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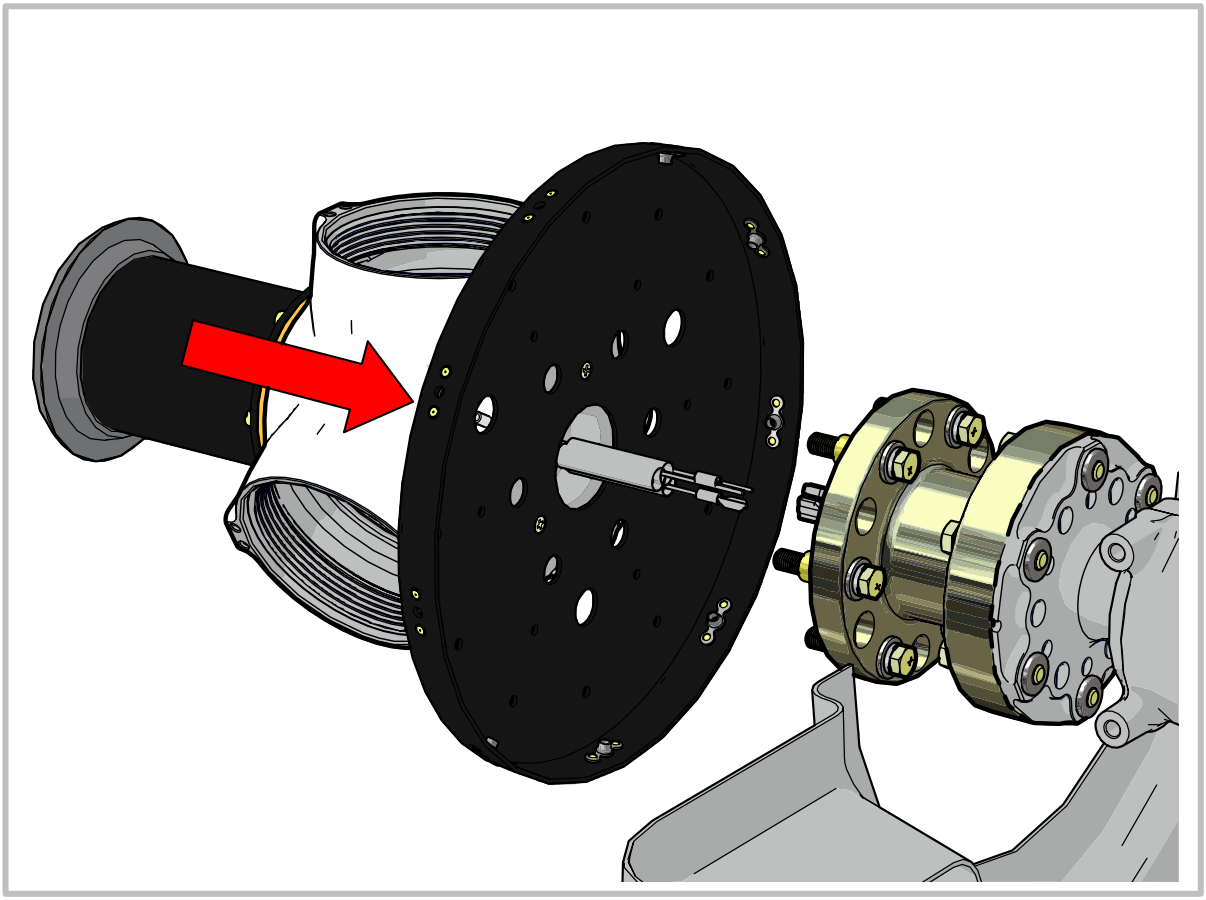
ASI-4-4-4

HUB INSTALLATION (WITH EXTENSION ASSEMBLY)

PROCEDURE



SUBJECT:	
Hub Installation	
ASSEMBLY NO:	**APPLICABILITY:**
AH-xxx AE-xExx	All propeller models using an extension kit assembly

1. TOPIC

1.1 Introduction

This document covers the procedure for mounting an Airmaster propeller hub to an extension assembly. Installers must mount the extension assembly to the engine flange before proceeding.

Some extension assemblies incorporate electrical wiring (such as when a standard slipring assembly used), while others do not (such as when a mini slipring assembly is used). Installers should follow the steps applicable for their specific setup.

1.2 Prerequisites

Complete the following tasks before proceeding:

- If applicable, replace OEM engine flange with the Airmaster-supplied engine flange.

