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## 27-21-04

## Control Cable

### Removal

- 1 Remove the respective access panels
- 2 Remove the cable to fuselage attachment bolts.
- 3 Remove the cable to rudder bellcrank attachment bolts.
- 4 Cut the control cables behind the front shrinking sleeves and behind the cable to cable connection.
- 5 Remove the control cable parts by pulling out to the back.

### Installation

Use only control cables manufactured by EXTRA Flugzeugproduktions- und Vertriebs-GmbH. Those cables are prepared for simple installation.

- 1 Remove the respective access panels as per chapter 51.
- 2 Secure the rudder (3, figure 13) in 0°-position.
- 3 Mount the pre-assembled eye end of the longer control cable to the LH cable fastening (20).
- 4 Check that the 550 mm teflon protective hose is on the pre-assembled control cable.
- 5 Thread the cable through the "S"-shaped tube at the pedal and the pulley (19).
- 6 Adjust rear rudder pedals (4) in rearmost position.
- 7 Let the front end of the protective hose extend to 20 mm in front of the pedal "S"-tube.
- 8 Slip 2 NICOPRESS (National Telephone Supply Co., Cleveland Ohio) 18-3-M or 28-3-M sleeves (18) and 100 mm 771095 shrinking sleeve on the control cable.
- 9 Thread the free end of the control cable through the rear fairleads (11) and the hole in the fabric to the tail.
- 10 Slip 80 mm 771095 shrinking sleeve and 850 mm teflon protective hose on the control cable end. The protective

hose should extend 120 mm beyond the first fairlead inside the fuselage.

- 11 Adjust rear pedals 93 mm aft of the foremost position.
- 12 Fix rear pedals in almost vertical position (88° relative to the footrest).
- 13 Pre-install the LN9037-06030 bolt, the DIN 125-8,4 washers (one on both sides of the thimble and one below the tailwheel steering attachment bracket), the DIN 125-6,3 washers, the bushing, the LN9348-06 nut and the thimble to the bottom hinge bellcrank.
- 14 Slip the 80 mm 771095 shrinking sleeve and a NICO-PRESS 18-3-M or 28-3-M sleeve on the control cable end.
- 15 Move the cable around the thimble and stretch the control cable with a force that is equivalent to the tractive effort of the rear pedal retracting spring.

### IMPORTANT

**Clamping has to be performed in accordance with the Service Bulletin 300-1-93 and the Instruction No. 32 of the National Telephone Supply Co., Cleveland Ohio.**

- 16 Consider to let a distance of 1 mm between the thimble and the sleeve and clamp the sleeve.
- 17 Cut the free end of the cable 20 mm in front of the sleeve.
- 18 Slip the 80 mm 771095 shrinking sleeve on the cable end and the protective hose, center on the protective hose end and heat up with a heat gun.
- 19 Slip the other 80 mm 771095 shrinking sleeve on the front end of the protective hose, center on the protective hose end and heat up with a heat gun.
- 20 Remove the pedal securing device.
- 21 Mount the pre-assembled shorter control cable to the front pedal using the shackle.
- 22 Thread the free end of the control cable through the pulley, the front fairleads and the pre-installed NICO-PRESS 18-3-M or 28-3-M sleeves.

- 23 Fix the front pedal in almost vertical position (97° relative to the footrest).
- 24 Stretch the shorter control cable with a force that is equivalent to the tractive effort of the front pedal retracting spring.

**IMPORTANT**

**Clamping has to be performed in accordance with the Service Bulletin 300-1-93 and the Instruction No. 32 of the National Telephone Supply Co., Cleveland Ohio.**

**IMPORTANT**

**To prevent the cables from twisting, clamp the sleeves in the same plane.**

- 25 Consider that the clamping area shall be 195 mm aft of the rear pulley and clamp the sleeves.
- 26 Cut the free end of the cable (20 mm behind the sleeve).
- 27 Slip the shrinking sleeve on the rear sleeve and heat up with a heat gun (the front sleeve can be left free for visual control of the cable-to-cable connection).
- 28 Remove the front pedal securing device.
- 29 Follow the steps 3 to 28 for the RH control cable.
- 30 Remove rudder securing devices.
- 31 Check free travel of rudder.

## 27-21-05

### Fairlead Removal/Installation

- 1 Remove the fairlead retaining clip.
- 2 Pull the fairlead halves out of the sleeve.
- 3 Reverse procedure to install the fairlead.

## 27-21-06

## Rudder Rigging

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### NOTE

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**Inspect the control cables, the pulleys, the fairleads and the bottom hinge assembly (with the travel stop plate) for signs of wear or damage before beginning any adjustments. Replace parts if necessary.**

- 1 Secure the rudder pedals in neutral position.
- 2 Check if the rudder is in 0°-position. (Rudder horn leading edge in alignment with the leading edge of the vertical stabilizer.)
- 3 Replace the control cables and adjust the length per Chapter 27-21-04 if necessary.
- 4 Check if the rudder travel is within the given tolerances (left/right 30° ±2°).
- 5 If the rudder travel is out of limits, contact the manufacturer for advice.