

# Re-entry Shield

## Materials

- 1 square foot sheet of aluminum foil
- 3 inch square piece of metal mesh
- #10-24 x 1 1/2 machine screw – flathead
- 2 #10-24 machine screw nuts
- 2 #10 SAE washers
- Hot glue pot or hot glue gun
- 12 inch long 3/8 inch diameter wooden dowel

## Instructions

1. Give each student a sheet of aluminum foil, metal mesh, machine screw, two metal nuts, and two washers and the charge to create a re-entry shield. The students can do anything with the materials as long as they attach the head of the metal screw to the wooden dowel with hot glue.
2. Attach the screw to the dowel with hot glue. When the glue sets you can attach the shield to test stand.
3. The re-entry simulation is conducted by sliding the torch into position in front of the Test Stand.
4. As soon as the thermal protection shield is directly in front of the flame start the stop watch. Time how long the shield stays attached to the wooden dowel.
5. Have each student record the time in his/her journal.

