REVISION	CHANGE	APPROVED	DATE
1	Published release	JTS	27/11/2025

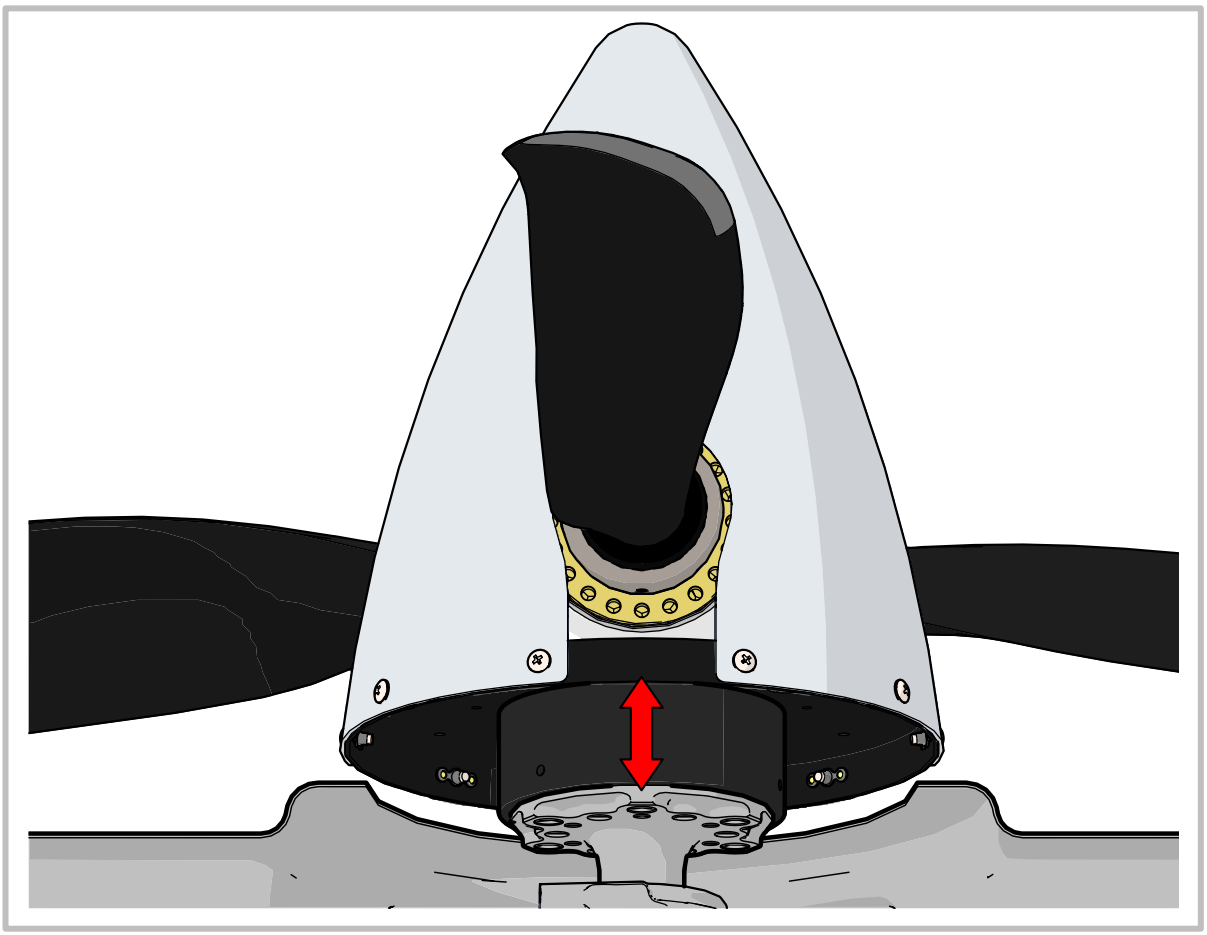
Airmaster Propellers Ltd
20 Haszard Rd, Massey,
Auckland 0614, NZ

Phone: (+64) 9 833 1794
E-mail: support@propellor.com
Web: www.propellor.com

ASI-3-1-2

CALCULATING MOUNT KIT REQUIREMENTS FOR PROPELLER

PROCEDURE



SUBJECT:	
Preparing for Installation	
ASSEMBLY NO:	**APPLICABILITY:**
AP-xxx	All propeller models

1. TOPIC

1.1 Introduction

This document covers the recommended procedure for calculating or verifying the correct mount kit size for an Airmaster propeller based on the aircraft's engine and cowl geometry. A mount kit selection form is provided at the end for new customers to complete and return to Airmaster.

