### **BGA Airworthiness Compendium**



Compendium of Airworthiness Directives, Mandatory Modifications, Special Inspections and Checklist of Defects

## **Engines**

#### **BOMBARDIER-ROTAX SERIES ENGINES**

**UK Supplier:** CFS Aeroproducts Ltd

<u>Service Information</u> <u>Technical Documentation</u>

### **Rotax General**

Note: Rotax Service Bulletins not supported by AD have been removed form list. For applicable service bulletins refer to Rotax literature and web site

Status	Subject	Detail	Reference Information	TNS
I	Engine TBO	Generic Requirement 24 amended to include Rotax engines		<u>1-2013</u>
М	Maintenance Schedule	New On Condition for all Rotax 2 stroke engines models 275, 501, 505, 535.	SB 505-010, SB 535-009	<u>5-2006</u>

### Rotax All - In Service Reports (Advisory)

Status	Subject	Detail	Reference Information	TNS
1	Air supply	Pulse air supply tube restricted		06/01
I	Ignition	BOSCH spark plug cap shorting internally (broken)		06/01
1	2 Stroke engines	If left to dry out oil can thicken and turn to "varnish"		08/01
R	Lubrication	BGA recommendation to change oil @ 25hrs if using Leaded Avgas SI 18-1997 R4		04/04
1	Charging system information	Checking 866 080 regulators		06/03
1	Unleaded fuel	Use of unleaded fuel is permitted if specified in CAA approved flight manual AW Notice 98c		04/04
1	Engine problems	Very expensive engine contamination when using Avgas		04/04
1	Starting problems	If cranking engine is a problem, do not persevere seek advice as engine damage can result		<u>06/05</u>





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# **Engines**

### Rotax 912 series

Status	Subject	Detail	Reference Information	TNS
М	912A. 912A. Engine	Rework to ensure proper contact between attachment screws and stator	AD75, TB912-02	
M	912A, F. Propeller gearbox	Inspection and exchange of gearbox	AD 101 SB912-027R1,	04/00
M	912A,F Starter	Engine starter inspection	AD 98 912-026R3	<u>06/00</u>
M	912A. Ignition	Production problems in ignition unit	AD80, TB912-06	
M	912A. Ignition	Ignition problems in areas of heavy radio Transmission	AD82, TB912-07	
M	912A. Carburettors	Possible contamination of carburettors	AD83, TB912-09	
М	912A. Electronic module	Problems with SMD Electronic module in areas of heavy radio transmissions	AD84, TB912-08	
M	912 A3. Gearbox	Exchange of propeller gearbox	AD89, TB912-19	
M	912A & 912UL. Camshaft	Inspection of camshaft	AD92/1, TB912-18	04/97
M	912A & 912F. Fuel pump	Exchange fuel pump and steel fuel line	AD94/1, TB912-20	04/98
M	912A, 912F. Stator	Inspection of engine Stator assay.	AD98, SB912-026R3	<u>06/00</u>
M	912A,F,S. Valves	Replacement of valve spring retainers	AD108, SB912-022	<u>06/01</u>
M	912 Fuel pump	Inspection/replacement	AD109, SB912-031	<u>12/01</u>
		AD Cancelled by EASA	AD113R1, SI-912-010R1	3-2009
M	912 A/F/S Engine mount	Inspection	AD105R1, SB912-028R1	02/03
M	912 A/F/S Crankcase	Inspection	AD107R3, SB912-029R1	04/03
M	912 A, F, S Oil system	New oil dip stick	AD 116, SB912-040 R1	<u>10/03</u>
M	912 A, F, S Coolant	Introduction of new coolant	AD-A-2004-004R2, SB-912-043	<u>2-2006</u>
M	912 A, F, S Oil system	Inspection of magnetic plug within 5 hours and at oil change	AD 2006-0316-R1, SB 912-051	<u>2-2008</u>
M	912 series Inspections	Crank case inspections	AD 2007-0025, SB912-029R3	1-2007
M	912 series Fuel pump	Replacement of fuel pump	AD 2007-0060R1-E, SB912-053	<u>2-2007</u>
M	912 series Coolant	Coolant specification	AD 2007-0155	3-2007
0	912 TBO	TBO extended to 2000 hrs or 15 years	SB 912-057	<u>5-2009</u>
M	912 Magneto	Magneto flywheel hub washer	AD 2011-0067-E, SB912-058	<u>2-2011</u>
M	912 Crankshaft	Crankshaft crack inspection	AD 2011-0224-E, ASB 912-059	<u>6-2011</u>
M	912 Oil Pump	Check oil pump attachment bolts	AD 2012-0019-E, SB 912-060	<u>1-2012</u>
M	912 Fuel pump/pipe	Inspect fuel pump to check type/serial no, then pipe change	AD 2012-0093-E, ASB 912-061	<u>2-2012</u>
М	912 Fuel pump/pipe	Fuel pump pressure side hose replacement (Supersedes AD 2012-0093)	AD 2012-0097R1, ASB 912-061R1	<u>3-2012</u>
M	912 Cylinder head	Inspection/replacement	AD 2013-0055-E, ASB-912-062	<u>2-2013</u>
			AD 2013-0117-E, ASB 912-062R2	<u>3-2013</u>





