0 General

0.1 Manual amendments

No	Page	Description	Date
1	all	Combination of the initial Maintenance Manuals of the Variants LS8, LS8-a, LS8-b, LS8-18, new standardized format	Dec. 2009
2	0-9, 1-15, 1-16, 2-3, 2-5, 3-2, 3-3, 3-6, 4-12, 4-13, 4-15 up to 4-17, 5-2, 5-3, 5.4, 6-1, 9-1 up to 9-4, 10-1 up to 10-3, 11-1, 11-2, 12-2, 12-3	Miscellaneous changes to the contents of the latest amendments of the initial maintenance manuals	Dec. 2009
3	0-1, 0-3, 0-5, 1-1, 1-6, 1-10, 7-5, 7-6	TN8019, wheel brake actuated by airbrake handle.	Feb. 2011

0.2 List of effective pages

Section	page	issued	replaced	replaced	replaced
0	0-0	December 09			
	0-1	"	Feb. 2011		
	0-2	"			
	0-3	"	Feb. 2011		
	0-4	"			
	0-5	"	Feb. 2011		
	0-6	"			
	0-7	"			
	0-8	"			
	0-9	"			
1	1-1	December 09	Feb. 2011		
	1-2	"			
	1-3	"			
	1-4	"			
	1-5	"			
	1-6	"	Feb. 2011		
	1-7	"			
	1-8	"			
	1-9	"			
	1-10	"	Feb. 2011		
	1-11	"			
	1-12	"			
	1-13	"			
	1-14	"			
	1-15	"			
	1-16	"			
	1-17	"			
	1-18	"			
	1-19	"			
2	2-1	December 09			
	2-2	“			
	2-3	“			
	2-4	“			
	2-5	“			
	2-6	“			
	2-7	“			
	2-8	“			
	2-9	“			
	2-10	“			
	2-11	"			

0.2 List of effective pages (continued)

Section	page	issued	replaced	replaced	replaced
5	5-1	December 09			
	5-2	"			
	5-3	"			
	5-4	"			
	5-5	"			
	5-6	"			
	5-7	"			
6	6-1	December 09			
7	7-1	"			
	7-2	"			
	7-3	"			
	7-4	"			
	7-5	"	Feb. 2011		
	7-6	"	Feb. 2011		
8	8-1	December 09			
	8-2	"			
	8-3	"			
9	9-1	December 09			
	9-2	"			
	9-3	"			
	9-4	"			
10	10-1	December 09			
	10-2	"			
	10-3	"			
11	11-1	December 09			
	11-2	"			
	11-3	"			
12	12-1	December 09			
	12-2	"			
	12-3	"			
	12-4	"			

1 Description of systems

1.1 Overview

Wings

LS8 and LS8-a: Wingspan 15 m with removable winglets.

LS8-b and LS8-18: Wingspan variable by exchange of 15m winglets with 18m tips with Winglets.

Aileron Controls

Aileron system activated via pushrods guided in longitudinal motion ball bearings, connection of system by automatic coupling during rigging. Dynamic aileron mass balance in wings.

Only LS8: Aileron parted at wing contour brake

LS8-b and LS8-18: Additional ailerons at 18m wingtips.

Elevator Controls

Elevator system activated via pushrods guided in longitudinal motion ball bearings, automatic coupling of system during rigging. 100% mass balance in vertical tail fin pushrod.

Rudder Controls

Rudder system activated via steel cables guided in polyamide tubing, no closed control circuit. mass balance at rudder.

Wheel Brake

Feet operated, activated by bowden cable from rudder pedals.

With TN8019 executed: The wheel brake Bowden cable is connected to the airbrake drive instead of the rudder pedals.

Air Brakes

Activated via pushrods, guided partly in longitudinal motion ball bearings, partly in plain bearings. Automatic connection of system during rigging. Locking mechanism in wings. Upper surface double height air brakes with spring loaded cover blades. Friction damper in box to prevent oscillations during extension.

