

## REPLACEMENT OF LIFT/SWIVEL UNIT

### 7.10 Lift-/Swivel Unit (4-0692-0500)

This unit is the vertical and horizontal driving gear for the OCTOPUS 301 / 311 and operates the up/down and left/right movement by the means of two DC motors. If one of the motors ever needs to be replaced it can easily be done by first removing the 'Lift-/swivel unit' out of the stand which is explained below.

#### Removal

- Remove the 'Housing' (see Chapter 7.1).
- Remove the 'Touch screen module' (see Chapter 7.9).
- Remove the 'Optical unit' (see Chapter 7.2).
- Remove the 'Z-shaft' (see Chapter 7.3).
- Place the instrument on its side (be sure to place it on a soft padded surface, not to damage the 'Headrest' and painted surface of the instrument).
- Remove the internal mains cable connectors from the main switch (2 connectors go to the fuses, the other two connectors go to connector TB1 on the 'Power supply').
- Remove the five torx screws (torx size 25) which are mounted on the bottom side of the metal 'Base plate', see Figure 7-17.

### 7.1 Housing (4-0692-2210)

- Housing left (4-0692-2211)
- Housing right (4-0692-2212)
- Housing top (4-0692-2213)

**NOTE:** If the 'Housing' is removed, the perimeter will only initialize and calibrate correctly if it is placed in an entirely dark environment. The covers can temporarily be put back in place for its operation and to run the 'Service programs' such as the 'General test' in a semi-dark room.

**Removal**

- Remove the 'Housing top' by removing the four Phillips (M4) screws in each outer corner from the bottom part of the 'Housing left' and 'Housing right' (see Figure 7-1).

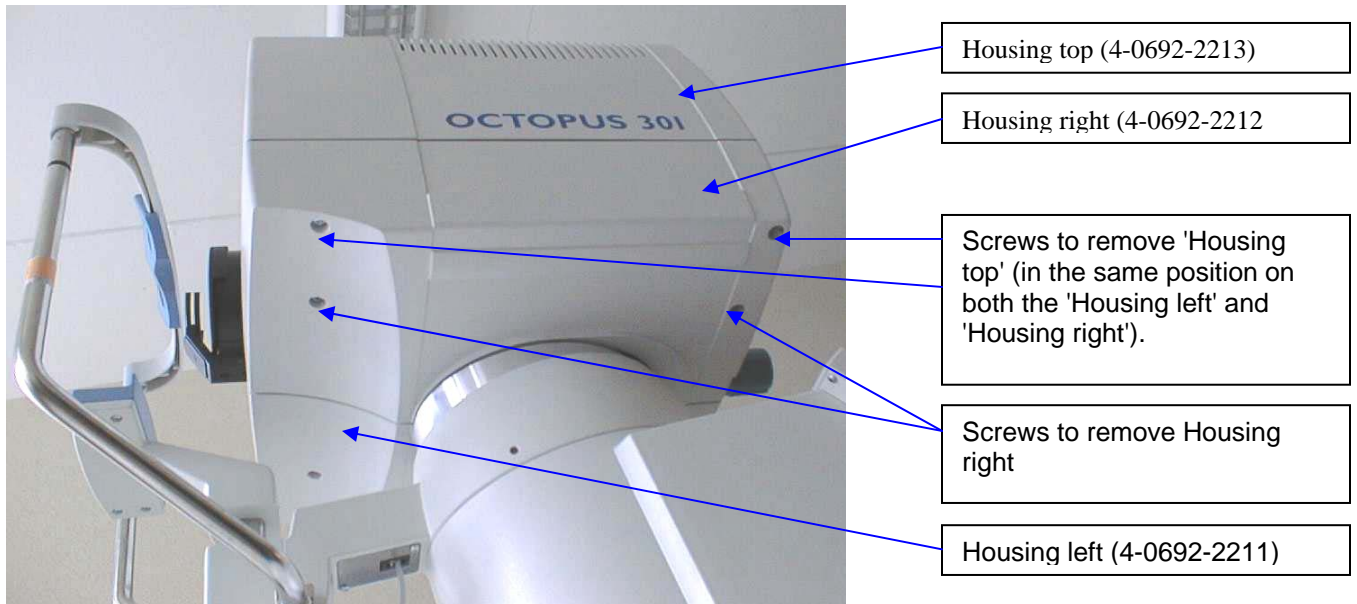


Figure 7-1

- Once the screws have been removed, simply lift the 'Housing top' and place it on a clean surface.
- Remove the 'Housings left' and 'Housing right' by removing the 4 Phillips (M4) screws in each inner corner from the bottom of the 'Housings left-/right' (see Figure 7-1). The Optical unit can be swung in a left/right movement for easy access. Remove the 'Housing left-/right' by gently lifting both parts out of the instrument. Place both parts on a clean surface.

