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# TYPE-CERTIFICATE DATA SHEET

No. E.121

**for Piston Engines**  
Rotax 912 series

**Type Certificate Holder**  
BRP-Rotax GmbH & Co KG

Rotaxstraße 1  
A-4623 Gunskirchen  
Austria

For Models:   Rotax 912 A1  
                  Rotax 912 A2  
                  Rotax 912 A3  
                  Rotax 912 A4  
                  Rotax 912 F2  
                  Rotax 912 F3  
                  Rotax 912 F4  
                  Rotax 912 S2  
                  Rotax 912 S3  
                  Rotax 912 S4  
                  Rotax 912 iSc2 Sport  
                  Rotax 912 iSc3 Sport  
                  Rotax 915 iSc2 A  
                  Rotax 915 iSc3 A  
                  Rotax 915 iSc3 B

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## **I. General**

### **1. Type/ Model**

Rotax 912/ Rotax 912 A1, Rotax 912 A2, Rotax 912 A3, Rotax 912 A4, Rotax 912 F2, Rotax 912 F3, Rotax 912 F4, Rotax 912 S2, Rotax 912 S3, Rotax 912 S4, Rotax 912 iSc2 Sport, Rotax 912 iSc3 Sport, Rotax 915 iSc2 A, Rotax 915 iSc3 A, Rotax 915 iSc3 B

### **2. Type Certificate Holder**

BRP-Rotax GmbH & Co KG  
Rotaxstraße 1  
A-4623 Gunskirchen, Austria  
DOA EASA.21J.048

### **3. Manufacturer**

As above

### **4. Date of Application**

Rotax 912 A1	Rotax 912 A2	Rotax 912 A3	Rotax 912 A4	Rotax 912 F2
19 October 1987	19 October 1987	22 July 1992	24 May 1995	21 September 1993
Rotax 912 F3	Rotax 912 F4	Rotax 912 S2	Rotax 912 S3	Rotax 912 S4
21 September 1993	21 September 1993	20 November 1997	20 November 1997	20 November 1997
Rotax 912 iSc2 Sport	Rotax 912 iSc3 Sport	Rotax 915 iSc2 A	Rotax 915 iSc3 A	Rotax 915 iSc3 B
07 April 2010	07 April 2010	08 March 2019	25 January 2017	23 February 2016



## 5. EASA Type Certification Date

Rotax 912 A1	Rotax 912 A2	Rotax 912 A3	Rotax 912 A4	Rotax 912 F2
25 September 1989	25 September 1989	23 April 1993	02 August 1996	22 December 1994
Rotax 912 F3	Rotax 912 F4	Rotax 912 S2	Rotax 912 S3	Rotax 912 S4
22 December 1994	22 December 1994	27 November 1998	27 November 1998	27 November 1998
Rotax 912 iSc2 Sport	Rotax 912 iSc3 Sport	Rotax 915 iSc2 A	Rotax 915 iSc3 A	Rotax 915 iSc3 B
10 August 2012	10 August 2012	11 October 2019	14 December 2017	4 January 2018

Note: EASA type certificate for all these models (except 912 iSc2 Sport, 912 iSc3 Sport and 915 iSc2 A, 915 iSc3 A and 915 iSc3 B) is granted in accordance with article 3 1(a)(i) of EU Commission Regulation 748/2012 replacing the BAZ/ACG Austria certification of these products:

Rotax 912 A series: Austrian Type Certification no. TW8/89

Rotax 912 F series and S series: Austrian Type Certification no. TW9-ACG

## II. Certification Basis

### 1. State of Design Authority Certification Basis

Not applicable

### 2. Reference Date for determining the applicable airworthiness requirements

Refer to section 4 (Date of Application) of part I. General.

### 3. EASA Certification Basis

#### 3.1. Airworthiness Standards

Rotax 912 A series: JAR 22 Appendix H, Airworthiness requirements for engines of powered sailplanes, Amdt. 1 of May 18, 1981

Rotax 912 F series and S series: FAR Part 33 Amdt. 15 plus FAA NPRM Doc. # 24922, Notice no. 92-14

Rotax 912 iSc Sport series: CS-E, Amendment 3 (December 23, 2010)

Rotax 915 iSc A series: CS-E, Amendment 4 (March 12, 2015)

Rotax 915 iSc3 B: CS-E, Amendment 4 (March 12, 2015)



### 3.2. Special Conditions (SC)

Rotax 912 F series and S series: SC1 HIRF Requirement according RTCA DO 160 C; SC2 External Alternator

### 3.3. Equivalent Safety Findings

Rotax 912 F series and S series:

Propeller governor:

Instead of FAR 35.42 as stated in FAR 33.19(b), JAR-E180(B)(1)(ii) has been applied for the operational test of the hydraulic governor. This was fixed as equivalent safety measure. Conformity with FAR 33.25, attachment of components has been proven.