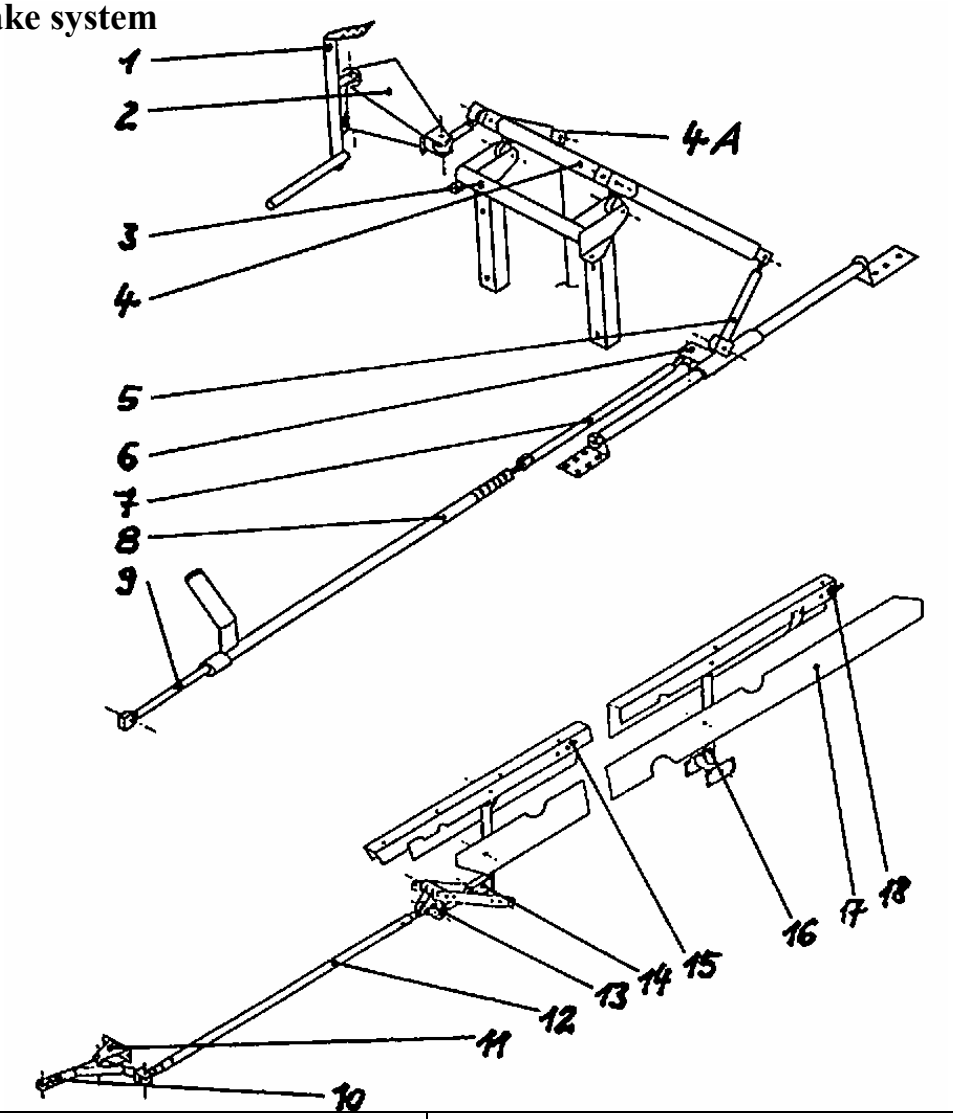
Water Ballast System

LS8:

One double water bag per wing, maximum capacity per wing 75 Liters <19.8 US gallons, 16.5 Imp. gallons>. Optionally one single water bag , maximum capacity per wing 50 Liters <13.2 US gallons, 11 Imp. gallons>. Double valve or single valve at wing root, one loading and dumping orifice on under side of wings near root. Automatic connection during rigging.

In the vertical tail fin either battery receptacle or ballast tank allowing to compensate C.G. movement due to wing water ballast or mass of heavy pilots, maximum capacity 5.5 Liters <1.45 US gallons, 1.21 Imp. gallons>. When the tail fin tank is combined with a battery receptacle, the maximum capacity is 4.1 Liters <1.08 US gal., 0.9 Imp.gal.>. (Maximum permissible compensation allowed for in tables)

