

Chapter 55

Stabilizers

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55-00-00

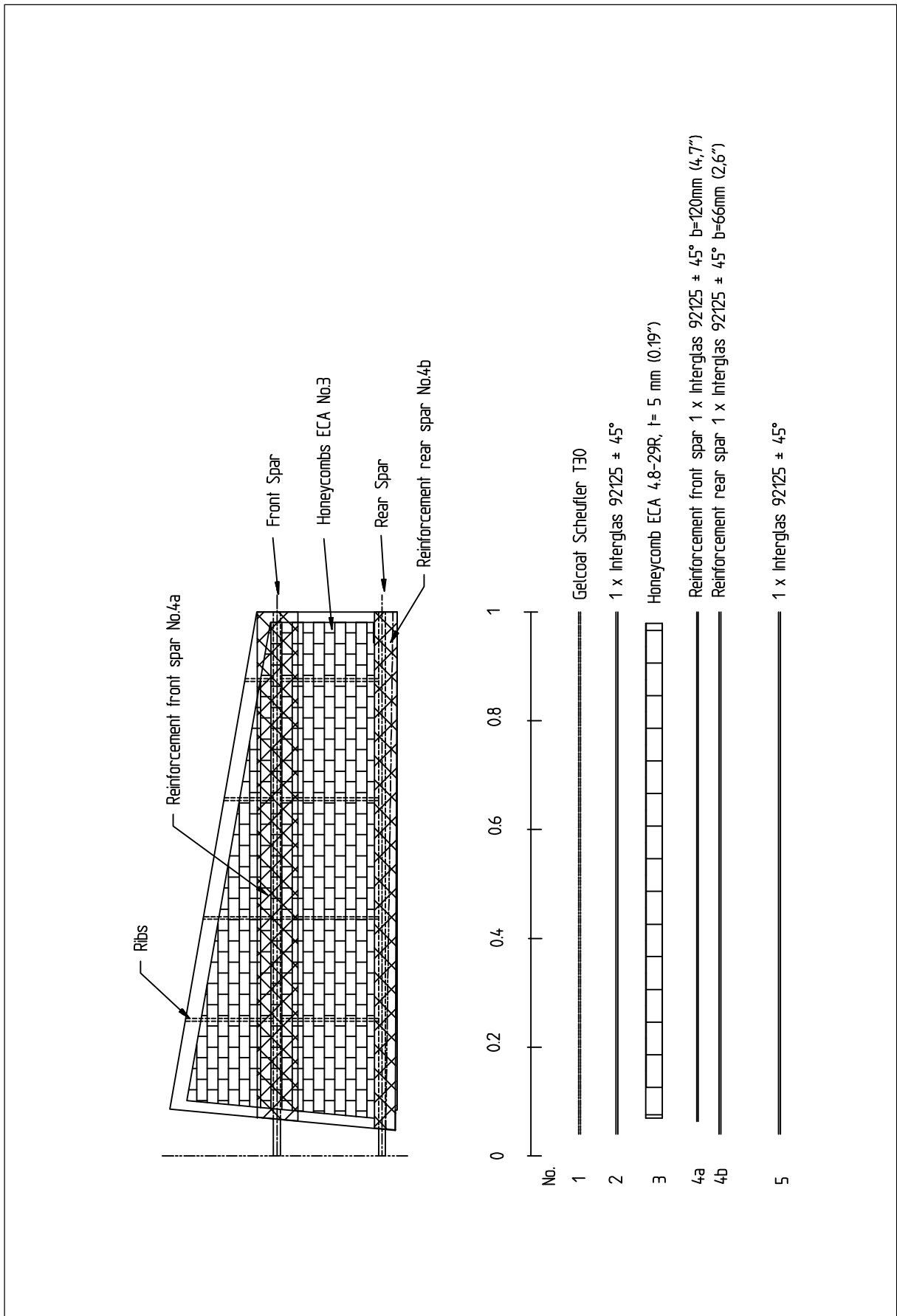
GENERAL

The EXTRA 300 has a conventional empennage with stabilizers and moveable control surfaces. The spars consist of carbon roving caps, glass fibre webs and PVC foam cores. The shells are built of honeycomb sandwich with glass fibre laminate. Also buckling is prevented by plywood ribs. Deviating from this, the elevator is constructed in the same manner as the ailerons (refer to Chapter 57). On the R/H elevator half a trim tab is fitted with two hinges.

