

AEROPRAKT SERVICE BULLETIN

No. SB A22L2-02

INCREASE OF THE MAXIMUM TAKE-OFF WEIGHT OF A22L2 AIRCRAFT TO 525 KG FOR

Repeating symbols:

Please, pay attention to the following symbols throughout this document marking important information.

- ▲ **WARNING:** Identifies an instruction, which if not followed may cause serious injury or even death.
- **CAUTION:** Denotes an instruction, which if not followed, may cause severe damage.
- ◆ **NOTE:** Information useful for better handling.

Release date: 15.01.2021

Effective date: 15.01.2021

Completion date:

Superseded notice: none

Model: A22L2

Serial number(s) affected: All serial numbers of A22L2 aircraft

1) Planning information

1.1) Aircraft affected

All serial numbers of A22L2 aircraft.

1.2) Reason

Increase of the maximum take-off weight of A22L2 aircraft from 472.5 to 525 kg.

1.3) Subject

Reinforcement of fuselage and replacement of wings.

1.4) Compliance

Due to increase of the maximum take-off weight of the ultralight aeroplanes in France, the aircraft manufacturer developed a modification of A22L2 aircraft with a purpose of increasing their maximum take-off weight from 472.5 to 525 kg on the aircraft operator' request. Operators of A22L2 aircraft in other countries have the same possibility upon agreeing the aircraft modification with local aviation authorities.

1.5) Approval

The technical content of this Service Bulletin has been approved by Aeroprakt.

1.6) Manpower

Estimated work: 16 man-hours.

1.7) Mass data

Mass change: reinforcement of fuselage will add 0.54 kg, replacement of both wings will add 9 kg.

1.8) Revision of other documents

Pilot Operating Handbook:

Replace all values of the maximum take-off weight of 472.5 kg to 525 kg.

In the section **2.1 Airframe** change the description of the wing structure from "Aft of the spar the wing is covered with *thermoshrinkable fabric on top* and bottom sides" to "Aft of the spar the wing is covered with the *metal skin on top* and thermoshrinkable fabric on the bottom side". Add the following description of the fuselage reinforcement: "Reinforcing pads and angles are located near the rear wing attachment point, on the upper and lower rear beams".

In the section **3.2 Airspeed** change:

- V_{NE} : CAS from 210 km/h (113 kts) to 223 km/h (120 kts)
IAS from 216 km/h (116.5 kts) to 230 km/h (124 kts);
- V_{RA} : CAS from 160 km/h (86 kts) to 172 km/h (93 kts)
IAS from 161 km/h (87 kts) to 175 km/h (94.5 kts);
- V_A : CAS from 150 km/h (81 kts) to 172 km/h (93 kts)
IAS from 150 km/h (81 kts) to 175 km/h (94.5 kts);
- V_{FE} : CAS from 115 km/h (62 kts) to 133 km/h (72 kts)
IAS from 112 km/h (60.5 kts) to 132 km/h (71 kts);
- V_{S1} : CAS from 70 km/h (38 kts) to 83 km/h (45 kts)
IAS from 63 km/h (34 kts) to 77 km/h (41.5 kts);
- V_{S0} : CAS from 60 km/h (32 kts) to 67 km/h (36 kts)
IAS from 52 km/h (28 kts) to 60 km/h (32 kts).

In the section **9.1 Airspeed indicator marking** change:

- White arc from 57 – 112 km/h (31 – 60.5 kts) to 66 – 132 km/h (36 – 71 kts);
- Green arc from 69 – 161 km/h (37.5 – 87 kts) to 85 – 175 km/h (46 – 94 kts);
- Yellow arc from 161 – 216 km/h (87 – 116.5 kts) to 175 – 230 km/h (94 – 124 kts);
- Yellow line from 150 km/h (81 kts) to 175 km/h (94 kts);
- Red line from 216 km/h (116.5 kts) to 230 km/h (124 kts).