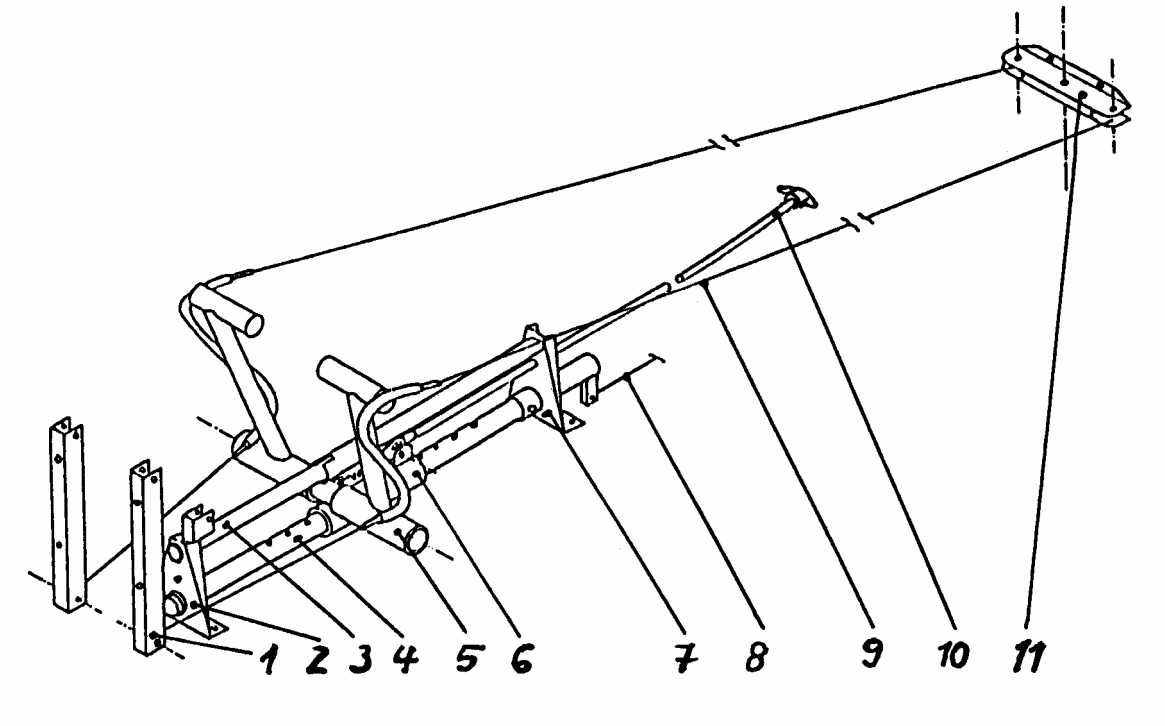
1.3 Air brake system



Fuselage			Wings		
No.	**Designation**	**Drawing**	**No.**	**Designation**	**Drawing**
1	Automatic connector bear	3R10-119	10	Root rib drive lever	3F4-71
2	Air brake connector	3R6-44		or	3F4-64
3	Air brake drive bracket	3R6-54	11	Root rib bracket	4F3-76
4	Air brake drive	3R6-50	12	Wing pushrod	4F4-63
With TN8019 executed:			13	Locking lever	4F4-53
4	Air brake drive shaft	9St13	14	Inner lever	3F4-51
4A	Bowden cable attachment for wheel brake	9St13	15	Upper blade	3F4-60
5	Intermediate rod	4R10-77	16	Outer lever	3F4-52
6	Sliding member	4R6-47	17	Lower blade	3F4-54
7	Air brake rod	4R6-59	18	Friction brake	
8	Air brake lever	3R6-58			
9	Lever guide tube	4R6-31			

1.7 Rudder control system

No.	Designation	Drawing
1	Canopy opener bracket	4R8-67
2	Forward pedal guide bracket	3R14-14
3	Upper pedal guide tube	4R14-18
4	Lower pedal guide tube	4R14-19
5	Rudder pedal	1R14-21
6	Pedal support	3R14-16
7	Rear pedal guide bracket	3R14-15
8	Wheel brake cable	
8	**Not installed with TN8019 executed**	
9	Rudder cable	
10	Pedal adjustment cable	4R14-31
11	Rudder drive bracket	4S1-10