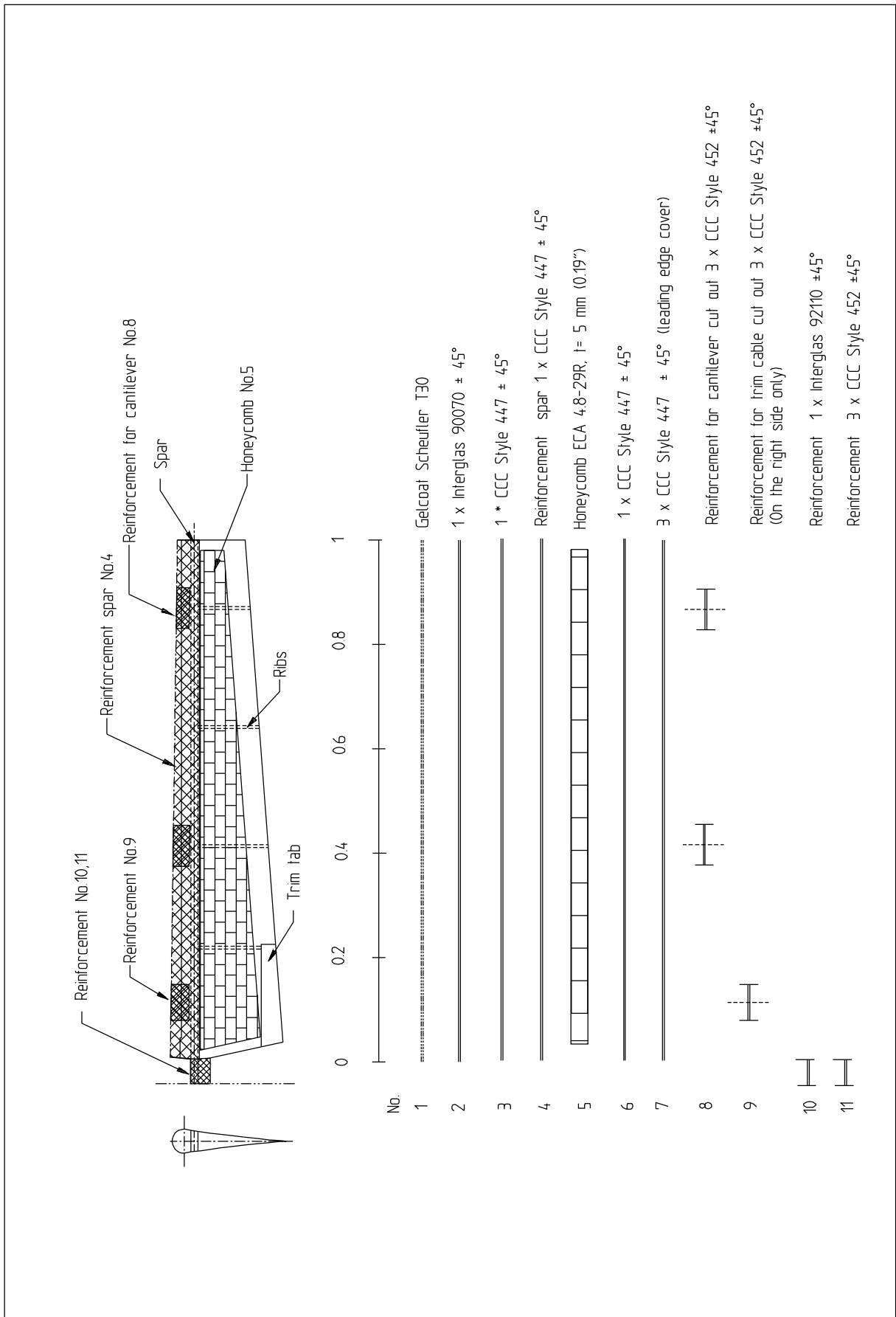
The layer sequences of the stabilizers, the elevator and the rudder are shown in Figures 1-4.