Add the following information:

Beside the airspeed indicator (depending on its units) one of the following tables is placed showing V_{NE} limitation for various flight altitudes:

15 000	186
12 000	195
9 000	205
6 000	213
3 000	222
0	230
H, ft	km/h
V_{NE} IAS vs H	

15 000	115	100
12 000	121	105
9 000	127	110
6 000	133	115
3 000	138	120
0	143	124
H, ft	mph	kts
V_{NE} IAS vs H		

Register the above changes in the **RECORD OF REVISIONS** table, page 3.

2) Spare parts and tools information

2.1) Spare parts

The fuselage reinforcing parts and new wings are supplied by local dealers.

2.2) Spare parts cost

On the matter of the price of the modification parts kit consult your local dealer.

2.3) Tools

Drill bits: $\varnothing 4.1$ mm (#20), $\varnothing 6.2$ mm (D),

Reamer: $\varnothing 6.35H9$ (1/4),

Straight hand drill,

Angle hand drill,

$\varnothing 4$ mm sheet holders M-5/32 Cleco,

Cleco pliers,

riveting tool,

set of wrenches.

3) Accomplishment / Instructions

3.1 Dismantle the wings, wing struts and flaperon control shafts.

3.2 Reinforce the fuselage (fig. 1):

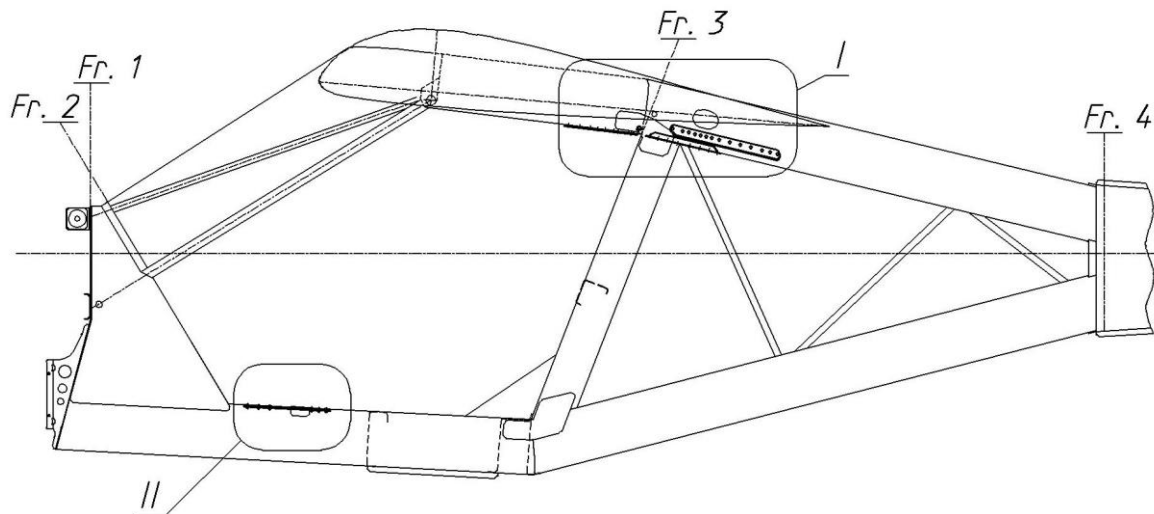


Fig. 1

◆ **NOTE:** Description below is given for the left-hand side of fuselage, the parts have “L” at the end of their number. Reinforcement of the left side has mirrored view, the parts have “R” at the end of their number.

