

SERVICE INSTRUCTION

Introduction of new ignition coil assy., ignition cable set and spark plug connector for ROTAX® 912 i (Series), 915 i (Series) and 916 i (Series) Aircraft Engines

ATA System: 74-20-00 Distribution

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

The new ignition coil assemblies, new ignition cable set and new spark plug connectors have already been installed on all versions of certified and ASTM compliant ROTAX® engine types 912 i (Series), 915 i (Series) and 916 i (Series) from S/N 10011960 inclusive.

NOTE: It is not mandatory to retrofit engines which are currently equipped with old ignition coil assy. types, old ignition cable set types and old spark plug connector types.

NOTE: In case of interchange/repair/maintenance mixing of ignition cable types and spark plug connector types is not permitted. All ignition cable types and spark plug connectors must be of the same part number for the entire engine.

NOTE: Installation of the new style ignition cable set (part no. 864758) and new style spark plug connector (part no. 265245) is permitted on old ignition coil assemblies.

1.2) Concurrent ASB/SB/SI and SL

In addition to this Service Instruction the following documents must be observed:

- in general all relevant Alert Service Bulletins (ASB), Service Bulletins (SB), Service Instructions (SI), Service Letters (SL), Service Instruction - Parts and Accessories (SI-PAC) with relevance to perform this maintenance, repair or overhaul task.

1.3) Reason

In the course of continuous development and standardization, new ignition coil assy. (part no. 864665, 864666, 864667 and 864668), new ignition cable set (part no. 864758) and new spark plug connector (part no. 265245) have been introduced.

1.4) Subject

Introduction of new ignition coil assy., ignition cable set and spark plug connector for ROTAX® 912 i (Series), 915 i (Series) and 916 i (Series) Aircraft Engines.

1.5) Compliance

NONE - For Information Only.

These maintenance instructions shall be considered at any maintenance events, retrofitting, repair and overhaul.

1.6) Approval

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

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For ASTM compliant engines the technical content of this document is approved under the relevant processes of the effective BRP-Rotax quality management system.

Content concerning certified engine types also applies to ASTM compliant engine types.

1.7) Labor time

Estimated labor hours:

Engine installed in the aircraft - - - labor time will depend on airframe 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

- in general Illustrated Parts Catalog (IPC) and in particular:
Chapter 74-20-00
- in general Operators Manual (OM)
- in general Installation Manual (IM)
- in general Maintenance Manual Line (MML)
- in general Maintenance Manual Heavy (MMH) and in particular:
Chapter 74-20-00 and 76-70-00

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

- New style double ignition coil assemblies (installed on engines with S/N higher than those listed in section 1.1 above) with part no. 864665, 864666, 864667 and 864668 are equipped with ignition cable set part no. 864758 and must be paired with new style spark plug connectors part no. 265245 (see chapter 4, Appendix).
- Old style double ignition coil assemblies with part no. 864660, 864661, 864662 and 864663 are equipped with ignition cable set part no. 864688 and must be paired with old style spark plug connectors part no. 265249 (see chapter 4, Appendix). Unless all ignition wires are replaced with the new style ignition cable set part no. 864758 and new style spark plug connector part no. 265245.

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2) Material Information

2.1) Material

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

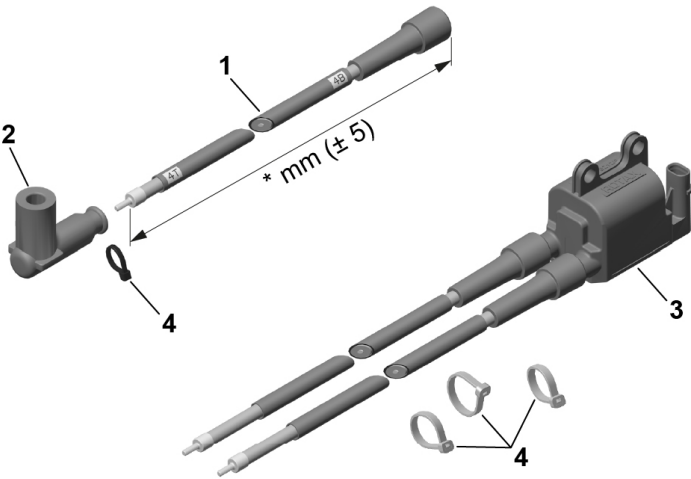
Parts requirement:

Fig.no.	New part no.	Qty	Description	Application	Old part no.
1-1	864758	1	IGNITION CABLE SET	Ignition coils	864688
consist of:					
	-	1	IGNITION CABLE 840 mm*	Coil 1T/ Cyl 2B	-
	-	1	IGNITION CABLE 375 mm*	Coil 1B/ Cyl 1B	-
	-	1	IGNITION CABLE 790 mm*	Coil 2T/ Cyl 1T	-
	-	1	IGNITION CABLE 375 mm*	Coil 2B/ Cyl 2T	-
	-	1	IGNITION CABLE 660 mm*	Coil 3T/ Cyl 4B	-
	-	1	IGNITION CABLE 445 mm*	Coil 3B/ Cyl 3B	-
	-	1	IGNITION CABLE 590 mm*	Coil 4T/ Cyl 3T	-
	-	1	IGNITION CABLE 375 mm*	Coil 4B/ Cyl 4T	-
1-2	265245	8	SPARK PLUG CONNECTOR	Ignition cables	265249
1-3	864665	1	DOUBLE IGNITION COIL 1 ASSY. with TYCO connector. including double ignition coil, 2 ignition cables with crimp sleeves M3, 2 protective caps and 2 protection hoses	Ignition system	864660
1-3	864666	1	DOUBLE IGNITION COIL 2 ASSY. with TYCO connector. including double ignition coil, 2 ignition cables with crimp sleeves M3, 2 protective caps and 2 protection hoses	Ignition system	864661
1-3	864667	1	DOUBLE IGNITION COIL 3 ASSY. with TYCO connector. including double ignition coil, 2 ignition cables with crimp sleeves M3, 2 protective caps and 2 protection hoses	Ignition system	864662
1-3	864668	1	DOUBLE IGNITION COIL 4 ASSY. with TYCO connector. including double ignition coil, 2 ignition cables with crimp sleeves M3, 2 protective caps and 2 protection hoses	Ignition system	864663

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1-4	#	AR	TIE WRAP	Spark Plug Con- nectors and Igni- tion cables at airbox	-
# - See current Illustrated Parts Catalog (IPC) for the respective engine type, Chapter 74-20-00					



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Fig. 1
Parts requirement

2.4) Material requirement per spare part

None.

2.5) Rework of parts

None.

2.6) Special tooling/lubricants- /adhesives- /sealing compounds

None.

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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.

**Accomplish-
ment**

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 Authorities
- Persons with approved qualifications for the corresponding engine types. Only authorized persons (iRMT, Level Heavy Maintenance) are entitled to carry out this work
- Persons with type-specific training

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 ROTAX® Instructions for Continued Airworthiness (ICA) of the respective engine type.

General

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

**Advisory
Circular**

The Advisory Circular (AC) contains maintenance methods, techniques and practices.

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3.1) Illustrated Parts Catalog - related information



See current Illustrated Parts Catalog (IPC) for the respective engine type, Chapter 74-20-00.

3.2) Installation - related information



See current Installation Manual (IM) for the respective engine type.

3.3) Operation - related information



See current Operators Manual (OM) for the respective engine type.
See also current Aircraft Flight Manual (AFM) / Pilot Operating Handbook (POH).

3.4) Maintenance (Line) - related information



See current Maintenance Manual Line (MML) for the respective engine type, Chapter 05-20-00, Section Maintenance Schedule 3) Spark plug.