All composite parts, as protection against moisture and UV radiation, are coated with an unsaturated polyester gel-coat, an acrylic filler and finally with an acrylic paint.

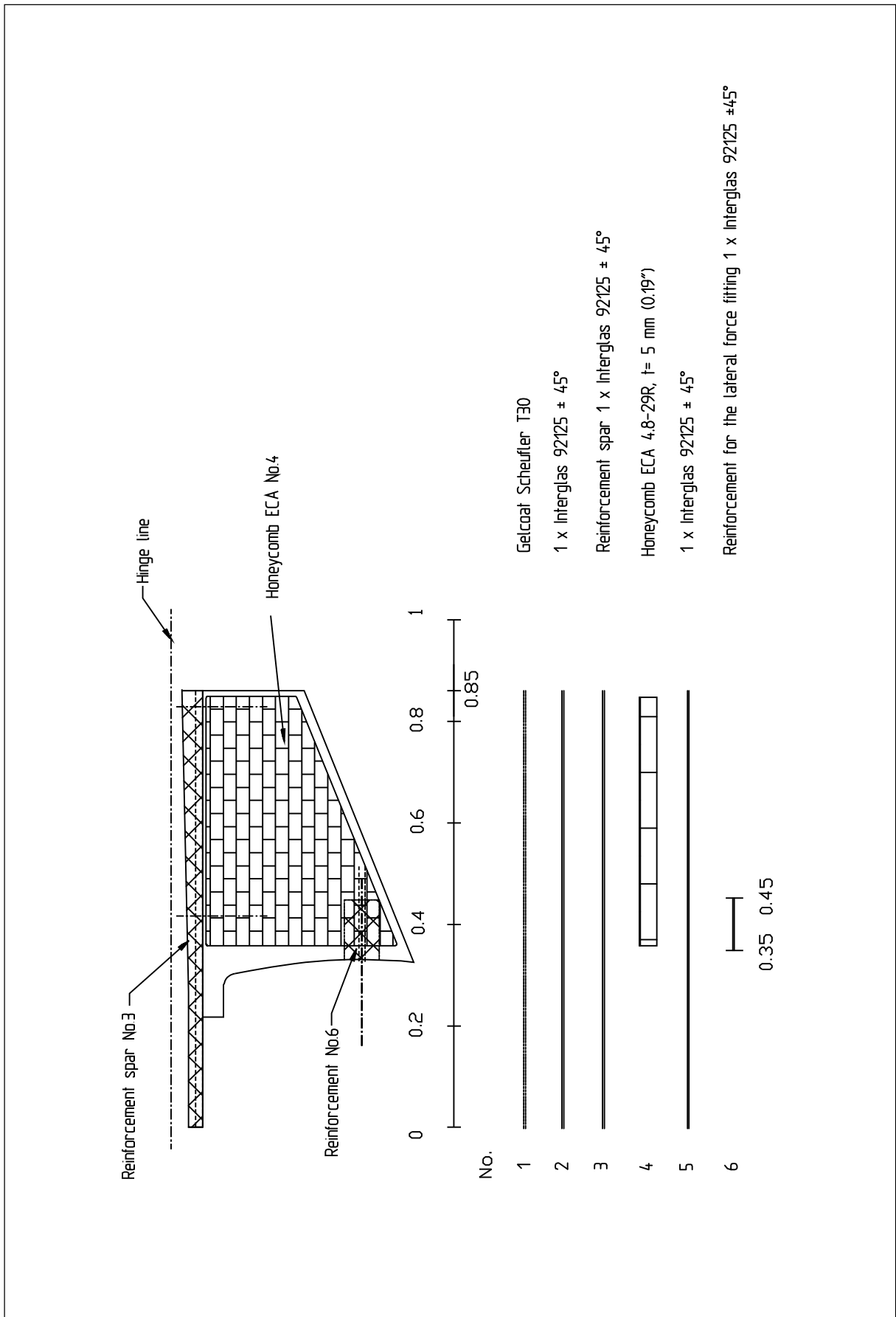
For repair of composite parts refer to Chapter 51.