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# **Engines**

### Rotax 914 Series

Status	Subject	Detail	Reference Information	TNS
M	914F. Mixture	Verification or calibration of the mixture enrichment jet	AD88, TB914-03	
M	914F. Oil System	Check of banjo bolt in turbo charger line	AD90, TB914-04	
M	914F. Oil System	Replacement of turbo oil pressure line and pipe clamps	AD95, TB914-07	<u>10/98</u>
M	914F, Propeller gearbox	Inspection and exchange of gearbox	AD 101, SB914-010R1	04/00
M	914F Starter	Engine starter inspection	AD 98, 914-014R3	<u>06/00</u>
M	914F. Stator	Inspection of engine Stator assay.	AD98, SB914-014R3	<u>06/00</u>
M	914F Valves	Replacement of valve spring retainers	AD108, SB914-011	<u>06/01</u>
		AD Cancelled by EASA	AD113R1, SI-914-022R1	3-2009
M	914 F Engine mount	Inspection	AD105R1, SB914-016R1	02/03
M	914 F Exhaust	Inspection	AD106R1, SB914-017R1	02/03
M	914 F Crankcase	Inspection	AD107R3, SB914-018R1	04/03
M	914 F Oil system	New Oil Dipstick	AD 116, SB914-026 R1	<u>10/03</u>
M	914 F series Exhaust	Inspection	AD 117, SB 914-028R1	<u>10/03</u>
M	914 F Coolant	Introduction of new coolant	AD-A-2004-004R2, SB-914-029	<u>2-2006</u>
M	914 F Exhaust	Inspection of Muffler	EASA AD 2006-0127, SB-914-028 R1	3-2006
M	914 F Oil system	Inspection of magnetic plug within 5 hours and at oil change	AD 2006-0316-R1, SB 914-034	<u>2-2008</u>
M	914 series Inspections	Crankcase inspections	AD 2007-0025, SB91418R3	<u>1-2007</u>
M	914 series Coolant	Coolant specification	AD 2007-0155	<u>3-2007</u>
Ο	914 TBO	Extended to 2000 hrs/15 yrs	SB 914-039	<u>2-2010</u>
M	914 Magneto	Magneto flywheel hub washer	AD 2011-0067-E, SB914-041	<u>2-2011</u>
M	914 Fuel	Fuel regulator insp & replacement	AD 2011-0082, SB 914-040	<u>3-2011</u>
M	914 Crankshaft	Crankshaft crack inspection	AD2011-0224-E, ADB 914-042	6-2011
M	914 Oil Pump	Check oil pump attachment bolts	AD 2012-0019-E, SB 914-043	<u>1-2012</u>
M	914 Cylinder head	Inspection/replacement	AD 2013-0055-E, ASB-914-044	<u>2-2013</u>
			AD 2013-0117-E, ASB 914-044R2	<u>3-2013</u>

### Rotax 500 Series

Status	Subject	Detail	Reference Information	TNS
M	501 & 505. Piston pin bearing	Conversion to reinforced design	AD64, SB505-05	
М	505 & 505A. Ignition	Conversion to the new electronic box	AD69, TB505-06	
М	Maintenance Schedule	New On Condition for all Rotax 2 stroke engines models 275, 501, 505, 535.	SB 505-010, SB 535-009	<u>5-2006</u>