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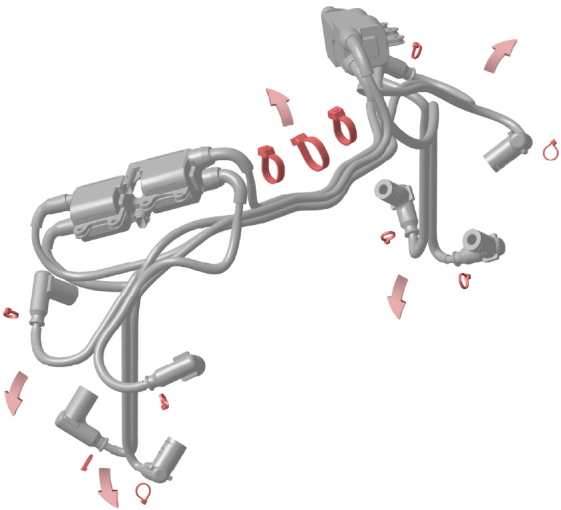
3.5) Maintenance (Heavy) - related information

3.5.1) Removal of ignition cable(s)

See current Maintenance Manual Heavy (MMH) for the respective engine type, Chapter 74-20-00, Section Removal.

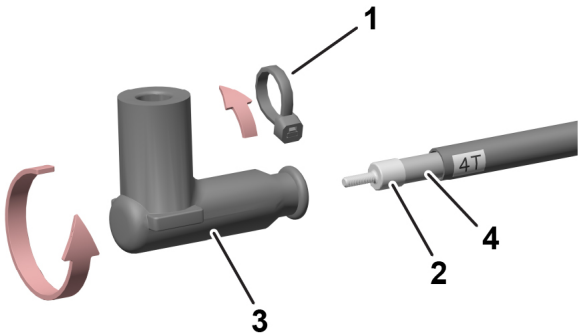
See Fig. 2 and Fig. 3

Step	Procedure
1	Remove tie wraps (1) from the ignition coil cables (4) and spark plug connectors (2).
2	Unscrew the spark plug connector. NOTE: The spark plug connectors are connected to the high tension wires by crimp sleeves M3 (3).



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- 1 Tie wrap
- 2 Spark plug connector
- 3 Crimp sleeve M3
- 4 Ignition coil cable



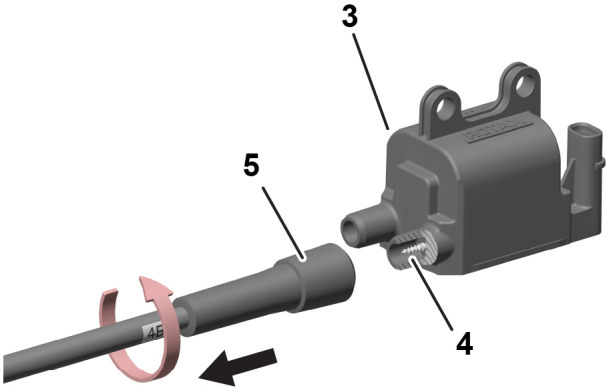
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Fig. 2

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Step	Procedure
3	Unscrew the ignition cable from the ignition coil and remove the silicon coated glass-fibre sleeves. NOTE: The high tension wires are connected to the coils by a threaded pin inside the coil housing. The protective cap may need to be pulled back off the coil in order to unscrew the cable.

3 Ignition coil
4 Threaded pin
5 Protective cap



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Fig. 3

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3.5.2) Inspection of ignition coil, ignition cable and spark plug connector

See current Maintenance Manual Heavy (MMH) for the respective engine type, Chapter 74-20-00, Section Inspection.

See Fig. 4

Step	Procedure
1	Check for corrosion or damage to the ignition coil. Carry out a continuity and resistance test of the ignition coil. * See current Maintenance Manual Heavy (MMH) for the respective engine type, Chapter 76-70-00 section Sensors and actuators.
2	Check for corrosion or damage to the ignition cables and crimp sleeves M3. Carry out a continuity test on ignition cable assemblies.
3	Check spark plug connectors for corrosion and damage. Carry out a resistance test of the spark plug connectors.
	Measuring points
	Spark plug connection – ignition cable connection 5 kΩ +/- 1kΩ

NOTICE

Cracking and other obvious damage to the ignition cables, crimp sleeves M3 or spark plug connectors are not permitted! If in doubt, always replace the damaged cables and/or connectors.