**Re-assembly**

Re-assemble in reverse order to removal.

### 7.9 Touch Screen Module (4-0692-0400)

The 'Touch screen module' is located towards the operator side of the instrument.

#### Removal

- Remove the two torx screws (size 20) on the bottom side of the 'Touch screen module'. See Figure 7-15.

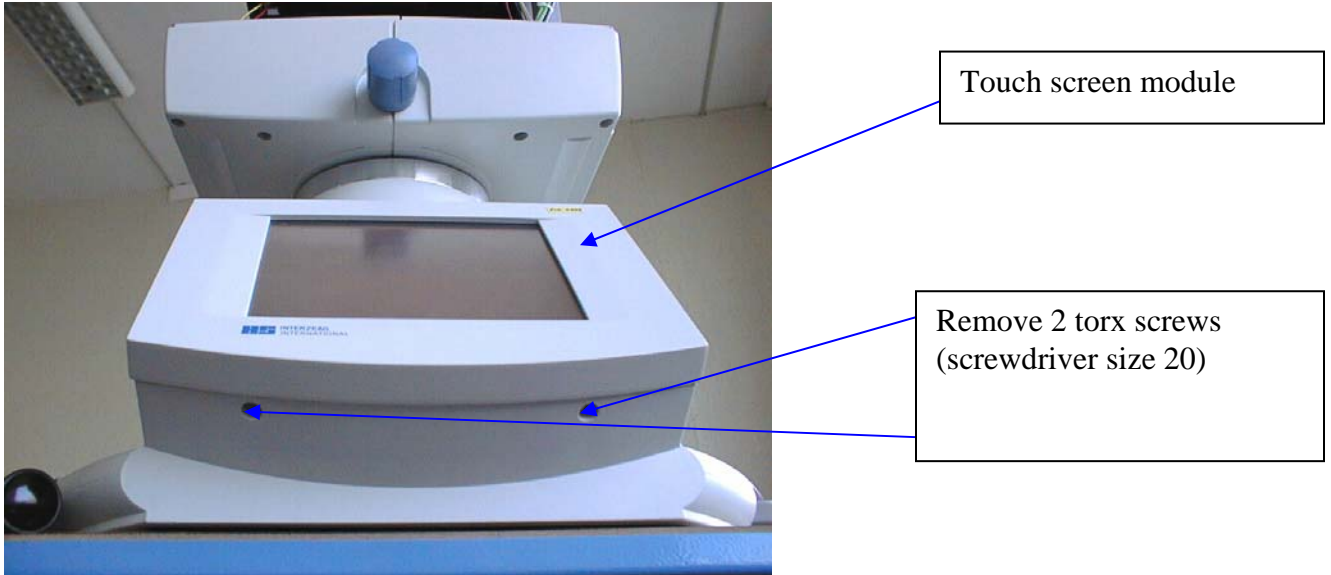


Figure 7-15

- Carefully lift up the bottom part of the 'Touch screen module' about 15mm, then push from the top part of the 'Touch screen module' in a downward movement to be able to remove it from the stand.
- Remove the hexagon socket screw (wrench size 3) holding the grounding cable to the 'Touch screen module', remove both the 2 pin and 50 pin connectors from the 'Touch screen module'.
- The 'Touch screen module' can now be removed completely. Place it on a clean, flat surface.

#### Re-assembly

- In reverse order to removal.

**NOTE:** If it is difficult to slide in the top part of the 'Touch screen module' it is recommended to apply a little grease to the two rubber holding parts.

## 7.2 Optical Unit (4-0692-1220)

### Removal

- Remove the 'Housing' (see Chapter 7.1).
- Remove the bottom 5 connectors of the 'Interface board'. Remove the screw and washer holding the 'Grounding cable' connected to the 'Optical unit'.
- On the 'Processor board' disconnect the cable 'Switches' (6 pin) and the cable 'LCD' (50 pin).

