M.I.C.M. - C.N.I.A.R.
INTREPRINDEREA DE CONSTRUCTII AERONAUTICE
2200 B R A S O V

MANDATORY SERVICE BULLETIN

IS-28M2/CO-2

APPROVED BY : Department of Civil Aviation
with no. 16864 / 19.08.1978

PRODUCT : IS-28M2 motorglider

OBJECT : Constructive improvements

COMPLIANCE : Modification no. 145, 147, 149, 153, 154, 155, 156, 165, 167.

DATE: 15.08.1978

1. PLANNING INFORMATION

A. Applicability

The modifications are applied to the IS-28M2 motorgliders.

B. Reason

Constructive improvements.

C. Description

The modifications consist in:

(1) Replacing the flap control lever part no. 28M2-F02-016 with self-aligning bearing by the lever part no. 28M2-F02-072 with solid type bearing.

(2) Replacing the attachment pin part no. 28M2-AD-01-223 by a modified one part no. 28M2-AD-01-285, with guiding sections for ease of installation.

(3) Fixing of some pockets on the cockpit lateral walls.

(4) Shifting the passing of the upper fuel hose of the fuel contents indicator.

(5) Replacing the right seat belts part no. 28M2-F14-040.

(6) Introducing some additional limiting placards.

(7) Replacing the electrical bonding cables from rudder pedals by shorter ones.

(8) Executing some inspection holes into the main spar ending ribs ans replacing the bolts and nuts fixing the attachment fittings.

(9) Executing some inspection holes into the wing ending ribs and replacing the bolts and nuts fixing the attachment fittings.

(10) Install a fire extinguisher mounting between the two seats.

(11) Reinforcing the propeller pitch selector lever.

D. Compliance

Modification no. 145, 147, 149, 153, 154, 155, 156, 165,167.

E. Accomplishment

To the motorgliders under operation the modifications are applied by the Buyer or by the manufacturing plant service team, except those from points 8 to 10, which shall be applied only to motorgliders serial no.04, 07 and 09.
To non-delivered motorgliders or those under manufacturing this bulletin is applied by the manufacturing plant.

F. Material - Cost and Availability

The materials necessary to apply the modifications are given in chapter 3 "Material information" and are delivered together with the present Service Bulletin by the manufacturing plant.

G. Tooling

No special tooling is required; use hand tools existing in aircraft repair and maintenance workshop.

H. Weight and Balance

None.

I. References

To apply the modifications see the drawings on pages 10 to 17.

J. Documents affected

Pages 0.2;0.4;2.9 from the Flight and Maintenance Manual are modified. Page 4.29 is introduced (2C Issue - August 1978).

2. ACCOMPLISHMENT INDICATIONS

A. Work preparation

The work is accomplished in a maintenance or repair workshop.

Dismount the wings and set them on adequate supports.

Dismount the radio cover from the instrument panel.

Dismount the master switch from the instrument panel.

B. Application

(1) Replace the flap control lever part no. 28M2-F02-016 as follows:

- Remove the lever from shaft by dismounting the screws item 24 (page 23, Illustrated Catalogue).
- Carefully remove the rivets connecting the lever to the hub.
- Introduce the new lever from kit and counterdrill through the holes existing in the hub.
- Rivet the lever to the hub.
- Mount the lever assembly on the control shaft, locking the nuts 25 by pins (page 23, Illustrated Catalogue).

(2) Replace the main attachment pins.

- Replace the existing pins item 5 (page 5, Illustrated Catalogue) by those in the bulletin spare part kit.

(3) Fix some pockets on the cockpit lateral walls:

- Glue the two pockets on the cockpit walls by using an adequate adhesive, according to the drawing on page 11/17.

(4) Shift the upper fuel hose passing of the fuel contents indicator:

- Dismount the cover over the gasoline tank compartment.
- Dismount the fuel hose from the fuel contents indicator.
- Remove the rubber bush from the passing hole and remove the fuel hose through this hole.
- Drill a 20 mm dia. hole to the size indicated in the drawing on page 12/17.
- Fix the fuel hose on panel 7 (page 12) by using a clamp.
- Introduce the fuel hose through the hole and mount it on the fuel contents indicator and wire lock.
- Insert the rubber bush into the new passing hole.
- Obturate the old hole by gluing the cover from the spare part kit.

(5) Replace the right seat belts.

- Dismount the right seat belts and replace by those of the bulletin spare part kit.

(6) Introduce some additional limiting placards.

- Glue the placards from the spare part kit in the places indicated in the drawing on page 13/17.

(7) Replace the electrical bonding cables of the rudder pedals.

- Remove the cables by dismounting the screw on rudder pedals and the cable wire.
- Mount the new cables from the spare part kit.

(8)-Mark the cutting contour and the rivet holes on the two ending ribs of the main spar by using the gauge part no. 28M2-F01-1884 L.

- Cut out by means of a drill machine, executing holes of 3 mm dia. tangent along the marked contour, so that the cutting contour line should be visible.

- Adjust the cuttings up to the marked contour.
- Introduce the frames part no. 28M2-F01.715 L through the cuttings and counterdrill through ribs in the places previously marked.
- Fix the frames by 3.2 dia. rivets NA 51.701.
- Remove in turn the nuts and bolts fixing the attachment fittings and replace by those from the spare part kit, using titanine for mounting.
- Tighten the nuts with a torque moment of 2.3-2.5 kgf.m.
- Clean the whole area of chips by suction.

(9) - Mark the cutting contour and the rivet and screw holes on the ending ribs of the two wings by using a gauge part no. 28M2-AD.01.269 L.
- Cut out by means of a drill machine, as for the main spar, and adjust the cuttings.
- Introduce the frames part no. 28M2-AD/AS.268 L through the cuttings and counterdrill through ribs in the places previously marked. Drill the 4.2 dia. holes for the cover screws.
- Countersink the rivet holes and rivet the frames using rivets part no. NA 51.703.
- Remove in turn the nuts and bolts fixing the attachment fittings and replace by those from the bulletin spare part kit, using titanine for mounting.
- Tighten the nuts with a torque moment of 2.3-2.5 kgf.m.
- Clean the working area of chips by suction.

(10) - Locate the angle part no. 28M2-F01.1942 on the front floor according to the drawing on page 16/17.
- Counterdrill the floor and fix the angle by 3 rivets part no. A 3.2 - NA 51.703.

- Remove the 3 rivets from panel 2, as indicated in the drawing.
- Locate the support part no. 28M2-F01.0269 fixing its upper side by clips and counterdrill the floor angle.
- Rivet the support to the angle and to the upper side by POP TLP/D-BS-419 rivets.
- Clean the working area of chips by suction.