In some cases, the propeller's mounting position must be adjusted relative to the engine flange to ensure adequate clearance between the spinner backplate and the engine cowling. This adjustment is achieved using a spacer, extension or adapter assembly (referred to as 'mount kits').

While these requirements are usually pre-determined and the appropriate mount kit is supplied with the propeller system, installers should verify before propeller installation that the provided mount kit ensures proper fit and spacing with the aircraft engine and cowling.

> ⓘ *Note*
> *A good fit between the propeller spinner and the engine cowling is important for aerodynamic reasons as well as visual appearance. Diagrams showing the principal dimensions with respect to the engine flange of the propeller and the spinner installations are available upon request.*

2. PROCEDURE

2.1 Calculating Required Mount Kit Size

In the example below, the front of the engine cowl [B] is forward of the engine flange mounting flange [A]. Therefore, a mount kit is required to shift the propeller/spinner forward and provide sufficient clearance. To calculate the required mount kit size, the following procedure is followed.

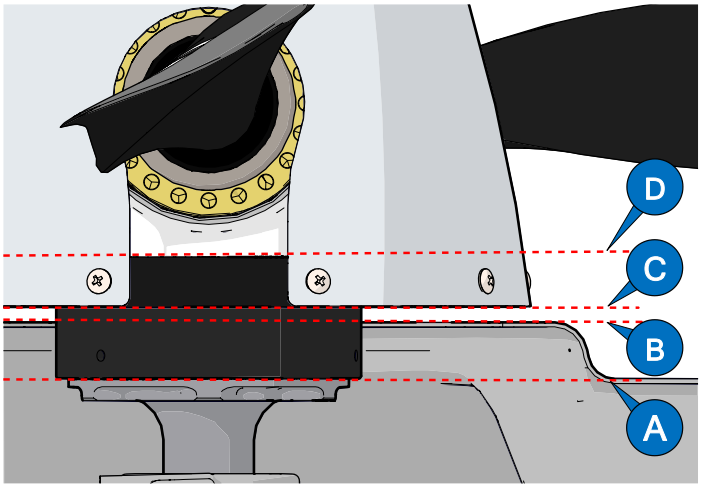


Figure 1. *Key dimensions for calculating required mount kit size (spacer kit shown).*

[A]: Mounting Face of Engine Flange

[B]: Front Face of Engine Cowling

[C]: Rear Face of Spinner Backplate

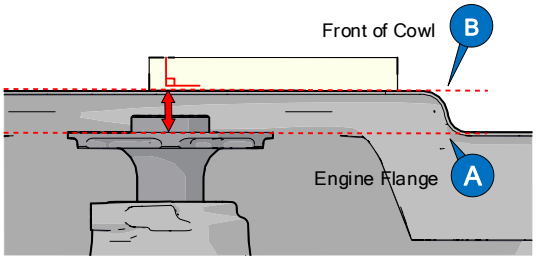
[D]: Mounting Face of Propeller Hub

PROCEDURE

Step 1 Determine Flange - Cowl Distance [AB]

- Use a straight edge to find the front face of the cowl (place the straight edge so that it represents the forward-most part of the cowl that shall be behind the spinner).
- Measure the distance from the front face of the engine flange [A] to the straight edge [B].

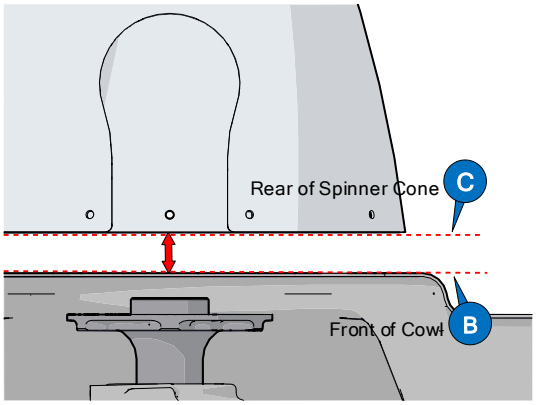
> *Note*
> *Record this measurement as a negative value if the front face of the engine flange is forward of the front face of the engine cowl.*



Step 2 Determine Cowl - Spinner Clearance [BC]

- Determine the required distance to provide adequate clearance between the rear of the spinner [C] and the front of the engine cowl [B].

