REVISION	CHANGE	APPROVED	DATE
1	Published release	JTS	290/5/2025
1a	Formatted for website PDF	JTS	25/11/2025

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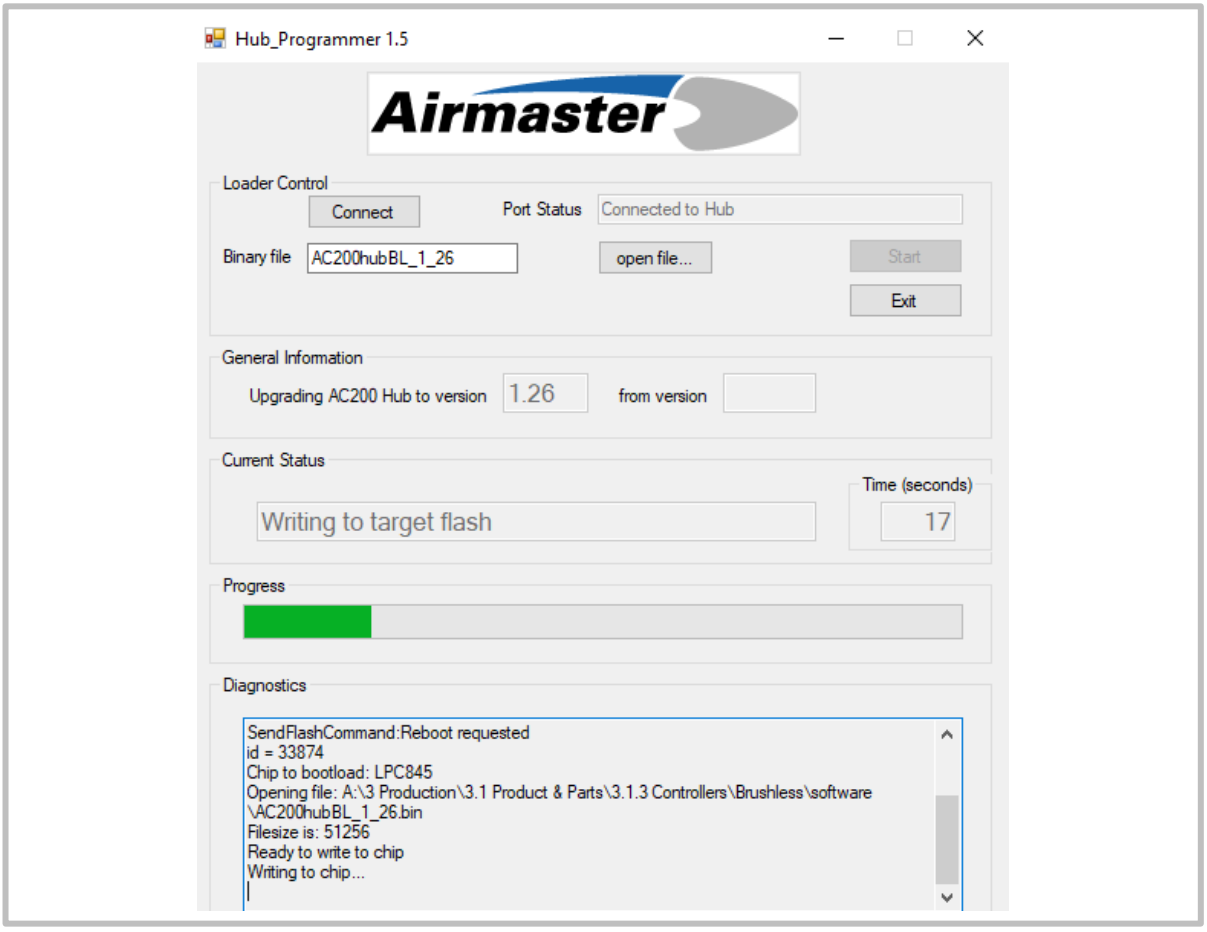
ASI-7-2-3

UPDATING HUB FIRMWARE FOR DSD PROPELLERS

PROCEDURE



SUBJECT:	
Service & Maintenance	
ASSEMBLY NO:	**APPLICABILITY:**
AH-xxx (i30-xxx) | A0170x	DSD propeller models only

1. TOPIC

1.1 Introduction

This document covers the procedure for updating the firmware version for an Airmaster propeller hub; it is only applicable for propeller models incorporating the digital servo-drive (DSD) facility. Hub firmware should only be updated when directed to by Airmaster.

This task is performed using Airmaster flash software running on a Microsoft Windows PC; a laptop is recommended so that it may be taken to the controller inside the cockpit. The controller is connected to the PC using the dedicated USB-serial cable (*A0117*) supplied with the propeller.