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# **Engines**

### **SOLO ENGINES**

Status	Subject	Detail	Reference Information	TNS
M	2350 series	Modification to propeller mountings	AD 2002-130/2, TM 4603-11	04/02
1	2625-01 & 02	Change of electronic control box	Schempp Hirth TN 825032, 868-6	02/04
1	Various	Cracked starter ring gear		<u>1-2007</u>
M	2 625	Prop slip clutch inspection/modification	AD 2007-0001R1-E	<u>1-2007</u>
M	Maintenance	<ul> <li>Solo engines are subject to the following annual checks:</li> <li>Model 2 350 – 5 Year special inspection and 200 hour TBO</li> <li>Model 2 350 suffix C or D - 200 hour TBO</li> <li>Details on Schempp-Hirth web site are currently incorrect (5/3/10)</li> </ul>		<u>1-2010</u>
1	2 350 & 2 350D	Incorrectly drilled holes filled with resin	SB 4603-12	<u>5-2011</u>
	Mikuni carburettor	Choke butterfly screws missing & loose		2-2012
	Propeller hub crack	(On Duo Discus T) propeller hub cracked		<u>2-2012</u>
	Propeller shaft	(DG 1000T) Inspection of the propeller shaft	AD 2012-0197	<u>4-2012</u>
	Carburettor	Leaking due to warped cover plates		<u>4-2012</u>
M	<del>2350C</del>	Installed in DG1000T use prohibited due crankshaft failures	AD 2013-0217-E	<del>5-2013</del>
М	2350C	Operation reinstated after modification	AD 2013-0217 R1, SB 4603-14	<u>2-2014</u>

### **HIRTH F10 SERIES ENGINES**

Status Subject	Detail	Reference Information	TNS
M F10. Operation & maintenance	Operation and maintenance instructions for F10 aircraft engines – revision	AD69-142	



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# **Engines**

#### **LIMBACH SERIES ENGINES**

### **UK Service Agent** – <u>Anglia Sailplanes</u>

Status	Subject	Detail	Reference Information	TNS
М	L1700, L2000, L2400. Carburettor.	Leaking carb. Floats due to manf errors	AD97-237, TB55	<u>02/94</u>
М	SL1700E, EA, EB, EC. Mixture.	Mixture control – Rubber diaphragm of the governor piston		
			AD76-238, TB12	<u>10/87</u>
M	L2000EA. Starter	Starter shaft support case of electric Starter	AD97-003, TB52	<u>04/97</u>
	Unleaded Mogas	Use of	TB50 & 53	<u>10/99</u>
M	L2400 Controls	Throttle lever spring breaking	AD-D-2005-275	<u>08/05</u>

### In Service Reports (Advisory)

Status	Subject	Detail	Reference Information	TNS
	Engine oil dipstick	Calibration to prevent over/under filling see Limbach TB 27	Limbach TB 27	<u>02/05</u>
	Hard landing damage	Suspect bent crankshaft and prop flange and crankcase cracks (oil leaks) after hard landing with VP prop and NO prop strike		<u>06/05</u>

#### **MID WEST ENGINES**

Status	Subject	Detail	Reference Information	TNS
М	Engine life extension	Generic Requirement No 24 for engine life extension not applicable for Mid West Engines		04/05

#### VW DERIVATIVE POWERPLANTS

Status	Subject	Detail	Reference Information	TNS
1	Stamo Engines	Use of Unleaded mogas		12/99
	Crankshaft	Inspect for damage to the propeller shaft		04/00
	Stamo Engines	Propeller hub fixing bolt torque 20 MKG		04/00
1	Rollason RS2	Cracked crankshaft at propeller flange drive keyway		<u>1-2007</u>





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#### **GENERAL ENGINE INFORMATION**

Status	Subject	Detail	Reference Information	TNS
	Aeroquip Hoses	Some are suspect.	See – Equipment section	<u>10/88</u>
	Slick Magnetos	Inspections and service lives	See – Equipment section	<u>12/97</u>
М	Stromberg Carburettors	Fit service kit at 500 hrs		<u>10/87</u>
	Unleaded Mogas	See CAA Airworthiness Notice 98c		<u>12/99</u>
М	Bendix Magnetos	Inspections and service lives	See – Equipment section	
М	Exhaust heat exchangers	Annual pressure test at 20 psi		08/92
	Motor Glider	Performance Data for C of A air test		<u>10/98</u>
	PVC Tubing	PVC tubing shrinks and becomes hard and brittle with prolonged exposure to fuel. Replace regularly.		04/99
	General	Reminder that engines, propellers, magnetos, hoses have service lives.		08/00
1	Flexible Hoses	Fatigue problems on incorrectly clamped hoses		<u>08/05</u>
1	Carburettors	FAA Special Airworthiness Information Bulletin for carburettor overhaul	NE-10-05	<u>4-2009</u>
Α	Engine controls	Melting plastic liners. Ensure control is suitable in hot areas		2-2010
Α	2 Stroke lubrication	Castrol product recall of 2 stroke oil		<u>2-2013</u>
I	Air filters	Ensure they are kept in good condition		<u>3-2013</u>

### **ELECTRIC POWER PLANTS**

Status Subject	Detail	Reference Information	TNS
M Maintenance	Maintenance requirements for electric engines	BGA 053/06/2012	