

# **Bending Tempered Aluminum**

## **Gear Blanks**

The only light-weight material that will withstand the severe shocks of rough landings is tempered aluminum. Unfortunately, this material cannot be formed into sharp bends without heating, as it will fracture at the point of bending.

A Bernz-O-Matic or other propane torch will supply sufficient heat. If possible, use a tip that concentrates the flame. Use caution as too much heat will also cause aluminum to fracture.

Using soft wire, make a pattern of the proposed gear. This will give you a ready guide to determine the extent of each bend.

If a bench vise is available, insert the gear blank and clamp just short of the point where you wish to form the bend. With a pair of pliers, grip the gear blank a short way above the bend and apply pressure in the direction of the bend while heat is directed on the point of bending. Keep the torch moving in slow back-and-forth strokes across the area of the bend. When heat is sufficient you will feel the metal give under the pressure you are holding with the pliers. Remove the heat and check the bend for accuracy. Try to get the correct bend the first time so that it will not be necessary to re-heat the metal. Move the blank to the next bend and repeat the process. If a bench vise isn't available, use two pairs of pliers and hold the work over the flame while exerting pressure on the bend.

When working with 1/32" keep the work moving and be very careful not to over-heat.

**SIG MANUFACTURING CO., INC. - Montezuma, Iowa**