

SAFETY-FLY 700

BOARD INSTRUMENT FOR
ULTRA-LIGHT AIRPLANES

MIC
ELECTRONICS



NR.101700MEN

CE

USER MANUAL

GB

Preface

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- **MC elettronica S.r.l.** is not obliged to give notice of any further modifications to the product.

- The information provided in this manual do not allow unauthorized personnel to tamper with the product in any way.

- The warranty on the equipment becomes void should tampering be detected.

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1. GENERAL AND STANDARD WARNINGS

1.1 Premise

- This instruction manual gives all the specific information that you need for proper knowledge and use of your equipment.
- After buying the instrument, read the manual carefully and refer to it any time you have doubts on how to use the equipment or when you have to carry out maintenance operations.
- Keep the manual on board the aircraft. If this is not possible, keep it in a place which is known by users and may be accessed conveniently for consultation.

**ALL RIGHTS RESERVED.
THIS MANUAL IS INTENDED
EXCLUSIVELY FOR USE BY THE CUSTOMER. ANY OTHER USE IS
FORBIDDEN.**

1.2 Terms of warranty

- *SAFETY-FLY 700* is guaranteed for a period of 2 years from the date of purchase, upon presentation of a fiscal receipt or purchase invoice.

The warranty is not applicable in case of:

- damage caused by accident;
- non correct use, changes which have not been concurred, incorrect installation (or tweaking);
- damage caused by breakage or malfunction of non *MC elettronica* devices mechanically or electrically connected to our devices;
- causes of greater force (lighting, floods, fires or other causes independent from *MC elettronica*).

Repairs under warranty, which must be carried out at the laboratories of our authorised centres, are completely free as long as the devices are directly transported or shipped to them. The transport expenses and risks stemming from it are completely the Customer's responsibility.

The warranty described above is valid unless different agreements are made between *MC elettronica* and the Customer.

NOTE



MC elettronica declines any responsibility for damage or expenses, direct or indirect, cause by improper use or inability of the Customer to use the equipment separately and/or in combination with other devices.

1.3 Assistance service

It is possible to have assistance in all the countries where the device is officially distributed by *MC elettronica* (during and after the warranty period).

1.4 General description



REF	DESCRIPTION
A	Fuel lamp, taps check
B	Head temperature pre-alarm lamp
C	Engine oil OK condition lamp, ready to go
D	Engine oil temperature pre-alarm lamp
E	MAX and MIN engine oil pressure lamp
F	Alarms reset button, used also to set timers and pre-alarms programming
G	3-level flaps indicator, T/O - ½ - FULL

1.5 Instrument assembly

Install *SAFETY-FLY 700* where it may be of most comfort to the pilot; in the figure it is installed on the engine instruments plank on the lower right



Safety Fly 700

Fig. 1 – *SAFETY-FLY 700* mounted on the engine instruments plank

1.6 Electrical connections

Carry out the connections as reported in the table, respecting the colours of the cables, or refer to the STC 1017.0 connection board on pages 22-23

8 poles Input/Output Connector	
Connector wire colours 8 poles	Description of connection
Orange	Input (-) CHT heads temperature
Black	Input (-) oil temperature
Red	Input (-) pressure temperature
Green	Input (-) flaps sensor
Yellow	Input (-) sensor on Fuel taps
Gray	Mass (-) sensor on Fuel taps
Brown	Output (-) buzzer
Blue	Output (+) buzzer



Fig. 2 detail – Orange wire connected to the CHT head temperature instrument.

Connect the supplied buzzer in an area possibly in front of the pilot, respecting the polarities refer to the STC 1017.0 connection board on pages 22-23.



Fig. 3 Buzzer mounted on the engine instrument plank .