> *Note*
> *Currently this only applies to some Jabiru engines. The Jabiru flange is replaced with the Airmaster-supplied flange in accordance with procedure* ***ASI-4-1-1***.

- Check if OEM threaded drive lugs require replacement for use with the extension assembly.

> *Note*
> *This applies when alternative Airmaster drive lugs are supplied with the extension kit assembly (refer to mount kit drawing AE-xxx) and locknuts are supplied to attach the extension assembly to the engine flange.*

  If applicable:

  - Remove OEM threaded drive lugs from engine flange in accordance with procedure ***ASI-4-1-2***.
  - Install Airmaster-supplied drive lugs in accordance with procedure ***ASI-4-1-3***. Follow the alternative method to install the engine flange mounting bolts simultaneously as often there is insufficient clearance available behind the engine flange to do this afterwards.

- Prepare engine flange for propeller installation in accordance with procedure ***ASI-4-1-4***.
- If applicable, install mini slipring assembly in accordance with procedure ***ASI-4-3-1***.
- If applicable, attach standard slipring assembly to extension assembly in accordance with procedure ***ASI-4-3-2-4*.**
- Insert hub mounting bolts through the extension assembly drive lugs (from engine-side).
- Mount extension assembly to engine flange in accordance with procedure ***ASI-4-2-3***.

2. MATERIAL REQUIREMENTS

2.1 Parts

ITEM	QTY	PART NO.	DESCRIPTION	IMAGE
1.	1	AE-xEx	Airmaster Extension Assembly	
2.	1	AH-xxx	Airmaster Hub Assembly	
3.	As required	AR-RM(E)	Airmaster Mini Slipring Assembly	

2.2 Tooling

ITEM	QTY	DESCRIPTION	IMAGE
1.	1	Torque Wrench (1/2” Socket) **Size requirements may vary*	
2.	As required	Crow’s Foot Extension (1/2”) **Size requirements may vary*	
3.	As required	Heat Gun	

2.3 Consumables

ITEM	QTY	DESCRIPTION	IMAGE
1.	As required	Anti-Seize Compound (Paste) *(e.g. Duralac, Tef-Gel, Loctite® Moly-50)*	
2.	As required	Cleaning Agent (Non-Corrosive) *(e.g. Loctite® SF 7063, Methylated Spirits)*	
3.	As required	Paper Towels, Clean Cloth (or similar)	
4.	As required	Small Paintbrush (Glue Brush)	
5.	As required	Torque-Seal	

2.4 Paperwork

ITEM	QTY	CODE	DESCRIPTION
1.	1	AE-xEx	Airmaster Extension Kit Assembly Drawing & BoM
2.	1	AH-xxx	Airmaster Hub Assembly Drawing & BoM
3.	1	As applicable	Control System Circuit Diagram

2.5 PPE

ITEM	QTY	DESCRIPTION	IMAGE
1.	As required	Protective Gloves	

3. PROCEDURE

WARNING

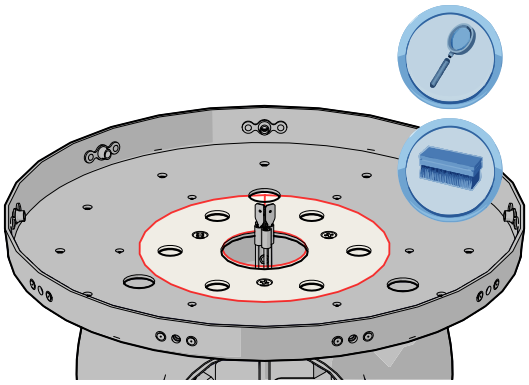
Ensure that aircraft power is turned off throughout this procedure, especially before rotating the engine flange.

3.1 Preparation

PROCEDURE

Step 1 Prepare Hub / Backplate

- Carefully rest propeller hub on motor cap (upside down) atop a flat, clean surface.
- Clean mounting face of spinner backplate.
- Inspect this area for damage or defect.



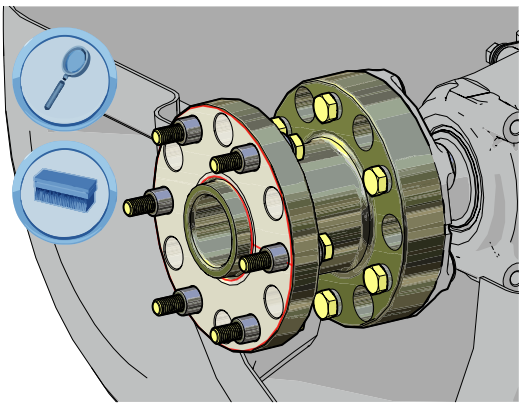
Caution

Take care not to topple the hub, a temporary hub cradle may be fashioned using a piece of custom wood with a 100mm dia. circle in the centre and supporting legs.