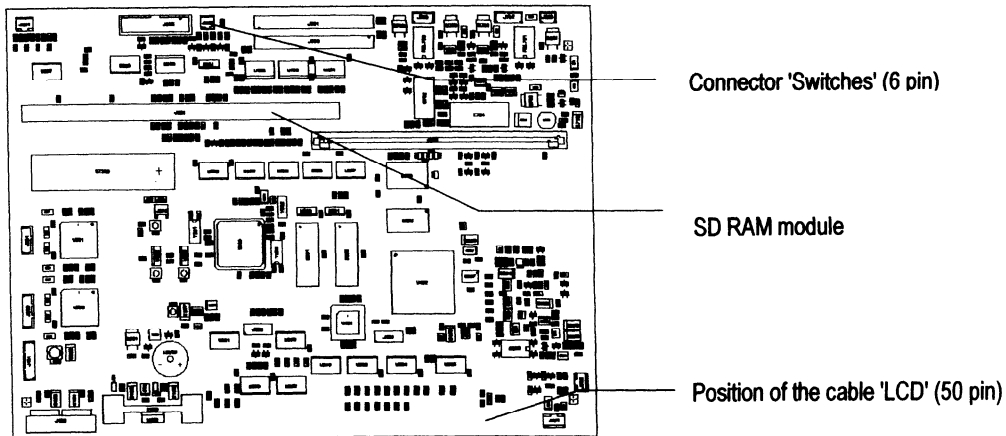


Figure 7-2: Processor board

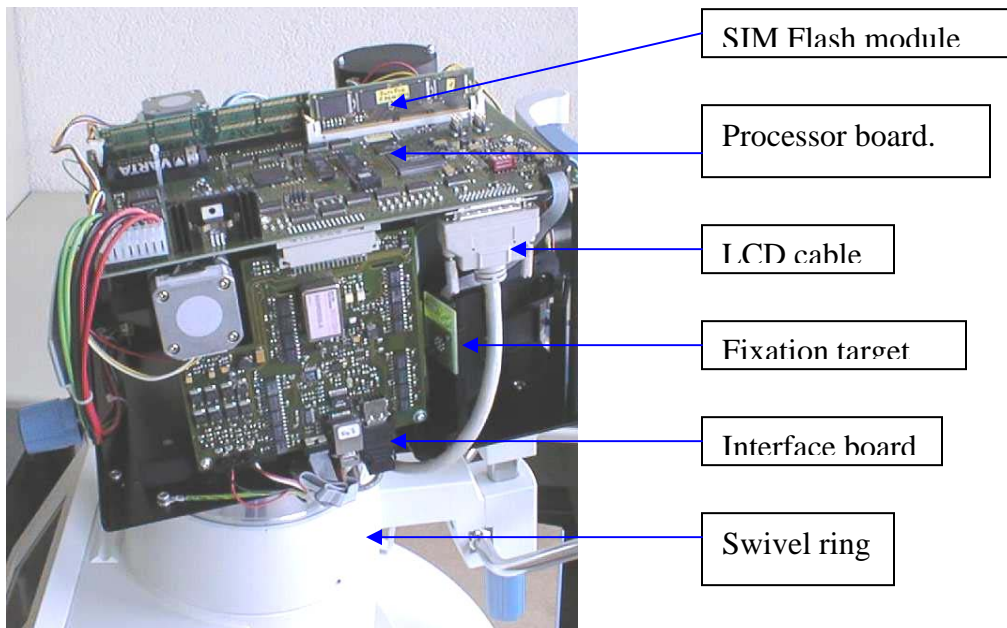
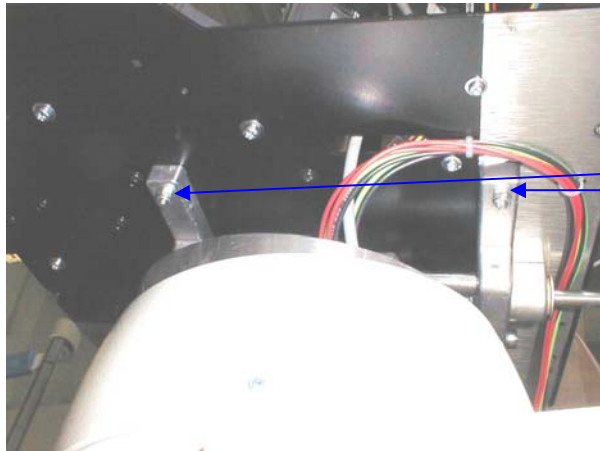


Figure 7-3

- Cut the tie-wraps open, holding the cables to the 'Optical unit'.
- Remove the 'LCD panel' (see Chapter 7.9), then remove the 'Power connector' from TB2 (see Chapter 7.12).
- Remove the 4 nuts holding the 'Optical unit' to the 'Z-shaft'. See Figure 7-4.



Nuts holding the 'Optical unit' to the 'Z-shaft'

- Gently lift out the 'Optical unit', at the same time glide the 'Power connector' through the slot in the 'Z-shaft'. Be careful not to damage any wires. Place the unit on a flat, dust-free surface.