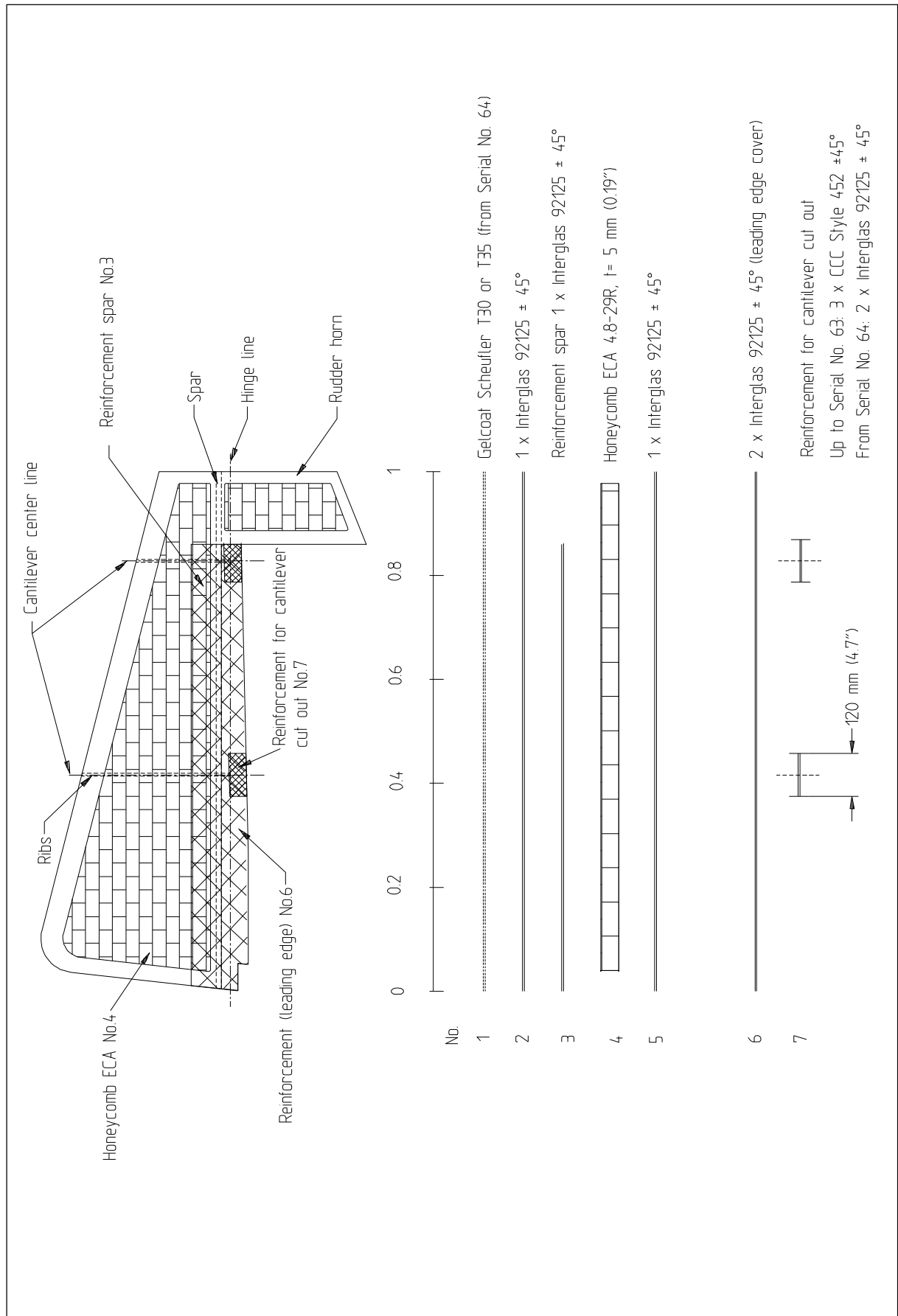
Layer Sequence Horizontal Stabilizer
 Figure 1