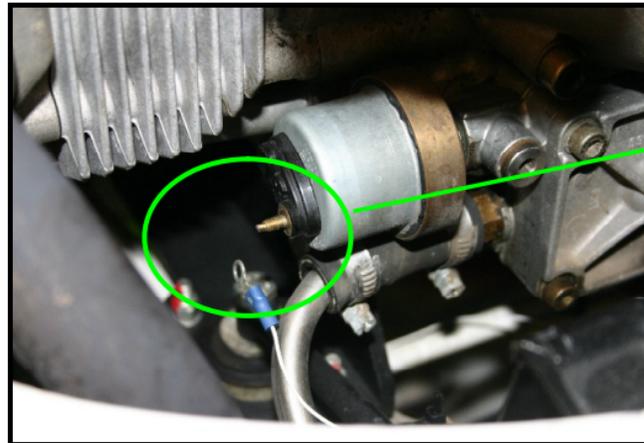
4 poles power connector	
Connector wire colours 4 poles	Description of Connection
Black	Positive (+12) power supply
Red	Positive (+12) power supply
Green	Negative (GND)
Yellow	Negative (GND)

2. PROGRAMMING

Programming must be carried out with a cold engine, with oil, engine and head temperature indicators below 50° C.

The *SAFETY-FLY 700* instrument must not be powered.

Temporarily detach the wire of the engine pressure orb, as on the engine in figure 4



Disconnected wire

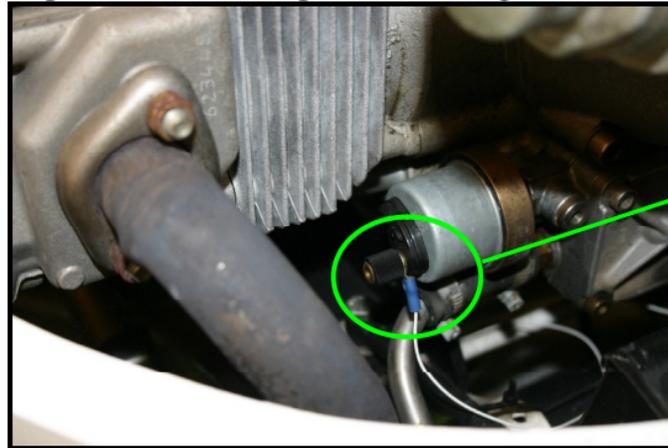
-Fig. 4 Oil pressure orb with momentarily disconnected wire

2.1 Beginning programming

- Keep the red RESET button pressed and, while keeping it pressed, power the instrument by turning the panel key, releasing the button when the first red CHT indicator (ref. B) will be lit.
- From this moment on programming will begin and it will take place in cyclic mode semi-automatically, starting from calibration of the CHT, OIL TEMP, OIL PRESS and FLAPS indicator.
- During programming, the instrument generates an electrical output signal by simulating handling of the engine instrument indicators.
- To memorise the point of pre-alarm, press the red key (RESET) in the desired position until the buzzer will beep twice, indicating that programming was executed correctly.
- Subsequently, *SAFETY-FLY 700* will continue with the other programming according to the cycle reported in the table below.

Order of cycle of programming	PRE-ALARMS DESCRIPTION
1°	Red led (ref.B) CHT heads temperature
2°	Green led (ref.C) Min OIL Temperature
3°	Red led (ref.D) Maximum OIL temperature
4°	Red led (ref.E) Maximum OIL pressure
5°	Red led (ref.E) Minimum OIL pressure
6°	1st orange Led (ref.G) (T/O) FLAP
7°	2nd orange Led (ref.G) (1/2) FLAP
8°	3rd orange Led (ref.G) (FULL) FLAP

- At the end of programming, turn off the instrument and reconnect the previously detached wire of the pressure orb, ref. point 2.1 of figure 4.



Reconnected wire

-Fig. 5 Oil pressure orb with reconnected wire.

In case programming of a size should be repeated, the entire programming cycle will have to be repeated, only the size in question will have to be programmed again, leaving the correct sizes unchanged.

3. OPERATION

- After having powered the instrument through the key panel, *SAFETY-FLY 700* will execute a brief test by turning on all the indicator and buzzers for 2 seconds, after which the instrument will be ready for use by constantly checking the engine, fuel, flaps and timer in Real-time.

3.1 Alarm function

All the alarms (CHT temperature, oil and pressure) will be active when they will reach the programmed level, with the switching on of the indicator along with the activation of the buzzer.

An example of heads temperature alarm is reported on the following picture



Fig.6 example of heads temperature alarm

To turn off the buzzer during an alarm, simply press the red Reset button.

3.2 Fuel indicator function.

3.2.1 Fuel Indicator - with magnetic sensors mounted on the taps- OPTIONAL

If the tap will be open (sensor contact closed) the indicator will be off, if instead the tap will be closed (open contact) the indicator will be on. In the latter case, before beginning takeoff, the taps will have to be opened.