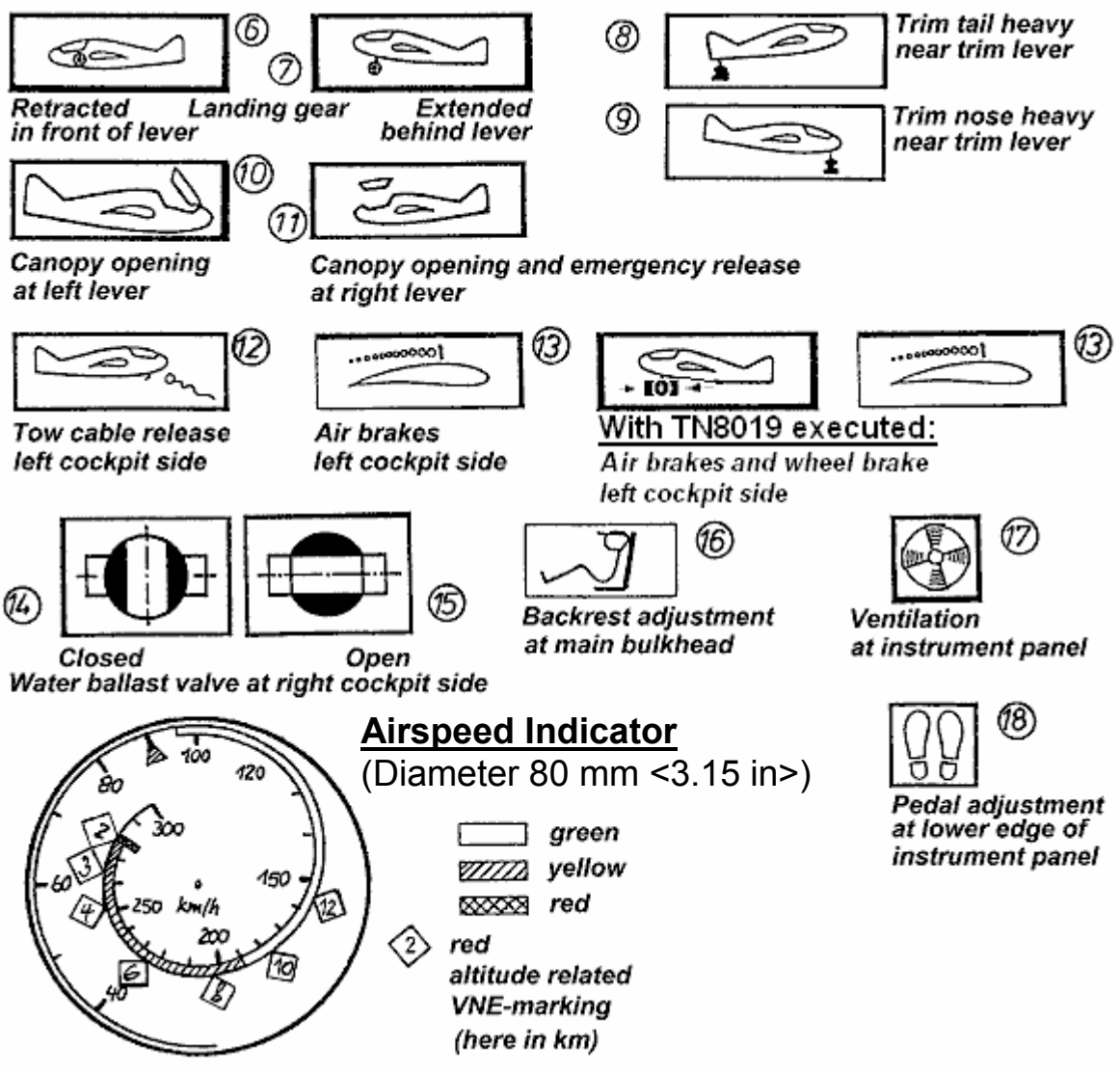
7.5 LS8, LS8-a, LS8-b, LS8-18

Numbers refer to placards, for positions of placards see drawings.

Use vertical tail fin battery only
With main fuse at battery
(under battery box cover of vertical tail, if fitted)

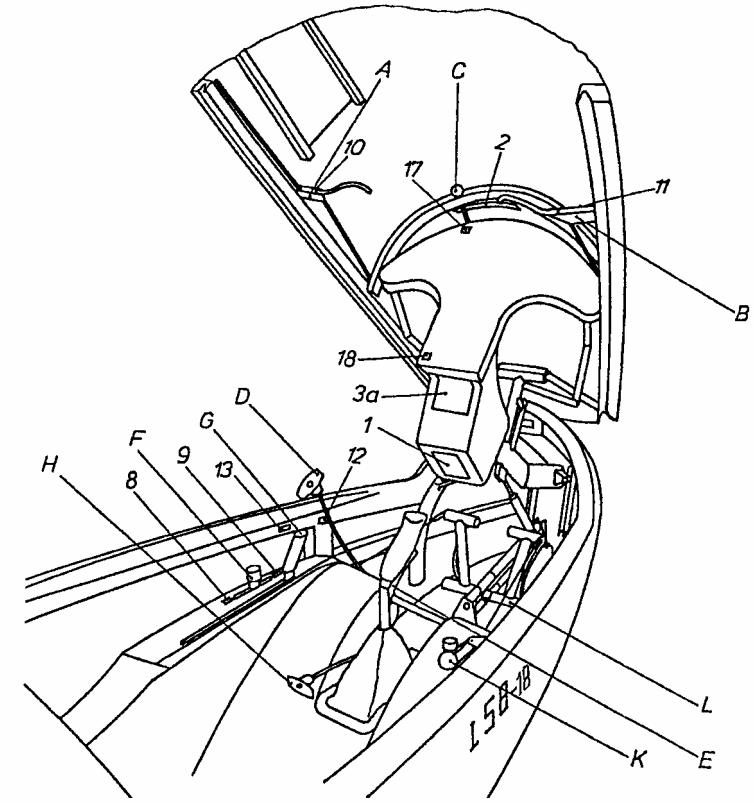
When using a battery in the vertical tail fin. Minimum Cockpit Load must be redetermined by weighing
(under battery box cover of Vertical tail, if fitted)