### 3.4. Deviations

Rotax 912 F series: Temporary exemption to para. 33.15. until 1.7.1995 had been granted.

### 3.5. Environmental Protection

None (not required for piston engines)

## III. Technical Characteristics

### 1. Type Design Definition

Rotax 912 A series:	As defined by the type design definition no. 30.912.0022
Rotax 912 F series:	As defined by the type design definition no. 30.912.0033
Rotax 912 S series:	As defined by the type design definition no. 30.912.0133
Rotax 912 iSc Sport series:	As defined by the type design definition no. 35.912.0533
Rotax 915 iSc A series:	As defined by the type design definition no. 38.915.0533
Rotax 915 iSc3 B:	As defined by the type design definition no. 37.915.0523

### 2. Description

The Rotax 912 engine is a 4-stroke, 4 cylinder horizontally opposed, spark ignition engine, propeller drive via integrated reduction gear, liquid cooled cylinder heads, ram-air cooled cylinders, dry sump forced lubrication.



For Rotax 912 A Series and Rotax 912 F Series:

Bore	79,5 mm	3.13 in.
Stroke	61,0 mm	2.40 in.
Displacement	1211 cm <sup>3</sup>	73.9 cu.in.
Compression ratio	9:1	
Gear ratio (crankshaft: propeller shaft)	2,2727 : 1 or 2,4286 : 1 (optional)	

For Rotax 912 S Series:

Bore	84 mm	3.31 in.
Stroke	61 mm	2.40 in.
Displacement	1352 cm <sup>3</sup>	82.5 cu.in.
Compression ratio	10,8:1	
Gear ratio (crankshaft: propeller shaft)	2,4286 : 1	

For Rotax 912 iSc Sport Series:

Bore	84 mm	3.31 in.
Stroke	61 mm	2.40 in.
Displacement	1352 cm <sup>3</sup>	82.5 cu.in.
Compression ratio	10,8:1	
Gear ratio (crankshaft: propeller shaft)	2,4286: 1	



For Rotax 915 iSc A series:

Bore	84 mm	3.31 in.
Stroke	61 mm	2.40 in.
Displacement	1352 cm <sup>3</sup>	82.5 cu.in.
Compression ratio	8,2:1	
Gear ratio (crankshaft: propeller shaft)	2,5454: 1	

For Rotax 915 iSc3 B:

Bore	84 mm	3.31 in.
Stroke	61 mm	2.40 in.
Displacement	1352 cm <sup>3</sup>	82.5 cu.in.
Compression ratio	8,2:1	
Gear ratio (crankshaft: propeller shaft)	2,5454: 1	

### Model A2 / F2 / S2

**Basic model:** 4-stroke, spark ignition, 4 cylinder horizontally opposed, one central camshaft, push-rods, overhead valves, liquid cooled cylinder heads, ram-air cooled cylinders, dry sump forced lubrication, dual breakerless capacitive discharge ignition, two constant depression carburetors, mechanical fuel pump, fixed pitch propeller configuration, drive output via reduction gear with integrated shock absorber and overload protection, electric starter, integrated AC generator, vacuum pump drive (optional), external alternator (optional).

### Model A1

Same as A2, except: fixed pitch propeller configuration, pitch circle diameter (P.C.D.) 100 mm (3.937 in.)

### Model A3 / F3 / S3

Same as A2 / F2 / S2, except: additional drive and adapter for hydraulic governor, hydraulic governor and propeller shaft for constant speed propeller.





### Model A4 / F4 / S4

Same as A3 / F3 / S3, except: fixed pitch propeller, prepared for hydraulic governor for constant speed propeller (without drive, adapter and governor).

### Model 912 iSc Sport

**Basic model:** The engine is a 4 cylinder horizontally opposed, 4-stroke piston engine with liquid cooled cylinder heads, ram-air cooled cylinders, dry sump forced lubrication, 2 electrical fuel pumps, exhaust system and it is controlled by a dual channel Full Authority Digital Engine Control (FADEC) system for ignition and injection. The engine is equipped with a reduction gear box with integrated shock absorber (dog clutch type) and overload protection to reduce the crankshaft speed to the designed propeller shaft speed. The prop speed could be controlled by a governor mounted on the crankcase (912 iSc3 Sport), driven by the propeller shaft. The engine will be operated with automotive gasoline or AVGAS.

### Model iSc2 Sport

Same as 912 iSc Sport basic model except: Prop shaft with flange for fixed prop.

