GAus AN 200
(ISSUE 2)

AIRWORTHINESS ADVICE NOTICE

TYPE AFFECTED: All types

SUBJECT: Miscellaneous Airworthiness Information

BACKGROUND: Canopy Locking Mechanisms

This notice is issued in conjunction with Operations Advice Notice No. 02/26 dated 24 April 2026.

Gliding Australia is extremely concerned with the developing trend as indicated in SOAR reports of uncommanded canopy opening in flight. Our SOAR Reports have been reviewed back to September 2011, when the current SOAR system was established. Over this period, there have been a total of 59 incidents of canopies coming open in flight. The causes of these incidents are shown in the table below.

Some of these incidents may be airworthiness related. These uncommanded canopy incidents are not limited to Australia.; Gliding Australia is aware of at least two incidents recently in New Zealand and one in France.

SIGNED:

Executive Manager Airworthiness

For and on behalf of:

GLIDING AUSTRALIA

We know that interrupted checks are a major contributor to the command pilot's failure to properly lock a canopy. Others on the list are less common, but all are preventable. Of particular interest is that 19 of these 59 incidents (30%) involved Astir types, both single and two-seater. Most of these types share a common canopy locking mechanism. They are simple, robust and easily maintained, but obviously not foolproof.

However, it would be a mistake to assume these incidents all have an operational cause. Modern accident and incident investigations look further into causal factors. Of course, it is the pilot's responsibility to ensure that the sailplane is configured for safe flight. However, using the "Swiss Cheese" model, there are other things that can be done to insert additional defences; some are related to airworthiness and maintenance.

Canopy Opening Incidents

25 – interrupted checks

11 -Not locked correctly

7 – release manipulated accidentally

5 – worn canopy locking mechanism

4 – canopy replaced. Not fitted correctly

2 – Puchaz AN170 related

1 – canopy strobe fitting fouled canopy

4 – under investigation

19 occurrences were in Grob Astir, Twin or Twin Acro types.

When an annual inspection takes place, one of the first maintenance actions is to remove the canopy and place it in a safe and protected place and throw a cover over it. Now the team can really get into the real job of servicing and inspecting the glider. And then one of the final actions in the annual maintenance is to retrieve and fit that canopy. The job's done!

But on reflection, how much attention has been given to the canopy locking and its operating system? Is it possible that the canopy, its close-fitting frame to fuselage tolerances, its locking system, have not had the inspection and priority they truly deserve? Food for thought!

The canopy locking mechanism should be cleaned, lubricated and checked for easy and correct operation. The proper operation of the canopy locks can only be properly tested when the canopy is installed on the aircraft.

Also, at each DI the canopy is opened and closed multiple times, but there should also be a specific check that the canopy locking system is working properly, is free moving and easily operated. Another check which is worthwhile is to check that temperature variations do not interfere with smooth operation of the canopy locks; what may work in a shady hangar may not work as well having been soaked for an hour at 45^0 C on the flight line. In the case where canopy operation is impaired by heat, a canopy cover should be used to ensure minimal expansion and satisfactory operation and locking.

ASTIR TYPES

The Astir canopy latch consists of a rod which pushes several pins through sleeves located on the fuselage lip and canopy frame. The rod is pushed manually into the locked position assisted by a spring. Astirs, both single and two seat, are of an old design and parts are wearing. Maintenance of such systems must be of a standard ensuring satisfactory effective operation and safety. The system, particularly for well-used aircraft, can have problems such as:

FIGURE 1

- Misalignment of the three sleeves through which the pins are pushed,
- A bent or deformed push rod,
- Corrosion, paint, and other contaminants,
- Poor lubrication (ie, too little, too much, or the wrong lubricant), or
- Heat effects

All the above should be detected and addressed through regular inspection and maintenance. A rigorous Daily Inspection is good defence in this regard. It has been suggested that a painted alignment mark on the canopy rail or fuselage lip which lines up with a similar mark on the push rod can be applied (taking care that paint cannot get onto the pins and sleeves). Checking the mark alignment after canopy closure may help in overcoming a poorly latched canopy. Such a paint system however would not protect against a canopy which is not closed as the Astir canopy latch can be locked with the canopy still open, and the aligned marks would provide no protection in this scenario. The pilot must visually ensure the mechanism is fully locked. A secondary check applying a gentle force upwards should confirm the canopy is fully locked.