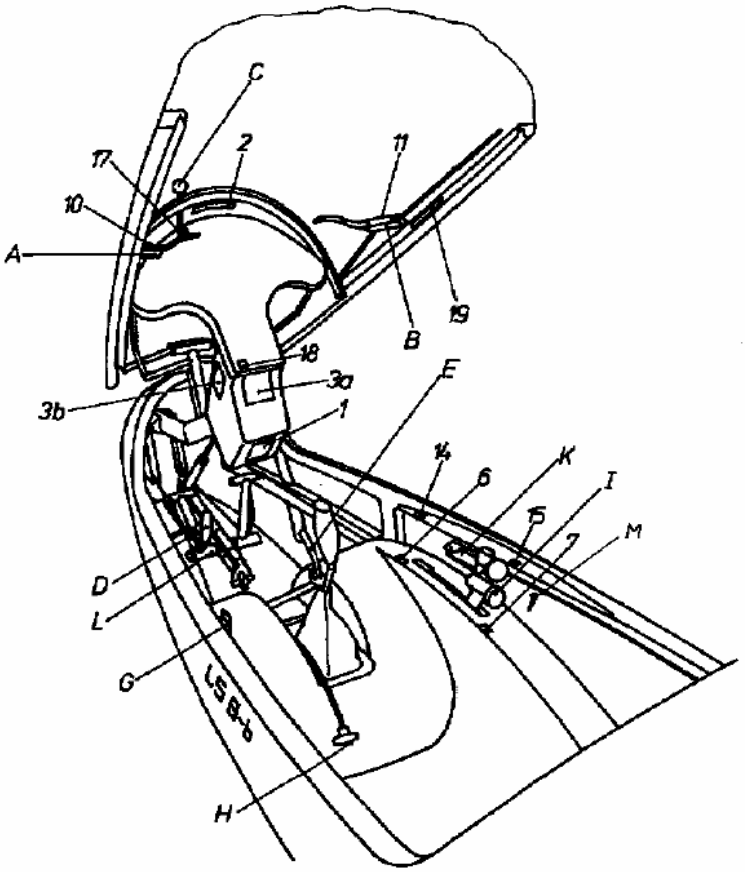
Canopy Emergency Release: open left side normally,
Pull right side with approx.15 kg/33 lbs force to stop
>19< at right canopy frame



When the airspeed indicator is not equipped with these altitude related VNE markings, a placard must be near the ASI. For possible versions see next page.

Placards and markings continued





A – Left canopy locking
B – Right canopy locking and emergency canopy release
C – Ventilation
D – Tow cable release
E – Trim locking lever
F – Trim lever, also indicating trim position
G – Air brake handle
G with TN8019 executed:
Air brake and wheel brake handle
H – Pedal adjustment
I – Landing gear lever
K – Water ballast
L – Rudder pedals and wheel brake (feet operated)
L with TN8019 executed:
Rudder pedals
M **Only LS8-b** – Dummy handle instead of fuel cock

Altitude related Never Exceed Speed	km/h
Up to 2000 m MSL	280
Up to 3000 m MSL	266
Up to 4000 m MSL	253
Up to 6000 m MSL	227
Up to 8000 m MSL	202
Up to 10000 m MSL	179
Up to 12000 m MSL	156

On panel near airspeed indicator,
For countries operating with metric units only

Altitude related Never Exceed Speed	km/h	Kt.	mph
Up to 6500 ft MSL	280	151	174
Up to 9800 ft MSL	266	144	165
Up to 13100 ft MSL	253	136	157
Up to 19700 ft MSL	227	122	141
Up to 26200 ft MSL	202	109	126
Up to 32800 ft MSL	179	97	111
Up to 39800 ft MSL	156	84	97