/16 – USA) from the back-side (engine side) of the flywheel. Install a large AN7 washer on the front side on each bolt. Position them so that the side with the rounded edges goes against the rubber damper. Now mount the damper assembly to the flywheel by sliding it onto the four bolts until it is seated against the flywheel. Install another large AN7 washer over each damper block (rounded edges against the damper) followed by a small AN7 washer and an elastic stop nut. Tighten these nuts until they start to tighten on the damper drive bushings, then back off one full turn. These bolts will be tightened later.

4. **Refer to the attached photos during procedures 4 – 6.** Install the 12 long quarter inch bolts with one washer through the 12-quarter inch holes in the adapter plate. The drive is shipped with two of these bolts in the main gear housing to hold it and the planet carrier housing to the shipping skid. Install these bolts from the backside of the plate (side facing engine). The backside can be identified by the input shaft seal that is installed in a counter-bore in the backside of the plate. Note: You may polish or paint the spacers for esthetics if you wish but *do not alter or paint the mating surfaces of the spacers*.

5. Facing the adapter plate from the front with the starter mounting hole at the six o-clock position, install four 10 mm bolts and washers in the two holes at the upper right and lower left of the plate. The lowest bolt in the lower left pair should be a short (110 mm) bolt. The other three bolts should be 120 mm long.

6. Slide the long curved spacer onto the two bolts at the lower left. Slide the short spacer with two holes onto the bolts at the upper right. Orient the spacers so that their counter bored holes match up with the locating dowels on the engine.

7. Now mate the adapter plate and the two spacers up to the engine with the starter mounting hole at the six o'clock position. Thread these four bolts into the engine and make sure that none of them bottom out in the