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## **I. General**

### **1. Type / Models:**

Rotax 642

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

Since February 3, 2009	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

### **3. Manufacturer:**

As above

### **4. Certification Application Date:**

Not known, before November 1975

### **5. EASA Certification Date:**

Rotax 642
11.11.1975

Note: EASA type certificate for all these models is granted in accordance with article 2 paragraph 3(a) of EU Commission Regulation 1702/2003 replacing the BAZ/ACG Austria certification of these products (Austrian Type Certification no. TW 1/75)

## **II. Certification Basis**

### **1. Airworthiness Standards:**

LFSM 1973, Appendix D, airworthiness requirements for engines of powered sailplanes issued by Luftfahrt-Bundesamt Braunschweig, BRD

2. **Special Conditions (SC):**  
none
3. **Deviations:**  
none
4. **Equivalent Safety Findings (ESF):**  
none
5. **Environmental Protection Requirements:**  
none

### **III. Technical Characteristics**

#### **1. Type Design Definition:**

As defined the type design definition number 35.642.001.

#### **2. Description:**

Fan cooled, 2 cylinder 2-stroke engine, mixture lubrication, dual ignition, belt driven propeller

Weight (dry):	45 kg
Bore:	76 mm
Stroke:	70 mm
Displacement:	635 cm <sup>3</sup>
Compression Ratio:	9:1
Crankshaft drive rotation:	counter clockwise (viewed from front)

#### **3. Equipment:**

Carburetor:	Bing central constant level carburetor 36 Ø Main jet: size 170 Needle jet: size 2.76 Jet needle: no. 46-284 Pos. 2
Fuel pump:	Bing diaphragm pump
Ignition system:	dual magnetic high-voltage condenser ignition, contact less (Bosch) Generator SCPK 422 12 V 100 W Ignition point 2 mm BTC
Spark plugs:	Bosch W 260 MZ 2
Starter:	rewind starter, Bosch pinon-starter
Power drive:	taper 1:10
Revolution measurement:	supply for an electronic tachometer, VDO

**4. Dimension:**

not determined

**5. Dry Weight:**

not determined

**6. Ratings:**

	<b>PS</b>	<b>1/min</b>
Take off power:	40	5400
max. continuous:	40	5400

**7. Fluids (Fuel/Oil/Additives/Coolant):**

7.1 Fuel

Fuel: regular gasoline min. 91 ROZ

<b>Description</b>	<b>German</b>	<b>English</b>
See Operator's Manual	HB-642	OM-642
See Service Instruction	n.a.	n.a.

7.2 Oil

Lubrication: Mixture lubrication  
mixing ratio 1:25  
with super two stroke oil

<b>Description</b>	<b>German</b>	<b>English</b>
See Operator's Manual	HB-642	OM-642
See Service Instruction	n.a.	n.a.

7.3 Coolant

<b>Description</b>	<b>German</b>	<b>English</b>
See Operator's Manual	HB-642	OM-642
See Service Instruction	n.a.	n.a.

**8. Aircraft Accessory Drives:**

none

## **IV. Operational Limitations**

### **1. Temperature Limits:**

Cylinder head temperature	max. 250°C
measured with thermo couple under spark plug on hottest cylinder	

### **2. Speed Limits:**

max. RPM	5500
idling RPM:	approx. 1600

## **V. Operational and Service Instructions**

<b>Description</b>	<b>German</b>	<b>English</b>
Operation- and Maintenance instruction	HB-642	OM-642
Installation Manual	n.a.	n.a.
Repair Manual	n.a.	n.a.
Service Bulletins, Service Instructions and Service Letters	n.a.	n.a.

## **VI. Notes**

### **Note 1: Fuel consumption**

At 100 % power approx. 16 l/h (5400 RPM) and at 75 % power approx. 10 l/h (4500 RPM).

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