This SI revises SI-912 i-018R3 /SI-915 i-004R3/SI-916 i-004R1 dated 20 Oct. 2023

SERVICE INSTRUCTION

List of approved Engine Control Unit (ECU) software and hardware configurations for ROTAX® Engine Type 916 i (Series), 915 i and 912 i (Series)

ATA System: 76-00-00 Engine control

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 versions of ROTAX® engines types:

Engine type	Serial number
912 iSc Sport	all
912 iS Sport	all
915 iSc A/C24	all
915 iS A/C24	all
916 iSc A/C24	all
916 iS A/C24	all
916 iSc B	all

1.2) Concurrent ASB/SB/SI and SL

In addition to this Service Instruction the following Service Bulletins/Service Instructions must be observed and complied with

- SB-912 i-002/SB-915 i-002, “Flashing of a new Software on the Engine Control Unit (ECU)”, current issue
- SB-912 i-002iS, “Flashing of a new Software on the Engine Control Unit 912 iS (ECU)”, current issue
- SB-912 i-003iS, “Installation instructions for upgrade kit 912 iS Sport”, current issue
- SB-915 i A-002, “Software Update for Engine Control Unit (ECU), current issue
- SI-915 i A-007, “Introduction of a new turbocharger assy. with new ECU software and exhaust requirements”, current issue
- SI-912 i-002 / SI-915 i.-002, “B.U.D.S. Aircraft Installation Instructions”, current issue

1.3) Reason

In the course of continuous development and standardization, ROTAX® may release updates for Engine Control Units (ECU) of the injected aircraft engines. This Service Instruction provides an overview of all available Software versions and their validity for the respective hardware configurations.

1.4) Subject

List of approved Engine Control Unit (ECU) software and hardware configurations for ROTAX® 916 i (Series), 912 i and 915 i (Series).

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1.5) Compliance

See Chapter 05-20-00 “Scheduled Maintenance Checks”, section 09 “Engine Management” in the latest edition of the Maintenance Manual Line (MML).

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:

- ECU removed from the aircraft - approx. 15 minutes per ECU
- ECU installed in the aircraft - labor time will depend on installation and therefore no estimate is available from the engine manufacturer

NOTE: The estimated time contains all steps that may be required as part of the ECU software loading process (extraction of ECU Fault-Data logs, identification of valid ECU software versions, software loading etc.).

1.8) Mass data

Change of weight - - - none.

Moment of inertia - - - unaffected.

1.9) Electrical load data

No change.

1.10) Software modifications

As described in the respective Service Information. See Appendix: Valid software / hardware versions.

1.11) References

In addition to this technical information refer to current issue of

- 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 1st column of this table shows the revision status. Compare this number to the one listed on the ROTAX website:
www.flyrotax.com. Updates and current revisions can be downloaded for free.

1.12) Other Publications affected

None.

1.13) Interchangeability of parts

- Hardware components such as sensors may require pairing with specific ECU software versions and may not be interchangeable. Refer to instructions in Chapter 3 for details

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

Any possible support by BRP-Rotax will be provided on request by ROTAX® Authorized Distributors or their independent Service Centers.

2.3) Material requirement per engine

None.

2.4) Material requirement per spare part

None.

2.5) Rework of parts

None.

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

Description	Qty/engine	Part no.
B.U.D.S. set Level 1 (Maintenance)	1	864021*
B.U.D.S. Aircraft Software (3.0.0. or higher)	1	864361
Service wiring harness assy.	1	864280
Y - cable	1	-

*For verification of current ECU configuration. For updating the ECU software, other B.U.D.S. Sets are required. For this see respective Service Bulletin.

3) Accomplishment/Instructions

- ROTAX® reserves the right to make any amendments to existing documents, which might become necessary due to this standardization, at the time of next revision or issue.

NOTE: Before maintenance, 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® - 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

NOTE: Indicates supplementary information which may be needed to fully complete or understand an instruction.

All work has to be performed in accordance with the relevant Maintenance Manuals of the respective engine type.

General

All general inspection, maintenance and repair has to be carried out e.g. in accordance with relevant Advisory Circular AC 43.13 from FAA.

Advisory Circular

This Manual "Advisory Circular" AC describes maintenance methods, techniques and practice. These are recognized and authorized for inspection and repairs in non-pressurized areas for which there are no separate maintenance and repair instructions.

