

## SERVICE INSTRUCTION

# Introduction of new oil radiator/-sets on ROTAX® Engine Type 912 i, 912 and 914 (Series)

ATA System: 79-00-00 Lubrication system

### 1) Planning information

To obtain satisfactory results, procedures specified in this publication must be accomplished with accepted methods in accordance with prevailing legal regulations.

BRP-Rotax GmbH & Co KG cannot accept any responsibility for the quality of work performed in accomplishing the requirements of this publication.

#### 1.1) Applicability

- All engine, which will be equipped with the new oil radiator part no. 886001/886003/886005/886107 in the future.

- All engines of type 912/914 Series and 912 i Series equipped with:

Oil radiator set (part numbers)			
OLD	NEW	OLD	NEW
886032 (metric)	886011 (metric)	886033 (metric)	886012 (metric)
886034 (metric)	886013 (metric)	-	886014 (metric)
-	886015 (UNF)	886036 (UNF)	886016 (UNF)
or Oil radiator (part numbers)			
OLD	NEW	OLD	NEW
886022	886001	886023	886003
886024	886005	-	886107

on which the oil radiator should be replaced in the course of a repair / an overhaul (if damaged or if dirty oil system etc.).

#### 1.2) Concurrent ASB/SB/SI and SL

None.

#### 1.3) Reason

In the course of continuous development and standardization new oil radiators (part no. 886001/886003/886005/886107) have been introduced.

#### 1.4) Subject

Introduction of new oil radiator/-sets on ROTAX® Engine Type 912 i, 912 and 914 (Series).

#### 1.5) Compliance

NONE - For Information Only



**WARNING**

Non-compliance with these instructions could result in engine damages, personal injuries or death!

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## 1.6) Approval

The technical content of this document is approved under the authority of the DOA ref. EASA.21J.048.

## 1.7) Labor time

Estimated labor hours:

engine installed in the aircraft - - - labor time will depend on installation and therefore no estimate is available from the engine manufacturer.

## 1.8) Mass data

change of weight - - - none.

moment of inertia - - - unaffected.

## 1.9) Electrical load data

No change.

## 1.10) Software modifications

No change.

## 1.11) References

In addition to this technical information refer to current issue of

- Operators Manual (OM)
- Illustrated Parts Catalog (IPC)
- Installation Manual (IM)
- Maintenance Manual Line (MML)
- Maintenance Manual Heavy (MMH)

NOTE: The status of the Manuals can be determined by checking the table of amendments. The 1<sup>st</sup> column of this table shows the revision status. Compare this number to the one listed on the ROTAX website: [www.FLYROTAX.com](http://www.FLYROTAX.com). Updates and current revisions can be downloaded for free.

## 1.12) Other Publications affected

None.

## 1.13) Interchangeability of parts

- All replacement parts within the same size are interchangeable without limitation with the current equivalent part of the same size. See also the requirements for installation and maintenance in chapter 3.1 and 3.2.

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## 2) Material Information

### 2.1) Material- cost and availability

Price and availability will be provided on request by ROTAX® Authorized Distributors or their Independent Service Centers.

### 2.2) Company support information

None.

### 2.3) Material requirement per engine

None.

### 2.4) Material requirement per spare part

Parts requirement OLD VERSION:

Part no.	Qty/ engine	Description	Application
886000	1	Oil radiator	"small"
886002	1	Oil radiator	"medium"
886004	1	Oil radiator	"large"
886106	1	Oil radiator	"extra large"
886032	1	Oil radiator set	metric connections
consist of:			
886000	1	Oil radiator	
242873	4	Hex nut M22x1.5	Oil radiator
230387	2	Gasket ring 14.2/18/2	Oil radiator
840461	2	Nipple 13.2/9.5	Oil radiator
886033	1	Oil radiator set	metric connections
consist of:			
886002	1	Oil radiator	
242873	4	Hex nut M22x1.5	Oil radiator
230387	2	Gasket ring 14.2/18/2	Oil radiator
840461	2	Nipple 13.2/9.5	Oil radiator
886034	1	Oil radiator set	metric connections
consist of:			
886004	1	Oil radiator	
242873	4	Hex nut M22x1.5	Oil radiator
230387	2	Gasket ring 14.2/18/2	Oil radiator
840461	2	Nipple 13.2/9.5	Oil radiator