(11) - Countersink the stiffening bending from the part no. 28M2-F01.425 L.
- Locate the "U" shape part no. 28M2-F01.142L according to the drawing on page 17/17 and counterdrill the panel 2 and part no. 28M2-F01.425 L.
- Fix the "U" shape by rivets A 3.2 NA 51.700 according to the drawing.
- Introduce the bush part no. 28M2-M02.160 into the propeller pitch lever.
- Counterdrill the instrument panel through the support part no. 28M2-M02.058, located as shown in the drawing and fix the support by 2 bolts AM4x0.7 NA 50.025.
- Use titanine for riveting and screw fixing.

3. MATERIAL INFORMATION

A. Part list

New part number	Description	Qty	Observations
1.	2.	3.	4.
28M2-F02.420 L	Lever	2	
NA 51.405	Pin 1x14-21	4	
28M2-AD.01.285	Attachment pin	2	
28M2-AD.01.285 A	Attachment pin	2	for motorglider serial no.04
28M2-F14.022	Right pocket assy	1	

1.	2.	3.	4.
28M2-F14.037 FD	Left pocket assy	1	
28M2-F01.1944 FD	Cover	1	
28M2-F10.126	Clamp	1	
NA 50.100	Bolt M4x0.7	1	
NA 51.101	Nut M4	1	
NA 51.201	Washer 4x0.8	1	
28M2.F14.040	Right seat belt	2	
28M2.F14.149 (151)	Engine limiting placard	1	
28M2.F14.148 (150)	Cockpit opening placard	1	
NA 51.703	Rivet B 3.2x6-1	1	
NA 51.701	Rivet A 4.8x18-1	6	
28M2.F05.036	Electrical bonding cable	2	
28M2.F01.1884 L	Gauge	1	
28M2.F01.715 L	Frame	2	
NA 51.701	Rivet A 3.2x8-23	32	
28M2.F01.1508	Special bolt	56	for motorglider 07,09.
28M2.F01.1950	Special bolt	4	
1951	" "	4	
1952	" "	8	
1953	" "	12	
1954	" "	4	
1955	" "	8	
1956	" "	4	
1957	" "	12	for motorglider 04
1958	" "	12	
1959	" "	8	
1960	" "	8	
1961	" "	8	
1962	" "	8	
1963	" "	4	
1964	" "	8	
28M2-AD.01.280	Special bolt	56	for motorglider 07,09
NA 51.101	Nut M8x1.25	112	

DATE: 15.08.1978

1.	2.	3.	4.
28M2-AD.01.269 L	Gauge	1	
28M2-AD.01.268 L	Frame	1	
28M2-AS.01.268 L	Frame	1	
28M2-AD.01.267 L	Cover	1	
28M2-AS.01.267 L	Cover	1	
NA 51.703	Rivet A 3.2x9-2.3	22	
NA 51.703	Rivet A 2.4x9-2.3	20	
28M2-F01.1942	Angle	1	
28M2-F01.0269	Support assy	1	
TLP/D-BS-419	POP rivet	7	
28M2-F01.142L	"U" shape	1	
28M2-M02.160	Bush	1	
28M2-M02.058	Support	1	
NA 50.025	Bolt AM4x0.7	2	
NA 51.101	Nut AM4x0.7	2	
NA 51.201	Washer 4x0.5	2	
NA 51.701	Rivet A 3.2x9-2.3	7	

B. Tooling list

Use hand tools existing in aircraft repair and maintenance workshop.

C. Supply indications

The materials are delivered together with this bulletin by the manufacturing plant.

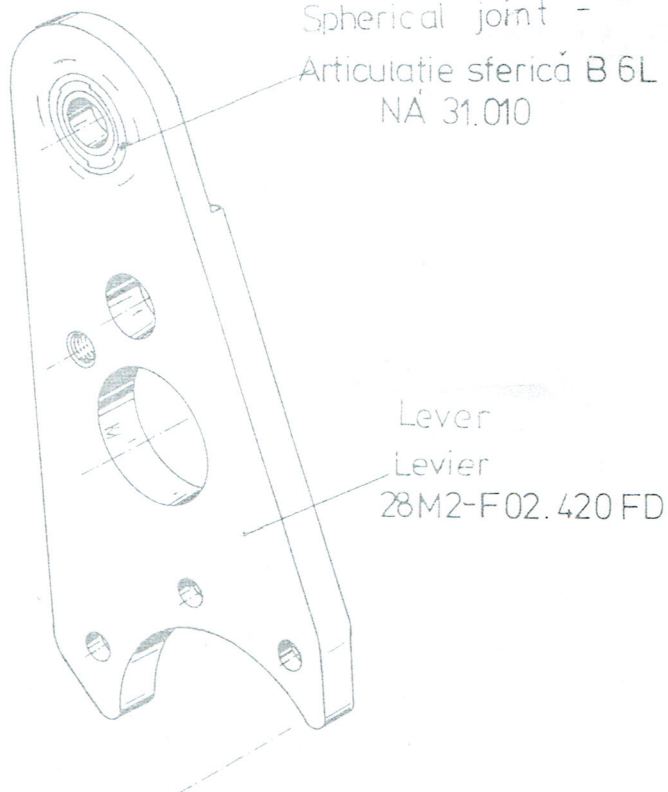
4. IDENTIFICATION

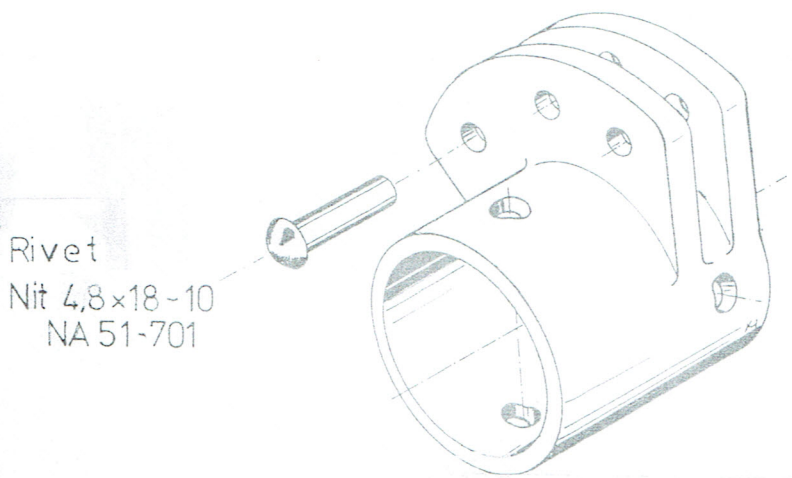
The present bulletin application shall be mentioned in the motorglider logbook.

