

TYPE CERTIFICATE

EASA.E.121

This certificate is issued by the European Union Aviation Safety Agency (EASA) in accordance with Regulation (EU) 2018/1139, in particular Article 77 (1) (e) thereof and Commission Regulation (EU) No. 748/2012 to

BRP-ROTAX GmbH & Co KG

ROTAXSTRASSE 1
4623 GUNSKIRCHEN
AUSTRIA

EASA.21J.048

and certifies that the product type design listed below complies with the applicable Type Certification Basis and, if applicable, environmental protection requirements when operated within the conditions and limitations specified on the associated Type Certificate Data Sheet Number: **EASA.E.121**

Type Design: Rotax 912 Series

| Model | Initial Certification Date* |
|----------------------|------------------------------------|
| Rotax 912 A1 | 25 September 1989 |
| Rotax 912 A2 | 25 September 1989 |
| Rotax 912 A3 | 23 April 1993 |
| Rotax 912 A4 | 02 August 1996 |
| Rotax 912 F2 | 22 December 1994 |
| Rotax 912 F3 | 22 December 1994 |
| Rotax 912 F4 | 22 December 1994 |
| Rotax 912 S2 | 27 November 1998 |
| Rotax 912 S3 | 27 November 1998 |
| Rotax 912 S4 | 27 November 1998 |
| Rotax 912 iSc2 Sport | 17 June 2014 |
| Rotax 912 iSc3 Sport | 17 June 2014 |
| Rotax 915 iSc2 A | 11 October 2019 |
| Rotax 915 iSc2 C24 | 01 September 2021 |
| Rotax 915 iSc3 A | 14 December 2017 |
| Rotax 915 iSc3 C24 | 01 September 2021 |
| Rotax 916 iSc3 B | 01 July 2020 |

See Continuation Sheet(s)

For the European Union Aviation Safety Agency

Cologne, Germany, 04 October 2021



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**Section Manager - General Aviation &
VTOL Propulsion & Powerplant Systems**



*Note: With regard to a product for which a type certificate was issued before 28 September 2003 by an EASA Member State, the Initial Certification Date refers to the date of issuance of the initial type certificate of this product by the competent authority of that State.

- End -





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 iSc2 C24
- Rotax 915 iSc3 C24
- Rotax 916 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 iSc C24, Rotax 916 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 916 iSc3 B |
| 07 April 2010 | 07 April 2010 | 08 March 2019 | 25 January 2017 | 18 February 2019 |
| | | | | |
| Rotax 915 iSc2 C24 | Rotax 915 iSc3 C24 | | | |
| 5 November 2019 | 5 November 2019 | | | |



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 916 iSc3 B |
| 10 August 2012 | 10 August 2012 | 11 October 2019 | 14 December 2017 | 01 July 2020 |
| | | | | |
| Rotax 915 iSc2 C24 | Rotax 915 iSc3 C24 | | | |
| 01 October 2021 | 01 October 2021 | | | |

Note: EASA type certificate for all these models (except 912 iSc2 Sport, 912 iSc3 Sport and 915 iSc2 A, 915 iSc3 A, 915 iSc C24 and 916 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. Reference Date for determining the applicable airworthiness requirements

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

2. EASA Certification Basis

2.1. 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 iSc C24 series: CS-E, Amendment 4 (March 12, 2015)

Rotax 916 iSc3 B: CS-E, Amendment 4 (March 12, 2015)



2.2. Special Conditions (SC)

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

For all other models: NONE

2.3. 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.

For all other models: NONE

2.4. Deviations

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

For all other models: NONE

2.5. 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 iSc C24 series: As defined by the type design definition no. 31.915.0543

Rotax 916 iSc3 B: As defined by the type design definition no. 30.916.0523



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 ³ | 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 and Rotax 912 iSc Sport Series:

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

For Rotax 915 iSc A Series, Rotax 915 iSc C24 Series and Rotax 916 iSc3 B:

| | | |
|--|----------------------|-------------|
| Bore | 84 mm | 3.31 in. |
| Stroke | 61 mm | 2.40 in. |
| Displacement | 1352 cm ³ | 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 iSc C24

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, controlled by a dual channel Full Authority Digital Engine Control (FADEC) system for ignition and injection and a regulator type with a 28V System Interface for power exchange to and from a 28V aircraft system. 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 C24

Same as 915 iSc C24 basic model except:

Prop shaft with flange for fixed prop.