Attention *Cleaning agent, Paper towels*

Step 2 Prepare Extension Assembly Flange

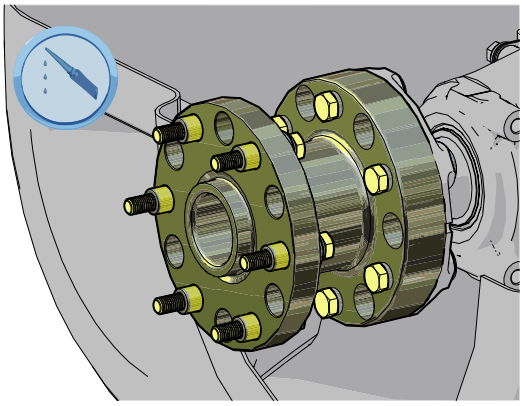
- Clean mounting face of extension assembly and allow to dry.
- Inspect the assembly for damage or defect.



Attention *Cleaning agent, Paper towels*

Step 3 Protect Extension Drive Lugs

- Apply a light film of anti-seize compound to the engine flange drive lugs for corrosion protection.



> ⚠ ***Caution***
> *See approved anti-seize compounds.*

> ⚠ ***Caution***
> *Ensure that no jointing compound transfers to the bolt threads, these must remain clean and dry for correct torque and clamping. To avoid this, slide the bolts back before applying jointing compound.*

> ⓘ *Attention* *Anti-seize compound, Brush*

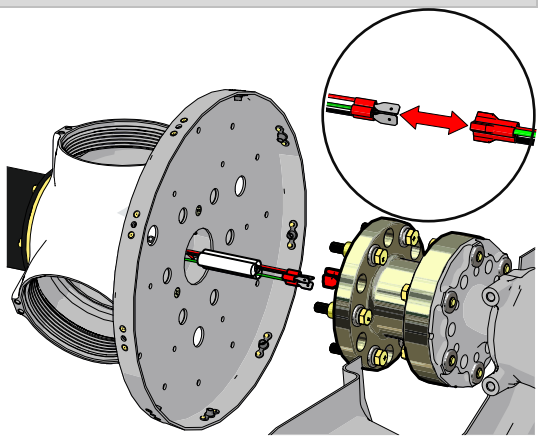
3.2 Connect Wiring (As Required)

> ⓘ *Note*
> *This task only applies when a mini slipring assembly is used. It is easiest to achieve with two people.*

PROCEDURE

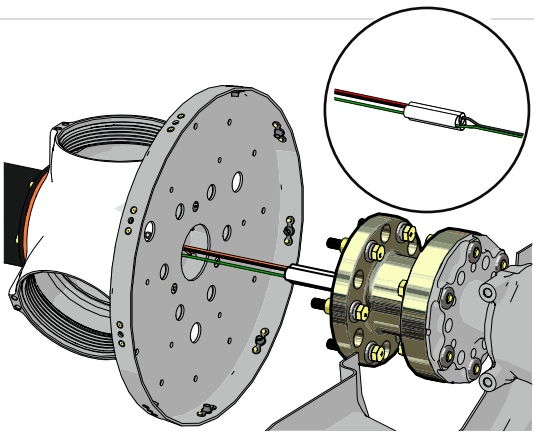
Step 1 Connect Hub Wiring

- **Person 1:**
  Support hub assembly with two .
- **Person 2:**
  - Slide a 50mm tube of heat shrink (*P2041-50*) over each hub wire.
  - Connect hub and mini slipring assembly spade terminals of matching wire colour.



Step 2 Secure Heat Shrink

- Slide heat shrink tubes over terminal connections.
- Shrink the tubes in place.



