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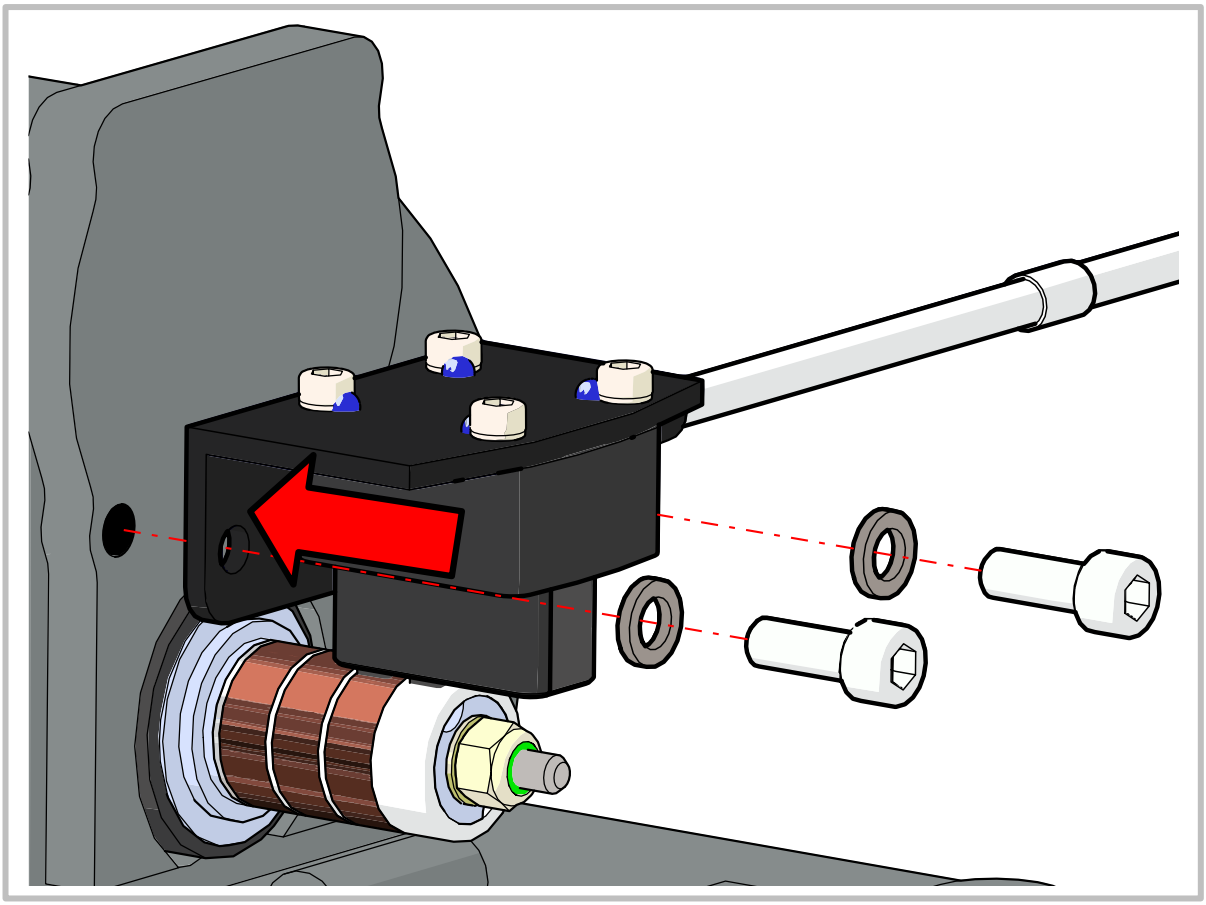
ASI-4-8-2

SENSOR-BRUSH INSTALLATION (ROTAX MINI SLIPRING)

PROCEDURE



SUBJECT:	
Sensor-Brush Installation	
ASSEMBLY NO:	**APPLICABILITY:**
AR-RM(E)	Propeller models using a mini slipring assembly on a Rotax 912 or 914 engine

1. TOPIC

1.1 Introduction

This document covers the procedure for mounting an Airmaster sensor-brush assembly to a Rotax engine gearbox in cases where a mini slipring assembly is used.

1.2 Prerequisites

Complete the following tasks before proceeding:

- Install mini slipring assembly in accordance with procedure ***ASI-4-3-1.***
- Inspect brushes for signs of damage or defect. Check brushes travel smoothly and evenly through the brush holder when they are compressed.
- Attach sensor-brush block (*A0120*) to mini Rotax mounting bracket (*P0859*) in accordance with procedure ***ASI-4-8-1***.