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886035	1	Oil radiator set	metric connections
consist of:			
886106	1	Oil radiator	
242873	4	Hex nut M22x1.5	Oil radiator
230387	2	Gasket ring 14.2/18/2	Oil radiator
840461	2	Nipple 13.2/9.5	Oil radiator
886036	1	Oil radiator set	UNF connections
consist of:			
886004	1	Oil radiator	
242873	4	Hex nut M22x1.5	Oil radiator
230387	2	Gasket ring 14.2/18/2	Oil radiator
956643	2	Adapter 3/4-16 (AN-8) UNF/M14x1.5	Oil radiator
886037	1	Oil radiator set	UNF connections
consist of:			
886106	1	Oil radiator	
242873	4	Hex nut M22x1.5	Oil radiator
230387	2	Gasket ring 14.2/18/2	Oil radiator
956643	2	Adapter 3/4-16 (AN-8) UNF/M14x1.5	Oil radiator

### Parts requirement NEW VERSION:

Part no.	Qty/ engine	Description	Application
886001	1	Oil radiator	"small"
886003	1	Oil radiator	"medium"
886005	1	Oil radiator	"large"
886107	1	Oil radiator	"extra large"
886011	1	Oil radiator set	metric connections
consist of:			
886001	1	Oil radiator	
242873	4	Hex nut M22x1.5	Oil radiator
230387	2	Gasket ring 14.2/18/2	Oil radiator

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	840461	2	Nipple 13.2/9.5	Oil radiator
	886012	1	Oil radiator set	metric connections
	consist of:			
	886003	1	Oil radiator	
	242873	4	Hex nut M22x1.5	Oil radiator
	230387	2	Gasket ring 14.2/18/2	Oil radiator
	840461	2	Nipple 13.2/9.5	Oil radiator
	886013	1	Oil radiator set	metric connections
	consist of:			
	886005	1	Oil radiator	
	242873	4	Hex nut M22x1.5	Oil radiator
	230387	2	Gasket ring 14.2/18/2	Oil radiator
	840461	2	Nipple 13.2/9.5	Oil radiator
	886014	1	Oil radiator set	metric connections
	consist of:			
	886107	1	Oil radiator	
	242873	4	Hex nut M22x1.5	Oil radiator
	230387	2	Gasket ring 14.2/18/2	Oil radiator
	840461	2	Nipple 13.2/9.5	Oil radiator
	886015	1	Oil radiator set	UNF connections
	consist of:			
	886005	1	Oil radiator	
	242873	4	Hex nut M22x1.5	Oil radiator
	230387	2	Gasket ring 14.2/18/2	Oil radiator
	956643	2	Adapter 3/4-16 (AN-8) UNF/M14x1.5	Oil radiator
	886016	1	Oil radiator set	UNF connections
	consist of:			
	886107	1	Oil radiator	
	242873	4	Hex nut M22x1.5	Oil radiator
	230387	2	Gasket ring 14.2/18/2	Oil radiator
	956643	2	Adapter 3/4-16 (AN-8) UNF/M14x1.5	Oil radiator

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### 2.5) Rework of parts

None.

### 2.6) Special tooling/lubricant-/adhesives-/sealing compound/price and availability

None.

## 3) Accomplishment/Instructions

**NOTE:** Before accomplishment, review the entire documentation to make sure you have a complete understanding of the procedure and requirements.

### Accomplishment

All measures must be implemented and confirmed by at least one of the following persons or organizations:

- ROTAX® - Airworthiness representatives
- ROTAX® - Authorized Distributors or their independent Service Centers
- Persons approved by the respective Aviation Authority
- Persons with approved qualifications for the corresponding engine types. Only authorized persons (iRMT, Level Heavy Maintenance) are entitled to carry out this work

### General

Further material on general inspection, maintenance and repair can be found also in relevant Advisory Circular AC 43.13 from FAA.

### Advisory Circular

This Manual "Advisory Circular" AC describes maintenance methods, techniques and practice.

### Safety notice

- Secure aircraft against unauthorized operation
- Disconnect negative terminal of aircraft battery

