

SERVICE INSTRUCTION

Installation of a propeller by usage of round-neck nut set for ROTAX® 912, 914, and 912 i (Series) Aircraft Engines

ATA System: 72-10-00 Propeller gear assy.

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 engines equipped with optional round-neck nut set part no. 842634:

Engine type	Serial number
912 (Series)	all
912 i (Series)	all
914 (Series)	all

NOTE: Propeller installation by usage of round-neck nut set is not possible when using optional external alternator kit.

1.2) Concurrent ASB/SB/SI and SL

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

- 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

To augment current issues of engine manuals, this Service Instruction provides information for installation and removal of round-neck nuts as an optional method of propeller attachment.

1.4) Subject

Installation of a propeller by usage of round-neck nut set for ROTAX® 912, 914 and 912 i (Series) Aircraft Engines.

1.5) Compliance

None - for information only.

1.6) Approval

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

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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

Part no.	Description	Weight
842634	ROUND-NECK NUT SET M8 x 1.25 (set of 6)	126 g / 0.28 lb

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 72-10-00
- in general Operators Manual (OM)
- in general Installation Manual (IM)
- in general Maintenance Manual Line (MML) and in particular:
Chapter 05-20-00
- in general Maintenance Manual Heavy (MMH) and in particular:
Chapter 72-10-00

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

- All parts are interchangeable.

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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

None

2.3) Material requirement per engine

Parts requirement:

Fig.no.	Part no.	Qty/en- gine	Description	Application
1	842634	1	ROUND-NECK NUT SET M8 x 1.25 (set of 6)	Propeller flange

NOTICE

Round neck nut set 842634 is not designed for use with 915 i and 916 i (Series) engines. Due to tolerance changes, appropriate drive lugs must be custom manufactured, tested and released by the installer or propeller manufacturer as required.



See propeller and/or aircraft manufacturer's documentation for propeller attachment bolt requirements, such as length, hardness and tightening torque.

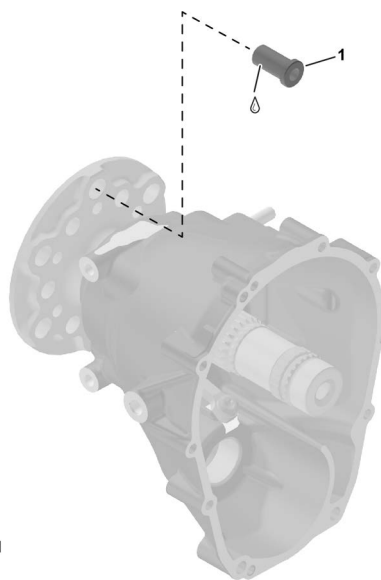


Fig. 1

1) 842634 M8 x 1.25

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2.4) Rework of parts

None.

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

Price and availability will be supplied on request by ROTAX® Authorized Distributors or their independent Service Centers:

Description	Qty/en- gine	Part no.	Application
LOCTITE ANTI SEIZE 8151 400 cc.	-	297438	Round-neck nut installation
INSERTION / REMOVAL TOOL*	-	-	Round-neck nut installation and re- moval
* Insertion tool is not available from ROTAX®, however dimensional drawings are available. See appendix.			

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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.

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 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.

3.1) Illustrated Parts Catalog - related information



See current Illustrated Parts Catalog (IPC) for the respective engine type, Chapter 72-10-00.

3.2) Installation - related information



See current Installation Manual (IM) for the respective engine type, Chapter 61-00-00.

3.3) Operation - related information



See current Operators Manual (OM) for the respective engine type.
See also Propeller Manufacturer's Manual.

3.4) Maintenance (Line) - related information



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

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3.5) Maintenance (Heavy) - related information

3.5.1) Round neck nuts - Installation

NOTE: Round-neck nuts are interference fit and must be pressed in and out of the propeller flange

See Fig. 2

Step	Procedure
1	Clean round neck nuts and propeller flange 13 mm bores (x6). Place a small amount of LOCTITE anti-seize 8151 on the outer barrel of the nut.
2	Place nut (1) into a 13 mm propeller flange bore from the engine side. NOTE: Round neck nuts will fit approximately 10 mm into the propeller flange bore using hand force only.
3	Place the insertion sleeve (2) over the propeller side of the round neck nut and the press-in mushroom (3) into the engine side of the round neck nut.
4	Place the insertion tool (4) over the propeller shaft, nut, sleeve and mushroom and hand-tighten the bolt into place.

