

# Feedback unit FBH1 & FBH2

## Installation manual

The Feedback can be mounted with a lever or it can be connected to the rudder stock with a gearwheel and belt.

### 1. Mechanical installation with lever.

Set the rudder mechanical in mid position. Install feedback as shown in Figure 1. In order to achieve the best possible rudder function the feedback must go app. 35 deg. to each side (35-0-35) when the rudder is turned from hard-over to hard-over. You can adjust the length of the lever A; a shortened lever gives larger movements.

The feedback is from factory marked with midpoint and the two outer positions (35 deg. from midpoint).

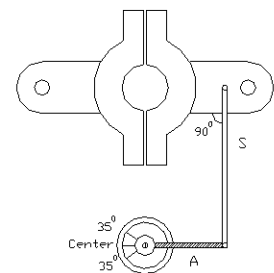
### 2. Installation with gearwheel and belt.

The feedback can be installed with belt (Figure 2). The gear wheels must then fit to the gearing. That means when rudder is turned from hard-over to hard-over, the feedback must turn app. 35 deg. to each side (from outer point to outer point).

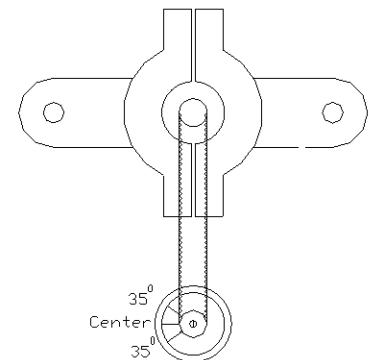
### 3. Electrical connection of feedback.

#### **Remove fuses before connecting feedback.**

Connect feedback and check that voltage on "E+" is approx. 8V DC (measured between E(+) and G(-)). Insert fuses if correct voltage is obtained.

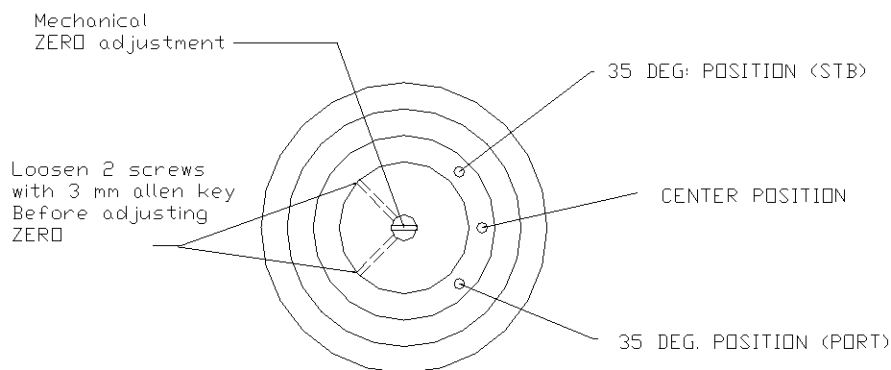


**Figure 1:** The rudder feedback installed with lever.



**Figure 2:** Feedback installation.

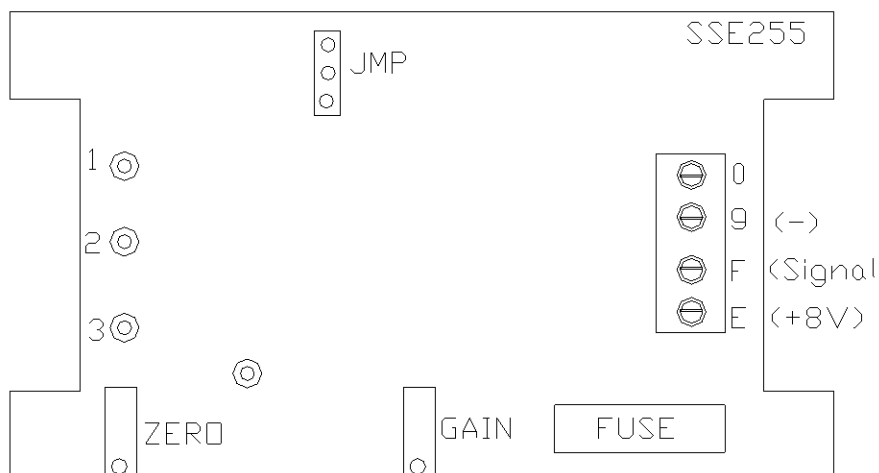
## ADJUSTMENT OF FEED BACK UNIT



**Figure 3:**  
Top view.

Diagram of the actual voltages indicate center position (mid position of steering gear). Measure between F(+) and G(-) on SSE 255 PCB and adjust the shaft mechanically with a Screwdriver to obtain half voltage (3.9 – 4.0V). Fasten top of feed-back to the shaft by tightening the 2 screws.

### BLACK BOX



**Figure 4:**  
Print board overview

- 1) Turn steering gear to Starboard and check that voltage is **increasing** (measuring between "F" and "G"). Move Jumper on SSE 255 if voltage is decreasing.
- 2) Turn steering gear to max starboard and adjust voltage between "F" and "G" to 7.25V DC (using "GAIN" potentiometer on SSE 255). Higher voltage gives higher sensitivity (smaller movements of rudder).
- 3) Turn steering gear to max Port and measure between "F" and "G" and the value should be 0.75V DC.
- 4) Set steering gear in mid position and check center (possible adjustment of max 3 deg to each side can be made by "ZERO" potentiometer on SSE 255).