5. APPENDICES

Pages 0.2; 0.4; 2.9 and 4.29, 2C issue - August 1978 from the Flight and Maintenance Manual.
Part kit according to chapter 3A of the mandatory service bulletin IS-28M2/CO-2.

DATE: 15.08.1978



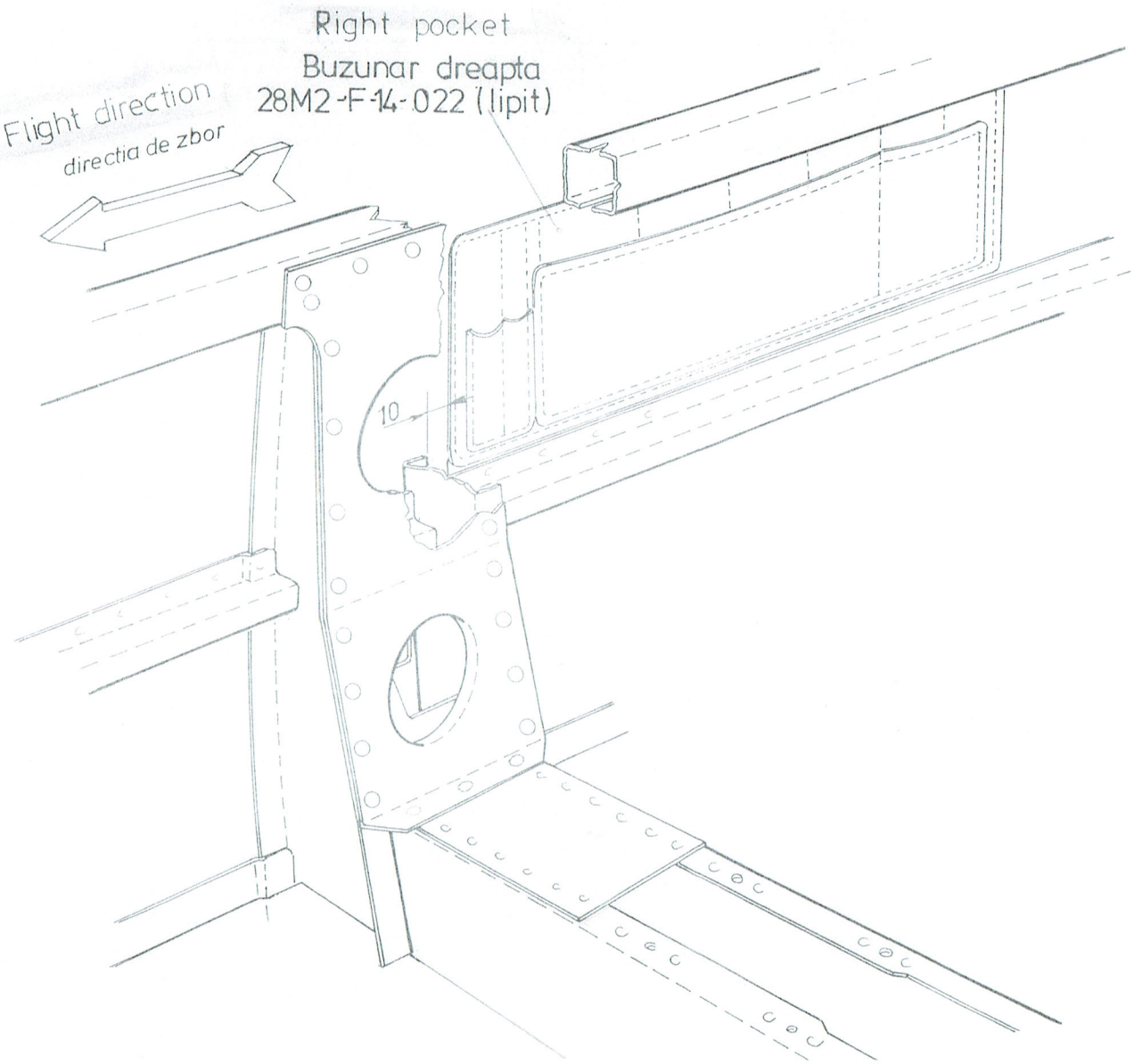


LATERAL LEVER ASSY

PROPELLER PITCH CONTROL REINFORCEMENT