- 1) Round neck nut
- 2) Insertion sleeve
- 3) Press-in mushroom
- 4) Insertion tool

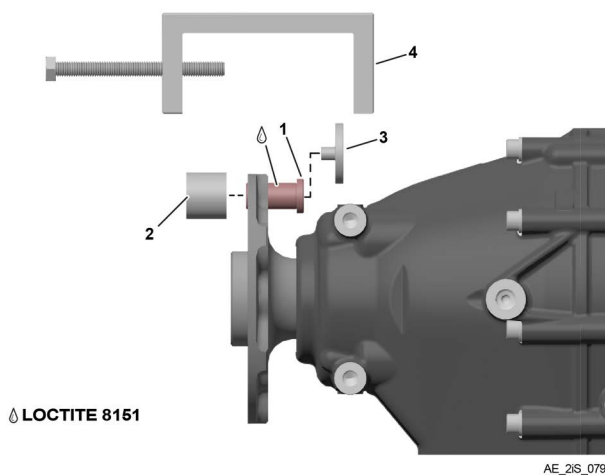


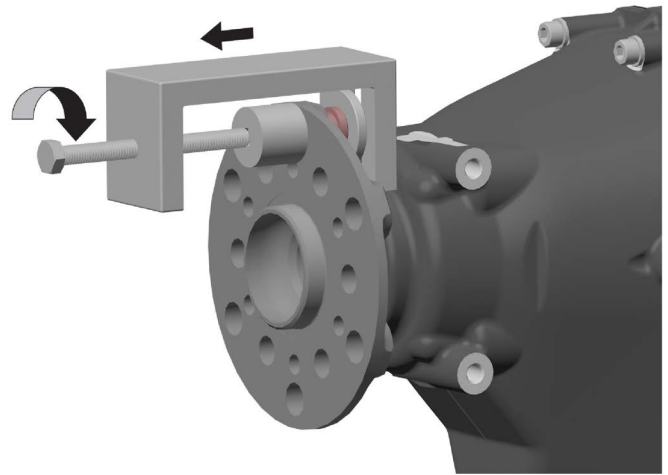
Fig. 2

See Fig. 3

Step	Procedure
5	While maintaining tool and nut alignment, tighten the bolt until the round-neck nut flange contacts the propeller flange.
6	Loosen the bolt and remove tool. Clean residual anti-seize.

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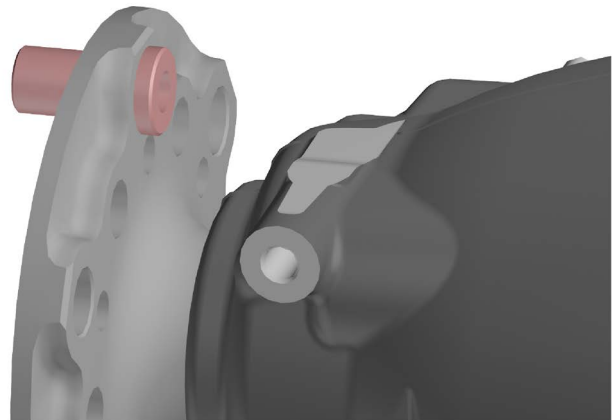


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Fig. 3

See Fig. 4

Step	Procedure
7	Check that the flange of the round-neck nut makes contact with the propeller flange. If necessary, use the tool to press in fully.
8	Repeat installation for the complete set of 6 round-neck nuts.



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Fig. 4

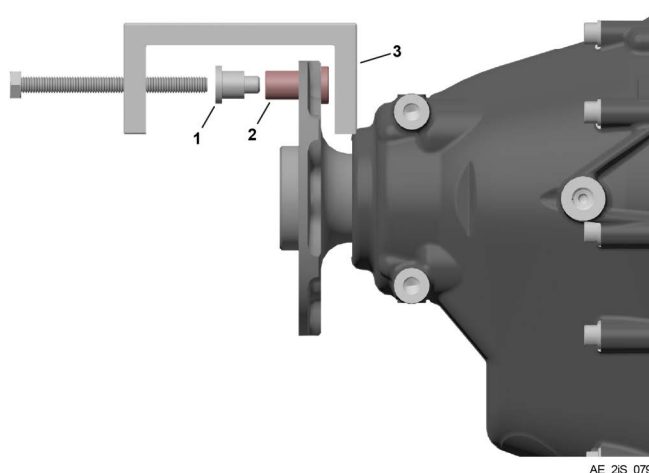
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3.5.2) Round neck nuts - Removal

See Fig. 5

Step	Procedure
1	Place pusher mushroom (1) into the propeller side of the round neck nut (2). Place puller tool (3) over propeller shaft and hand-tighten bolt into position against protection mushroom. NOTE: The removal tool must rest on the propeller flange, center the fork around the flange of round-neck nut.