> ⓘ *Note*
> *Generally, new propellers are supplied with the sensor-brush assembly pre-fitted to its mounting bracket, however in some cases this must be performed by the installer.*

2. MATERIAL REQUIREMENTS

2.1 Parts

ITEM	QTY	PART NO.	DESCRIPTION	IMAGE
1.	1	A0120	Airmaster Sensor-Brush Assembly	
2.	1	AR-RM(E)	Airmaster Rotax Mini Slipring Assembly (Extended)	

2.2 Tooling

ITEM	QTY	DESCRIPTION	IMAGE
1.	1	5mm Hex Key	
2.	1	Torque Screwdriver (5mm Hex bit) [10Nm]	
3.	As required	Digital Multimeter (with probes)	

2.3 Consumables

ITEM	QTY	DESCRIPTION	IMAGE
1.	As required	Cleaning Agent (Non-Corrosive) *(e.g. Loctite® SF 7063, Methylated Spirits)*	
2.	As required	Paper Towels, Clean Cloth (or similar)	

3.	As required	Torque-Seal	
4.	As required	Piece of Card	

2.4 Paperwork

ITEM	QTY	CODE	DESCRIPTION
1.	1	AR-RM(E)	Airmaster Rotax Mini Slipring Assembly Drawing & BoM

3. PROCEDURE

3.1 Mount Sensor-Brush Bracket (Rotax Mini)

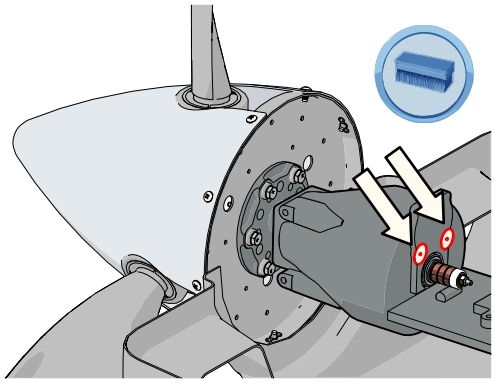
PROCEDURE

Step 1 Clean Gearbox Mounting Holes

- Clean (2) mounting holes and surface surrounding the rear face of the engine's gearbox output shaft.

> ⚠ ***Caution***
> *Any paint or debris left remaining in this area can cause the brushes to misalign with the sliprings.*

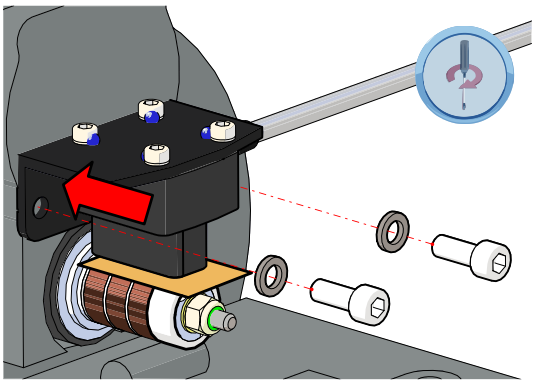
> ⓘ *Attention* *Cleaning Agent, Paper towel*



Step 2 Mount Sensor-Brush Bracket

- Mount sensor-brush bracket (*P0859*) to rear face of Rotax gearbox using (2) M6 cap screws (*P0861*) and Nord-Lock® washer pairs (*P0860*).

> ⚠ ***Caution***
> *While the sensor-brush assembly is positioned, use a piece of card to compress the brushes as they slide across the propeller's slipring assembly. These brushes are very delicate, and side-loading should be avoided.*



- Torque cap-screws to **10Nm (7.4ft-lbs)**.
- Indicate with torque-seal.

> ⓘ *Note*
> *There is no requirement to lock-wire cap screws when Nord-Lock® washers are used. Refer to correct use of Nord-Lock® washers.*

> ⓘ *Attention*
> *5mm Hex key, Torque screwdriver, Torque-seal*

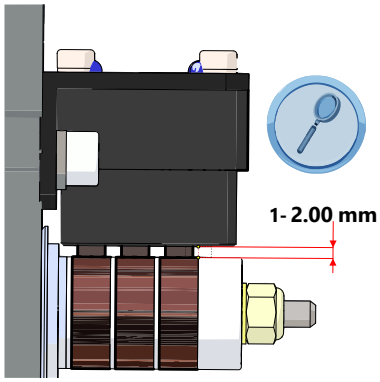
3.2 Check Sensor-Brush Installation

PROCEDURE

Step 1 Check Sensor-Brush Block Stand-Off

- Check distance from front of brush block to sliprings does not exceed **1-2mm (0.08in)**.

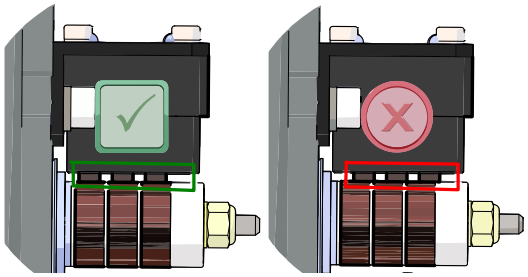
> *Note*
> *If this condition is not met, small modifications to the mounting bracket may be required. A round file may be used to elongate the bracket mounting holes to correct stand-off.*



Step 2 Check Sensor-Brush Block Alignment

- Check carbon brushes align centrally with their respective sliprings and do not overlap.

> *Note*
> *If brushes are off-centre, introduce 0.5mm spacing washers provided (P0853-0.5) behind oil sling plate.*



Step 3 Check for Electrical Shorts

- Check there is no electrical continuity between each brush/slipring and the sensor-brush mounting bracket/ground (>1kΩ).

> *Attention* *Digital multimeter (with probes)*

3.3 Subsequent Action

Perform the following tasks once this procedure is complete:

- Connect sensor-brush assembly cable to extension loom (*A0125-x*). This loom is routed through the engine bay and connected to the controller [CN2].