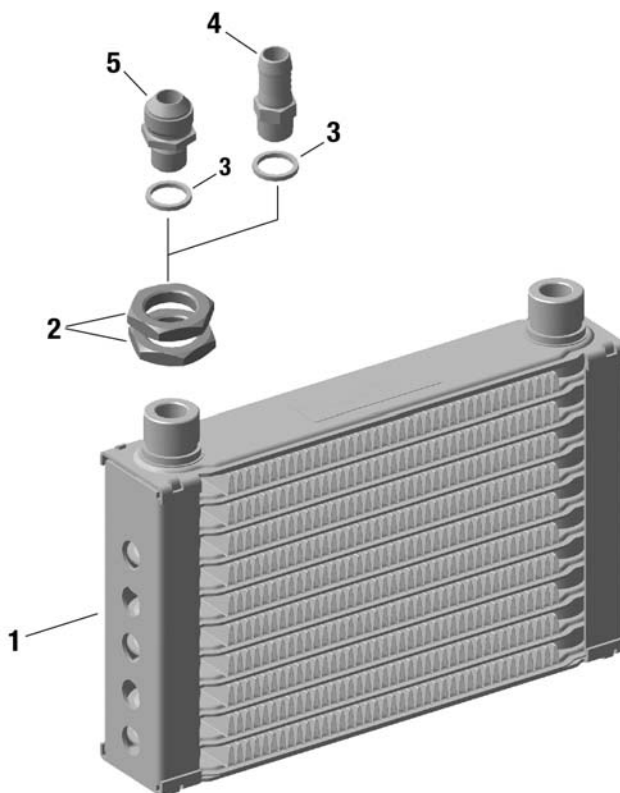
### 3.1) Spare Parts - related information

#### VARIANTS OF CONNECTORS



See relevant Illustrated Parts Catalog (IPC) for the respective engine type, Chapter 79-20-00.

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Fig. 1

- |   |                                     |   |                  |
|---|-------------------------------------|---|------------------|
| 1 | Oil radiator (NEW VERSION)          | 2 | Hex. nut M22x1.5 |
| 3 | Gasket ring 14.2/18/2               | 4 | Nipple 13.2/9.5  |
| 5 | Adapter 3/4-16 UNF (AN 8) / M14x1.5 |   |                  |

### 3.2) Installation - related information

Pay attention to the specifications of the current Installation Manual (IM) for the respective engine type.

For the installation observe the following relevant changes:

- see modified outer dimensions as shown in [Fig. 2](#).

#### NOTICE

Any changes to oil radiator are not permissible.  
See [Fig. 2](#).

- see different position of the fins.

#### PERMISSIBLE POSITION AND LOCATION

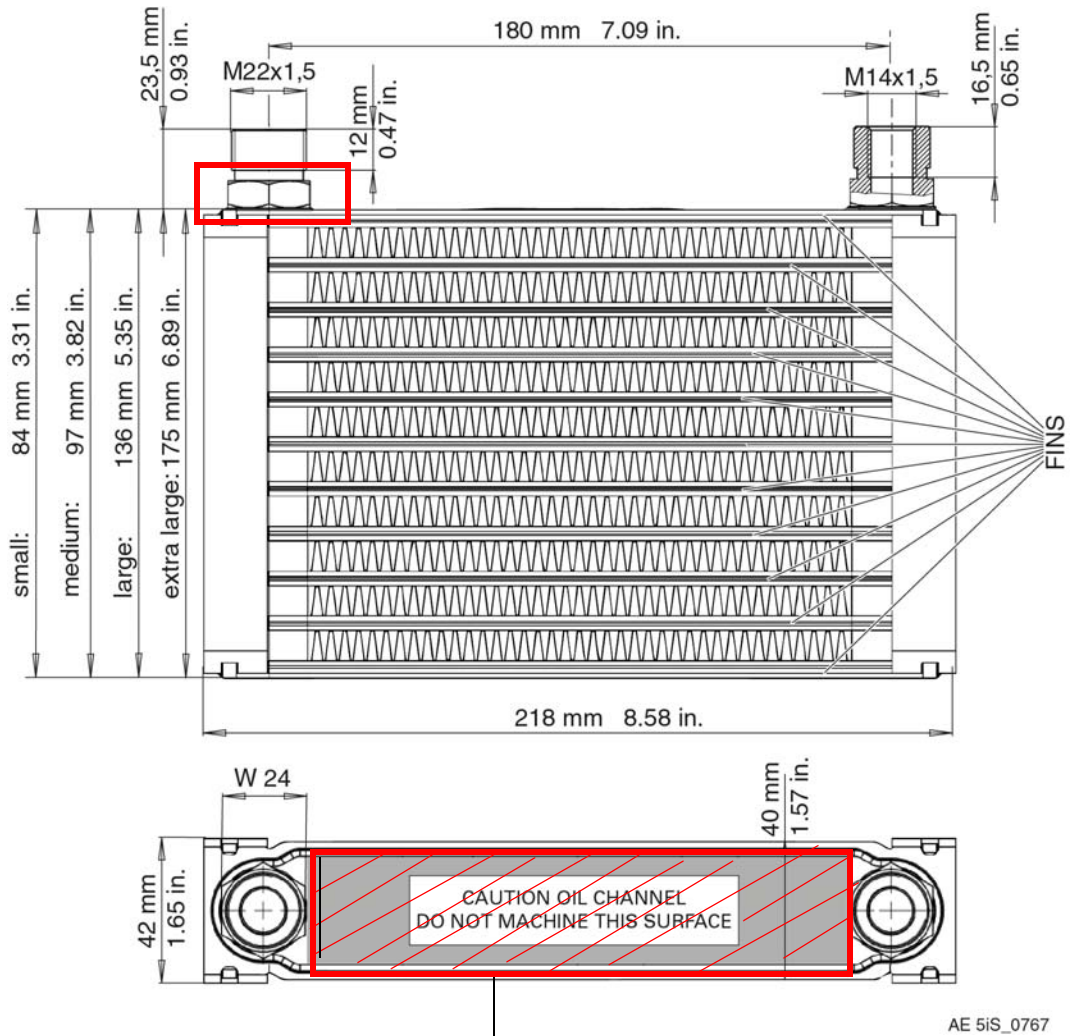
- The oil radiator should always be installed below the engine oil pump.