3.2.2 Fuel Indicator - without magnetic sensors mounted on the taps.

Each time the *SAFETY-FLY 700* instrument is powered, the fuel indicator will be on, this is to remind the pilot to Check the taps, and to open them if closed. After the Check reset the indicator by pressing the red reset button.

3.3 FLAP FUNCTION.

The 3 orange indicators (ref.G) FLAPS, will indicate the FLAPS in 3 positions, T/O, ½ and FULL. When flaps are open, starting from T/O lamp, after one minute the buzzer will sound and remain ON also after 2 minutes

3.4 Timer function.

SAFETY-FLY 700 is also equipped with a calibrated timer fixed at 2 minutes, for position reports or for any other necessity desired. To activate simply press the Red reset key when no alarm is in progress.

When the timer will be connected. the Ex Fuel indicator will be on, and the buzzer will activate for 1 second every 2 minutes

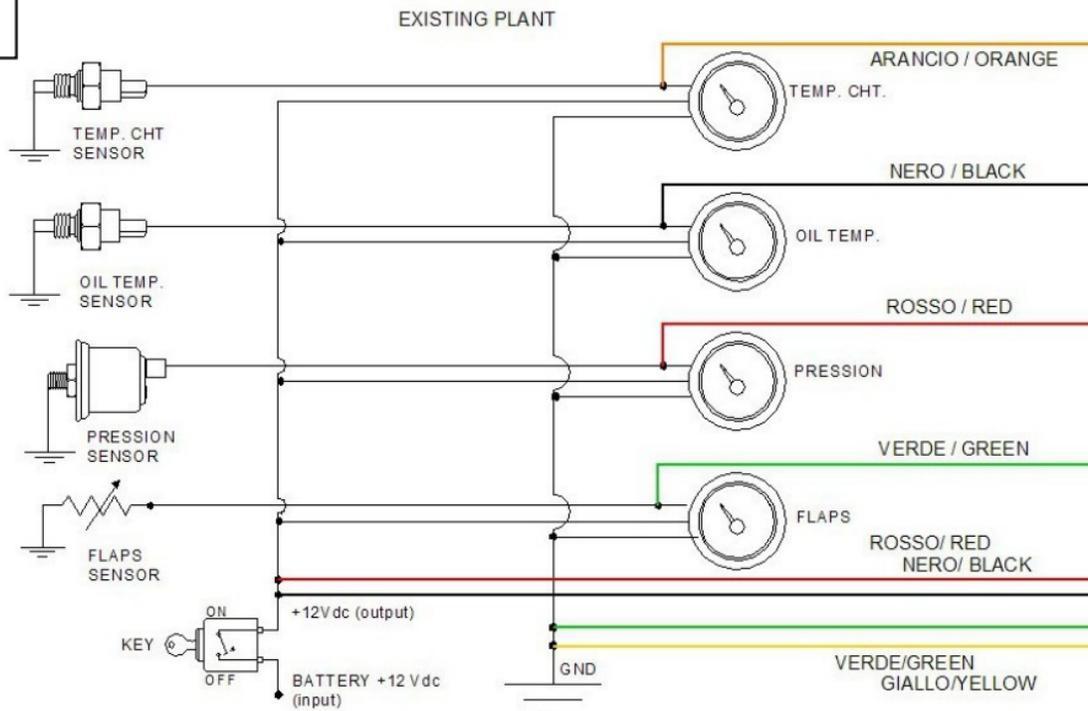
IMPORTANT NOTE

Let it be stated that *SAFETY-FLY 700* must be intended as an instrument to aid navigation, but can in no way replace disengagement by the pilot. Therefore the pilot must absolutely attain to the aircraft use regulations, continue to carry out instrument checks in flight and respect flight rules dictated by the competent bodies.

Therefore, the pilot remains in all cases the sole responsible party during flight.

Technical features	
Power supply voltage	From 9 to 16 Vcc
Maximum absorption	150 mA @ 16Vcc
Operating temperature	-20°C ÷ +75°C
IP protection rating	IP55 (front side) IP45 (rear side)
Mechanical resistance	2 g
Material	Black ABS

STC 1017.0



CONNECTION SCHEME FOR SAFETY FLY 700

