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CAA approval ref: DAI/9970/19

BCAR A8-1 & A8-9 (F1)

ref : SB159 starter inhibitor switch

SERVICE BULLETIN NUMBER 159

Issue 3.

TITLE	Starter inhibitor switch
CLASSIFICATION	PSA ltd have classified this bulletin as compulsory, except note 1.
COMPLIANCE	For electric start aircraft not already fitted with modification M112 (starter inhibitor switch), within the next 25hrs.
APPLICABILITY	All electric start QuikR, Quik GTR, Quik, GT450, Quantum.

1 INTRODUCTION

P&M Modification 112 was introduced on 5/11/2003 to fit a microswitch into the hand throttle assembly which inhibits the starter solenoid circuit when the hand throttle is open. However, the modification was not declared mandatory or compulsory.

In the light of a recent accident, we now recommend that fitting the microswitch is a compulsory modification. The accident also resulted in the aeroplane taking off inadvertently with the controls locked before crashing in a spiral dive. The ensuing impact may have been survivable if a shoulder harness had been worn.

1.1 Note 1

Some flying instructors have observed that the fitting of the switch prevents control of the hand throttle from the rear seat during start-up. The switch should be fitted but may be disconnected for dual instructional flights only.

1.2 Starting procedure

Starting any aeroplane is a hazardous time. Before starting, check the throttle operates correctly on hand and foot controls, without jamming. The recommended starting sequence is:

- a) Propeller covers off.
- b) Point the aircraft towards a clear area, preferably into any significant wind.
- c) Pilot strapped in, including shoulder strap. Helmet on and secure.
- d) Check hand throttle closed.**
- e) Fuel turned on.
- f) Set choke as required – n.b. the Rotax choke is only effective with the throttle closed or nearly so.
- g) Undo any control lock parking strap, pull the control bar in.
- h) Brakes on.
- i) Cover the ignition switches with the right hand – a forward stroking action with the index finger can be used to turn them both off in emergency.
- j) With the left arm above the control bar, turn the master switch on, shout “clear prop”, ensure it is clear and operate the starter button for no more than 10 seconds.
- k) Be prepared to stroke both ignition switches off in the case of unexpected high power.

For warm starting, no choke is required. It may be necessary to open the foot throttle slightly. For restarting in very hot conditions or with a flooded engine, it may be necessary to open the throttle, being prepared to close it as soon as the engine fires.

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A pilot diagonal strap and passenger twin shoulder harness has been provided on all applicable P&M aircraft since 1990. Correctly adjusted, the harness does not compromise full and free control inputs.

Note: pilots are reminded that if the engine is stopped in flight, the hand throttle MUST be closed in order to achieve a restart.

2 ACTION

2.1 Fit modification M112 within the next 25h. A kit comprising the microswitch, mounting screws and cable is available from PSA Ltd. If the hand throttle case is not provided with microswitch mounting holes, a new one, part no. ZMS-008 must be fitted.

2.2 The inhibitor switch is connected in series with the existing starter switch. Unplug the female spade connector on the starter solenoid, plug it into item 4 on drawing SW-90253. Plug the female spade connector item 5 on drawing SW-90253 onto the solenoid.

2.3 Test by securing the aircraft, with the propeller clear and the ignition OFF. Open the hand throttle no more than 10mm from the rear stop. The starter button should be inactive. Close the throttle completely. The starter button should be active again. The microswitch spring plate can be adjusted if necessary to produce the required results.

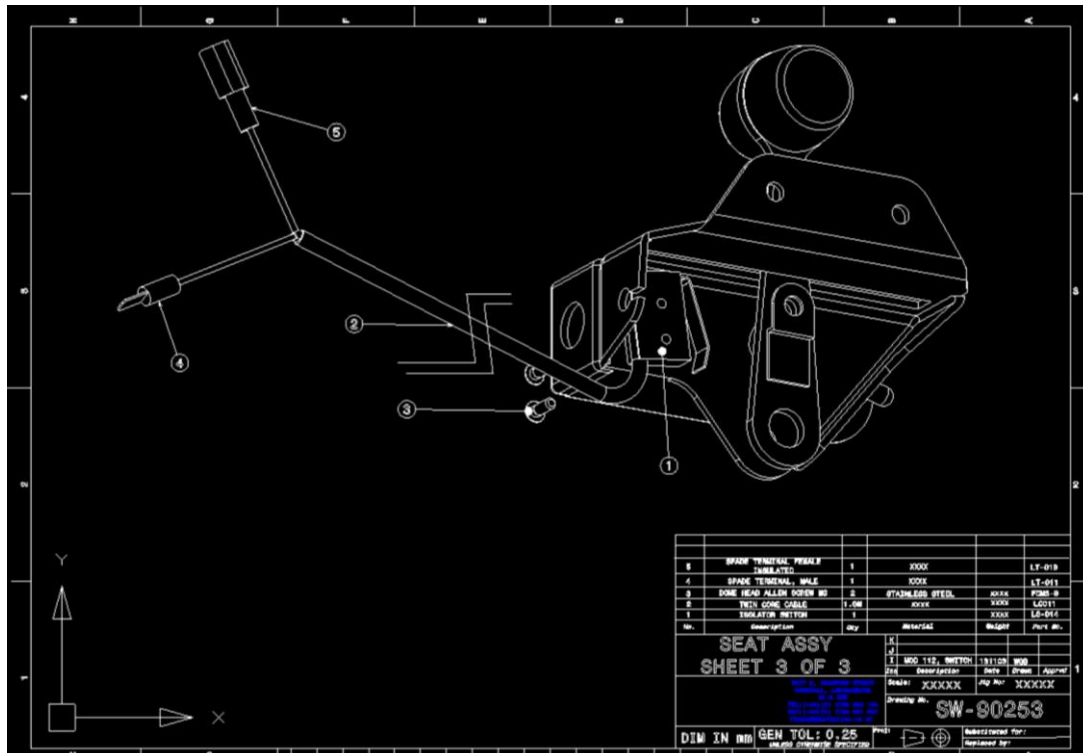


Figure 1 Hand throttle case with starter inhibiting switch

3 Documentation

An entry must be made in the aircraft logbook "Service bulletin 159 carried out" and if not already installed, "Modification 112 fitted and tested" as a one-off action, signed off by a qualified person.

Pegasus Sport Aviation Ltd.

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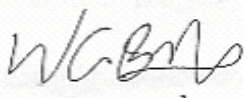
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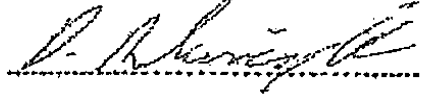
4 Continued Airworthiness

The starter inhibiting switch function must be checked at each Permit to Fly revalidation.

Issued by: **W.G.Brooks**

Checked: **D Arkwright** **DATE**

Approved		Date
		10/08/2024

Checked	
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