Layer Sequence Elevator
 Figure 2



Layer Sequence Vertical Stabilizer
Figure 3



Layer Sequence Rudder
Figure 4

55-21-00

MAINTENANCE PRACTICES

55-21-01

Horizontal Stabilizer

Removal

Remove elevator and rudder per Chapter 27-31-01, remove the vertical stabilizer per Chapter 55-21-02 and then reverse procedure of installation.

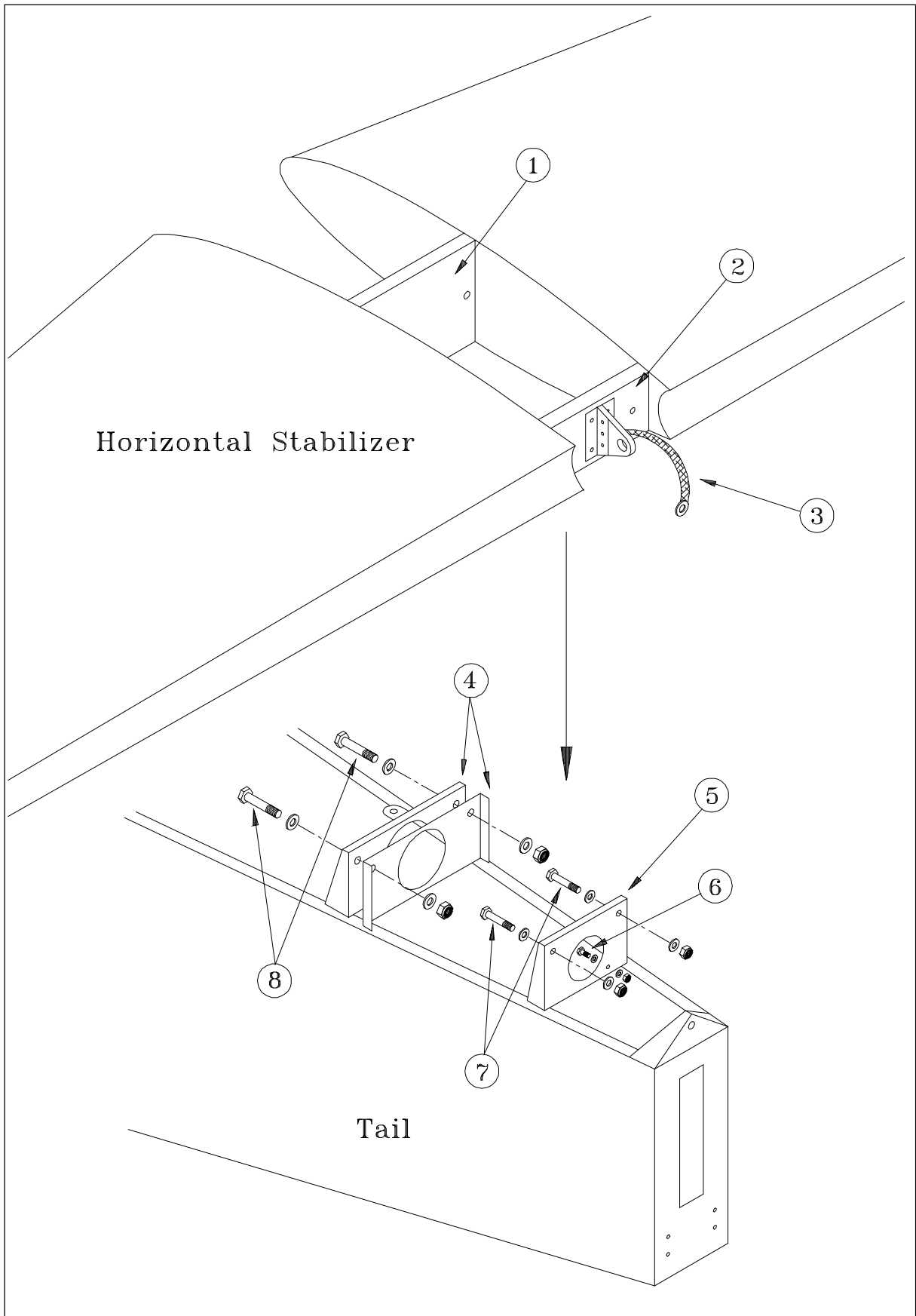
Installation

- 1 Remove the turtle deck and the turtle deck support angle.

CAUTION

Make shure that the trim bowden cable will not be damaged when installing the horizontal stabilizer.

- 2 Slide the horizontal stabilizer with its front spar (1, Figure 5) into the attach brackets (4) on fuselage. The rear spar (2) is situated behind the rear attachment bracket (5). (Trim tab is on the right side.)
- 3 Slide in LN 9037-10054 front spar attachment bolts (8) with an additional DIN 125 M10 washer under bolt head from the front to the rear. These bolts are also used for the vertical stabilizer attachment. So do not apply stop nuts before the vertical stabilizer is fitted to the fuselage.
- 4 Slide in the rear spar attachment bolts (7) from front to rear. Use LN 9037-08042 bolts in connection with LN 9348-08 stop nuts and DIN 125 M8 washers. Torque nuts for fastening.
- 5 Fasten the ground bonding lead (3) by means of the DIN 933 M5x12 bolt (6), the DIN 125 M5 washers and the LN 9348-05 stop nuts.
- 6 Reinstall the turtle deck support angle.



Horizontal Stabilizer Removal/Installation
Figure 5

55-21-02

Vertical Stabilizer

Removal

- 1 Remove the turtle deck, the tail fairing and the tail cone access panel per Chapter 51-00-01.
- 2 Remove the rudder per Chapter 27-21-01.
- 3 Remove the bottom hinge bracket assembly per Chapter 27-21-02.
- 4 Remove the two LN 9348-10 stop nuts (2, Figure 6) and DIN 125 M10 washers of the front main bolts.
- 5 Remove the rear LN 9037-10054 main bolt (3) with the DIN 125 M10 washers and the LN 9348-10 stop nut.

CAUTION

Do not put the fin too far backward, the antenna could be damaged.

- 6 Put the fin backward and lift the fin over the antenna.