### **Re-assembly**

Re-assemble in reverse order to removal.

### **Check**

- Are all connectors and grounding connected.
- Are the four nuts holding the 'Optical unit' to the 'Z-shaft' back in place and tightened correctly.
- Have all the cut tie-wraps been replaced by new ones.
- After re-assembly, run 'General test' to verify faultless operation. Refer to Chapter 8 regarding the 'Service Programs'.

### 7.3 Z-Shaft (4-0692-0800)

#### Removal

- Remove 'Housing' and 'Optical unit' as described in Chapter 7.1 and 7.2.
- Remove the 3 torx screws (size 25) which are fastened down onto the 'Lift-/ swivel unit' from the top. See Figure 7-5.

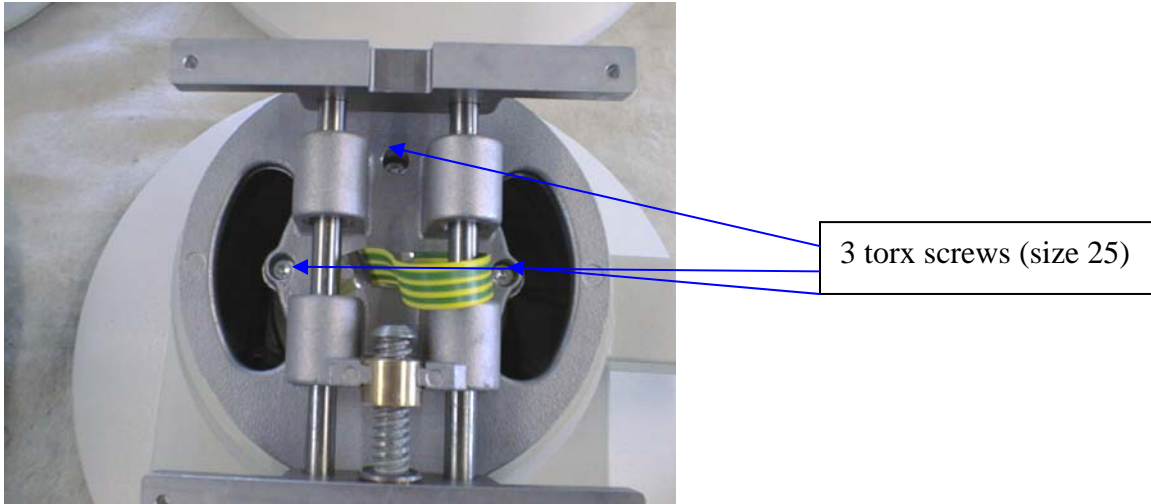


Figure 7-5

- Gently lift up the 'Z-shaft', at the same time thread the connectors that were loosened in Chapter 7.1 and 7.2 through the slots in the 'Z-shaft'.
- Place the 'Z-shaft' on a clean surface.

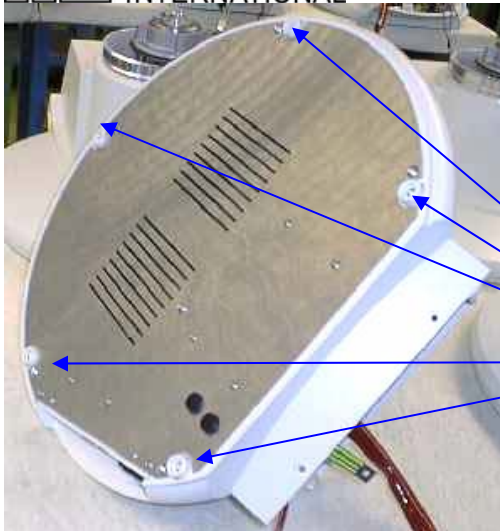
#### Re-assembly

- Re-assemble in reverse order to removal.

#### Check

Before mounting the 'Optical unit' be sure that all the connectors and cables have been passed through the slot in the 'Z-shaft'.

Be sure that the cables cannot get jammed in the drive belt on the top part of the motor.



5 torx screws (screwdriver size 25)

Figure 7-17

- Slowly remove the 'Base plate' (for complete removal cut open the tie-wraps holding the cables together).
- Remove the four torx screws (size 20) which hold the 'Lift-/swivel unit' to the 'Base'



Four torx screws (screwdriver size 20)

Figure 7-18

- Gently remove the 'Lift-/swivel unit' out of the 'Base' and place it on a flat surface.

**Re-assembly**

In reverse order to removal.

**Check**

After re-assembly, enter the 'Service programs' and run the 'General test' to check that the instrument is fully functional. Special notice should be made to the movement of the 'Lift-/swivel unit'.