

Racing Beat Aluminum Rear Housing Part No. 11070, 11071

Usage and Application Guide

A. To avoid flexing of the rear stationary gear in the rear housing, we have designed a "shrink fit" between these components and the use of 12 studs to secure the gear flange. This requires first that you make (6) additional equally spaced holes in the gear flange and that you heat the housing to install or remove the stationary gear.

B. If required, it is possible to machine this housing to mount a 20B side starter. Racing Beat does not currently offer this service, but this straight-forward modification is possible using a 20B rear housing as a pattern.

C. This rear housing does not accommodate an oil pressure regulator. Most dry sump pumps already have a regulator included in the pressure segment. Where needed, we suggest an external regulator with a return line to either the oil pan or a dry sump tank.

D. If you intend to use the stock oil filter, you can thread the hole just below the filter 3/8" pipe and install the appropriate fitting. If you do not intend to use the stock filter, make a block to fit in its place that allows the oil to enter at this point. This housing can accommodate the same turbo oil drain-back holes that were used on a 1993-1995 RX-7, though they must be drilled and tapped.

E. After cleaning, install the (12) studs using Loctite material. Check the stationary gear hole pattern by slipping it backwards (gear-out) over the studs. It should fit loosely over the studs. Also install the rear stationary gear alignment pin by driving it carefully into the appropriate hole. (Use lanolin or never-seize material and be very careful to keep the dowel straight in the hole.)

F. If you wish to remove the rear gear from the rear housing, heat the assembly to 280-300°F, then use a plastic hammer to tap the gear out. Do NOT press the gear out.

G. The intake manifold mounting and porting is intended to match a 1993-95 RX-7 or a 20B engine. Some tension bolt holes must be enlarged for use in a 20B engine. If a Racing Beat aluminum front housing is being used, the extra long, large diameter tension bolts must be replaced with small diameter bolts.

From this point, we suggest the following procedure:

1. Heat the housing to between 280°F and 300°F. Be very accurate with this temperature range - Too low of a temperature and the gear may not fit; too high of temperature and the heat treating may be affected.
2. Once the housing is heated to the specified temperature, immediately drop the stationary gear in place. Be sure the O-ring is installed and lightly lubricated with oil. Quickly run down two opposing nuts to secure the gear, then install the remaining (10) nuts and torque them all to 17 ft/lbs.
3. Coat the threaded pipe plugs and the thread recess with silicone seal, then tighten them in place to 50 ft/lbs while the housing is still warm.
4. Install the bellhousing dowels and starter dowels, if desired, using Loctite.

If the housing will be used in a peripheral port engine, wash out the intake port runner with acetone, then fill it completely with Devcon aluminum putty. If it will be used in a side port engine, grind through the thin web of aluminum and undertake the desired porting, before installing the stationary gear.

Maximum torque specifications for bolts into the aluminum housings:

- 10mm - 25 ft/lbs
- 8mm - 12 ft/lbs
- 6mm - 70 in/lbs