

	<b>SONARtrac® Rework Instruction</b>	
	<b>Subject: Procedure for Replacing Fiberglass Cover Seals</b>	No: RI00001   Rev. 01
		Date: 17 Nov 2004
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**Purpose:**


The purpose of this document is to establish a procedure for the replacement of the cover seals on SONARtrac® fiberglass covers. Read the entire procedure before rework of seals.

**Materials:**

Part Number	Description
S-20574-tab	Kit, Replacement, Cover Seals ISS0006 containing P/N 20562-01 Sealant, Joint Expanded PTFE, Style 24B, 74" length (or 120" length); P/N 52106-04 Sealant, Joint, Expanded EPTFE 68" length; P/N 52106-08 Sealant, Joint, Expanded PTFE, 12" length; 52307-01 Sealant, Joint and Thread, PTFE
---	Isopropyl alcohol (as required)
---	Paper towels or rags
---	Plastic film
---	Razor blade knife with <u>new</u> blade installed
---	Pencil or sharp tipped marker pen
---	ruler

**Procedure**

1. Remove cover from process pipe in accordance with the Sensor Removal Instructions in the Sensor Installation Manual, P/N 20295-01.
2. Wipe cover to remove surface dirt.

	<p><b>CAUTION</b></p> <p>Upper cover contains electronic board. Do not put cover in dip tank or allow board to get wet.</p>
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3. Move the cover assembly to a workshop area.
4. Rework either the upper or lower cover assy entirely before reworking the other.
5. Remove the existing seal material from the upper cover as shown in Figure 1. A clear plastic tape-like layer may be found directly under the white seal. Peel this layer off as shown in Figure 2.



Figure 1



Figure 2

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6. A line of adhesive may remain. If this remaining adhesive is well adhered to fiberglass and is not covered with dirt and debris, leave in place and go to Step 7.

a. If the remaining adhesive is loose or covered with dirt it should be removed.

- i. Place a layer of paper towels or strips of rags over the adhesive to be removed as shown in Figure 3.
- ii. Wet the towels with isopropyl alcohol. Keep the towels wet with the alcohol for about 15-30 minutes. This will allow the adhesive to loosen. **Note:** Placing a piece of plastic film (plastic bag, etc.) over the wet towels will help keep the alcohol from evaporating quickly.

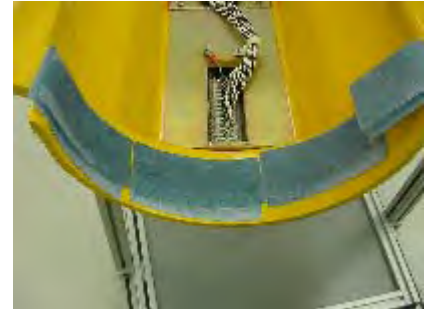


Figure 3



## WARNING

**Isopropyl alcohol is a flammable liquid. Do not use near open flame. Use in a well ventilated area.**

iii. Remove the paper towels or rags and wipe the loosened adhesive from the cover. The alcohol soak may need to be repeated to remove all adhesive.

7. Upper and lower end seal replacement:

a. Cut four pieces of the P/N 20562-01 Sealant per the following table.

Cover Size	Seal Length	Cover Size	Seal Length	Cover Size	Seal Length
2"	TBD	6"	15"	12"	24"
3"	TBD	8"	18"	14"	26"
4"	12"	10"	21"	16"	29"

Table 1 End Seal Length Based on Cover Size

- b. Place a mark at the mid-point of the cut-to-length P/N 20562-01 end seal material.
- c. Cut the paper backing at the midpoint of the end seal and peel back ~3" on both sides (Fig4).
- d. Align the mid-point of the end seal at the midpoint of the end of the cover as shown in Figure 4. Position it next to the brown rubber pipe grip to ensure the seals on the upper and lower covers are aligned. Wrap the seal up to the flange seal surface. Allow enough material to "square off" the corner (Figure 5). Do not "round-off" the corner (Figure 6).
- e. Repeat installation of the end seal on the other end of the cover.



Figure 4

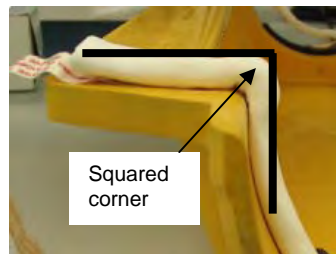


Figure 5

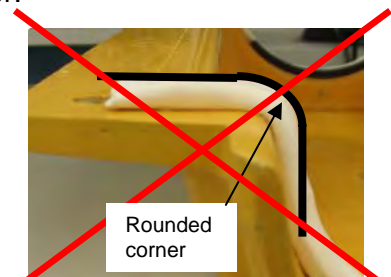


Figure 6



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8. Cut a taper in the ends of the end seal using a razor blade knife.
  - a. Measure over 1" from the inside edge of the corner bolt hole and place a mark on the seal.
  - b. Measure over 1/2" from the inside edge of the corner bolt hole and place a mark on the seal (Figure 7).
  - c. Taper-cut the seal starting at the 1" mark and ending at the 1/2" mark. Remove excess.
  - d. Repeat on remaining seal ends. The resulting taper cut seal ends are shown in Figure 8.