- 1) Pusher mushroom
- 2) Round neck nut
- 3) Puller tool



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Fig. 5

See Fig. 6

Step	Procedure
2	Tighten the puller tool bolt against the pusher mushroom and continue turning the bolt clockwise until the round neck nut is released from the propeller shaft.

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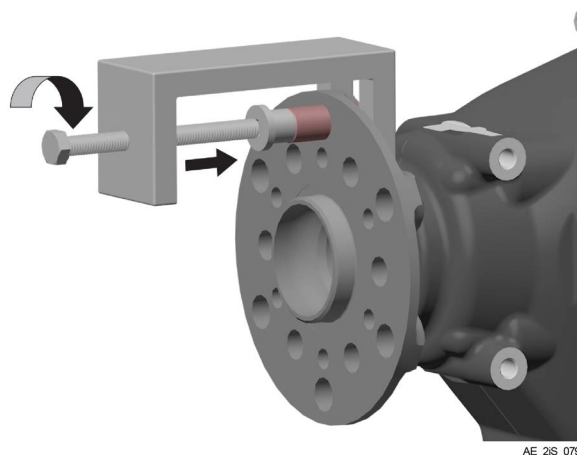


Fig. 6

3.6) Finishing work

- Restore aircraft to original operating configuration.
- Connect negative terminal of aircraft battery.

3.7) Test run

Conduct test run and check for leakage at the carburetor fuel inlets.

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



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

3.8) Summary

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

The execution of this 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 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.

3.9) 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

The following drawings/schematics/tables should convey additional information:

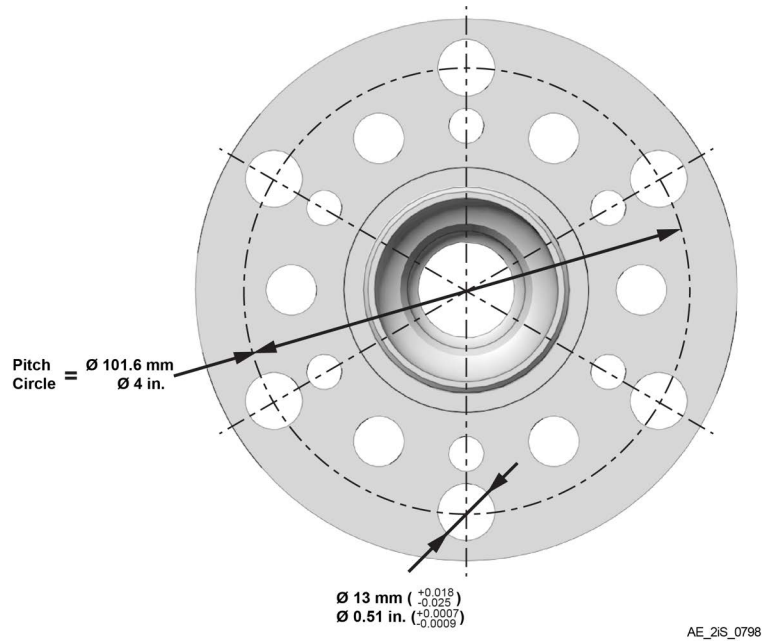


Fig. 7

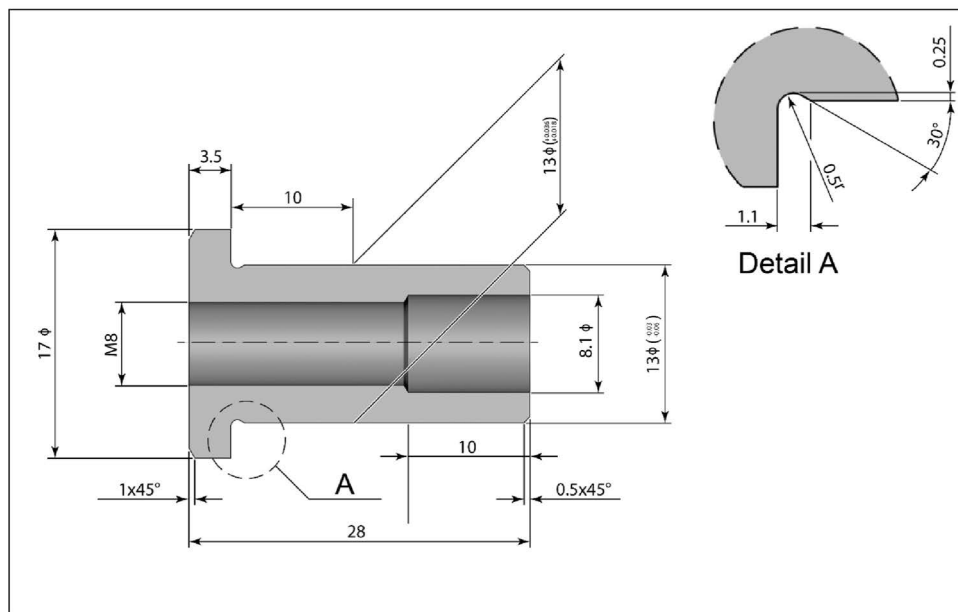
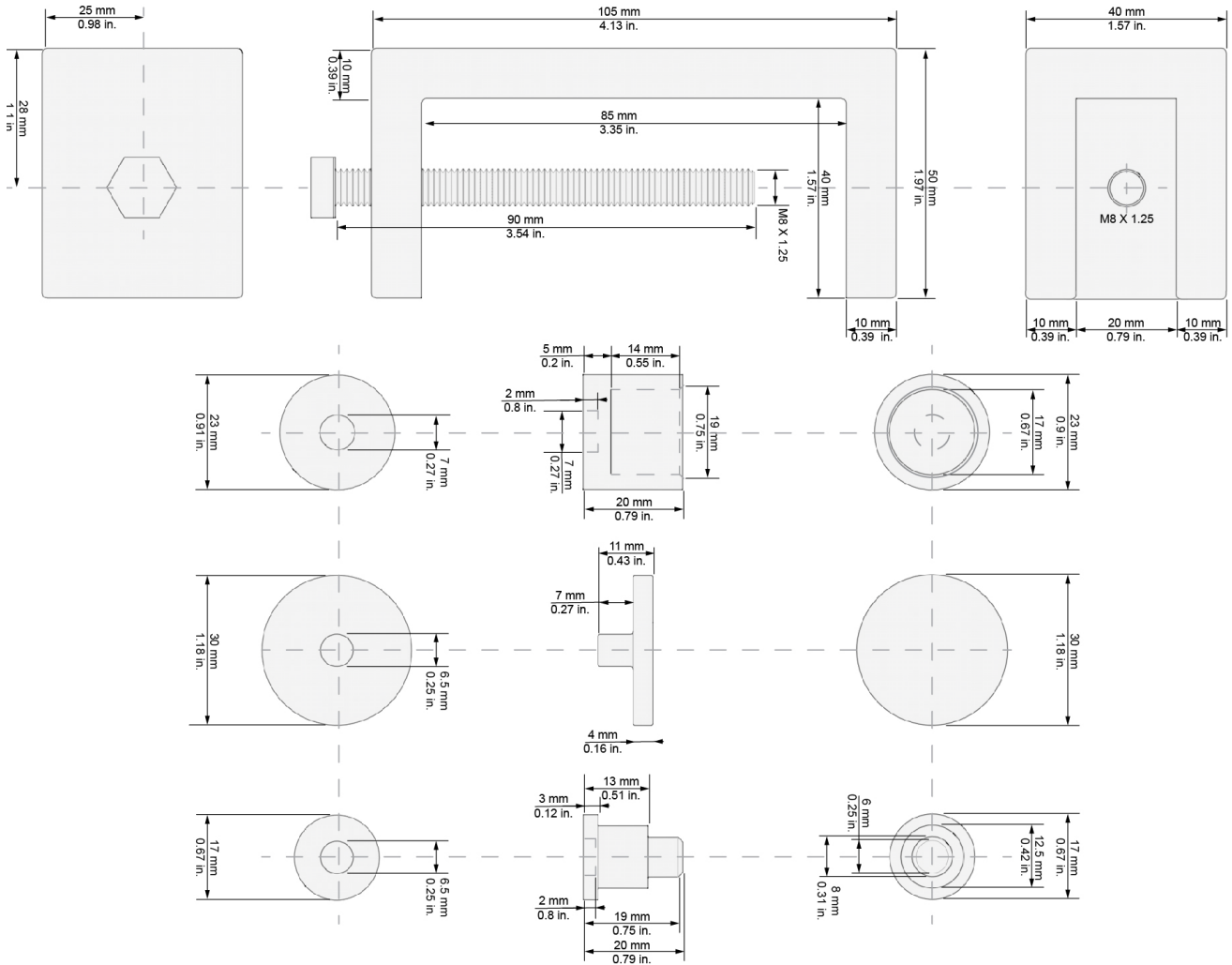


Fig. 8

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Fig. 9

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

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