Ansamblu levier lateral 28M2-F02.072

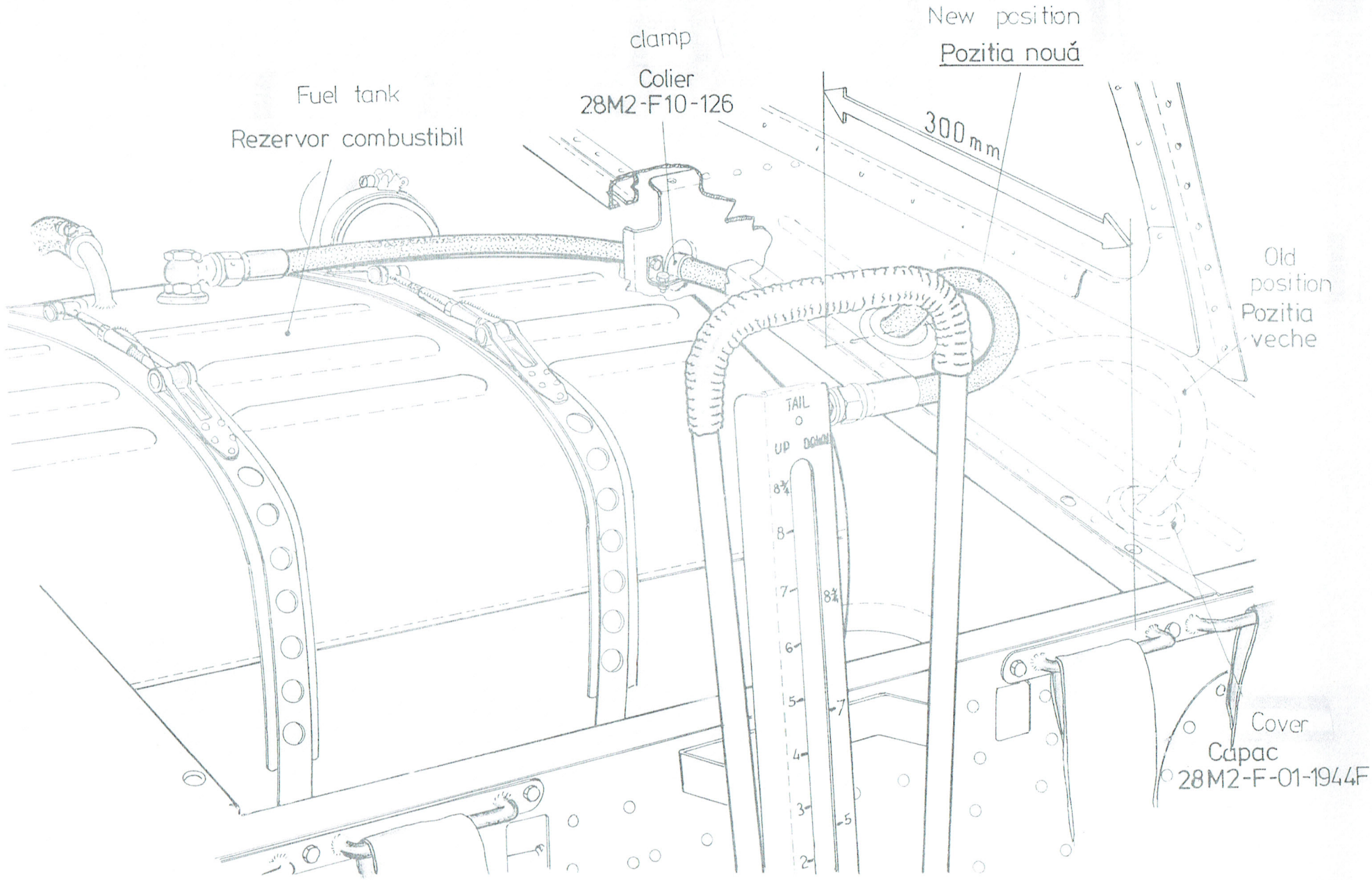
Date : 15.8.1978



MOUNTING OF POCKETS ON THE COCKPIT LATERAL WALLS

MONTAREA BUZUNARELOR PE PERETII LATERALI A CABINEI

Date : 15.8.1978

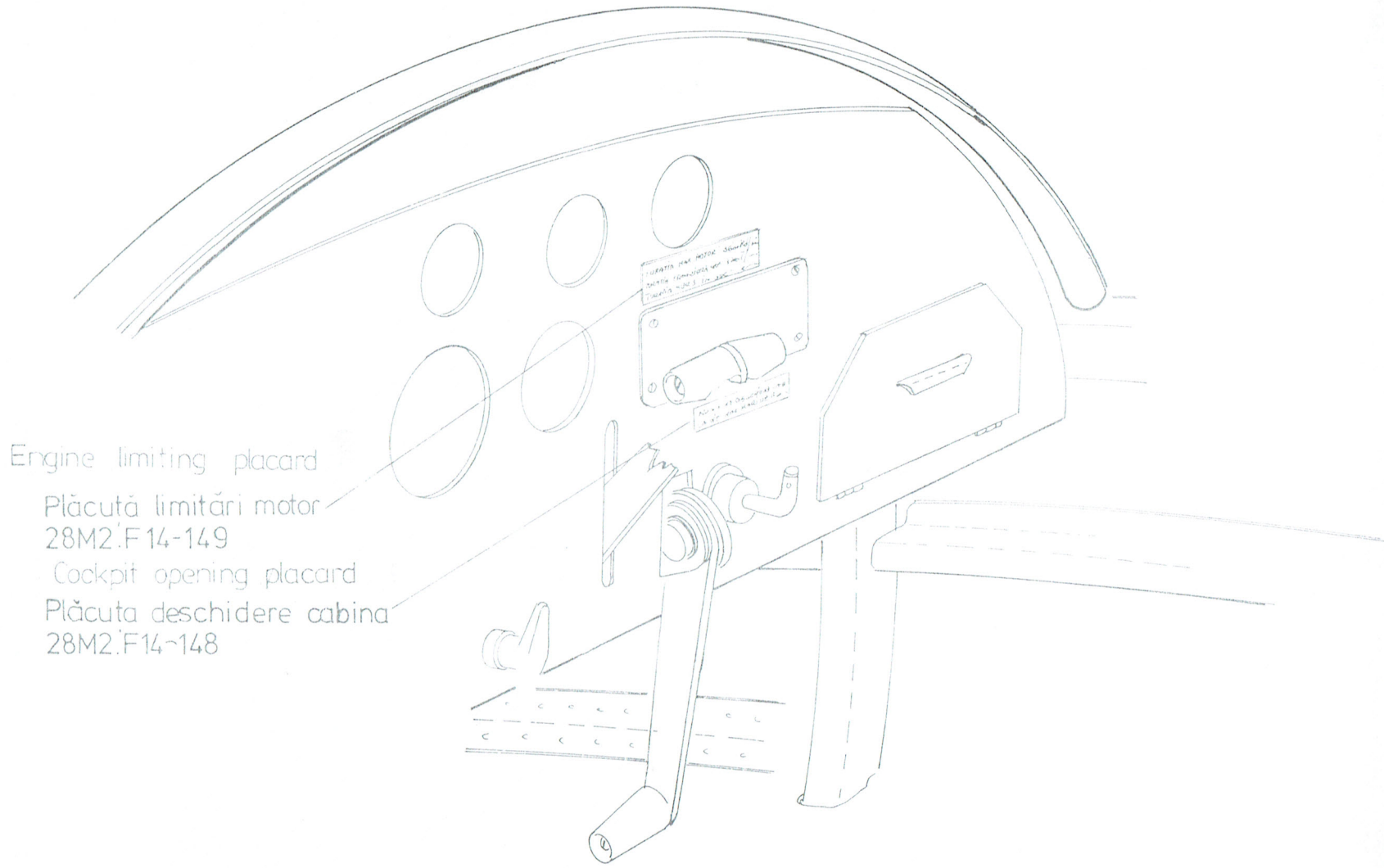


MUTAREA CONDUCTEI SUPERIOARE LITROMETRU

SHIFTING OF UPPER FUEL HOSE OF THE FUEL.