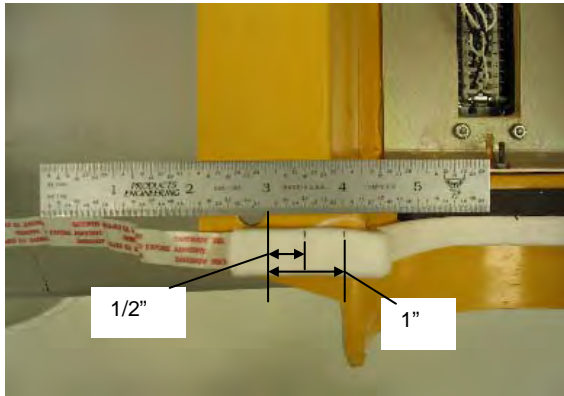


Figure 7

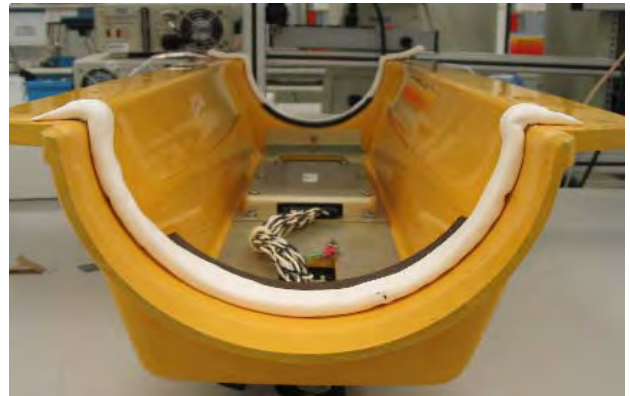


Figure 8

9. Upper cover fillet seal installation:
  - a. Cut four 3" lengths of P/N 52106-08 Sealant to use as a fillet seal on upper cover seal ends.
  - b. Remove paper backing from adhesive and install one on each of four corners over end seal. Use the inside edge of the flange bolt holes as a reference for locating the fillet seal.
  - c. Measure over 1" from the inside edge of the corner bolt hole and place a mark on the seal.
  - d. Start the taper cut on the fillet seal at the 1" mark and end it such that it extends 1/8 – 1/4" beyond the end of the end seal taper cut. Remove excess material. See Figure 9.
  - e. Cut the inside end of the fillet seal starting at a point that is tangent to the inside top edge of the end seal and extends downward for 5/8" ( $\pm 1/8$ ") and meets the end seal. Remove excess material. Refer to Figure 10.

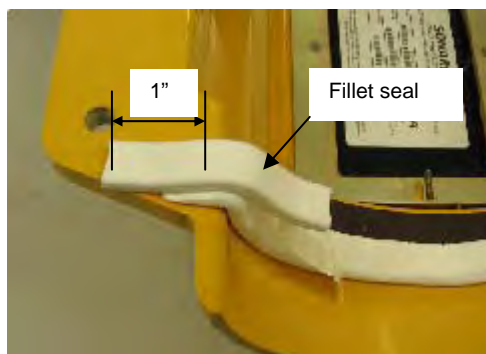


Figure 9

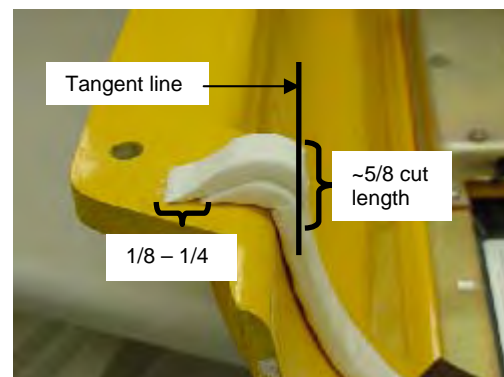


Figure 10

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## 10. Lower cover flange seal installation:

- a. Cut the P/N 52106-04 Sealant into two 34" lengths.
- b. Peel back about 6" of the paper backing over the adhesive on one end.
- c. Lay the end of the seal over the previously installed end seal. The end of the seal should extend about 1-1/2" over the end seal as shown in Figure 11.
- d. Bend the P/N 52106-04 seal so it is parallel to and inside of the bolt holes. "Overstuff" the seal in the bend area to ensure it lies flat on the cover flange.
- e. Remove additional paper backing from the adhesive and lightly pull the seal so it is straight and apply it along the length of the flange from where the original seal was removed. Lightly press on the seal so it will adhere to the flange.
- f. Bend the end around and overlap the radius seal at the opposite end of the cover.
- g. Cut the inside end of the fillet seal starting at a point that is tangent to the inside top edge of the end seal and extends downward for 5/8" ( $\pm 1/8$ ") and meets the end seal. Remove excess material. Refer to Figure 12.
- h. Repeat installation on opposite flange.



Figure 11

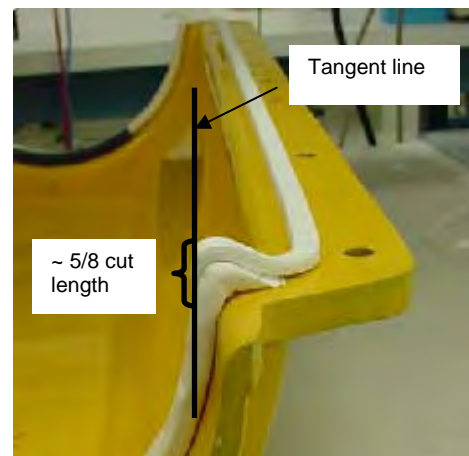


Figure 12

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### Document Change History

Date	Revision	ECO/PCO Number	Changed By	Description of Change
12/7/04	01	P04-0096	R. Markoja	Initial Release