3.1) Identify current ECU configuration

Preparation

Connect ECU to computer by using the Service Wiring Harness or, in case the ECU is installed in an aircraft, by connecting the ECU directly via the aircraft wiring harness. Refer to the instructions of the latest Maintenance Manual Heavy (MMH).

Procedure

Step	Procedure
1	Launch B.U.D.S. Aircraft by double-clicking the desktop icon. Alternatively B.U.D.S. Aircraft can also be started through the start menu entry (e.g. Start – All Programs - B.U.D.S. - run B.U.D.S.).

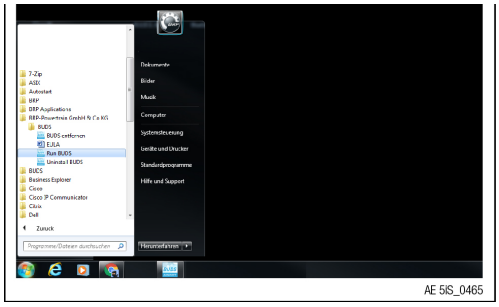

Fig. 1

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Step	Procedure
2	Wait until the program has been started completely.
3	Check if both Lane Health Indicators (top left corner) turn green. If they are gray check connections and power supply and/or restart B.U.D.S. Aircraft.
4	Change to “ECU configuration” tab.

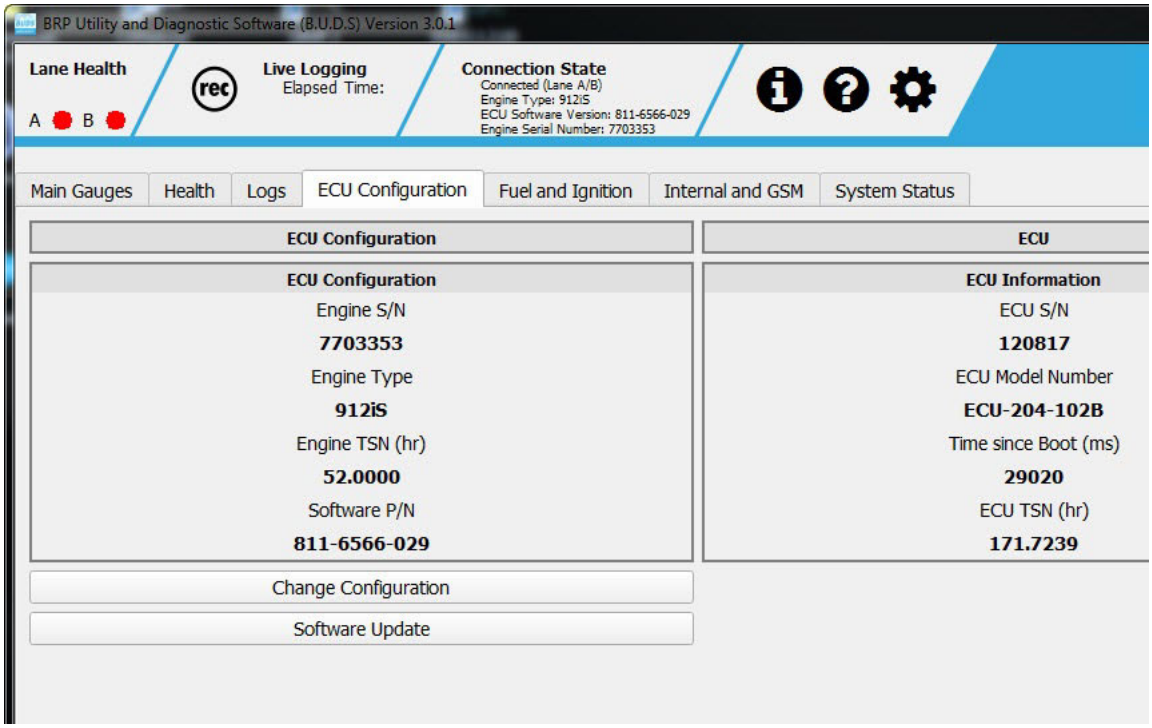

Fig. 2

Step	Procedure
5	Read and note the values of following field: - Software P/N: This value indicates the current software installed on the ECU. NOTE: Knowing the current “Software Config. Part Number” and “ECU part number” is crucial, when loading ECU software or verifying if ECU has the latest software installed.