1.2 Prerequisites

Complete the following tasks before proceeding:

- Ensure that PC is updated to include .NET Framework 3.5
  https://www.microsoft.com/en-us/download/details.aspx?id=21

2. MATERIAL REQUIREMENTS

2.1 Parts

ITEM	QTY	PART NO.	DESCRIPTION	IMAGE
1.	1	A0117	USB-Serial Cable	
2.	1	AC-300xxx	Airmaster AC300 Control System Assembly	
3.	1	AH-xxx (i30-xxx)	Airmaster DSD Hub Assembly	

2.2 Tooling

ITEM	QTY	DESCRIPTION	IMAGE
1.	1	MS Windows Laptop	
2.	-	Airmaster Hub Firmware Programmer (*.exe*)	
3.	-	Airmaster Hub Firmware File (*.bin*)	

2.3 Paperwork

ITEM	QTY	CODE	DESCRIPTION
1.	1	AD-UNIVERSAL	DSD Hub Firmware & Parameters Sheet
2.	1	AD-UNIVERSAL	Airmaster Propeller Logbook

3. PROCEDURE

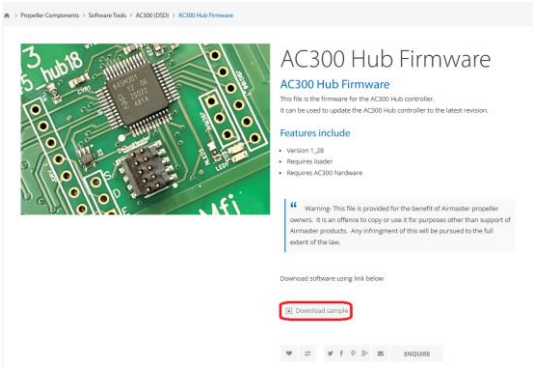
3.1 Download Hub Firmware Programmer

PROCEDURE

Step 1 Download Hub Firmware File

- Download the latest DSD hub firmware file (*.bin*) from the Airmaster website:

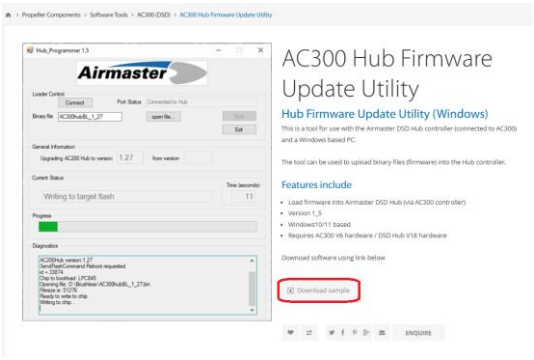
  https://propellor.com/ac300-hub-firmware



Step 2 Download Hub Firmware Programmer

- Download the latest version of the DSD hub firmware programmer from the Airmaster website:

  https://propellor.com/hub-firmware-update-utility

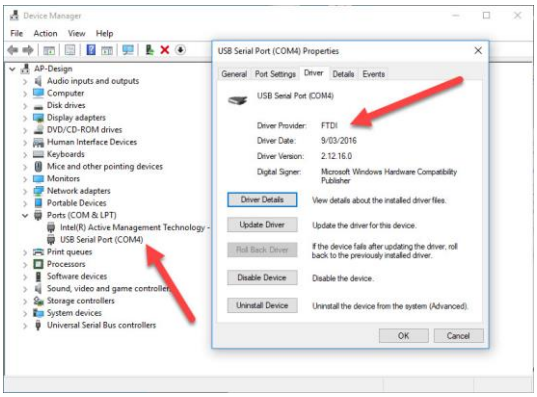


> *Note*
> *This application is only compatible with Microsoft Windows operating systems.*

Step 3 Install USB Driver (As Required)

- When the USB-serial cable (*A0117*) is connected to a PC for the first time, the required USB driver must be downloaded:

> *Note*
> *Generally, this task is completed automatically on Windows 10 operating systems.*



  - Visit the link below and download the "Setup Executable" for your OS: *https://www.ftdichip.com/Drivers/VCP.htm*
  - Open the setup .zip file and choose a convenient folder to unzip the executable.
  - Confirm, accept, and finish the extraction.
  - Check the COM port assigned to the USB-serial cable on PC: Control Panel > Device Manager > USB Serial Port > Driver.

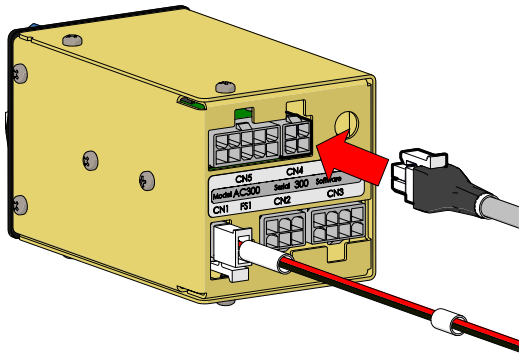
3.2 Update Hub Firmware Version

⚠ Caution *Only update hub firmware when directed to by Airmaster.*

PROCEDURE

Step 1 Connect Controller to PC

- Plug USB-Serial cable (*A0117*) into USB port on windows PC.
- Plug USB-serial cable (4-way connector) into rear of AC300 controller [CN4].
- Turn on power supply to controller by turning on aircraft power.