3.2.1 Zone I, reinforcement of fuselage rear of frame 3 (fig. 2 and 3)

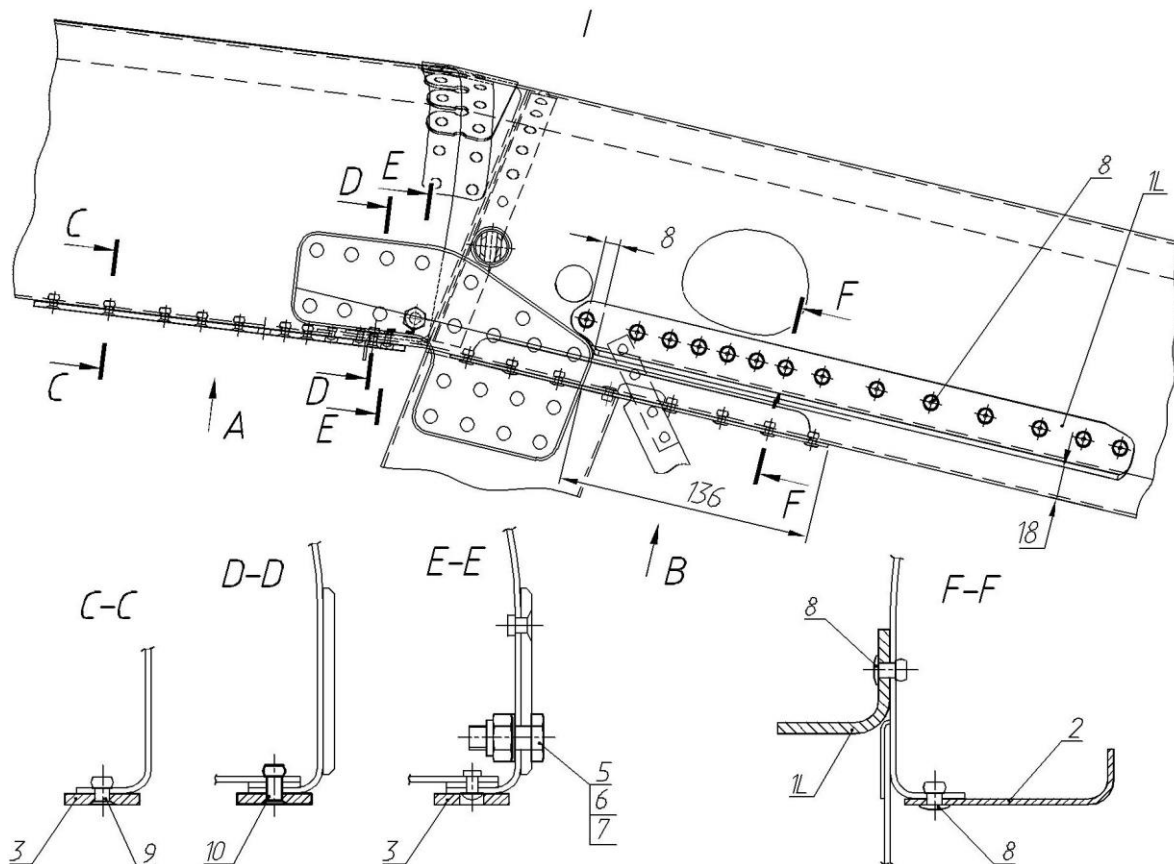


Fig. 2

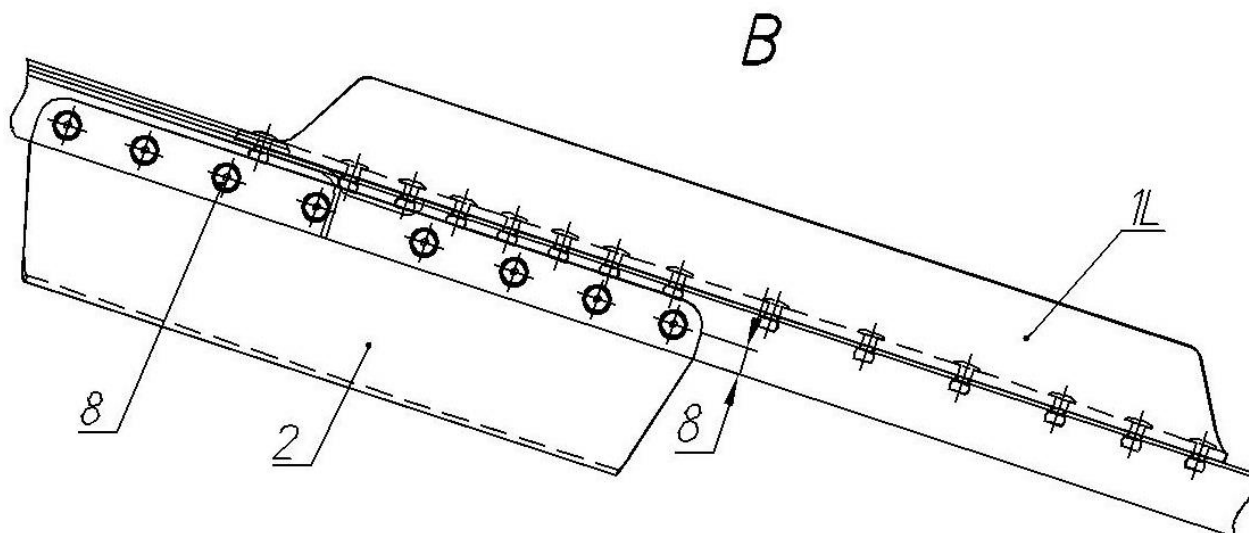


Fig. 3

- 3.2.1.1 Set the 3 mm thick angle No. 1L aligned along the beam and pre-drill with a $\varnothing 4.1$ mm (#20) drill bit through the guide holes in the part.
- 3.2.1.2 Set 14 rivets No. 8 ($\varnothing 4 \times 8$ mm) attaching the angle.
- 3.2.1.3 Set 1.6 mm thick angle under the beam and pre-drill with a $\varnothing 4.1$ mm (#20) drill bit through the guide holes.
- 3.2.1.4 Set 8 rivets No. 8 ($\varnothing 4 \times 8$ mm) attaching the angle.