### Model iSc3 Sport

Same as 912 iSc Sport basic model except: Prop shaft with flange for constant speed propeller and drive for hydraulic governor for constant speed propeller.

### Model 915 iSc A

**Basic model:** The engine is a 4 cylinder horizontally opposed, 4-stroke piston engine with liquid cooled cylinder heads, ram-air cooled cylinders, dry sump forced lubrication, turbocharger with intercooler, exhaust system and it is controlled by a dual channel Full Authority Digital Engine Control (FADEC) system for ignition and injection. The engine is equipped with a reduction gear box with integrated torsion shaft, dampening clutch and overload protection clutch to reduce the crankshaft speed to the designed propeller shaft speed. The engine will be operated with automotive gasoline or AVGAS.

### Model iSc2 A

Same as 915 iSc A basic model except: Prop shaft with flange for fixed prop.

### Model iSc3 A

Same as 915 iSc A basic model except: Prop shaft with flange for constant speed propeller and drive for hydraulic governor for constant speed propeller.



## Model 915 iSc3 B

**Basic model:** The engine is a 4 cylinder horizontally opposed, 4-stroke piston engine with liquid cooled cylinder heads, ram-air cooled cylinders, dry sump forced lubrication, turbocharger with intercooler, exhaust system and it is controlled by a dual channel Full Authority Digital Engine Control (FADEC) system for ignition and injection. The engine is equipped with a reduction gear box with integrated torsion shaft, dampening clutch and overload protection clutch to reduce the crankshaft speed to the designed propeller shaft speed. The engine will be operated with automotive gasoline or AVGAS.

Prop shaft with flange for constant speed propeller and drive for hydraulic governor for constant speed propeller.

### 3. Equipment

Description 912 A/F/S series:	See Illustrated Parts Catalog ETK-912 (German) and IPC-912 (English)
Description 912 iSc Sport series:	See Illustrated Parts Catalog ETK-912 i (German) and IPC-912 i (English)
Description 915 iSc A series:	See Illustrated Parts Catalog IPC-915 i A (English)
Description 915 iSc3 B:	See Illustrated Parts Catalog IPC-915 i B (English)

### 4. Dimensions

912 A/F/S series:

Description	mm	in.
Overall length	590	23.23
Overall length with optional 0,9 kW electric starter	630	24.80
Overall length with airbox	717	28.23
Overall height	375	14.76
Overall height with airbox and engine suspension frame	421	16.57
Overall width	576	22.68



912 iSc Sport series:

Description	mm	in.
Overall length	596	23.46
Overall length with suspension frame	596	23.46
Overall height	398	15.67
Overall height with exhaust system	541	21.30
Overall height with engine suspension frame	430	16.93
Overall width	578	22.76

915 iSc A series:

Description	mm	in.
Overall length	657	25.87
Overall length with suspension frame	657	25.87
Overall height	398	15.67
Overall height with exhaust system	702	27.64
Overall height with engine suspension frame	430	16.93
Overall width	578	22.76

915 iSc3 B:

Description	mm	in.
Overall length (w/o intercooler and hoses)	657	25.87
Overall length with suspension frame	657	25.87
Overall height (w/o exhaust system and suspension frame)	398	15.67
Overall height with exhaust system	673	26.50
Overall height with engine suspension frame	430	16.93
Overall width (w/o exhaust end pipe, intercooler and hoses)	578	22.76



## 5. Dry Weight

912 A series and 912 F series:

Description	kg	lbs.
With ignition unit and internal generator, carburetors, overload clutch, oil tank and electric starter but without muffler and radiator	57,1	125.88
With propeller flange P.C.D. 75/80 mm/4 in., drive gear, adapter and hydraulic governor for constant speed propeller	59,8	131.8
External alternator	3,0	6.61
Center of gravity: see Installation Manual EBHB-912 (German) and IM-912 (English)	-	-

912 S series:

Description	kg	lbs.
With ignition unit and internal generator, carburetors, oil tank, overload clutch and electric starter but without muffler, airbox and radiator	58,3	128.52
With propeller flange P.C.D. 75/80 mm/4 in., drive gear, adapter and hydraulic governor for constant speed propeller	61,0	134
External alternator	3,0	6.61
Center of gravity: see Installation Manual EBHB-912 (German) and IM-912 (English)	-	-

912 iSc Sport series:

Description	kg	lbs.
912 iSc2 Sport: With electric system: wiring harness ECU, fuse box and start relay. With oil tank. Without engine suspension frame, exhaust system, fuel pumps assy., cooling baffle, radiator and oil cooler, governor and governor drive.	63,6	140.2
912 iSc3 Sport: as 912 iSc2 Sport but with governor drive	64,4	142
1External alternator	3,0	6.61
Center of gravity: see Installation Manual EBHB-912 i (German) and IM-912 i (English)	-	-