ⓘ *Note*
Ensure hub is connected to AC300 controller before proceeding to next step.

Step 2 Run Application

- Run the hub firmware programmer.

ⓘ *Note*
A warning window may appear before opening the programmer. This is normal, select More Info > Run Anyway.

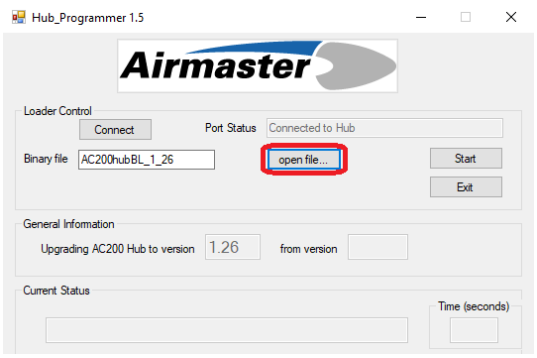
ⓘ *Note*
The program can't be run if another Airmaster application is running and accessing the same COM port assigned to the USB-serial cable.

- Press 'Connect'.

ⓘ *Note*
Port status should show "Connected to Hub".

Step 3 Load Firmware File

- Press 'Open File'.
- Select the hub firmware file (*.bin*) downloaded.

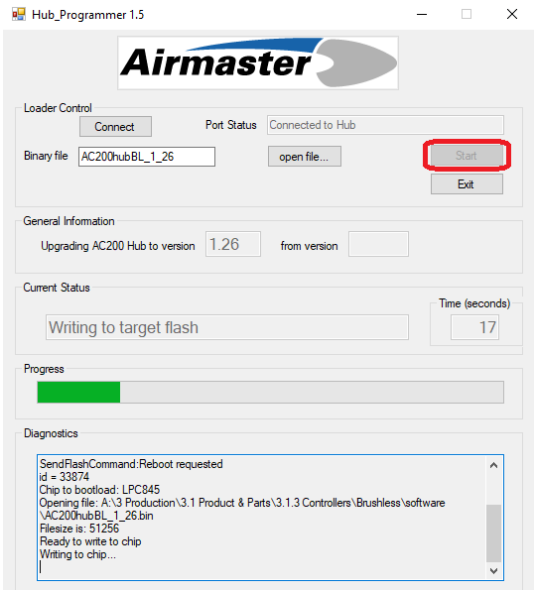


Step 4 Start Firmware Update

- Press ‘Start’ to commence automatic flash update.

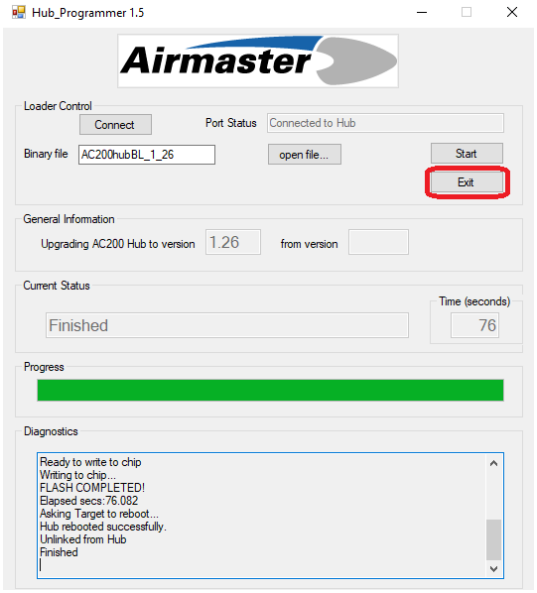
> ***Caution***
> *Do not interrupt the flash update as this may corrupt the hub PCB. Wait for the progress bar to complete to 100% before exiting the programmer.*

> ***Note***
> *If the flash update does not start automatically, reset the controller by pressing the circuit breaker (FS1) located at the rear, then (promptly) start the flash update again.*



Step 5 Close Programmer

- Exit programmer once flash update progress is 100% complete.



3.3 Subsequent Action

Perform the following tasks once this procedure is complete:

- Record hub firmware update in propeller logbook.
- Check with Airmaster if any parameters must be adjusted for the new firmware version.
- Record, sign and date the updated “Hub Firmware Version” under a new column of the “DSD Hub Firmware & Parameters Sheet” (found in the propeller’s assembly drawings booklet).
- Send an email to *support@propellor.com* stating the serial number of the propeller hub, as well as the previous and new hub firmware versions.