> *Note*
> *This may typically be 6mm-12mm (¼ inch - ½ inch) but will vary depending on factors such as possible engine movement (how soft the engine mounts are) and the degree of 'matching' required between the spinner and cowl.*



Step 3 Determine Spinner Fold-Back Length [CD]

- Airmaster manufactures a variety of spinners for different applications. The length by which the spinner folds behind [C] the mounting face of the propeller hub [D] differs as follows:

SPINNER DIAMETER [IN]	8.3	9	9.5	10.3	11.2	12.2	13.0
BACKPLATE FOLD-BACK	0	18mm (0.71in)	18mm (0.71in)	20mm (0.78in)	20mm (0.78in)	18mm (0.71in)	18mm (0.71in)

Step 4 Check Stepped Hub Distance [SH]

- Some hub models are designed with a stepped mounting face that sits **19mm** behind the rear face of the spinner. This must be accounted for when determining final spacing requirements. Check whether the hub is stepped, as denoted by the letter **S** ("stepped") in the hub assembly number (e.g. AH-544**S**HCF).

HUB MODEL (AH-xxx)	3xx	4xx	5xx	5xxSH	6xxSH	7xxSH
HUB STEP DISTANCE (SH)	0mm (0in)			19mm (0.75in)		

Step 5 Check Slipring Mount Plate Thickness [P]

- Sometimes when a mount kit is used, a **2mm** slipring mounting plate is incorporated. This must be accounted for when determining final spacing requirements. Check whether the mount kit is plated, as denoted by the letter **P** ("plated") in the mount assembly number (e.g. AE-RS**P**2.0).

MOUNT KIT TYPE	NON-PLATED (AE-xxx.xx)	PLATED (AE-xx**P**x.xx)
MOUNT PLATE THICKNESS	0mm (0in)	2mm (0in)

Step 6 Calculate Spacing Size

SPACING SIZE [AD] = [AB] + [BC] + [CD] – [P] – [SH]

2.2 Select Mount Kit

Airmaster manufactures a range of standard spacer or extension sizes. Once the required size is calculated, use the table below to select the next largest size that is available from Airmaster.

Note *Although standard sizes are kept in stock, alternative sizes can be made by request in increments of 1/8in (3mm), please enquire with Airmaster.*

SPACER KIT		
Standard Part	**Imperial Size [in]**	**Metric Size [mm]**
✓	0.125	3
✓	0.25	6
	0.375	10
✓	0.5	13
	0.625	16
✓	0.75	19
✓	0.875	22
✓	1	25
	1.125	29
✓	1.25	32
	1.375	35
✓	1.5	38
	1.625	41
✓	1.75	44
	1.875	48
✓	2	51
	2.125	54
✓	2.25	57
	2.375	60
✓	2.5	64

EXTENSION KIT		
Standard Part	**Imperial Size [in]**	**Metric Size [mm]**
✓	2.25	57
	2.375	60
✓	2.5	64
	2.625	67
✓	2.75	70
	2.875	73
✓	3	76
	3.125	79
✓	3.25	83
	3.375	86
✓	3.5	89
	3.625	92
✓	3.75	95
	3.875	98
✓	4	102
	4.125	105
	4.25	108
	4.375	111
	4.5	114
	4.625	117
✓	4.75	121

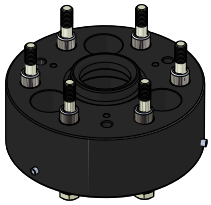


Figure 1. *Spacer kit assembly.*

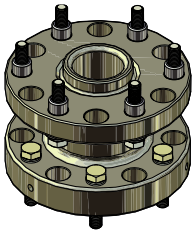


Figure 2. *Extension kit assembly.*

2.3 Mount Kit Selection Form

Job Number: _____

Application:

Engine Make:		**Aircraft Make:**	
Engine Model:		**Aircraft Model:**	

Mount Kit Calculation:

MEASUREMENT		**APPLICABLE FEATURES**	☑
[AB]:		**Slipring Plate (2mm) [P]:**	☐
[BC]:		**Stepped Hub (19mm) [SH]:**	☐
[CD]:			
SPACING SIZE [AD]:			

Mount Kit Selected: _____

> ⓘ *Note* *Contact Airmaster Support if in doubt.*

Customer Name: _____ **Date:** _____