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Dimensions of the oil radiators:

## OLD Version



Oil channel! Do NOT machine this surface.

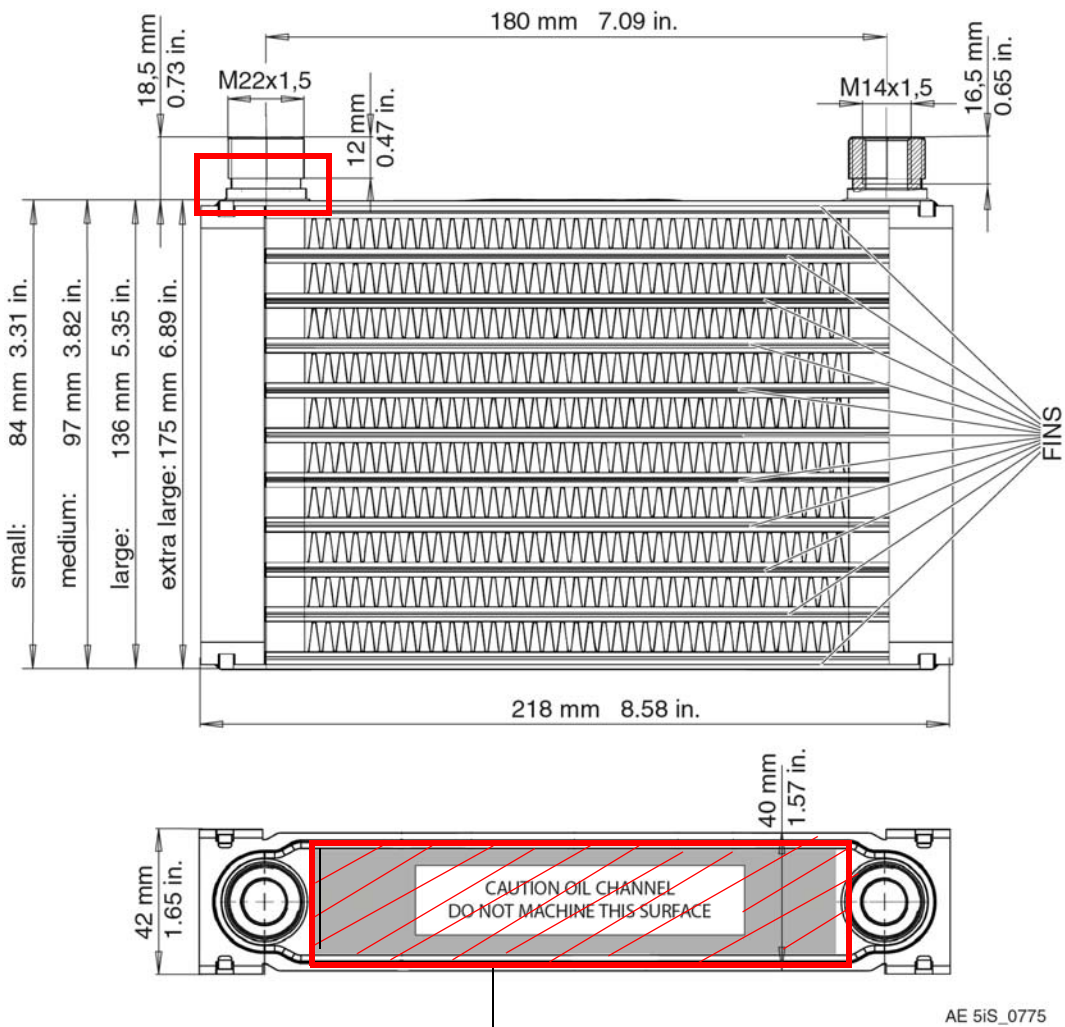
Fig. 2

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# SERVICE INSTRUCTION

## NEW Version



Oil channel! Do NOT machine this surface.