IS-28M2/CO-2

page:12/17

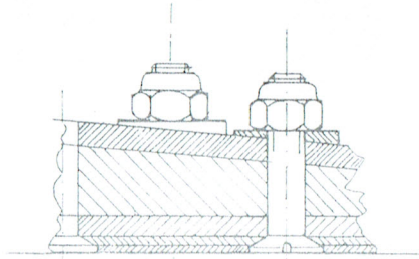


ADDITIONAL LIMITING PLACARDS

PLĂCUȚE CU LIMITĂRI SUPLIMENTARE

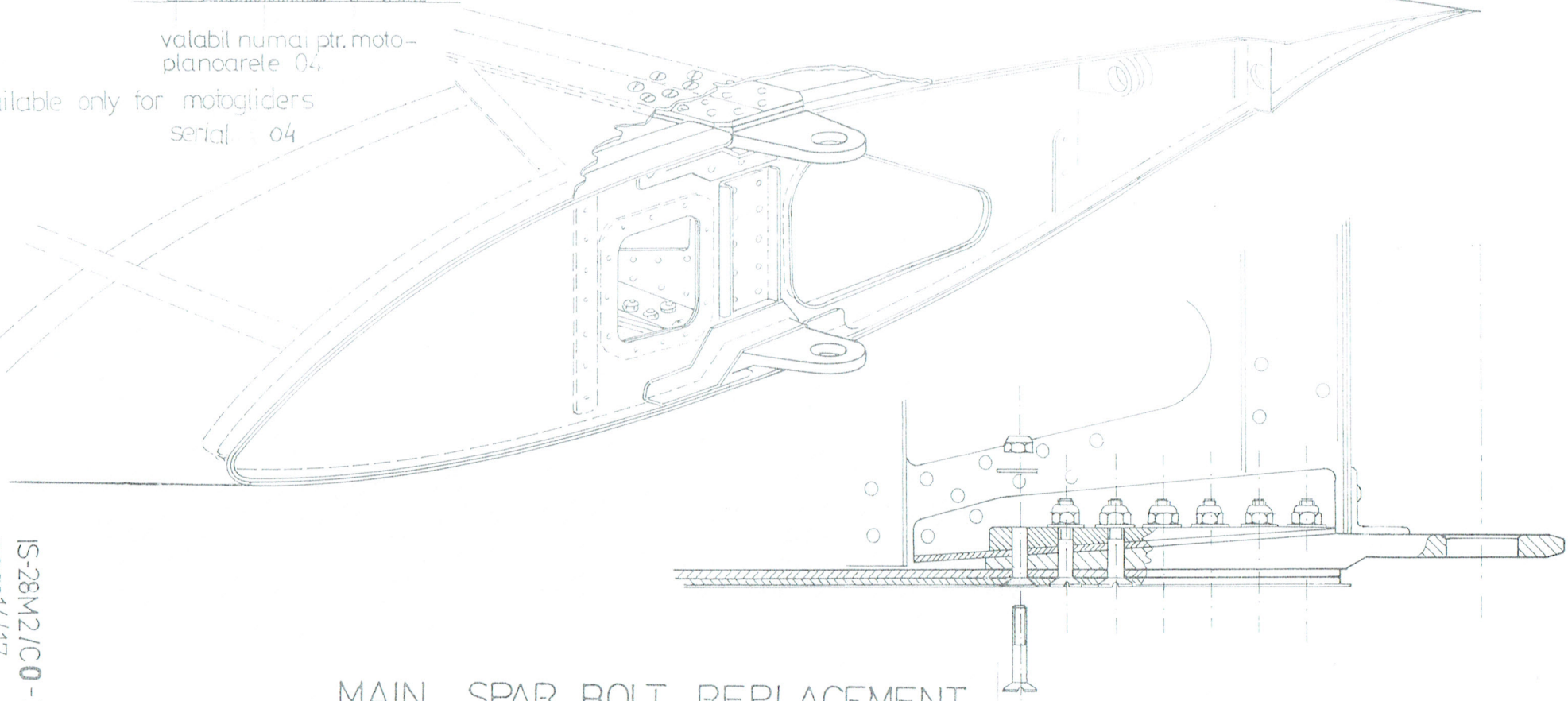
Date: 15.8.1978

Upper side Sus	Lower side Jos
28M2-F01-1952	28M2-F01-1950
-1953	-1951
-1953	-1952
-1954	-1953
-1955	-1955
-1957	-1956
-1958	-1957



