

A

RALLYE

N° 107 Gr. 71-06

CORRESPOND A LA MODIFICATION N°

SUBJECT :COWLING LOCKSVALIDITY :

All RALLYE aircraft MS 880.B-MS 881-MS 883-MS 886 - MS 887 - MS 890-MS 892 A 150 - MS 892 E 150 - MS 893 A - MS 893 E - MS 894 A - MS 894 C - MS 894 E equipped with locks made at SOCATA. This lock was used on aircraft n° 1605 and thereafter ; also it was optional on aircraft MS 880 B after N° 831

Official approval

SCAC Approved

APPLICATION :

The method of fixing of the cowlings is obligatory at each pre-flight check upon issue of this SOCATA SERVICE.

PURPOSE :

Following from an incident, where the aircraft in flight lost its upper cowling, it is apparent that these aircraft must be recalled for the required change to the cowling locking system.

NOVEMBER 1972

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INTERACTIVE

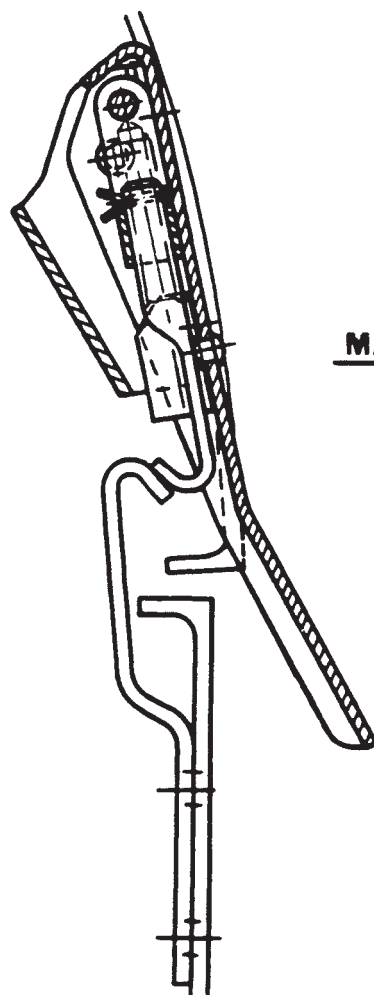
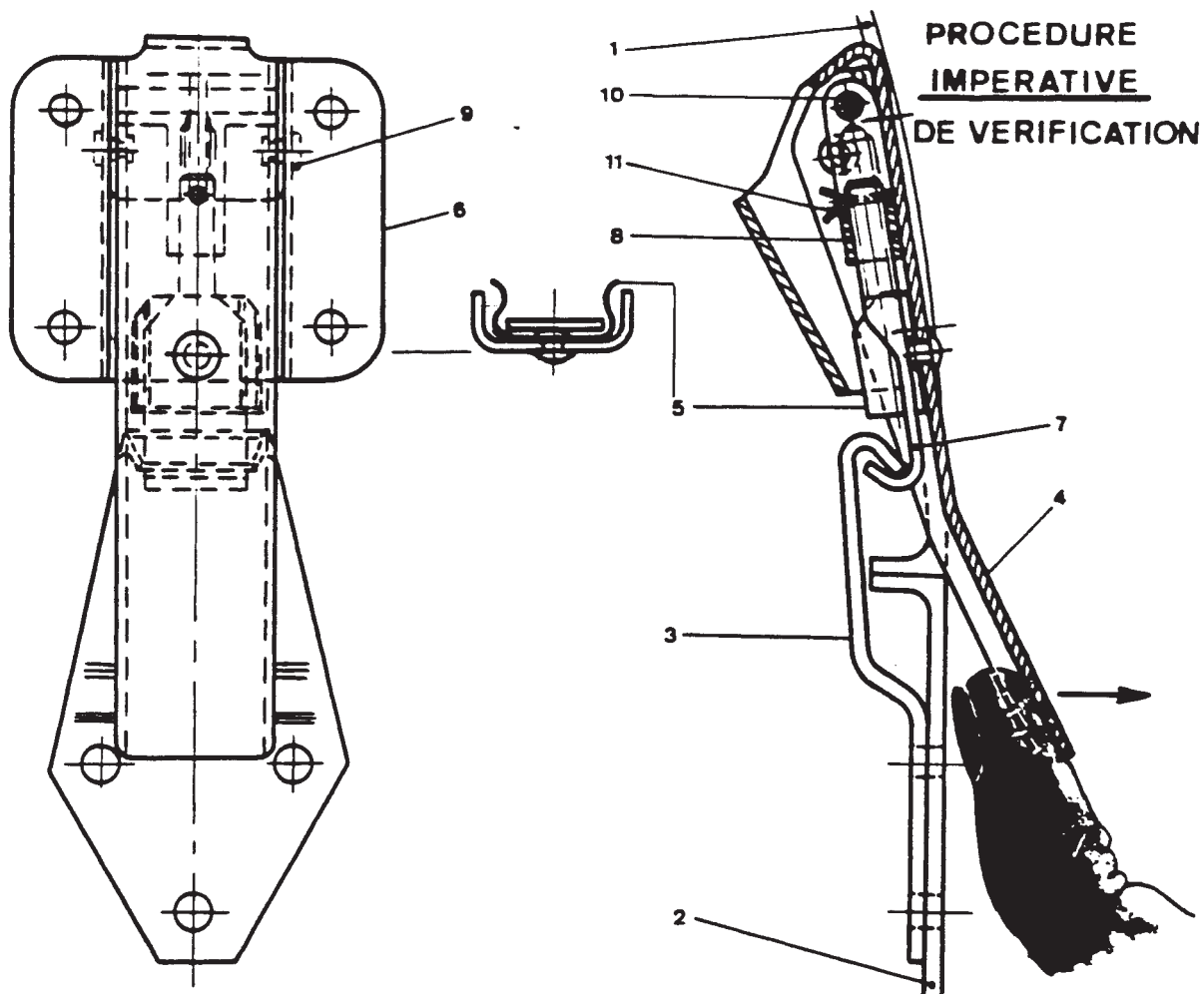