FIGURE 2

Figure 2 shows an Astir canopy latch which appears locked (ie, the pin is fully seated in the two Canopy mounted sleeves, but which is NOT through the sleeve on the fuselage frame. In this position the canopy is not properly seated and can open without the locking knob being moved. While this is more an operational rather than airworthiness issue, ensuring that the canopy seats properly without additional force being required is a defence which maintenance can ensure is in place. Additionally, canopy locking systems are required to be inspected at the daily inspection for serviceability including correct operation, alignment and acceptable friction.

CHECKS CANOPY IS LOCKED.

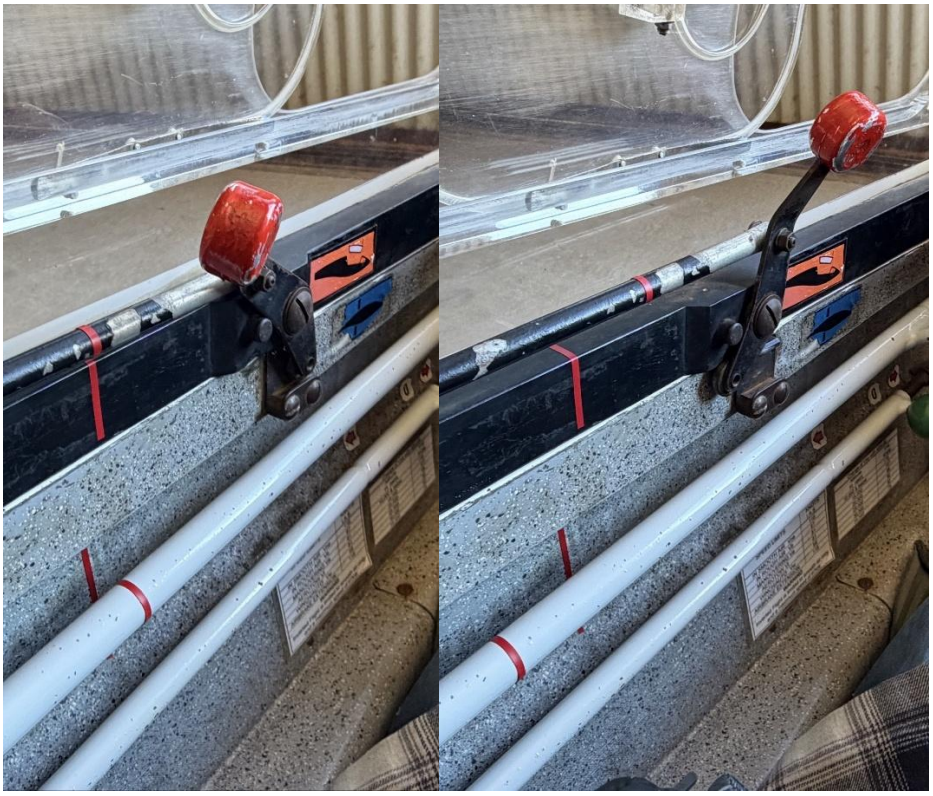
For two-seat aircraft with side opening canopies, a red line inside the center bulkhead will give both pilots a quick accurate visual check that both canopies are locked. The lines should be horizontal and high enough for the front seat pilot to look over their left shoulder to see the lines. The rear seat pilot can see both canopies are locked.

This check can also be used on single seat aircraft with the lines placed at the rear of the canopy slightly above the pilot's left shoulder where it is a quick visual check that the canopy is locked.

OTHER TYPES

Whilst Astir types are the focus of this AN, several other types have canopy latching mechanisms which are like the Astirs and are subject to the same sorts of problems. The canopy latching mechanism of any glider should be subject to stringent checks at every DI, and any related issues either rectified or entered into the Maintenance Release as a Major Defect. Any airworthiness issues should also be raised as an SDR.

For types other than Astirs, similar measures can be taken. Alignment marks can be applied to canopies and other controls, such as airbrakes. An example below shows marks applied to a Puchacz. Care must always be taken not to cause confusion, and to ensure that the marks do not give a false sense of security. Marks and their alignment must CLEARLY show that a canopy or control is either in, or not in, its appropriate position.



There are far too many types for detailed advice on markings, so local solutions may need to be developed. In doing so, the guiding principle must be that it is the command pilot's responsibility to ensure that the aircraft is in the correct configuration for flight. However, the is much to be gained in providing the pilot with every assistance to make that decision.