915 iSc A series:

Description	kg	lbs.
915 iSc2 A: With base engine with gearbox and turbocharger, cooling air baffle, wiring harness, sensors, intermediate flange with overboost valve, air hose and clamps, magneto valve block with hoses, ECU, fusebox, oil tank, intercooler, exhaust system Without fuel pumps assy., radiator and oil cooler, governor and governor drive.	84,6	186.4
915 iSc3 A: as 915 iSc2 but with governor drive	85,2	187.8
Center of gravity: see Installation Manual IM-915 i A (English)	-	-

915 iSc3 B:

Description	kg	lbs.
With base engine with gearbox and turbocharger, cooling air baffle, wiring harness, sensors and actuators, intermediate flange with overboost valve, air hose and clamps, magneto valve block with hoses, ECU, fusebox, oil tank, intercooler, exhaust system Without fuel pumps assy., radiator and oil cooler.	85,2	187.8
Center of gravity: see Installation Manual IM-915 i B (English)	-	-

## 6. Ratings

912 A series and 912 F series:

Description	kW	rpm
Max. continuous performance at sea level pressure altitude	58,0	5500
Take-off performance rpm (max. 5 min.) at sea level pressure altitude	59,6	5800

912 S series:

Description	kW	rpm
Max. continuous performance at sea level pressure altitude	69	5500
Take-off performance rpm (max. 5 min.) at sea level pressure altitude	73,5	5800



912 iSc Sport series:

Description	kW	rpm
Max. continuous performance at sea level pressure altitude	72	5500
Take-off performance rpm (max. 5 min.) at sea level pressure altitude	73,5	5800

915 iSc A series:

Description	kW	rpm
Max. continuous performance at sea level pressure altitude up to critical altitude of 15000 ft / 4572 m	99	5500
Take-off performance rpm (max. 5 min.) at sea level pressure altitude	104	5800

See Note 7

915 iSc3 B:

Description	kW	rpm
Max. continuous performance at sea level pressure altitude up to critical altitude of 23000 ft / 7010 m	93	5500
Take-off performance rpm (max. 5 min.) at sea level pressure altitude	100	5800

See Note 7

## 7. Control System

The 912 iSc Sport, 915 iSc A and 915 iSc B engines are controlled by a dual channel Full Authority Digital Engine Control (FADEC) system for ignition and injection which main item is the Engine Control Unit (ECU). Refer to the Installation / Operators Manuals for further information.

## 8. Fluids (Fuel, Oil, Coolant, Additives)

912 A/F/S series: see Operators Manual HB-912 (German), OM-912 (English)  
see Service Instruction SI-912-016 (German P/N), SI-912-016 (English P/N)



912 iSc Sport series: see Operators Manual HB-912 i (German), OM-912 i (English)  
see Service Instruction SI-912i-001 (German P/N), SI-912i-001 (English P/N)

915 iSc A series see Operators Manual OM- 915 i A (English)  
see Service Instruction SI-915i-001 (English P/N)

915 iSc3 B: see Operators Manual OM- 915 i B (English)  
see Service Instruction SI-915i-001 (English P/N)

## 9. Aircraft Accessory Drives

912 A series:

Model 912 A Series									
Accessory	A1	A2	A3	A4	Rotation facing drive pad	speed ratio to crankshaft		Max. torque Nm	Max. overhang moment Nm
						i = 2,2727	i = 2,4286 optional		
Starter	*	*	*	*	CW	25,25:1	25,25:1	0,5	-
Alternator	-	**	**	**	CCW	1,32:1	1,24:1	2,0	-
Vacuum pump	**	**	-	**	CCW	0,585:1	0,548:1	0,1	0,4
Governor	-	-	*	-	CCW	0,585:1	0,548:1	2,0	1,04
Fuel pump	*	*	*	*	CW	0,44:1	0,41:1	-	0,14
Tachometer	**	**	**	**	CW	0,25:1	0,25:1	-	-
Water pump	*	*	*	*	CCW	0,87:1	0,87:1	0,5	-
Oil pump	*	*	*	*	CCW	0,50:1	0,50:1	0,7	-
" - "	Indicates "does not apply"								
" * "	Standard								
" ** "	Optional								
" CW "	Clockwise								
" CCW "	Counter-clockwise								