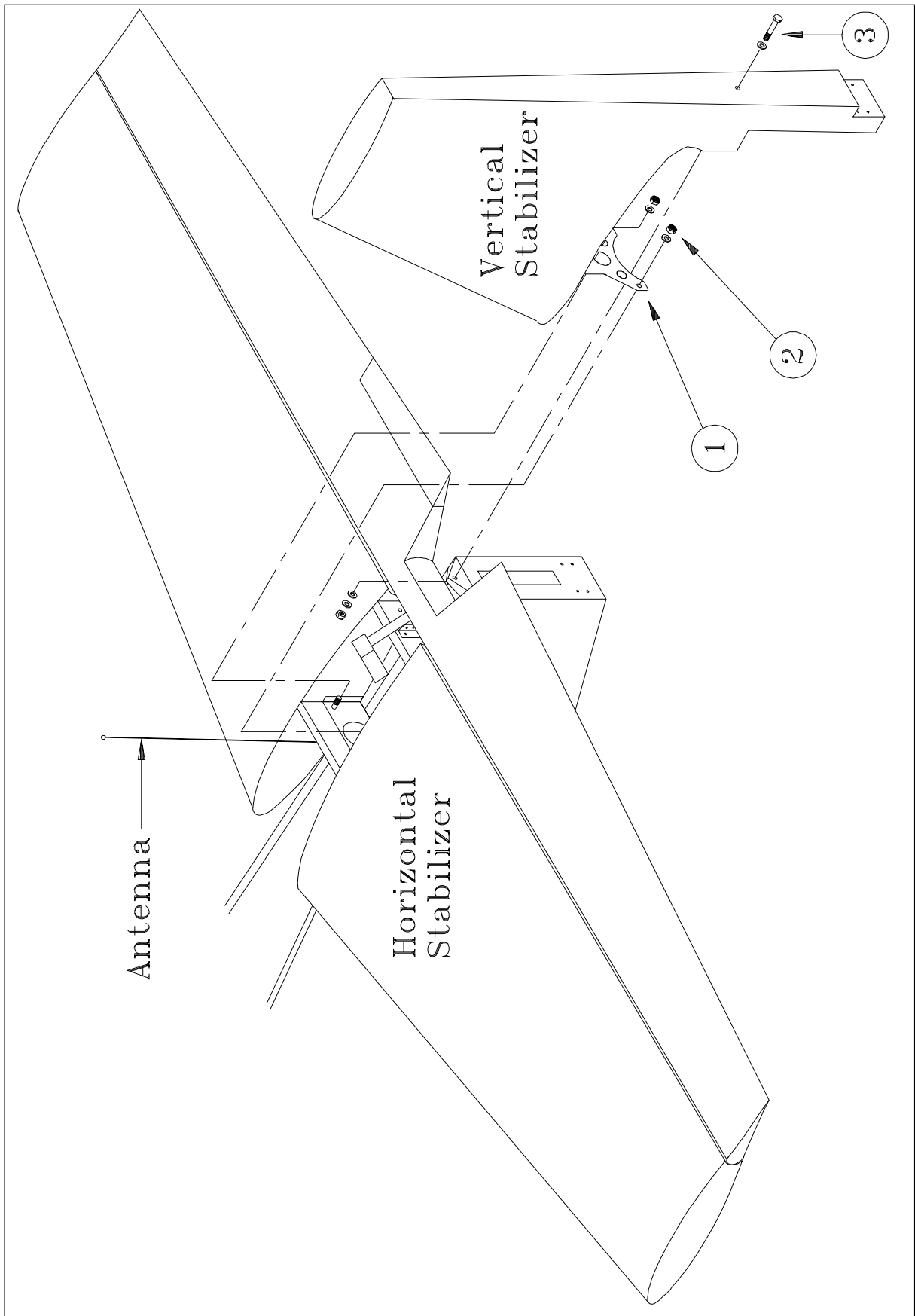
Installation

- 1 Put the vertical stabilizer leading edge over the antenna.

CAUTION

Do not put the fin too far backward, the antenna could be damaged.

- 2 Slide the auxiliary spar attachment sheet (1, Figure 6) of the vertical stabilizer from the rear over the preinstalled horizontal stabilizer front spar bolts and install the DIN 125 M10 washers and LN 9348-10 stop nuts (2).
- 3 Insert the LN 9037-10054 bolt (3) to the main spar from rear to front. Use LN 9348-10 stop nuts and DIN 125 M10 washers.
- 4 Install the bottom hinge bracket to the tail per Chapter 27-21-02.
- 5 Reinstall the turtle deck, the tail fairings and the tail cone access panel per Chapter 51-00-01.



Vertical Stabilizer Removal/Installation
Figure 6