

Service Call:

Repairing Gel Coat Damage or
Refinishing the Fiberglass Boom

Tools Required:

- Unit Specific Maintenance Manual
- Sandpaper
- Gelcoat and Hardener
- Gelcoat Spray Equipment

Model(s): All

Tech Tip Safety Rules



Danger

Failure to obey the instructions and safety rules in the appropriate Operator's Manual and Service Manual for your machine will result in death or serious injury. Many of the hazards identified in the operator's manual are also safety hazards when maintenance and repair procedures are performed.

Do Not Perform Maintenance Unless:

- You are trained and qualified to perform maintenance on this machine.
- You read, understand and obey:
 - manufacturer's instructions and safety rules
 - employer's safety rules and worksite regulations
 - applicable governmental regulations
- You have the appropriate tools, lifting equipment and a suitable workshop.

The information contained in this tech tip is a supplement to the service manual. Consult the appropriate service manual of your machine for safety rules and hazards.

Step 1

Before repairing any fiberglass damage, consult Tech-tip #23 (Fiberglass Chart Usage) to determine if the fiberglass damage to the boom is repairable.

If the damage can be repaired, make repairs by following the manufacturer's recommended guidelines prior to refinishing.

The following are materials proven acceptable for use in repairing fiberglass boom surfaces:

- Polyester fiberglass resin
- E-Glass fiberglass matt and cloth
- White NPG (NeoPentyl Glycol) gelcoat with wax-available from Glidden, PPG and Cooks paints
- Silicone spray
- Hot Stick Wax

Step 2 (Small Spot Repairs)

Where the damage observed is limited to small areas of gel coat surface damage (minor damage less than 1" diameter), clean the boom surface by washing with Amway Industro-Clean or Simple Green, rinse clean, dry thoroughly, and sand the damaged area to remove foreign material.

Resurface the damaged area with polyester fiberglass resin or gelcoat.



Damaged



Repaired

Step 3

If the area to be resurfaced is larger than 1" or the boom needs to be refinished, then proceed to Step 4 (Boom Refinishing).

If the area repaired was less than 1", allow the resin to dry, then spray the inner and outer surfaces of the boom with a thin coating of silicone material and rub down the sprayed surface with a lint free cloth to remove excess material. Hot Stick Wax can also be used on the exterior of the boom instead of silicon spray.

Step 4 (Boom Refinishing)

To begin the boom refinishing process, clean the boom surface thoroughly with a cleaner that is not abrasive and does not leave a residue such as: Amway Industro-Clean (dilute 4 to 1) or Simple Green (dilute 2 to 1) or an equivalent cleaner.

Step 5

Remove the caulk that seals the fiberglass to the steel joint(s). Consult Tech-tip #129 (Maintenance of Fiberglass to Steel Joint) if there is any visible rust on the steel.

Step 6

Dry the boom out for 24 hours in an environment of less than 25 percent relative humidity (at recommended temperatures between 100-140°F (38-60° C)).

Step 7

Thoroughly sand the outside surfaces of the boom only long enough to remove the outer surface material. Do not remove more than .015 inches (.38 mm).



Note: Do not handle the sanded boom with bare hands since the oils and salts from the skin will contaminate the boom surface, preventing adherence of the coating. The boom can only be handled with clean gloves in this condition.

Note: Do not expose sanded booms that have not been resurfaced to humidity above 40 percent. Booms should be moved as quickly as possible from unfinished to refinished.

Step 8

Resurface the boom with the white NPG gelcoat activated by the addition of the catalyst.

The application should be made with regular industrial spray equipment where pressure pots are included. This is important since this is spraying with 100 percent solids. A minimum coat thickness of .010 in. (.25 mm) to a maximum of .020 in. (.51 mm) shall be applied. Up to .012 in. (.30 mm) of coating can be made in one application. However, it is acceptable to coat with more than one application of lesser thicknesses if desired.



Step 9

Allow the material to dry for 12–24 hours at 77 degrees F (25 degrees C). Don't apply gelcoat in high humidity conditions (40 percent or above). Air dry only.

Step 10

After the boom has completely dried, caulk the joint(s) between the steel and fiberglass with 3M 550 Polyurethane Adhesive Sealant.



Step 11

After the sealant has dried spray the inner and outer surfaces of the boom with a thin coating of silicone material and rub down the sprayed surface with a lint free cloth to remove excess material. Hot Stick Wax can also be used on the exterior of the boom instead of silicon spray.

Step 12

Once the boom has been reassembled, perform a complete operational test from the lower and upper controls. A periodic dielectric test per ANSI A92.2 will need to be completed prior to putting the unit back in service.