valabil numai ptr. moto-planoarele 04

Available only for motogliders serial 04



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MAIN SPAR BOLT REPLACEMENT

ÎNLOCUIRE ȘURUBURI PLAN CENTRAL

Date: 08.8.1978

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page: 15/17

Upper side

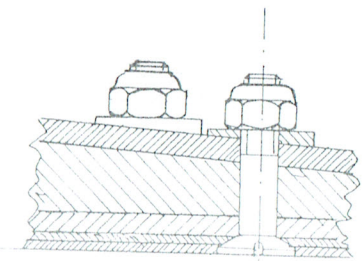
Sus

28M2-F1-1957
-1958
-1959
-1960
-1961
-1962
-1963

Lower side

Jos

28M2-F01-1958
-1959
-1960
-1961
-1962
-1963
-1964



valabil numai ptr moto-planoarele 04

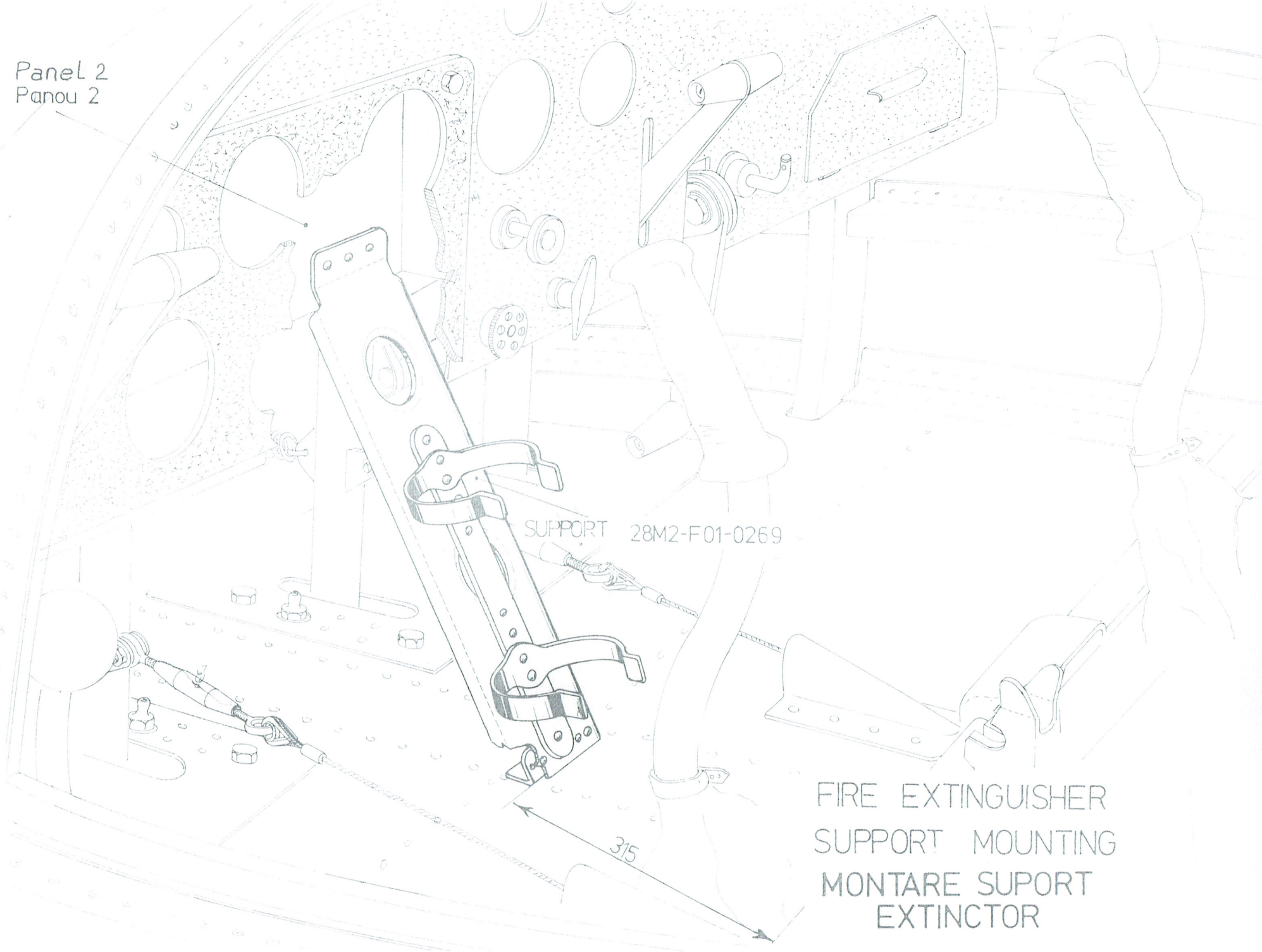
Available only for motogliders serial 04

WING BOLT REPLACEMENT

ÎNLOCUIRE ȘURUBURI ARIPĂ

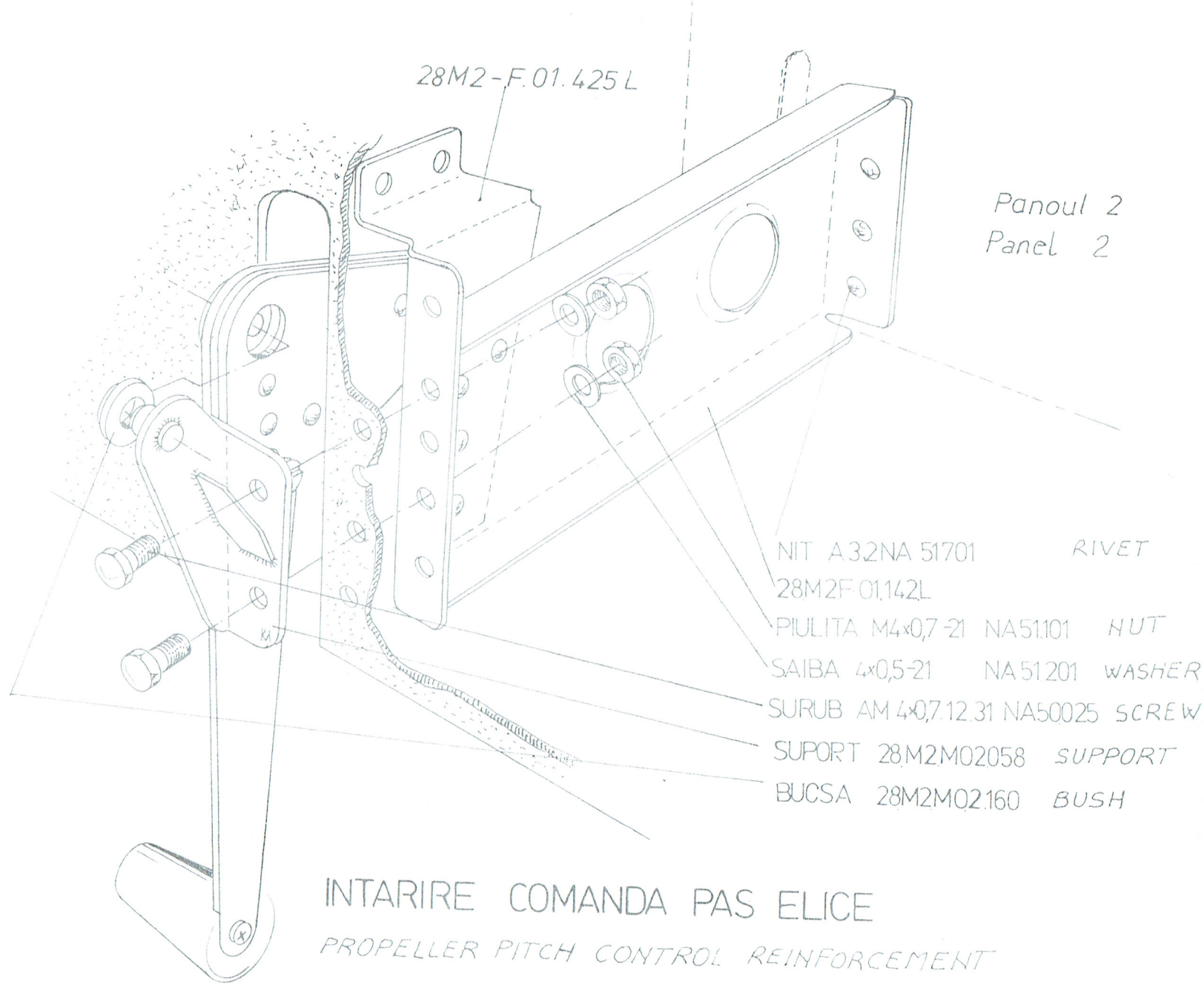
Date: 15.8.1978

Panel 2
Panou 2



FIRE EXTINGUISHER
SUPPORT MOUNTING
MONTARE SUPORT
EXTINCTOR

IS.28M2/CO-2
page16/17



INTARIRE COMANDA PAS ELICE

PROPELLER PITCH CONTROL REINFORCEMENT

ICA BRASOV

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I C A
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2.9.- Placards:

IS-28M2 LIMITS		
Vmax V_{LG}		113.31kt
	Vmax	64.75kt
	nmax	+4g
V_S		40.47kt
V_A V_B		91.73kt
n		+5 -2.65
Gmax		1642.44lb
ACCELEROMETER IMPOSED		

6

Max. permissible revs. 3600 rpm
Max. continous revs. 3200 rpm
IDLING ABOUT 700 rpm

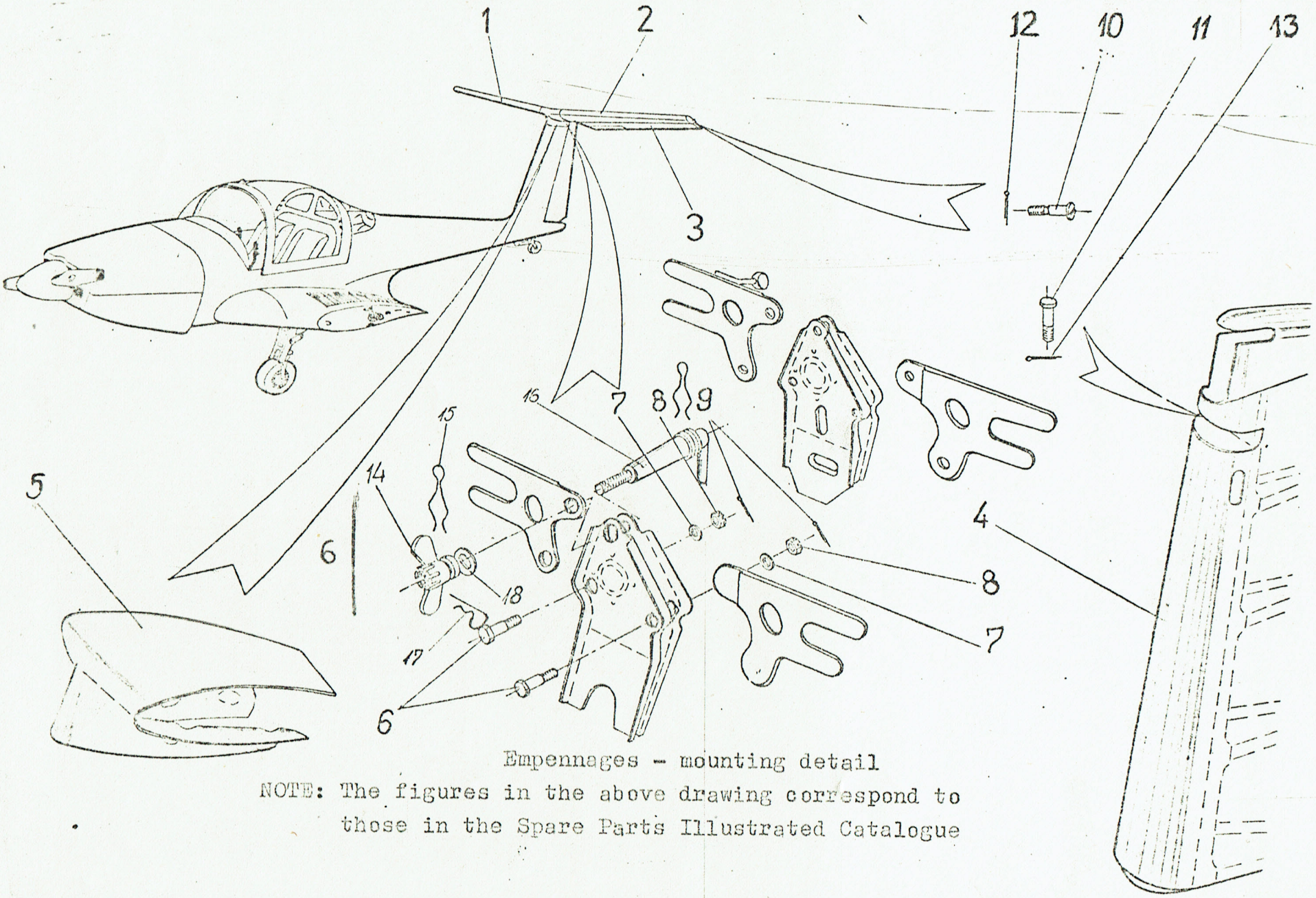
Do not open the canopy at speeds greater than 80 knots

BAGGAGE PROHIBITED

Above the gasoline tank

- Navigation compass compensating diagram
- C.O. = 100 on the feeding plug
- Levelling points on the fuselage wings and empennage
- Lifting points