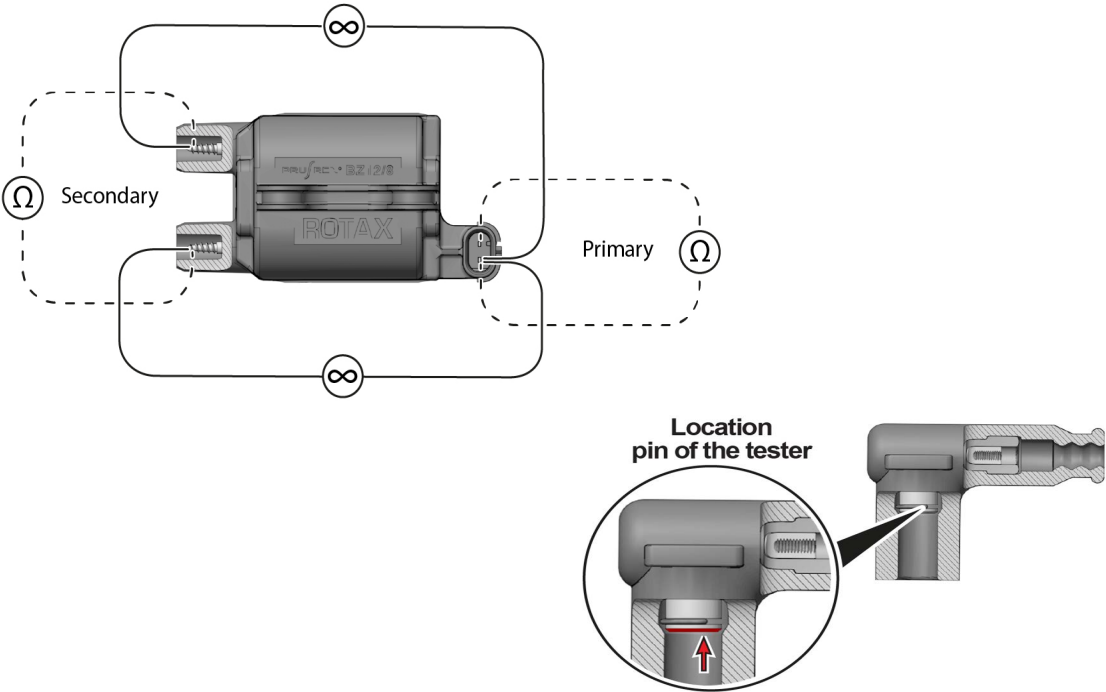


Fig. 4
Resistance check *

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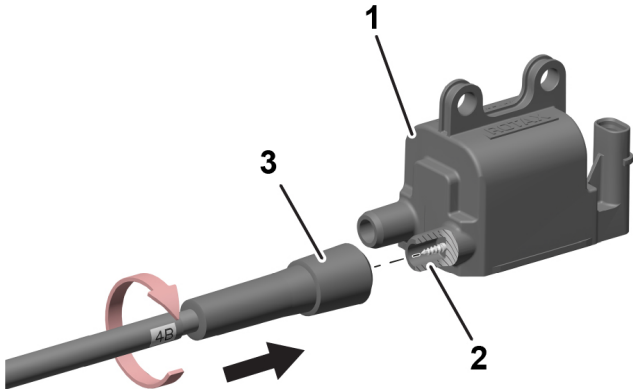
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3.5.3) Installation of ignition cable(s)

See current Maintenance Manual Heavy (MMH) for the respective engine type, Chapter 74-20-00, Section Installation.
See Fig. 5

Step	Procedure
1	Screw the ignition cable into the coil. NOTE: The high tension wires are connected to the coils by a threaded pin inside the coil housing.
2	Slide the protective cap over the coil.