FIG. 2



DESCRIPTION

1 -WORKING PRINCIPLES OF THE ATTACHMENT FITTINGS OF THE COWLINGS

(See fig.1 and 2 on page 2)

The lock is made of two parts, one being an integral part of the upper cawling, the other being of the lower.

1.1 - Equipment of the lower cawling

The lower catch (n° 3) is riveted to the lower cawling (N° 2)

1.2 - Equipment of the upper cawling

The support (n° 6) is riveted to the upper cawling (n° 1)

The lever (n° 4) is pivoted on the support (n° 6), using two riveted axles (n° 9). The trunnion (n° 8) rotates on the interior of the lever (n° 4) by a shear pin (n° 10) crossing the lever. The upper catch (n° 7) can be adjusted in length as it has a threaded section which screws into the trunnion (n° 8) the assembly of these two pieces being relatively rotationally immobile after adjustment by the means of the cotter pin (n° 11). A lyre shaped spring (n° 5) is riveted onto the internal side of the lever.

1.3 - Usage

The lever (n° 4) being raised to maximum, to engage the upper catch (n° 7) (which then occupies the lowest possible position) under the lower lock piece (n° 3). Reengage the lever and push it to the lowest possible position towards the lower cawling. Its rotational movement provokes a tightening of the upper catch by changing the hinge height (n° 10). The use of these operations ensures the proper engagement of the locks.

The same rotational movement equally engages the displacement of the spring (n° 5) which locks the upper catch, ensuring also the locking of the lever to which it is riveted.

When the length of the upper catch is correctly adjusted, that is to say when it is at the minimum length compatible with the possibility of closing, the effort that one needs to achieve the locking position is very sensitive. Moreover the action of locking the spring on the upper cawling needs, towards the end, an extra effort.

The locking of the lever by the spring is announced by a characteristic sound.

2 - SIGNS OF A POSITIVE LOCK

The closing and locking of the cowlings must be verified during each pre-flight check, as indicated on the flight manual (section 4, paragraph 4-3-1, part 3)

To verify that the lock is closed firmly, one must not apply a force to the lever. In reality, the upper catch could not very well pass under the lower catch in view of the locking. It is possible however that the two plates only comes into contact (see fig. 2) This will allow the lever to be pushed to its lowest position or the spring to grip the upper catch with the renowned sound.

There is an appearance of locking

In certain cases, the upper catch can even pass above the lower catch without having the least contact with it. This configuration evidently does not allow the spring to grip the upper catch, this subsequently lacks leverage and the lever can be placed in a position that looks correct.

To determine whether the lock is holding, it is necessary to pull on the lever, as indicated on fig. 1, with sufficient force.

In all cases of apparent locking, the force used on the lever is almost zero as there is no stress.

This force must be sufficient enough to overcome the weight of the lever and the friction forces which are truly negligible.

3 - EXAMINATION AND CORRECTION OF THE LOCKING SYSTEM

3.1 - The tension of the cowlings, obtained by the locking action, which is necessary to guarantee a well-held and tight-fitting cowling, may be altered by the ageing of the rubber joints or by an inherent distortion of assemblies of this type. In all these cases, the locking, well effected, can be hazardous in its efficacy and its precariousness manifests itself in the weakness of the effort needed when applying the closing action on the lever. It is consequently indispensable to lower the length of the upper catch, in raising the cotter pin, whilst screwing by one or more turns the threaded part of the catch into the trunnion, and in replacing the cotter pin. (The groove seen in the trunnion allows all the necessary length adjustments).

NOTE -

At the factory, the upper catches are adjusted to minimum length to assure the maximum tension.

The locking is very efficacious but it can only be used in engaging, one after the other, the upper catches in the lower catches and then pushing home the four levers. Completely locking one side and then trying to fix the other side will not allow good locking to occur.



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3.2 - VERIFICATION OF THE FRONT CENTERING OF THE COWLINGS

It is indispensable to periodically check the internal diameter of the metal tabs fixed to the front of the lower cowl. These tabs which receive the centering pins of the upper cowl can become ovalised with use.

In all these cases, it is important to replace the used tabs and, eventually, the centering pins in order that the cowls upper and lower are relatively central with each other, as this is an important factor when the plane is in flight.