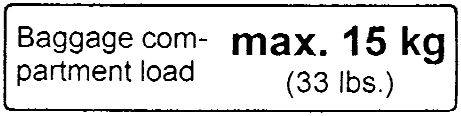
REDUCED MINIMUM COCKPIT LOAD
WITHOUT STEERABLE TAILWHEEL:
SEE FLIGHT MANUAL - PAGE 6.4!

Reduced minimum cockpit load by fitting removable trim ballast in front of the pedal assembly: see Section 7.13.

The baggage compartment load must not exceed 15 kg = 33 lb.



Heavy pilots often like to ballast their aircraft for optimum performance to suit their individual weight. A housing is provided for this purpose in the upper part of the fin where any trim ballast, for instance in the form of a battery, may be fitted. If any trim ballast is mounted in the fin, the minimum cockpit load will of course be increased! This increased minimum cockpit load must then be shown in the DATA and LOADING PLACARD in the cockpit. The lower permissible cockpit load without trim ballast in the fin will be shown only on **page 6.4 of this Flight Manual**.
In the cockpit, an additional placard is to be affixed:

REDUCED MINIMUM COCKPIT LOAD
WITHOUT TRIM BALLAST IN THE FIN:
SEE FLIGHT MANUAL - PAGE 6.4!

See also Section 7.13.

The box in the rear of the engine compartment is prepared for a Winter barograph (engine vibration recording type). As this instrument is installed so far behind the C.G. it must be observed in any case for C.G. determination when installed!
An additional placard must be affixed in the cockpit:

REDUCED MINIMUM COCKPIT LOAD WITHOUT
BAROGRAPH IN THE ENGINE COMPARTMENT:
SEE FLIGHT MANUAL - PAGE 6.4!

See also Section 7.13.

As the steerable tailwheel is installed so far behind the C.G. it must be observed in any case for C.G. determination when installed!
An additional placard must be affixed in the cockpit:

REDUCED MINIMUM COCKPIT LOAD
WITHOUT STEERABLE TAILWHEEL:
SEE FLIGHT MANUAL - PAGE 6.4!

See also Section 7.13.

and tighten nut A/F 13. If the above procedure cannot be accomplished with the safety springs hooked in, they may be unhooked at the wheel fork of the steerable tailwheel.
Finally the fairing has to be installed. Therefore the wheel has to be disassembled from the wheel fork to plus the fairing from the bottom on. The fairing is clicked in the axle bolt hollow on the fuselage and taped all-round. The wheel has to be reassembled afterwards.

When the steerable tailwheel is installed in the rear of the engine compartment, the minimum seat load may be higher than 70 kg or 154 lbs (including the parachute). The necessarily **increased** minimum load will then be indicated on the **DATA AND LOADING PLACARD** in the cockpit.
The possible **reduced** minimum cockpit load **without** steerable tailwheel installed is given **only** in the **Mass and Balance Form** in Section 6.2.

If the steerable tail wheel is dismantled in order to fly again with the standard tail wheel, the connecting unit for the safety springs at the rudder must also be removed!

If rubber skids are fitted at the wing tips these must be removed (two hexagonal socket head screws A/F 5 respectively) and replaced by the wing tip wheels. Pay attention to the correct mounting (left and right wheels are different).

NOTE: The original screws only must be used otherwise damage to the wing skin cannot be excluded.

This will ensure that, so long as the load limitations (Mass and Balance Form) in the Flight Manual are adhered to, the in-flight C.G. will always remain within safe and approved limits.

CAUTION: If removable trim ballast is provided in the fin, the increased minimum cockpit load which will apply if the ballast is fitted, must be entered in the **Data and Loading Placard** affixed in the cockpit, for safety reasons. A placard attached next to the **Data and Loading Placard** in the cockpit will refer to the **Flight Manual page 6.4** in which the reduced minimum cockpit load permissible without trim ballast in the fin must be entered.

When a barograph is installed in the special box in the rear engine compartment, the minimum cockpit load - in the most unfavourable case - is increased by about 2.8kg (6.2lb)! In that case the resulting increased minimum cockpit load again must be indicated in the **Data and Loading Placard** and a placard referring to the permissible reduced minimum cockpit load as entered in the **Flight Manual** must be affixed next to it.

When the steerable tailwheel is installed, the minimum cockpit load - in the most unfavourable case - is increased by about 5.5kg (12.1lb)! In that case the resulting increased minimum cockpit load again must be indicated in the **Data and Loading Placard** and a placard referring to the permissible reduced minimum cockpit load as entered in the **Flight Manual** must be affixed next to it.

In the following paged three examples of how to evaluate the weighing results are given.

