

Instructions

RF45X Rudder Feedback Unit (P/N 22011282)

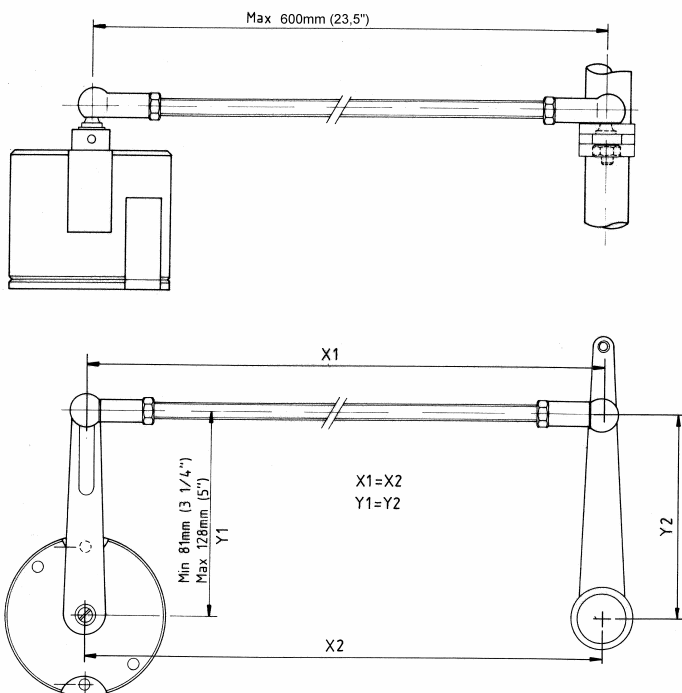
Valid for RF45X with code FA onwards

The RF45X is a medium duty rudder feedback unit. Mechanically it is identical to its predecessor RF45, therefore it is a repairable rather than a potted throw away item. Electrically it outputs a frequency (pulse width modulated) signal that matches with the ACXX/J3XX/J50 input (AP25/AP20/AP35/AP50), and also with AP45 and AP9 Mk3. The RF45X can also operate on 24V DC, a useful feature when connected in a stand alone rudder angle indicator system

Connection to AP45 Autopilot

Mounting

The RF45X is normally installed with the shaft pointing upwards. It can, however, be mounted with the shaft pointing downwards if this is more convenient. The deflection can then be inverted as illustrated in Figure 2. An "upside-down" installation will make access to within the unit more convenient as the unit can be opened without moving it from the mounting base. To open the unit, unscrew the two screws at the bottom and remove the cover. Be careful with the wires when you put back the cover.



Use the attached template (Figure 3) to drill the required mounting holes. The unit is secured to the mounting base by the two enclosed Allen screws. (Other types of screws may be used when it is secured to e.g. a wooden base.)

Make the parallelogram configuration of the transmission link (see Figure 1) with the rudder amidships and temporarily fasten the link to the RF45X shaft. The transmission rod can be shortened by cutting off a piece using a hacksaw. Move the rudder manually h.o. - h.o. and make sure the transmission link is moving freely in both directions.

Electrical connection

Use a twisted pair cable AWG20 (0.5 mm²) between the breakout box and the ACXX/J3XX/J50 junction unit. The cable length is not critical but should be kept at a minimum.

The cable should be connected to the ACXX/J3XX/J50 junction unit according to Figure 2. When splicing the cables in the breakout box, crimp the enclosed pins on each wire of the extension cable. Otherwise the wires may be cut off at the terminal point when the screws are tightened.

The screen is not terminated in RF45X and must be connected in the ACXX/J3XX/J50 junction unit as per instructions in the autopilot manual.

Note!

The green and yellow wire is not used and must be isolated!

