

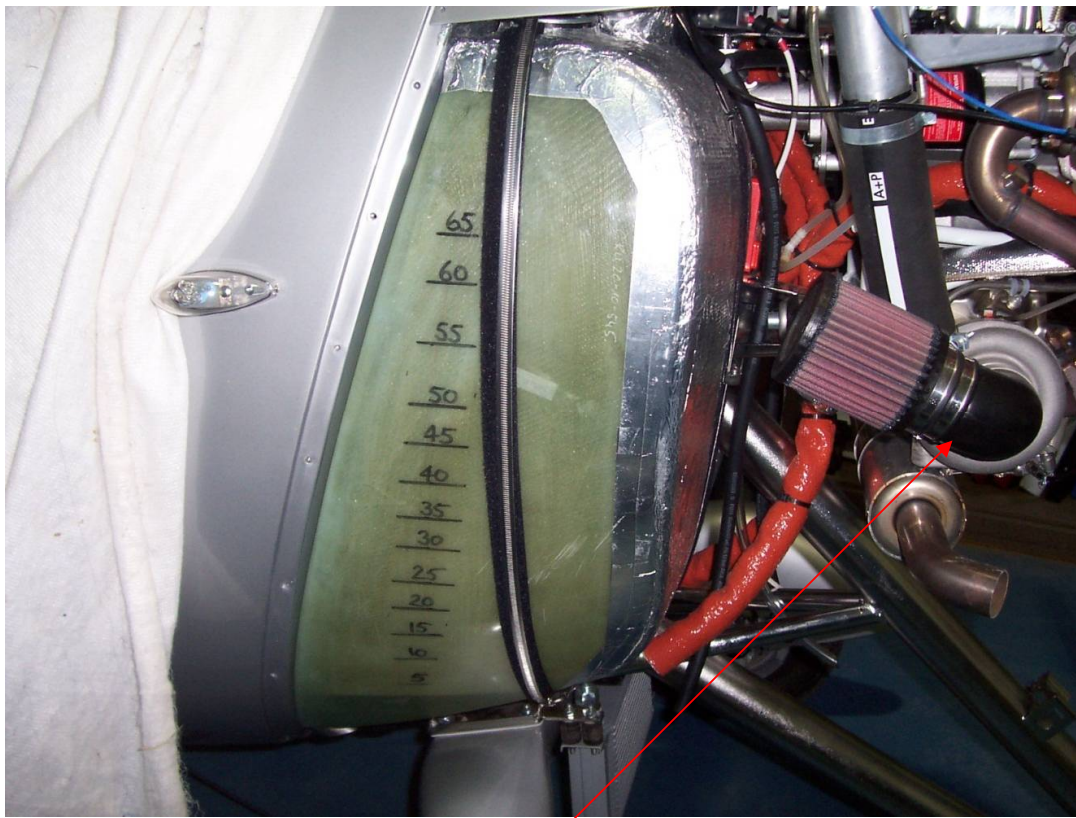
RotorSport UK Ltd Service Bulletin

Title: Revised air intake for Calidus 914UL		
SB No.: 075 Iss1	Related documents MC No: 265 CCAR No.: 006	Compliance Category:
Applicability		OPTIONAL or RECOMMENDED or MANDATORY
Aircraft type & model: Calidus	Aircraft serial Nos. affected: All with 914UL engine	

This form is the response from RotorSport UK Ltd either against a problem found in the product in service requiring a containment or rectification action, or as service information for aircraft modification incorporation. For help, contact RotorSport on 44(0)1588 650769, or email info@rotorsport.org.

Reason and overview of the Service Bulletin (cause of problem if known)

For those aircraft fitted with the 914UL turbo-charged engine, when operating in hot ambient conditions or using a high power setting for long periods of slow flight, it has been found that the Rotax turbo-control unit (TCU) detects over-temperature of the compressed air and restricts the power output. This is exacerbated by the location of the air inlet inside the engine cowling, so repositioning this outside the cowling will provide cooler incoming air. This is achieved by means of an extension tube and aperture cut into the engine cowling just above the exhaust aperture. The tube is attached to the turbo inlet by means of a pipe clip, the same method as the original filter attachment. The new aperture does not significantly affect the strength of the cowling and no reinforcement is required. The whole installation is protected against detachment by means of a 1.5mm safety wire.



Intake before modification

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Intake after modification

Exhaust

Approval

The technical content of this document is approved under the authority of the UK CAA Design Organisation Approval Ref: **DAI/9917/06**

Manpower estimates

Accomplishment of this SB requires the following personnel and estimated 2 man-hours to complete the task (as a standalone item):

- (i) A3-7 Authorised engineer

Tooling required

Hand tools only

Weight and Balance Effects

No significant change to weight and balance

Manuals affected

Pilots Handbook |RSUK0060 is not affected
AMM RSUK0061 affected only by recognition of the (optional) modification and this Service Bulletin SB-075.

