

Gauge Mounting

Materials Required

- Strain Gauge
- Gauze Sponge
- Degreasing Agent
- Surface Conditioner
- 220-Grit Silicon-Carbide Paper
- Cotton Swabs
- Ball-Point Pen
- Tweezers
- Glass Plate
- Epoxy

General Rules

- Do not touch the application surface with your fingers
- Do not reuse any swabs or sponges used during application
- Take care to not drag in contaminants from uncleaned boundary area
- Allow cleaning solution to completely evaporate before gauge placement

Surface Preparation

- Apply solvent degreaser such as isopropyl alcohol to impeller blade
- Clean an area covering 4 to 6 inches on all sides of the gauge location using a gauze sponge
- Let dry completely before proceeding to next step
- Apply a conditioner to the gaging area, wet-lap with 220-grit silicon-carbide paper
- After a bright surface is produced, clean the surface with a gauze sponge
- Repeat the conditioning process with 320-grit silicon-carbide paper
- Mark the desired gauge location (TBD) using a burnishing method, remove all residue
- Continue to apply conditioner and remove with cotton swabs until swabs are no longer discolored by scrubbing
- Allow to fully dry before continuing to next step

Strain Gauge Bonding

- Remove the strain gauge from its envelope using a pair of tweezers
- Make sure the bonding side of the gauge is in the downward direction
- Set the gauge bonding side down on top of the glass plate
- Cover the entire gauge with a piece of cellophane tape, run over with finger to smooth
- Carefully remove the tape and gauge combination from the glass plate
- Position the gauge directly over the alignment marks and smooth out the tape
- Pull up one side of tape to reveal underside of gauge
- Apply one or two drops of adhesive at the junction between the tape and the specimen
- Holding the tape slightly taut and beginning from the side still attached to the specimen, slowly and firmly make a single wiping stroke over the gauge/tape assembly to bring it back over the alignment marks
- Immediately apply pressure (thumb) to the gauge area for sixty seconds
- Remove the tape slowly and steadily
- Apply a thin coat of waterproofing epoxy on top of the strain gauge
- Allow ample time for the epoxy to dry and adhesive to cure before testing