912 F series:

Model 912 F Series								
Accessory	F2	F3	F4	Rotation facing drive pad	speed ratio to crankshaft		Max. torque Nm	Max. overhang moment Nm
					i = 2,2727	i = 2,4286 optional		
Starter	*	*	*	CW	25,25:1	25,25:1	0,5	-
Alternator	**	**	**	CCW	1,32:1	1,24:1	2,0	-
Vacuum pump	**	-	**	CCW	0,585:1	0,548:1	0,1	0,4
Governor	-	*	-	CCW	0,585:1	0,548:1	2,0	1,04
Fuel pump	*	*	*	CW	0,44:1	0,41:1	-	0,14
Tachometer	**	**	**	CW	0,25:1	0,25:1	-	-
Water pump	*	*	*	CCW	0,87:1	0,87:1	0,5	-
Oil pump	*	*	*	CCW	0,50:1	0,50:1	0,7	-
" - "	Indicates "does not apply"							
" * "	Standard							
" ** "	Optional							
" CW "	Clockwise							
" CCW "	Counter-clockwise							

912 S series:

Model 912 S Series							
Accessory	S2	S3	S4	Rotation facing drive pad	speed ratio to crankshaft i = 2,4286	max. torque Nm	max. overhang moment Nm
Starter	*	*	*	CW	25,25:1	0,5	-
Alternator	**	**	**	CCW	1,24:1	1,6	-
Vacuum pump	**	-	**	CCW	0,548:1	0,9	0,4
Governor	-	*	-	CCW	0,548:1	1,8	1,04
Fuel pump	*	*	*	CW	0,41:1	-	0,14
Tachometer	**	**	**	CW	0,25:1	-	-
Water pump	*	*	*	CCW	0,87:1	0,5	-
Oil pump	*	*	*	CCW	0,50:1	0,7	-
" - "	Indicates "does not apply"						
" * "	Standard						
" ** "	Optional						
" CW "	Clockwise						
" CCW "	Counter-clockwise						





912 iSc Sport series:

Model 912 iSc Sport Series						
Accessory	iSc2 Sport	iSc3 Sport	Rotation facing drive pad	speed ratio to crankshaft i = 2,4286	max. torque Nm	max. overhang moment Nm
Starter	*	*	CW	25,25:1	0,45	-
Alternator	**	**	CCW	1,24:1	1,6	-
Vacuum pump drive	**	-	CCW	0,548:1	0,9	0,4
Governor drive	-	*	CCW	0,548:1	1,8	1,04
Water pump	*	*	CCW	0,87:1	0,5	-
Oil pump	*	*	CCW	0,50:1	0,8	-
" - "	Indicates "does not apply"					
" * "	Standard					
" ** "	Optional					
" CW "	Clockwise					
" CCW "	Counter-clockwise					

915 iSc A series:

Model 915 iSc A series						
Accessory	iSc2 A	iSc3 A	Rotation facing drive pad	speed ratio to crankshaft i = 2,5454	max. torque Nm	max. overhang moment Nm
Starter	*	*	CW	25,252:1	0,45	- -
Vacuum pump drive	**	-	CCW	0,518:1	0,9	0,4
Governor drive	-	*	CCW	0,518:1	1,8	1,04
Water pump	*	*	CCW	0,867:1	0,5	-
Oil pump	*	*	CCW	0,500:1	0,8	-
" - "	Indicates "does not apply"					
" * "	Standard					
" ** "	Optional					
" CW "	Clockwise					
" CCW "	Counter-clockwise					



915 iSc3 B:

<b>Model 915 iSc3 B</b>					
Accessory	915 iSc3 B	Rotation facing drive pad	speed ratio to crankshaft i = 2,5454	max. torque Nm	max. overhang moment Nm
Starter	*	CW	25,252:1	0,7	-
Water pump	*	CCW	0,867:1	0,5	-
Oil pump	*	CCW	0,500:1	0,8	-
" - "	Indicates "does not apply"				
" * "	Standard				
" ** "	Optional				
" CW "	Clockwise				
" CCW "	Counter-clockwise				

**10. Maximum Permissible Air Bleed Extraction**

Not applicable



## IV. Operating Limitations

### 1. Temperature Limits

912 A series and 912 F series:

Temperature limits (max permissible)	°C	°F
Cylinder head temperature in use of conventional coolant	150	302
Coolant exit temperature in use of conventional coolant (according installation manual EBHB-912 (German), IM-912 (English) and operator's manual HB-912 (German), OM-912 (English))	120	248
Cylinder head temperature in use of waterless coolant	150	302
Oil temperature at inlet	140	284

912 A series and 912 F series (engine type designation extended with suffix "-01"):

Temperature limits (max permissible)	°C	°F
Coolant temperature (according installation manual EBHB-912 (German), IM-912 (English) and operator's manual HB-912 (German), OM-912 (English))	120	248
Oil temperature at inlet	140	284