Previous Modifications that affect the SB

None

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Accomplishment instructions (Action required to implement this bulletin):

Effective date of this SB-075 is 28 April 2014.

There is no relevant MPD or other outside body documentation requiring reference.

Task limitations – must be carried-out by an A3-7 authorised engineer

Installation detail

1. Remove the upper engine cowling and lower left engine cowling as described in the AMM RSUK0061
2. Remove the existing air filter installation and cover the turbo inlet with a film of “gaffer” tape
3. Temporarily re-attach the lower engine cowls and sighting downwards and aft, mark the surface of the left-hand cowl in-line with the centre of the turbo inlet
4. Drill a pilot hole 3mm diameter through the cowl and using a wire probe verify that the hole is in line with the centre. If necessary drill a second hole.
5. Using a hole-saw increase the hole diameter to 100mm.
6. Using a hand-held grinder (e.g. Dremmel) dress the hole into an ellipse so that with the air filter and extension tube fitted to the turbo inlet there is an equal gap of approximately 15mm around the filter.
7. Remove the left engine cowling to allow final dressing and paint-finishing of the hole.
8. Mark the aluminium inlet tube 20mm from the plain end and drill a 2.5mm hole



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9. Pre-assemble the inlet system, passing the safety-wire through the drilled hole, through the filter rim, and into one of the slots (under the pipe clip).



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10. Remove the temporary turbo-inlet protection and fit the inlet assembly to the turbo flange.
11. Pass the safety wire under the lowest clip on the vertical air delivery pipe, tighten the two new clips then pull the safety wire tight and join the ends with a crimped Nicoflex terminal



Note: All clamps, the air filter pipe and the air filter must be restrained by the safety cable

12. Using a vacuum cleaner and/or a compressed-air nozzle remove all debris from the engine /exhaust area
13. Refit the cowlings
14. Following normal safe practice tie-down the aircraft, start the engine, warm-up, then take to full power. Cool down (minimum two minutes) before stopping the engine.

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Applicability		
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<u>Material information (Parts required to be made to implement this service bulletin):</u> No parts are manufactured during installation		
<u>List of components (with purchasable part nos)</u> External air-intake installation kit BG5178		
<u>Interchangeability</u> Not affected		
<u>Parts disposition</u> a) Disposal requirements (whether discard or re-use) – normal waste b) Environmental hazards of parts containing hazardous materials – use eye and ventilation protection whilst cutting the composite material c) Scrap requirements (e.g. mutilate scrapped items beyond use) – not applicable.		
<u>Documentation (Service Bulletin Completion action)</u> a) Entries within the aircraft logbooks: CAA BCAR A3-7 Authorised Person to certify that the work is completed by writing ‘SB-075 External air-intake.incorporated’ in the aircraft logbook white pages, and record the action in the pink pages entitled ‘Aircraft Modifications’. Both entries must be signed by the CAA Authorised Person together with their CAA Authorisation number. b) Completion of the SB worksheet attached. This contains a PMR statement, and a final check item that no tools or equipment have been left within the aircraft.		

Document approval signatures			
Engineering Manager	CVE (as required)	Chief Test Pilot (if flight performance or safety effect)	Head of Airworthiness

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Service Bulletin implementation Worksheet			
Aircraft type: Calidus	Serial no:	G-	
Worksheet completed by:		Document ref:	
Worksheet cross-checked by (if applicable):		SB-075 Iss1	
Purpose – record service bulletin implementation actions taken to inspect aircraft and return to service.			
Maintenance manual referred-to and issue level/date:	Calidus - RSUK0061 Iss4 of 13.03.12		
Note: attach SB sheets to this document			
Task	Notes	Eng'r check/date	Inspector check/date
Inspect cowlings on removal, report any damage to owner	If cracks found refer to RSUK		
Remove angled intake parts and blank the turbo-inlet			
Cut hole in cowling and verify satisfactory clearance around filter body			
Remove temporary turbo protection, fit external intake parts and safety wire			
Refit cowlings			
Test engine to ensure full power			
Intentionally blank			
Intentionally blank			
Intentionally blank			
Customer acceptance:			
Name:		Aircraft hobbs meter reading:	
Signature/date:		Confirm logbooks annotated:	
Permit Maintenance Release:			
<i>'The work recorded above has been completed to my satisfaction and in that respect the aircraft is considered fit for flight. I confirm that no tools, equipment or debris have been left in the aircraft'</i>			
Engineer signature and date:		Location where work completed	
CAA Authorisation code :			