3.2) Verify ECU software

Use table from the Appendix to verify if the installed ECU software version is up to date and does comply with the hardware state and engine configuration of your engine. If the software is not up to date continue with chapter 3.3.

3.3) Update of ECU software

If there is a newer ECU software for the relevant engine configuration available perform software loading according to the respective Service Information.

3.4) Summary

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

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

	A revision bar outside of 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.

3.5) 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.

4) Appendix

See table of valid software/hardware versions.

Current Configuration							Update Information	
Config. List No.	Engine Type	ECU Part Number (wrapped up)	ECU Part Number	Software Configuration Part Number	Software P/N (File Name)	Status	Relevant Service Bulletin / Service Instruction	Target Config. List No.
1	912 iS	881250	665566	864080	811-6566-025.ath	outdated	SB-912 i-002iS Flashing of a new Software on the Engine Control Unit 912 iS (ECU) for ROTAX® Engine Type 912 i (Series)	2
2	912 iS	881251	665567	864081	811-6566-029.ath	latest	-	-
3	912 iS	881250	665566	864080	811-6566-025.ath	outdated	SB-912i-003iS Installation instructions for upgrade kit 912 iS Sport for ROTAX® engine type 912 i (Series)	5
4	912 iS	881251	665567	864081	811-6566-029.ath	latest	SB-912i-003iS Installation instructions for upgrade kit 912 iS Sport for ROTAX® engine type 912 i (Series)	5
5	912 iS Sport	881252	665568	864082	811-6566-130.ath	latest	-	-
6	912 iSc Sport	881252	665568	864082	811-6566-130.ath	latest	-	-
7	915 iS A/C24	n.a.	864352	n.a.	072-2357-003.ath	outdated	SB-915 i A-002iS Flashing of a new software to upgrade to Engine Control Unit (ECU) part no. 864354 (915 iS A) for ROTAX® Engine Type 915 i (Series)	9
8	915 iS A/C24	881254	864352	864086	072-2357-004.ath	outdated	SB-915 i A-002iS Flashing of a new software to upgrade to Engine Control Unit (ECU) part no. 864354 (915 iS A) for ROTAX® Engine Type 915 i (Series)	9
9	915 iS A/C24	881254	864354	864087	072-2357-005.ath	Change of label	Applicable for all engines, where SI-915 i-007 does not apply.	-
	915 iS A/C24	881254	864353	864087	072-2357-005.ath	latest		
10	915 iS A/C24	881257	864364	864089	072-2357-006.ath	Change of label	SI-915 i-007 Introduction of a new turbocharger assy with new ECU software and exhaust requirements for ROTAX 915 i A (Series)	-
	915 iS A/C24	881257	864357	864089	072-2357-006.ath	latest		

Current Configuration							Update Information	
Config. List No.	Engine Type	ECU Part Number (wrapped up)	ECU Part Number	Software Configuration Part Number	Software P/N (File Name)	Status	Relevant Service Bulletin	Target Config. List No.
11	915 iSc A/C24	881254	864352	864086	072-2357-004.ath	outdated	SB-915 i A-002 Flashing of a new software to upgrade to Engine Control Unit (ECU) part no. 864354 (915 iSc A) for ROTAX® Engine Type 915 i (Series)	12
12	915 iSc A/C24	881254	864354	864087	072-2357-005.ath	Change of label	Applicable for all engines, where SI-915 i-007 does not apply.	-
	915 iSc A/C24	881254	864353	864087	072-2357-005.ath	latest		
13	915 iSc A/C24	881257	864364	864089	072-2357-006.ath	Change of label	SI-915 i-007 Introduction of a new turbocharger assy with new ECU software and exhaust requirements for ROTAX 915 i A (Series)	-
	915 iSc A/C24	881257	864357	864089	072-2357-006.ath	latest		
14	916 iSc3 A/C24	881258	864366	864092	072-2357-207.ath	Change of label	-	-
	916 iSc3 A/C24	881258	864367	864092	072-2357-207.ath	latest	-	-
15	916 iSc3 B	881256	864365	864091	072-2357-306.ath	Change of label	-	-
	916 iSc3 B	881256	864358	864091	072-2357-306.ath	latest	-	-