912 S series:

Temperature limits (max permissible)	°C	°F
Cylinder head temperature in use of conventional coolant	135	275
Coolant exit temperature in use of conventional coolant (according installation manual EBHB-912 (German), IM-912 (English) and operator's manual HB-912 (German), OM-912 (English))	120	248
Cylinder head temperature in use of waterless coolant	135	275
Oil temperature at inlet	130	266



912 S series (engine type designation extended with suffix "-01"):

Temperature limits (max permissible)	°C	°F
Coolant temperature (according installation manual EBHB-912 (German), IM-912 (English) and operator's manual HB-912 (German), OM-912 (English))	120	248
Oil temperature at inlet	130	266

912 iSc Sport series:

Temperature limits (max permissible)	°C	°F
Coolant temperature (according installation manual EBHB-912 i (German), IM-912 i (English) and operator's manual HB-912 i (German), OM-912 i (English))	120	248
Oil temperature at inlet	130	266

915 iSc A series:

Temperature limits (max permissible)	°C	°F
Coolant temperature (according installation manual IM-915 i A (English) and operator's manual OM-915 i A (English))	120	248
Oil temperature	130	266

915 iSc3 B:

Temperature limits (max permissible)	°C	°F
Coolant temperature (according installation manual IM-915 i B (English) and operator's manual OM-915 i B (English))	120	248
Oil temperature	130	266

## 2. Speed Limits

Take-off Speed, max. 5 min.: 5800 rpm  
Maximum Continuous Speed: 5500 rpm



### 3. Pressure Limits

#### 3.1 Fuel Pressure

912 A/F/S series:

- 1.) BING 892.546 (up to s/n 11.000924)  
892.542 (up to s/n 11.01003)  
0,15 – 0,4 bar / 2.18 – 5.8 psi
- 2.) CORONA 893.110 (from s/n 11.0086)  
893.114 (from s/n 11.0166)  
0,15 – 0,5 bar / 2.18 – 7.25 psi

912 iSc Sport series:

2,8 – 3,2 bar / 40.61 – 46.41 psi

915 iSc A series:

2,9 – 3,1 bar / 42.00 – 45.00 psi

915 iSc3 B:

2,9 – 3,1 bar / 42.00 – 45.00 psi

#### 3.2 Oil Pressure

912 A/F/S series:

Oil pressure	bar	psi
Normal operating range above 3500 rpm	2,0 ÷ 5,0	29 ÷ 72.5
Minimum below 3500 rpm	0,8	11.6
At cold start and warming up period (maximum)	7,0	101.5

912 iSc Sport series:

Oil pressure	bar	psi
Normal operating range above 3500 rpm	2,0 ÷ 5,0	29 ÷ 72.5
Minimum below 3500 rpm	0,8	11.6
At cold start and warming up period (maximum)	7,0	101.5



915 iSc A series:

<b>Oil pressure</b>	<b>bar</b>	<b>Psi</b>
Normal operating range above 3500 rpm	2,0 ÷ 5,0	29 ÷ 72.5
Minimum below 3500 rpm	0,8	11.6
At cold start and warming up period (maximum)	7,0	101.5

915 iSc3 B:

<b>Oil pressure</b>	<b>bar</b>	<b>Psi</b>
Normal operating range above 3500 rpm	2,0 ÷ 5,0	29 ÷ 72.5
Minimum below 3500 rpm	0,8	11.6
At cold start and warming up period (maximum)	7,0	101.5

#### 4. Oil capacity, consumption limit

912 A series and 912 S series:

<b>Engine oil</b>	<b>Lit</b>	<b>liq pt</b>	<b>US gal.</b>
Oil capacity (maximum-mark tank)	3,0	6.34	0.79
Oil capacity (minimum-mark tank)	2,5	5.28	0.66
Oil consumption per hour (maximum)	0,06	0.127	0.016

912 F series:

<b>Engine oil</b>	<b>Lit</b>	<b>liq pt</b>	<b>US gal.</b>
Oil capacity (maximum-mark tank)	3,0	6.4	0.8
Oil capacity (minimum-mark tank)	2,5	5.3	0.5
Oil consumption per hour (maximum)	0,06	0.13	-

912 iSc Sport series:

<b>Engine oil</b>	<b>Lit</b>	<b>liq pt</b>	<b>US gal.</b>
Oil capacity (maximum-mark tank)	3,0	6.34	0.79
Oil capacity (minimum-mark tank)	2,5	5.28	0.66
Oil consumption per hour (maximum)	0,06	0.127	0.016



915 iSc A series:

Engine oil	Lit	liq pt	US gal.
Oil capacity (maximum-mark tank)	3,0	6.34	0.79
Oil capacity (minimum-mark tank)	2,5	5.28	0.66
Oil consumption per hour (maximum)	0,06	0.127	0.016

915 iSc3 B:

Engine oil	Lit	liq pt	US gal.
Oil capacity (maximum-mark tank)	4,3	9.09	1.14
Oil capacity (minimum-mark tank)	2,5	5.28	0.66
Oil consumption per hour (maximum)	0,06	0.127	0.016

## V. Operating and Service Instructions

912 A/F/S series:

Description	German	English
Operator's Manual	HB-912	OM-912
Installation Manual	EBHB-912	IM-912
Maintenance Manual Line	WHBL-912	MML-912
Maintenance Manual Heavy	WHBH-912	MMH-912
Overhaul Manual	GHB-912	OHM-912
Overhaul Manual, Appendix	GHBA-912	OHMA-912
Illustrated Parts Catalog	ETK-912	IPC-912
Service Bulletins, Service Instructions and Service Letters	as issued	as issued



912 iSc Sport series:

Description	German	English
Operator's Manual	HB-912 i	OM-912 i
Installation Manual	EBHB-912 i	IM-912 i
Maintenance Manual Line	WHBL-912 i	MML-912 i
Maintenance Manual Heavy	WHBH-912 i	MMH-912 i
Overhaul Manual	GHB-912 i	OHM-912 i
Overhaul Manual, Appendix	GHBA-912 i	OHMA-912 i
Illustrated Parts Catalog	ETK-912 i	IPC-912 i
Service Bulletins, Service Instructions and Service Letters	as issued	as issued

915 iSc A series:

Description	English
Operator's Manual	OM-915 i A
Installation Manual	IM-915 i A
Maintenance Manual Line	MML-915 i A
Maintenance Manual Heavy	MMH-915 i A
Overhaul Manual	OHM-915 i A
Overhaul Manual, Appendix	OHMA-915 i A
Illustrated Parts Catalog	IPC-915 i A
Service Bulletins, Service Instructions and Service Letters	as issued

915 iSc3 B:

Description	English
Operator's Manual	OM-915 i B
Installation Manual	IM-915 i B
Maintenance Manual Line	MML-915 i B
Maintenance Manual Heavy	MMH-915 i B
Overhaul Manual	OHM-915 i B
Overhaul Manual, Appendix	OHMA-915 i B
Illustrated Parts Catalog	IPC-915 i B
Service Bulletins, Service Instructions and Service Letters	as issued





## **VI. Notes**

### **1. Generator / Alternator parallel operation (912 A/F/S series)**

For the certification of the optional external alternator the aerospace standard AS 8020 has been determined as applicable requirement.

However compliance to the applicable parts for parallel operation of the internal generator (as integrated part of the engine) and the optional external alternator has not been demonstrated.

### **2. Vacuum pump (912 A/F/S series)**

912 A series and 912 F series: Compliance has only been shown to the attachment requirements specified in FAR 33.25.

912 S series: Conformity with FAR 33.25 attachment of component has been proven.

### **3. TBO**

The recommended Time Between Overhaul (TBO) is published in the corresponding Maintenance Manual Line MML (refer to chapter V. "*Operating and Service Instructions*"). TBO extensions will be published by corresponding Service Bulletins.

### **4. 912 iSc Sport Equipment Qualification acc. RTCA/DO-160**

Equipment is qualified according to RTCA/DO-160G. Deviations to RTCA/DO-160G are documented in chapter 24-00-00 of applicable Installation Manual EBHB-912 i (German), IM-912 i (English).

### **5. 912 iSc Sport editorial model designation change**

Engine models Rotax 912 iSc2 Sport and Rotax 912 iSc3 Sport have been initially certified under the model designations Rotax 912 iSc2 and Rotax 912 iSc3.

### **6. 912 A/F/S engine type designation extended with suffix "-01"**

New cylinder heads have been introduced for the Rotax 912 A/F/S engine series in order to standardize the cylinder head raw part with the Rotax 912 iSc Sport engine series. As a result the measurement position of the temperature sensor on the cylinder head has changed as well as the measurement medium (former aluminium, now coolant).

As a consequence for all Rotax 912 A/F/S engines which type designations are extended with suffix "-01" the engine temperature measurement methods have been amended from CHT (cylinder head temperature) and CT (coolant temperature) to only CT (coolant temperature). Therefore only the coolant temperature limit applies.

Exemplification for identification: "Rotax 912 S3 -01"

For further details refer to Service Bulletins SB-912-066 and SB-912-068 (respectively latest revision).



## **7. Ratings 915 iSc A series and 915 iSc3 B**

The power ratings for Take-off Power and Maximum Continuous Power have been determined without accessories (such as governor, etc.).