Fig. 3

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## 3.3) Maintenance (Line) - related information



See current Maintenance Manual Line (MML) for the respective engine type.

During the visual inspection of the oil radiator also make sure that the exterior contours or channels do not have damages or oil leaks.

## 3.4) Maintenance (Heavy) - related information

### 3.4.1) Removal of the oil radiator

#### Preparation

- Switch the ignition key OFF
- Drain the oil

#### NOTICE

The oil radiator is not included in the delivery of the engine. Maintenance must be carried out in accordance with the aircraft manufacturer's instructions.

#### **ENVIRONMENTAL NOTE**

All the operating fluids and cleaning agents can damage the environment if not disposed of properly. Dispose of operating fluids in an eco-friendly manner!

#### NOTICE

Use appropriate protective coverings to prevent the ingress of debris particles into all disconnected lines and connections.

- Remove surrounding assemblies and detach oil lines

NOTE: The assemblies and lines are only to be removed if necessary and only as far as is necessary!

Step	Procedure
1	Remove the oil hoses and clamps according to the instructions in the aircraft manufacturer's manual.

#### **ENVIRONMENTAL NOTE**

Ensure that no oil gets into the waste water system or the ground – risk of contaminating drinking water!

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## 3.4.2) Inspection of the oil radiator

### NOTICE

The oil radiator is not included in the delivery of the engine. Maintenance must be carried out in accordance with the aircraft manufacturer's instructions.

### Preparation

- Clean all parts carefully
- General visual inspection



General visual inspection. See Chapter 05-20-00 of the latest Maintenance Manual Line (MML) for the respective engine type.

Step	Procedure
1	Clean the cooling fins of the oil radiator and straighten them out if necessary.
2	Rinse out the inside of the oil radiator.

### NOTICE

If the engine is damaged so that excessive metal contamination can be found in the oil filter, magnetic plug and inside the oil tank, the oil radiator must be replaced. Proper judgment of the contamination requires years of experience in the repair of piston engines.

## 3.4.3) Installation of the oil radiator

### NOTICE

Use backup wrench to counter-hold screw sockets when securing the oil lines.

Step	Procedure
1	Install the oil hoses and clamps according to the instructions in the aircraft manufacturer's manual.

### Finishing work:

- Fill with fresh oil according to the latest Maintenance Manual Line (MML)
- Purge the oil system according to the latest Maintenance Manual Line (MML)
- Restore aircraft to original operating configuration
- Connect negative terminal of aircraft battery



Conduct test run and perform leakage check. See Chapter 12-20-00 of the latest Maintenance Manual Line (MML) for the respective engine type.

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### 3.5) Test run

In case of uninstalled engines test run is accomplished with the mandatory test run after installation into aircraft.



Conduct test run and perform leakage check. See Chapter 12-20-00 of the latest Maintenance Manual Line (MML) for the respective engine type.

### 3.6) Summary

These instructions (section 3) have to be carried out in accordance with the deadlines specified in section 1.5.

The execution of the Service Instruction must be confirmed in the logbook.

**NOTE:** Work on EASA certified parts might affect the EASA Form 1 and does require appropriate documentation by authorized persons. Repairs must be entered into the engine logbook and also do apply for the EASA Form 1.

A revision bar outside the page margin indicates a change to text or graphic.

Translation into other languages might be performed in the course of language localization but does not lie within ROTAX® scope of responsibility.

In any case the original text in English language and the metric units are authoritative.

### 3.7) Inquiries

Inquiries regarding this Service Instruction should be sent to the ROTAX® authorized distributor of your area.

A list of all ROTAX® Authorized Distributors or their independent Service Centers is provided on [www.flyrotax.com](http://www.flyrotax.com).

**NOTE:** The illustrations in this document show the typical construction. They may not represent full detail or the exact shape of the parts which have the same or similar function.

Exploded views are **not technical drawings** and are for reference only. For specific detail, refer to the current documents of the respective engine type.