## 1. Purpose

To ensure the correct installation of the upper and lower rudder bearings and rudder tube.

## 2. Scope

Final Assembly
Moulding Shop

## 3. Responsibility

Production Managers
QC Manager

## 4. Related Documents

Check sheets

## 5. Packing List

| QTY | Description | Code |
|---|---|---|
| 1 | P/URETHANE SEALANT 291 WHITE | SLNTPUWH 291 |

## 6. Procedure

6.1. Install rudder bearing plant in mould:

6.1.1. Ensure the lower rudder bearing plant is installed level and on the hull centre line, see figure 1.

Figure 1

6.2. Fit bottom bearing:

6.2.1. Mark centre of bottom bearing and drill pilot from bottom.

6.2.2. Drill hole for bearing from top, see figure 2. Check that the area around the hole is level in all directions and be hull thickness is between 4 and 6mm.

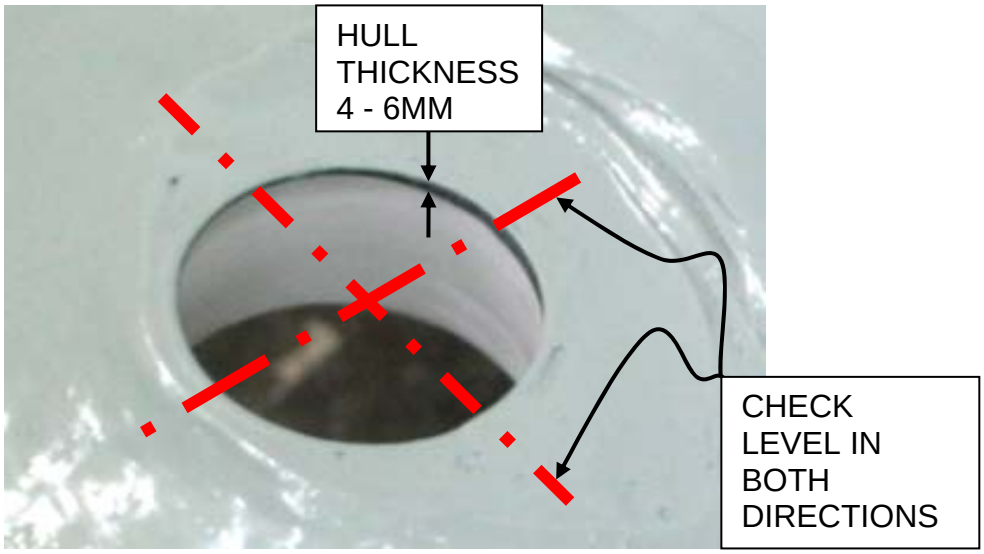


Figure 2

**Note: Flowcoat inside of hull.**

6.2.3. Dry fit lower bearing & collar, checking that it fits level in both directions, see figure 3.

Figure 3

6.2.4. Clean the inside of the bearing recess and the bearing with acetone.

**Note: Clean all grease off the thread of the bearing and collar.**

6.2.5. Apply Sika 291 to the bearing, see figure 4.

Figure 4

6.2.6. Insert bottom bearing and fit collar – apply Sika 291 on the thread of the bottom bearing and along the base of the collar, see figure 5.

Figure 5

6.2.7. Remove excess Sika, leaving a 5mm fillet at the base of the collar, figure 6.

Figure 6

6.3. Fit top bearing:

6.3.1. Fit a rudder stock through the bottom bearing and hold it upright, mark the position of the stock on the underside of the deck, see figure 7.


Figure 7

6.3.2. Drill a pilot hole from the underside of the deck.

6.3.3. Drill the hole for the top bearing from the top of the deck, see figure 8.

Figure 8

6.3.4. Dry fit top bearing and a rudder stock, checking that the stock is vertical, see figure 7.
6.3.5. If the position is correct, clean the top and bottom of the deck with acetone.
6.3.6. Apply Sika 291 to the underside of the bearing flange and bolt it to the deck.

6.4. Fit the rudder stock:
6.4.1. Push the rudder stock up, through the bottom bearing and dry fit the rudder tube.
6.4.2. Fit the correct amount of spacers and the locking pin ring over the stock, see figure 9.

Figure 9

6.4.3. Push the rudder stock into the top bearing and insert the locking pin.
6.4.4. Check that the stock ends flush with the top of the bush in the top bearing, see figure 10.

**Note: the stock must not end more that 3mm above or below the top of the bush.**

Figure 10

6.4.5. Check that the space between the underside of the bottom bearing and the top of the washer on the rudder blade is between 3mm and 5mm, see figure 11.

Figure 11

6.4.6. Check that the blade does not touch the underside of the hull when swinging 45° to either side, see figure 12.

Figure 12

6.4.7. Insert the rudder tube into the bottom bearing and mark the top of the collar, see figure 13.

**Note: Clean tube and bearing collar with Sika Remover 208.**

Figure 13

6.4.8. Apply Sika 291 to the bottom edge of the rudder tube, below the pencil line and insert it into the bottom bearing, see figure 14.

Figure 14

6.4.9. Fill space between the rudder tube and the bottom bearing collar with Sika 921, see figure 15. Fill to 10mm below the top of the collar and let it cure for 12 hours.

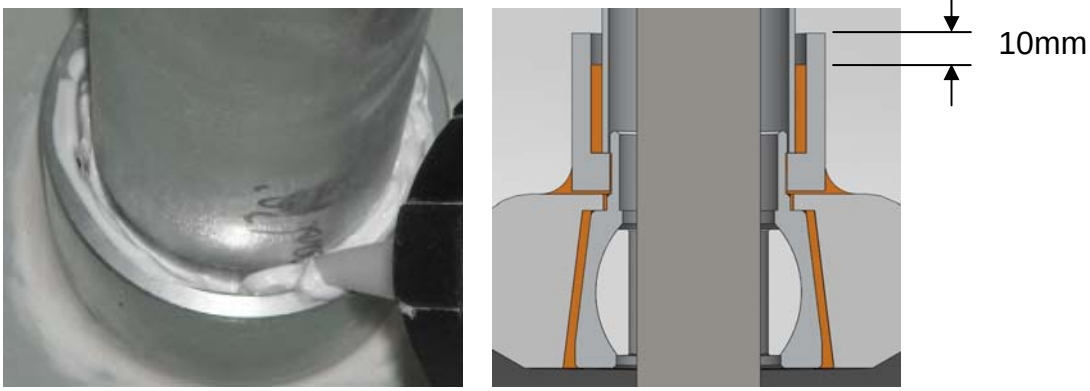


Figure 15

6.4.10. Put a final seal between the rudder tube and the bottom bearing collar with Sika 921 and finish off, see figure 16

Figure 16