## **8. 915 iSc A series and 915 iSc3 B Equipment Qualification acc. RTCA/DO-160**

Equipment is qualified according to RTCA/DO-160G Change 1. Deviations to RTCA/DO-160G Change 1 are documented in chapter 00-00-00 of applicable Installation Manual IM-915 i A or IM-915 i B.



## **SECTION: ADMINISTRATIVE**

### **I. Acronyms and Abbreviations**

ACG	Austro Control GmbH
AS 8020	Aerospace Standard: General minimum performance standards for generators/starter-generators and associated voltage regulators for use in direct current (DC) electric systems for civil aircraft
AVGAS	Aviation Gasoline
CHT	Cylinder Head Temperature
CT	Coolant Temperature
CW	clockwise
CCW	counter-clockwise
CS-E	Certification Specifications Engines
DO-160	Environmental Conditions and Test Procedures for Airborne Equipment
EASA	European Aviation Safety Agency
ECU	Engine Control Unit
FAA	Federal Aviation Administration
FADEC	Full Authority Digital Engine Control
FAR	Federal Aviation Regulations
HIRF	High Intensity Radiated Fields
IM	Installation Manual
IPC	Illustrated Parts Catalog
JAR	Joint Aviation Requirements
JAR-E	Joint Aviation Requirements Engines
MMH	Maintenance Manual Heavy
MML	Maintenance Manual Line
OM	Operators Manual
OHM	Overhaul Manual
OHMA	Overhaul Manual, Appendix
rpm	revolutions per minute
RTCA	Radio Technical Commission for Aeronautics
SB	Service Bulletin
SI	Service Instruction
TBO	Time between Overhaul
TCDS	Type Certificate Data Sheet



## II. Type Certificate Holder Record

Before June 15, 2016	BRP-Powertrain GmbH & Co KG Rotaxstraße 1 A-4623 Gunskirchen Austria DOA EASA.21J.048
Before March 15, 2014	BRP-Powertrain GmbH & Co KG Welser Straße 32 A-4623 Gunskirchen, Austria DOA EASA.21J.048
Before February 3, 2009	BRP-Rotax GmbH & Co KG Welser Straße 32 A-4623 Gunskirchen, Austria DOA EASA.21J.048
Before June 16, 2004	Bombardier-Rotax GmbH & Co KG Welser Straße 32 A-4623 Gunskirchen, Austria
Before December 29, 2001	Bombardier-Rotax Gesellschaft mbH Welser Straße 32 A-4623 Gunskirchen, Austria

## III. Change Record

Issue	Date	Changes	TC issue
Issue 01	02 April 2007	Initial issue	Initial Issue, 02 April 2007
Issue 02	01 April 2008	Miscellaneous format corrections, correction "FAR Part 33 Amdt." to "FAR Part 33 Amdt. 15", change of illustrated parts catalog no., installation manual no., maintenance manual no., overhaul manual no. and operator's manual no.	Initial Issue, 02 April 2007
Issue 03	26 February 2010	Change of company name from BRP-Rotax GmbH & Co.KG to BRP-Powertrain GmbH & Co KG, detailing of the history of type certificate holder, change of SB no. (recommended TBO) from SB-912-041 to SB-912-057.	Issue 1, 26 February 2010
Issue 04	10 August 2012	Addition of the models Rotax 912 iSc2 and Rotax 912 iSc3, deletion of CRI T-2 and CRI T-1 in the special conditions, deletion of chapter 3 "Deviations", differentiation of fuel pressure limits for 912 A/F/S series (BING and CORONA).	Issue 2, 10 August 2012
Issue 05	not issued	not issued	n.a.
Issue 06	17 June 2014	Change of the street name of type certificate holder from Welser Straße 32 to Rotaxstraße 1, change of the models Rotax 912 iSc2 and Rotax 912 iSc3 to Rotax 912 iSc2 Sport and Rotax 912 iSc3 Sport, correction of the compression	TE.TC.00090-002, 17 June 2014



Issue	Date	Changes	TC issue
		ratio for 912 S series from 11:1 to 10,8:1, addition of the chapter "Dry Weight"	
Issue 07	14 April 2015	TCDS with new layout: TE.CERT.00052-001; Major Change: CHT/CT Measurement Method EASA Proj. No. 0010035055;	14 April 2015
Issue 08	05 September 2016	Name change to BRP-Rotax GmbH & Co KG as of June 15, 2016	05 September 2016
Issue 09	14 December 2017	Addition of the model Rotax 915 iSc3 A and editorial changes	14 December 2017
Issue 10	4 January 2018	Addition of the model Rotax 915 iSc3 B and editorial changes Chapter 5.: "Exhaust system" included in dry weight of 915 iSc3 A	4 January 2018
Issue 11	11 October 2019	Addition of the model Rotax 915 iSc2 A and editorial changes	11 October 2019

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