> ⚠ ***Caution***
> *Take care not to apply excessive or prolonged heat as this can melt the wire insulation.*

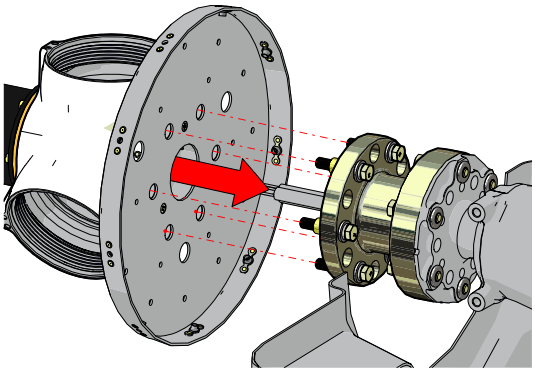
> ⓘ *Attention* *Heat gun*

3.3 Mount Hub to Extension Assembly

PROCEDURE

Step 1 Locate Hub Assembly

- Locate hub over extension assembly drive lugs and push into place.

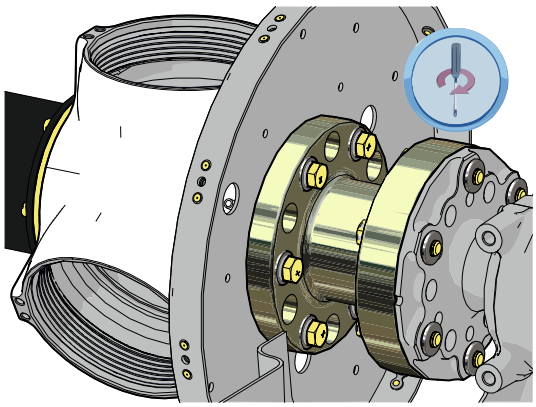


Note
Arrange any excess wiring into the centre recesses to prevent obstruction between mating faces.

- Check hub assembly is fully seated and square with mounting face of extension assembly.

Step 2 Attach Hub Assembly

- Attach hub to extension assembly by fastening (6) hub mounting bolts hand tight.



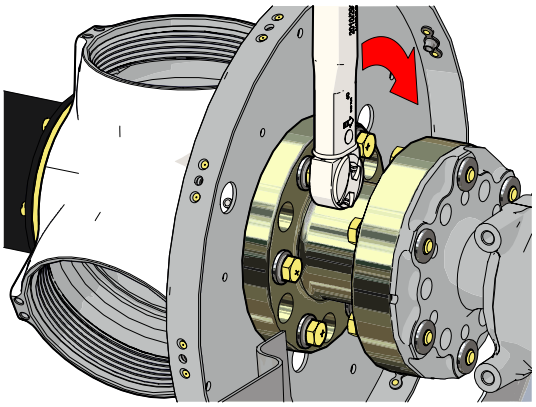
Note
Refer to correct use of Nord-Lock® washers.

Note
These are typically AN5 or AN6 bolts for Rotax flanges.

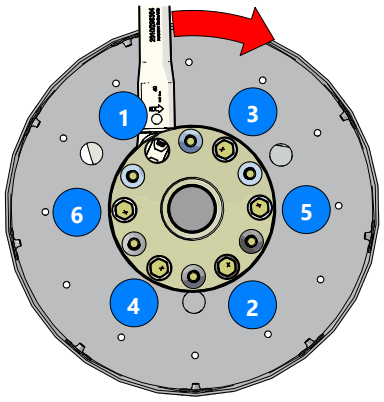
Step 3 Torque Bolts

- Torque hub mounting bolts in increments and in sequence of opposing pairs:

BOLT SIZE	TORQUE [NM]	TORQUE [FT-LBS]
AN5 (5/16in or M8)	24	18
AN6 (3/8in)	42	31
AN7 (7/16in)	66	49
AN8 (1/2in)	103	76



Caution
Do not over-tighten bolts as this may damage the hub's threaded inserts.



Note
A crow's foot extension (or similar) may be used if insufficient clearance is available for the head of the torque wrench. Fit crow's foot 90° to torque wrench to maintain correct torque setting.

Attention
Torque Wrench (Crow's foot extension)

Step 4 Check Bolt Fastening Method

- Verify that Nord-Lock® washer pairs are correctly fitted to all (6) hub mounting bolts.

> **Note** *For more information on the correct use of Nord-Lock® washers, refer to **ASI-3-2-3**.*

  - If Nord-Lock® washers are not used, these bolts must be lock-wired. Drill out the head of each mounting bolt if necessary and secure with 0.032” lock-wire following standard aviation methods and practices.

- Mark bolts with torque-seal (or similar).

> **Attention** *Twist Pliers, 0.032” S.S lock-wire, Wire cutter, Torque-seal*

3.4 Subsequent Action

Perform the following tasks once this procedure is complete:

- Lubricate hub and blade assemblies in accordance with procedure ***ASI-4-5***.
- Install blade assemblies in accordance with procedure ***ASI-4-6***.