Model iSc3 C24

Same as 915 iSc C24 basic model except:

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

Model 916 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 iSc C24 series: | See Illustrated Parts Catalog IPC-915 i C24 (English) |
| Description 916 iSc3 B: | See Illustrated Parts Catalog IPC-916 iSc 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 and 915 iSc C24 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 |

916 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 | 186.5 |
| 915 iSc3 A: as 915 iSc2 A but with governor drive | 85,2 | 187.8 |
| Center of gravity: see Installation Manual IM-915 i A / C24 (English) | - | - |



915 iSc C24 series:

| Description | kg | lbs. |
|---|------|-------|
| 915 iSc2 C24: 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, 28V AC/DC converter, oil tank, intercooler, exhaust system Without fuel pumps assy., radiator and oil cooler, governor and governor drive. | 85,3 | 188.1 |
| 915 iSc3 C24: as 915 iSc2 C24 but with governor drive | 85,9 | 189.4 |
| Center of gravity: see Installation Manual IM-915 i A / C24 (English) | - | - |

916 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-916 iSc 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 and 915 iSc C24 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

916 iSc3 B:

| Description | kW | rpm |
|---|-----|------|
| Max. continuous performance at sea level pressure altitude up to critical altitude of 23000 ft / 7010 m | 100 | 5500 |
| Maximum certified Take-off performance rpm (max. 5 min at sea level pressure altitude | 117 | 5800 |
| Normal Take-off performance rpm (max. 3 min.) at sea pressure altitude | 117 | 5800 |

See Notes 3 and 7

7. Control System

The 912 iSc Sport, 915 iSc A, 915 iSc C24 and 916 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), SI-912-016 (English)

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

915 iSc A / 915 iSc C24 series see Operators Manual OM-915 i A / C24 (English)
see Service Instruction SI-915i-001 (English)

916 iSc3 B: see Operators Manual OM- 916 iSc B (English)
see Service Instruction SI-916i-001 (English)

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 | | |
| Vacuum pump | ** | ** | - | ** | CCW | 0,585:1 | 0,548:1 | 0,1 | 0,4 |
| Governor drive | - | - | * | - | CCW | 0,585:1 | 0,548:1 | 2,0 | 1,04 |
| Tachometer drive | ** | ** | ** | ** | CW | 0,25:1 | 0,25:1 | - | - |
| " - " | 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 | | |
| Vacuum pump | ** | - | ** | CCW | 0,585:1 | 0,548:1 | 0,1 | 0,4 |
| Governor drive | - | * | - | CCW | 0,585:1 | 0,548:1 | 2,0 | 1,04 |
| Tachometer drive | ** | ** | ** | CW | 0,25:1 | 0,25:1 | - | - |
| " - " | 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 | |
| | | | | | | | | Vacuum pump |
| Governor drive | - | * | - | CCW | 0,548:1 | 1,8 | 1,04 | |
| Tachometer drive | ** | ** | ** | CW | 0,25:1 | - | - | |
| " - " | 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 |
| Vacuum pump drive | ** | - | CCW | 0,548:1 | 0,9 | 0,4 |
| Governor drive | - | * | CCW | 0,548:1 | 1,8 | 1,04 |
| " - " | Indicates "does not apply" | | | | | |
| " * " | Standard | | | | | |
| " ** " | Optional | | | | | |
| " CW " | Clockwise | | | | | |
| " CCW " | Counter-clockwise | | | | | |

915 iSc A and 915 iSc C24 series:

| Model 915 iSc A and 915 iSc C24 series | | | | | | |
|---|----------------------------|-------------------|---------------------------|---|----------------|-------------------------|
| Accessory | iSc2 A / iSc2 C24 | iSc3 A / iSc3 C24 | Rotation facing drive pad | speed ratio to crankshaft i = 2,5454 | max. torque Nm | max. overhang moment Nm |
| Vacuum pump drive | ** | - | CCW | 0,518:1 | 0,9 | 0,4 |
| Governor drive | - | * | CCW | 0,518:1 | 1,8 | 1,04 |
| " - " | Indicates "does not apply" | | | | | |
| " * " | Standard | | | | | |
| " ** " | Optional | | | | | |
| " CW " | Clockwise | | | | | |
| " CCW " | Counter-clockwise | | | | | |

916 iSc3 B:

| Model 916 iSc3 B | | | | | |
|-------------------------|----------------------------|---------------------------|---|----------------|-------------------------|
| Accessory | 916 iSc3 B | Rotation facing drive pad | speed ratio to crankshaft i = 2,5454 | max. torque Nm | max. overhang moment Nm |
| Governor drive | * | CCW | 0,518:1 | 1,8 | 1,04 |
| " - " | Indicates "does not apply" | | | | |
| " * " | Standard | | | | |
| " 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 operators 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 operators 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 operators 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 operators 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 operators manual HB-912 i (German), OM-912 i (English)) | 120 | 248 |
| Oil temperature at inlet | 130 | 266 |