PROHIBITED INVERTED FLIGHT WITH RUNNING ENGINE



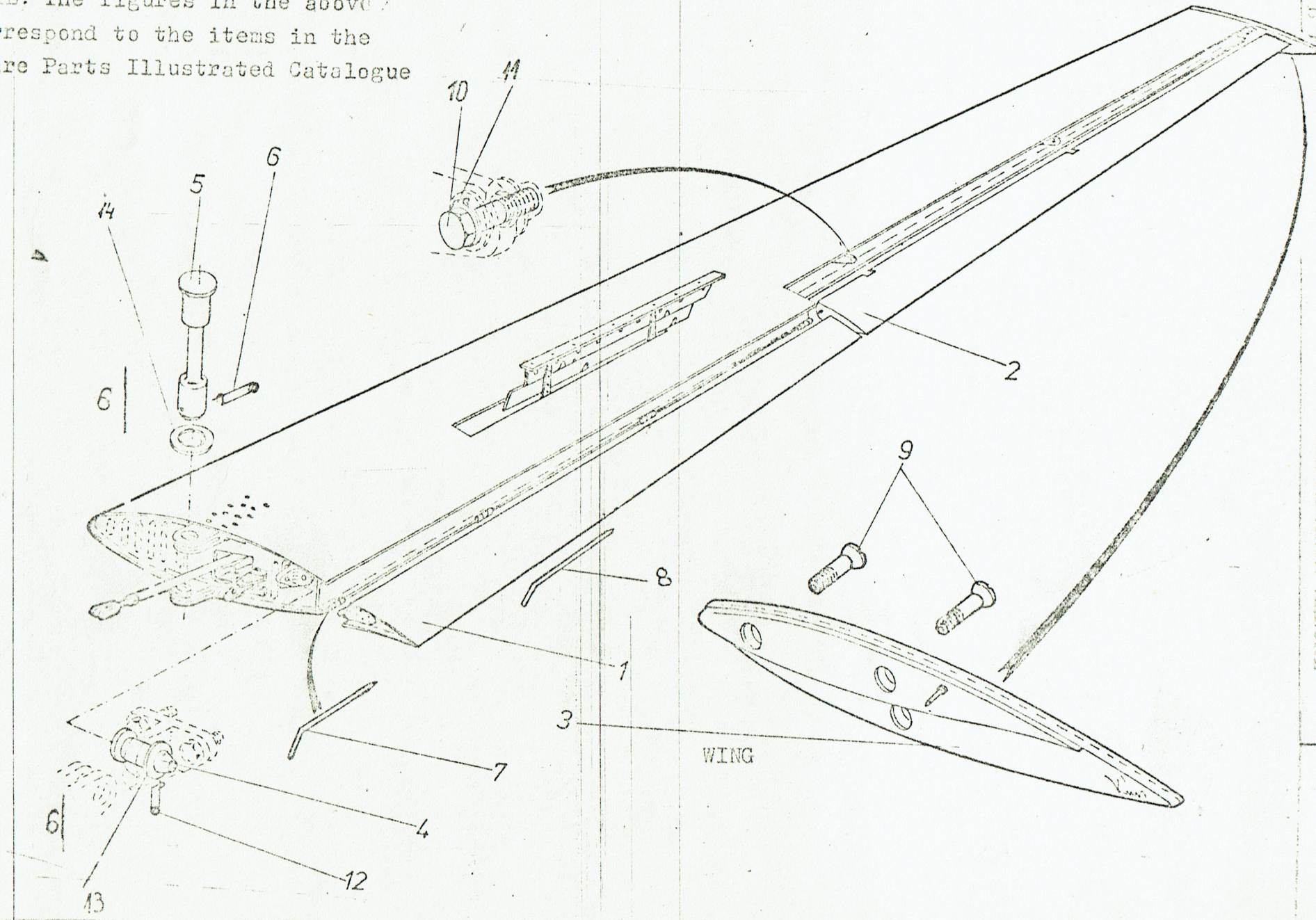
Empennages - mounting detail

NOTE: The figures in the above drawing correspond to those in the Spare Parts Illustrated Catalogue

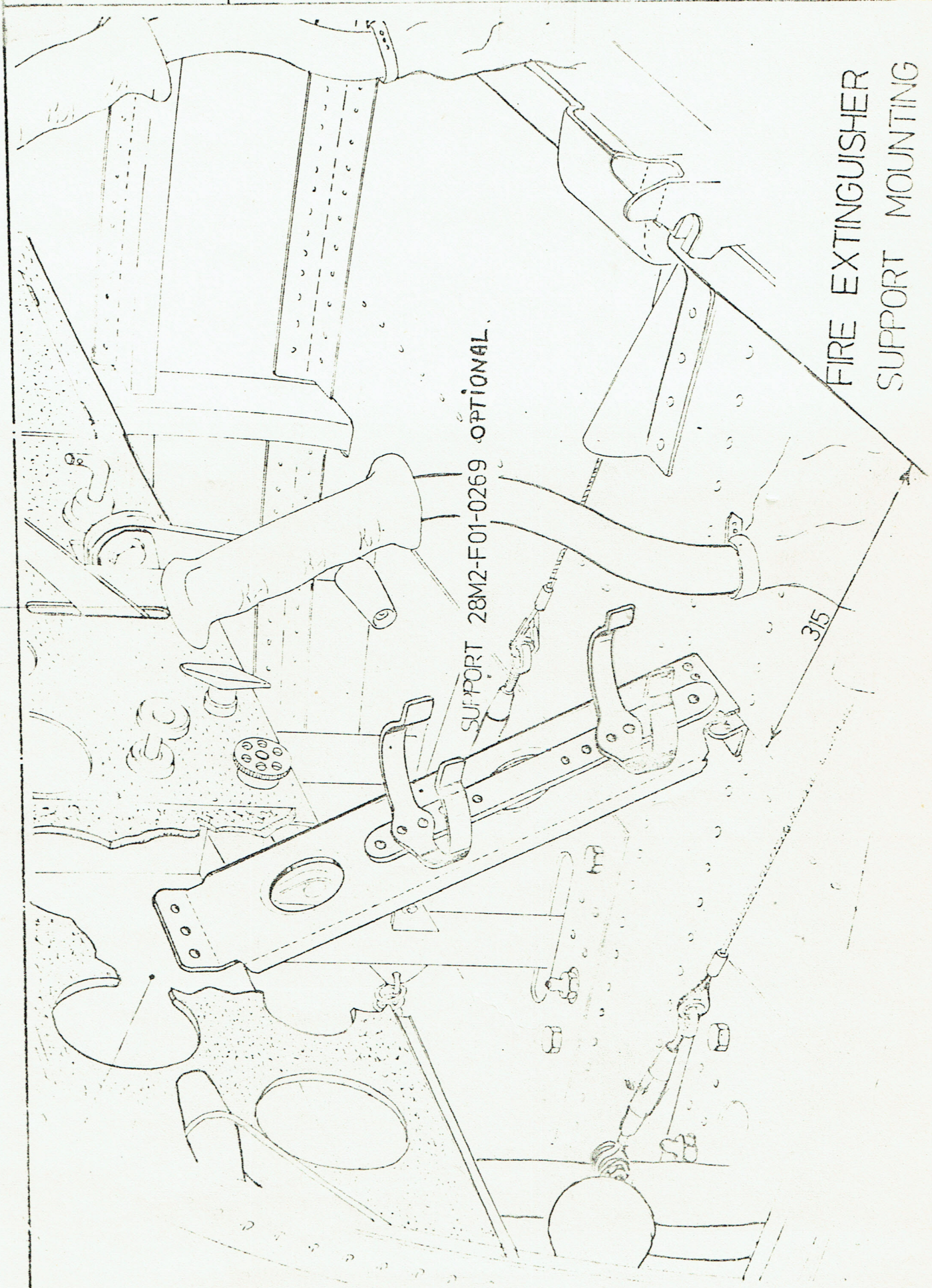
Issued 24 AUGUST 1978

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NOTE: The figures in the above correspond to the items in the Spare Parts Illustrated Catalogue



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FIRE EXTINGUISHER
SUPPORT MOUNTING
SUPPORT 28M2-F01-0269 OPTIONAL
315