- 3.2.2 Zone I, reinforcement of fuselage forward of frame 3 (fig. 2 and 4)
- 3.2.2.1 Drill-out the $\varnothing 4$ mm rivet with the $\varnothing 6.2$ mm (D) drill in the fuselage pad according to E-E section.
- 3.2.2.2 Enlarge the hole with the $\varnothing 6.35H9$ (1/4) reamer.
- 3.2.2.3 Set the bolt No. 5 (AN4-5A), washer No. 7 and nut No.6.

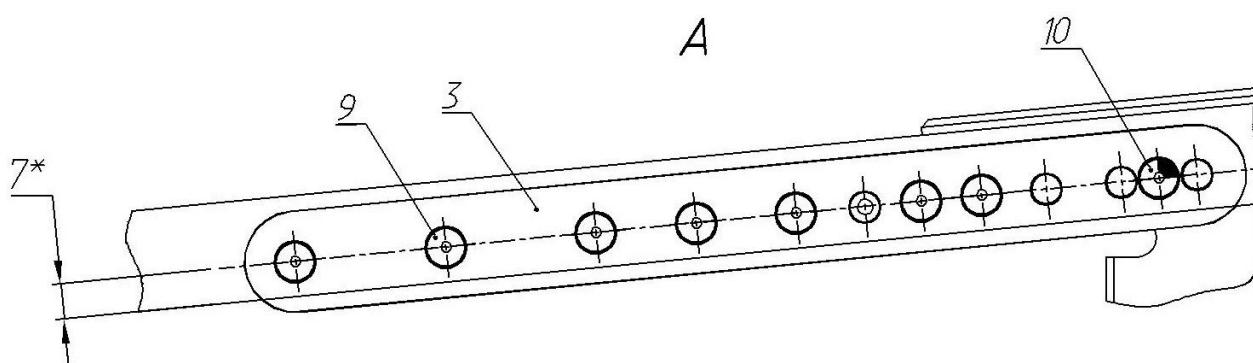


Fig. 4

- 3.2.2.4 Install the pad No. 3 and pre-drill the fuselage beam with the $\varnothing 4.1$ mm (#20) drill bit through the guide holes in the pad.
- 3.2.2.5 Set 7 rivets No. 9 ($\varnothing 4 \times 8$ mm) and 1 rivet No. 10 ($\varnothing 4 \times 12$ mm) attaching the pad.