EXAMPLES:

(1) A weighing in accordance with section 6.2 gave the following results:

Empty Mass m_E = 373 kg (822.46 lb)
Empty Mass C.G x_E = 0,597 m (1.96 ft)

By use of the diagram Fig. 6.4-1 it is found that:

Where the symbols stand for:

x_E	(m)	Empty mass C.G. position
m_E	(kg)	Empty mass
x_P	(m)	Pilot mass arm
m_P	(kg)	Mass of pilot incl. parachute
x_W	(m)	Distance of water ballast from datum point
m_W	(kg)	Mass of water ballast (1 Liter = 1 kg or 2.2 lb)
x_{O2}	(m)	Distance of oxygen bottle from datum point in standard fitting location
m_{O2}	(kg)	Mass of oxygen bottle
x_B	(m)	Distance of fin mounted battery from datum point (if fitted)
m_B	(kg)	Mass of battery or other trim ballast, when fitted in the fin
x_{BG}	(m)	Distance of baggage compartment from datum point
m_{BG}	(kg)	Mass of load in baggage compartment
x_{Fu}	(m)	Distance of fuel load from datum point
m_{Fu}	(kg)	Mass of fuel load
x_H	(m)	Distance of barograph in engine compartment from datum point
m_H	(kg)	Mass of this barograph
x_I	(m)	Distance of instruments in instrument panelfrom datum point
m_I	(kg)	Mass of the instruments
x_{PPex}	(m)	Distance of extended propeller from datum
x_{PPre}	(m)	Distance of retracted propeller from datum
m_{PP}	(kg)	Mass of power-plant with propeller, coolant and engine oil
x_{PB}	(m)	Distance of engine battery from datum point in the box in front of the control stick (two locations are given as the battery may be mounted either at the front or at the rear in the box)
m_{PB}	(kg)	Mass of engine battery in the box in front
x_{st}	(m)	Distance of the steerable tailwheel from datum point
m_{st1}	(kg)	Mass of steerable tailwheel original version
m_{st2}	(kg)	Mass of steerable tailwheel TM 18

Designation	Unit of Measmt.	Amount	Remarks
x_{PPex}	Meter	+ 0,919	propeller extended
x_{PPre}	Meter	+ 1,026	propeller retracted
m_{PP}	kg	65,10	power-plant with propeller
x_{PB}	Meter	- 1,15	engine battery arm fitted in front end of box
	Meter	- 0,99	engine battery arm fitted in rear end of box
m_{PB}	kg	6,23	engine battery in front of control stick
x_{st}	Meter	+ 4,688	distance for both versions of the steerable tailwheel
m_{st1}	kg	1,2	steerable tailwheel original version
m_{st2}	kg	1,8	steerable tailwheel TM 18

* The exact mass of the battery (see Section 2.8) or of the trim ballast has to be weighed!
The max. permissible mass of **6 kg** (13.23 lb.) for trim ballast in the fin must not be exceeded!

Designation	Unit of Measmt.	Amount	Remarks
x_{PPex}	Meter	+ 0,919	propeller extended
x_{PPre}	Meter	+ 1,026	propeller retracted
m_{PP}	kg	66,00*	power-plant with propeller
x_{PB}	Meter	- 1,15	engine battery arm fitted in front end of box
	Meter	- 0,99	engine battery arm fitted in rear end of box
m_{PB}	kg	6,23	engine battery in front of control stick
x_{st}	Meter	+ 4,688	distance for both versions of the steerable tailwheel
m_{st1}	kg	1,2	steerable tailwheel original version
m_{st2}	kg	1,8	steerable tailwheel TM 18

* The exact mass of the battery (see Section 2.8), the trim ballast or the power-plant must be determined by weighing!

The max. permissible mass of **6 kg** (13.23 lb.) for trim ballast in the fin must not be exceeded!

27	Reduced minimum cockpit load without trim ballast in the fin: see flight manual - Page 6.4	This placard is affixed next to the Data and Loading Placard (19)
27b	Reduced minimum cockpit load without steerable tailwheel: see flight manual - Page 6.4	This placard is affixed next to the Data and Loading Placard (19) if applicable
28	Prior to take-off check the weight of the trim plates and their secure fixing !	This placard is only fitted, if support fittings for trim weights are installed in the aircraft
29	One trim plate equals a pilot mass of 3.0 kg (6.6 lbs)	This placard is only fitted, if support fittings for trim weights are installed in the aircraft
30	Box for barograph must not be used for baggage compartment !	This placard is affixed in the engine compartment at the box for the barograph
31	Reduced minimum cockpit load without barograph in the engine compartment: see flight manual - Page 6.4	This placard is affixed next to the Data and Loading Placard (19) if applicable
32	Baggage com-partment load **max. 15 kg** (33 lbs.)	This placard is affixed at the cockpit rear wall be-tween the shoulder strap fittings