Figure 1 RF45X Rudder Feedback Unit - Mounting

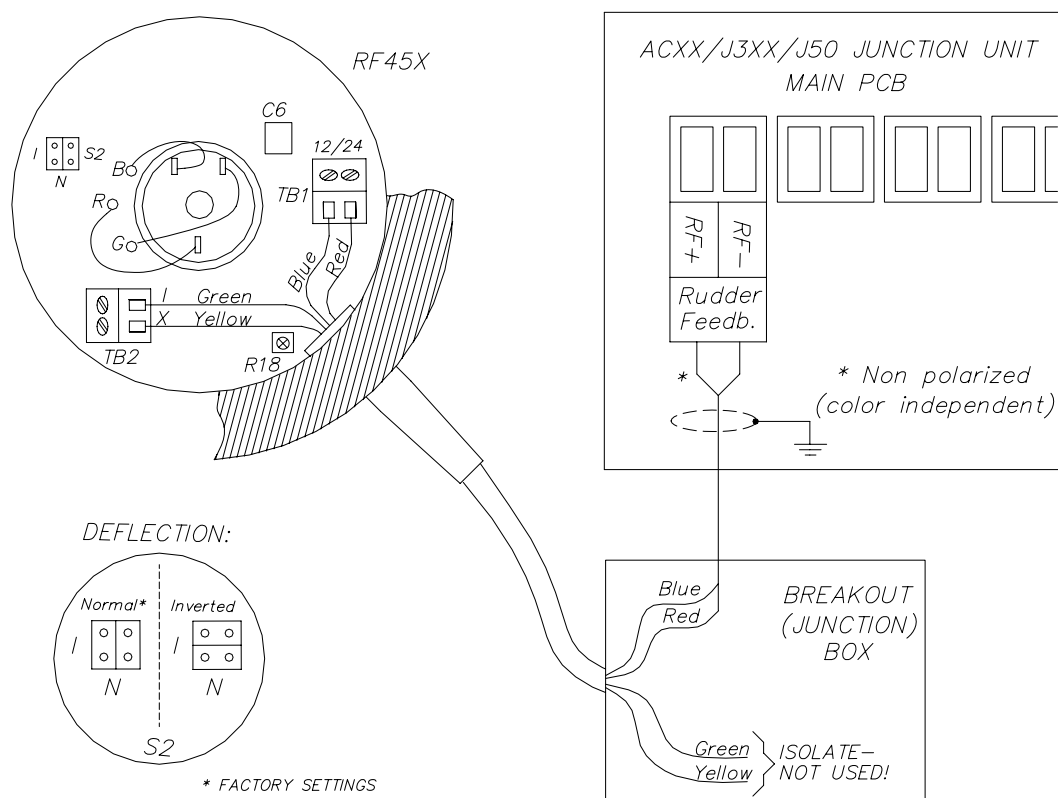


Figure 2 ACXX/J3XX/J50 connection

Alignment and calibration

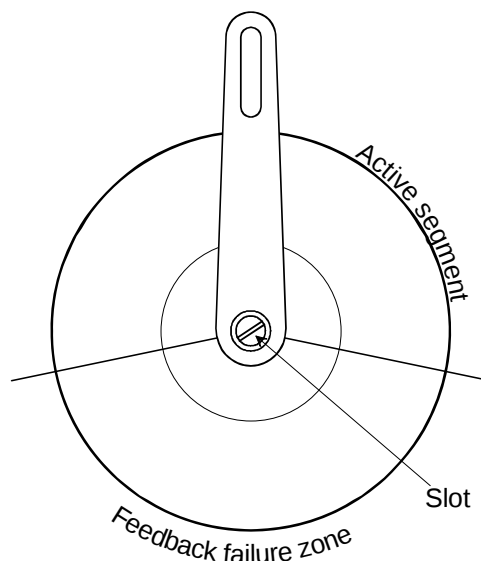
The purpose of this procedure is to make the feedback unit operate within its active segment. If the unit operates outside this segment there will be a feedback failure alarm.

1. Position the rudder amidships.
2. Loosen the two screws that secure the transmission lever to the RF45X shaft.
3. Bring up the Standby mode to show the rudder angle.
4. Use a flat screwdriver in the slot and adjust the rudder angle to zero degrees on the display.
5. Secure the transmission lever to the shaft and proceed with the normal installation setup as per the autopilot manual.

Note!

If the autopilot presents you with a Rudder Feedback Alarm after turn on, proceed as follows:

- Turn the autopilot off. Use a flat screwdriver in the slot and turn the shaft 180°.
- Proceed from paragraph 3 above.



Spare Parts

22011290	RF45X Rudder Feedback Unit	22011183	RF45 Transmission Link
22011217	Mounting kit	44132322	Transmission rod M8x300 (2)
22011258	RF45X PCB Ass'y with potentiometer (10K)	22504054	Joint Nut M8
22011365	Potentiometer (10K) with wires	44157097	Ball Joint Socket
44156925	Junction box	22011209	Ball Joint Pin
44156321	O-ring 64,5x3 mm	22504039	Transmission lever

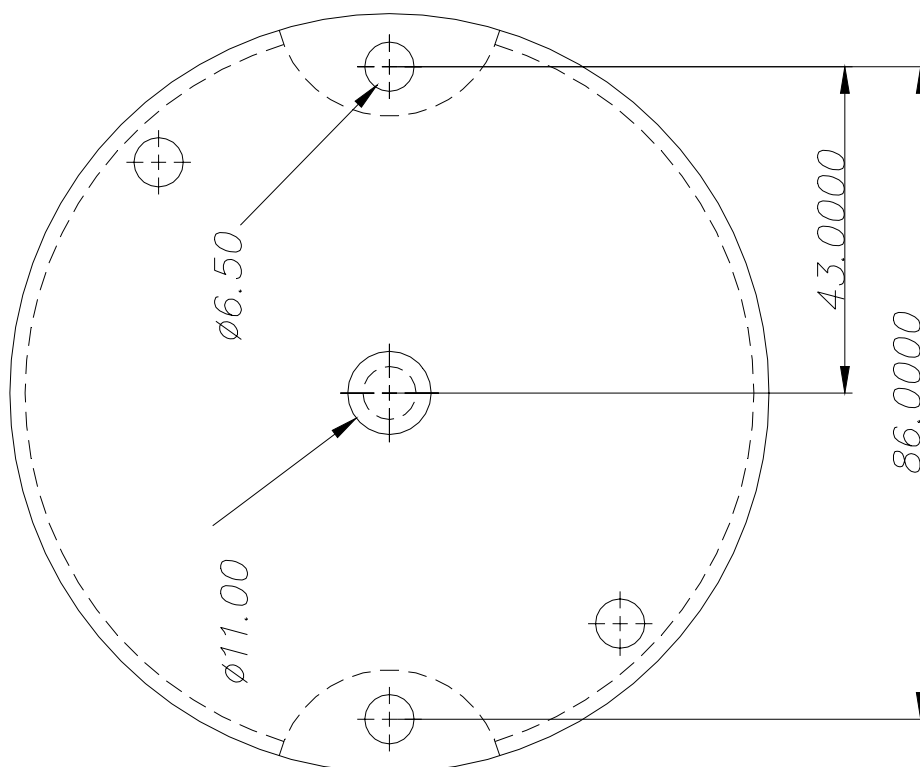


Figure 3 RF45X Template (Part no. 22011225)