915 iSc A and 915 iSc C24 series:

| Temperature limits (max permissible) | °C | °F |
|---|-----|-----|
| Coolant temperature (according installation manual IM-915 i A / C24 (English) and operators manual OM-915 i A / C24 (English)) | 120 | 248 |
| Oil temperature | 130 | 266 |

916 iSc3 B:

| Temperature limits (max permissible) | °C | °F |
|---|-----|-----|
| Coolant temperature (according installation manual IM-916 iSc B (English) and operators manual OM-916 iSc 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:

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, 915 iSc C24 series, 916 iSc3 B series:

2,9 – 3,2 bar / 42.00 – 46.41 psi

3.2 Oil Pressure

912 A/F/S series, 912 iSc Sport series, 915 iSc A series, 915 iSc C24, 916 iSc3 B:

| 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 |

4. Oil capacity, consumption limit

912 A series and 912 S series, 912 F series, 912 iSc Sport series, 915 iSc A, 915 iSc C24 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 |

916 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 |



5. Time Limited Dispatch (TLD) for injected engine

The injected engines are not approved for Time Limited Dispatch. All engine systems and equipment must be functional prior to aircraft take-off. Any detected engine system or equipment failure must be corrected before next flight. For special instructions, see applicable Operation & Maintenance Manual.

V. Operating and Service Instructions

912 A/F/S series:

| Description | German | English |
|---|-----------|-----------|
| Operators 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 |
|---|------------|------------|
| Operators 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 and 915 iSc C24 series:

| Description | English |
|---|--------------------|
| Operators Manual | OM-915 i A / C24 |
| Installation Manual | IM-915 i A / C24 |
| Maintenance Manual Line | MML-915 i A / C24 |
| Maintenance Manual Heavy | MMH-915 i A / C24 |
| Overhaul Manual | OHM-915 i A / C24 |
| Overhaul Manual, Appendix | OHMA-915 i A / C24 |
| Illustrated Parts Catalog | IPC-915 i A |
| Illustrated Parts Catalog | IPC-915 iSc C24 |
| Service Bulletins, Service Instructions and Service Letters | as issued |



916 iSc3 B:

| Description | English |
|---|----------------|
| Operators Manual | OM-916 iSc B |
| Installation Manual | IM-916 iSc B |
| Maintenance Manual Line | MML-916 iSc B |
| Maintenance Manual Heavy | MMH-916 iSc B |
| Overhaul Manual | OHM-916 iSc B |
| Overhaul Manual, Appendix | OHMA-916 iSc B |
| Illustrated Parts Catalog | IPC-916 iSc 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.

For the Rotax 916 iSc B series, the recommended TBO published in the corresponding MML is based on Normal Take-off rating. Usage of the Maximum certified Take off rating requires adaptation of the TBO in coordination with the Type Certificate Holder.

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, 915 iSc C24 series and 916 iSc3 B series

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, 915 iSc C24 series and 916 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 / C24, IM-916 iSc B.

9. List of approved Engine Control Unit (ECU) software and hardware configurations for 912 iSc Sport series, 915 iSc A series, 915 iSc C24 and and 916 iSc3 B series

Approved Engine Control Unit software and related engine hardware configurations are documented in SI-912 i-018 / SI-915 i-004 / SI-916i-004.

10. Airworthiness Limitations

The EASA approved Airworthiness Limitations Section of the Instructions for Continued Airworthiness is published in the applicable "Maintenance Manual Line" document (MML), chapter 04-00-00 "Airworthiness Limitations".



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 operators 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 | 04 January 2018 |
| Issue 11 | 11 October 2019 | Addition of the model Rotax 915 iSc2 A and editorial changes | 11 October 2019 |
| Issue 12 | 01 July 2020 | Addition of the model Rotax 916 iSc3 B and editorial changes | 01 July 2020 |
| Issue 13 | 15 September 2020 | Editorial changes, including Aircraft Accessory Drive for Models 915 iSc3 B, 916 iSc3 B | |
| Issue 14 | 01 September 2021 | 1.) Addition of the models Rotax 915 iSc2 C24 and Rotax 915 iSc3 C24 2.) EASA Major Change Approval 10077125 of fuel pressure limit for 915 and 916 engine series from 3,1 bar to 3,2 bar. 3.) Editorial change: Alignment of 912 A/F/S fuel pressure representation with injected engines. 0,15 to 0,4 bar limit for the "BING" pump does not exist any longer. In 2011 a new fuel pump has been introduced (ref.: minor change ECR2008905). | 01 September 2021 |
| Issue 15 | 04 October 2021 | Deletion of the model Rotax 915 iSc3 B | 04 October 2021 |

-END-