3.2.3 Zone II, reinforcement of the forward lower beam of fuselage (fig. 5)

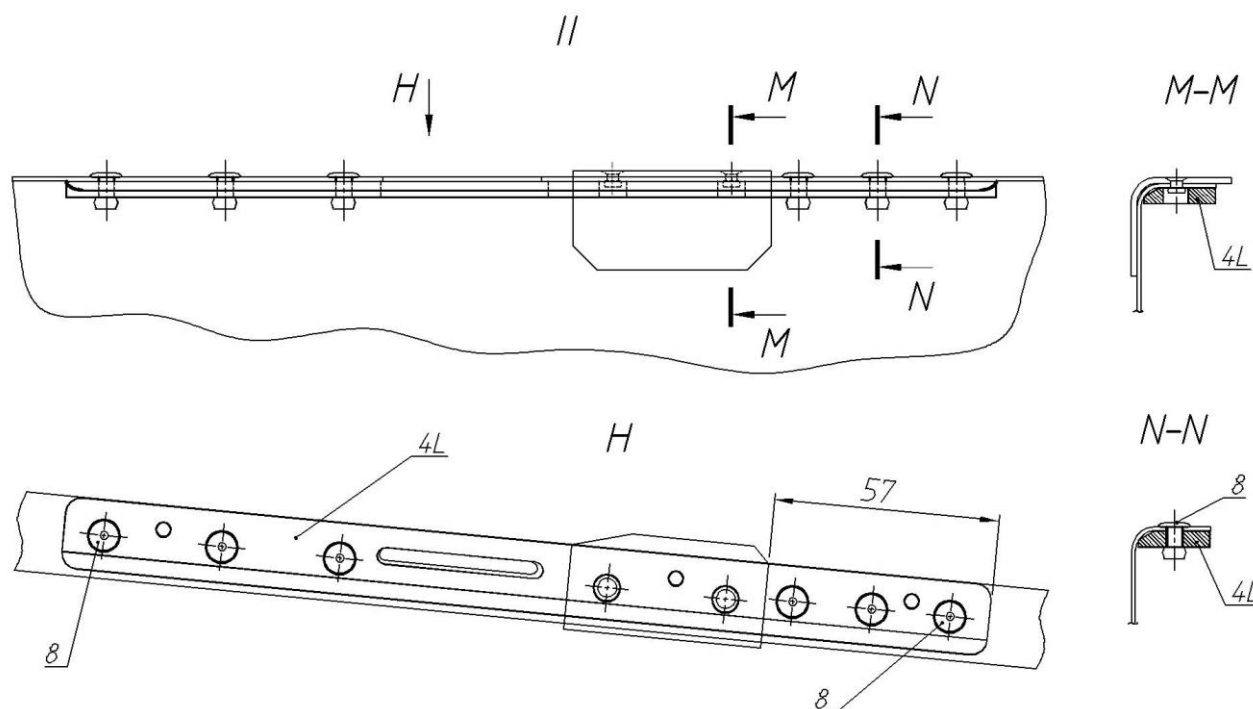


Рис. 5

3.2.3.1 Install the 4 mm thick pad No. 4L under the beam and pre-drill with the $\varnothing 4.1$ mm (#20) drill bit to the fuselage beam. Align the grooves in the beam and in the pad to ensure free movement of the door lock lug.

3.2.3.2 Set 6 rivets No.8 ($\varnothing 4 \times 8$ mm) attaching the reinforcing pad.

3.3 Installation of new wings

3.3.1 Dismantle the flaperons, fuel tanks and electric cables from the old wings.

3.3.3 Install the flaperons, fuel tanks and electric cables on the new wings.

3.3.4 Install the flaperon control shafts, wing struts and wings on the plane.