- 1 Ignition coil
- 2 Threaded pin
- 3 Protective cap



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Fig. 5

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See Fig. 6

Step	Procedure
3	Pull silicone coated glass-fiber sleeve on the ignition cables.
4	Route the ignition cable assy. correctly and secure with cable tie(s). See current Manual Heavy (MMH) for the respective engine type, Chapter 74-20-00
5	Screw the spark plug connector on the ignition cable assy. and secure it with a tie wrap. NOTE: The spark plug connectors are connected to the high tension wires by crimp sleeves M3.

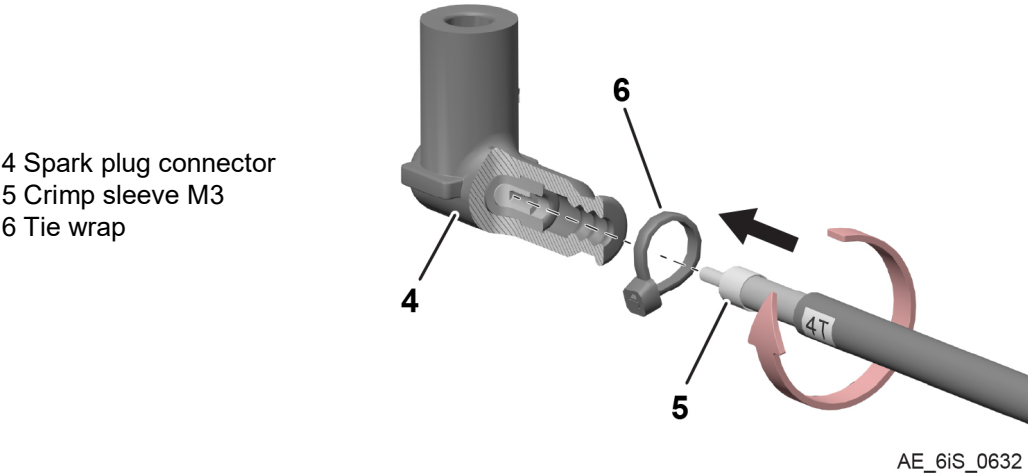


Fig. 6

NOTICE

Risk of damage to the spark plug connector!
The spark plug connectors must only be installed by hand or using an equivalent tool, that has no pointed or sharp edges.

3.6) Test run

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



See current Maintenance Manual Line (MML) for the respective engine type, Chapter 12-20-00.

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3.7) Summary

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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.

3.8) Inquiries

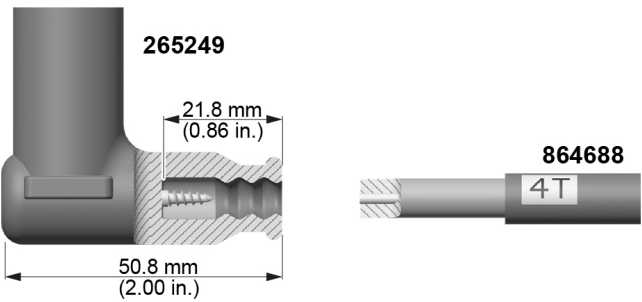
Inquiries regarding this Service Instruction should be sent to the ROTAX® Authorized Distributor of your area.

A list of all ROTAX® Authorized Distributors or their independent Service Centers is provided on <https://dealerlocator.flyrotax.com>.

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4) Appendix

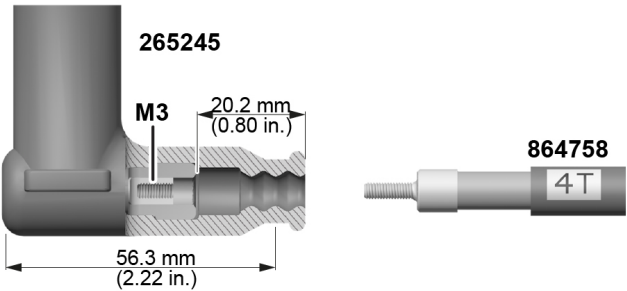
OLD



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Fig. 7

NEW



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Fig. 8

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.