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ASI-7-3-5

TESTS FOR GENERATING A PROPELLER LOG FILE

PROCEDURE

SUBJECT:	
Troubleshooting	
ASSEMBLY NO:	**APPLICABILITY:**
AP-xxx	AC200 hardware version 5 and up. All AC300 versions.

1. TOPIC

1.1 Introduction

This document covers the recommended procedure for testing an Airmaster propeller on the ground (static test) and in-flight, in order to generate a diagnostic log file that captures its performance across a range of normal operating conditions.

AC200 controllers that are hardware version 5 or higher (as well as all AC300 controllers) incorporate a diagnostics module that records important propeller data and activity. This data can be accessed using Airmaster flash software running on a MS Windows PC. Airmaster may request that customers download their controller log files after performing these tests, for the purposes of troubleshooting.

1.2 Prerequisites

Complete the following tasks before proceeding with this instruction:

- Check PC is updated to include .NET Framework 3.5
  https://www.microsoft.com/en-us/download/details.aspx?id=21
- For AC200 controllers, ensure that controller hardware is version 5 or higher.

> ⓘ *Note*
> *The controller hardware version is recorded in the 'Controller Firmware & Parameters Sheet' (found in the propeller assembly drawings booklet) as the first number in "Hardware Build State".*

2. MATERIAL REQUIREMENTS

2.1 Parts

ITEM	QTY	PART NO.	DESCRIPTION	IMAGE
1.	1	AP-xxx	Complete Airmaster Propeller System	-
2.	1	A0117	USB-Serial Cable	

2.2 Tooling

ITEM	QTY	DESCRIPTION	IMAGE
1.	1	MS Windows Laptop	
2.	-	Airmaster AC200 or AC300 Diagnostic Program (*.exe*)	
3.	-	Airmaster AC200 or AC300 User Program (*.exe*)	

3. PROCEDURE

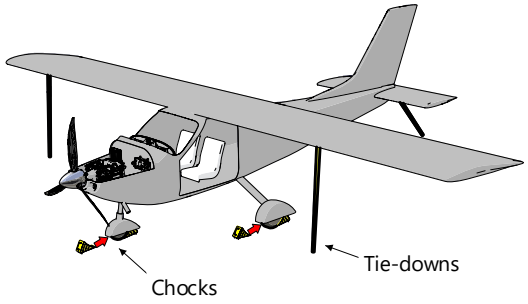
3.1 Preparation

PROCEDURE

Step 1 Tether Aircraft

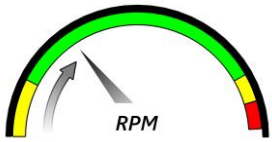
- Tether aircraft securely with chocks and tie-downs to prevent movement during maximum thrust operations.

WARNING
Due to the high thrust that is achievable, the aircraft brakes and wheels alone should not be relied upon.



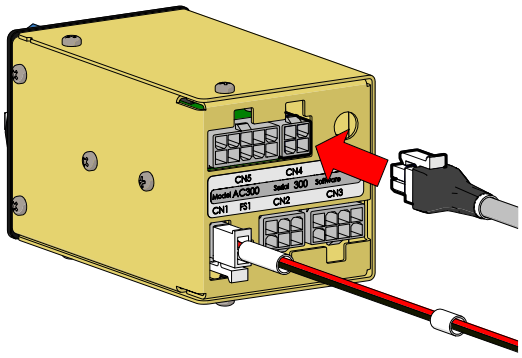
Step 2 Warm Up Engine

- Start engine using normal warm up 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 controller [CN4].
- Apply power to controller by turning on aircraft power supply.

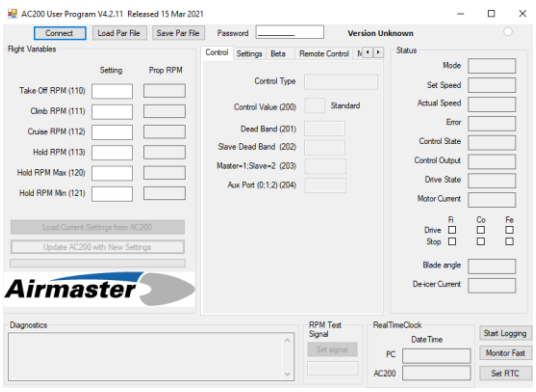


Step 2 Run User Program

- Run the Airmaster User Program.

Note
If a warning window appears before opening the program, 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.



Step 3 Connect to Controller

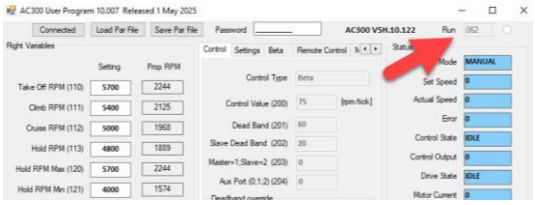
- Press 'Connect'.

Note
After a few seconds the program will show that it is connected to the controller, and the right-hand panel will display the current state of the controller.

3.2 Perform Ground Test

PROCEDURE

Step 1 Record Run Number



- Record the Run Number shown in the top right-hand box of the User Program.

Step 2 Patial Power Start

- Select AUTO / CLIMB on controller.
- Smoothly advance power until FINE lamp extinguishes (not illuminating green).

> ⓘ *Note* *Approximately 75% power.*

Step 3 Toggle at Partial Power

- Select AUTO / CRUISE. Stay for 5 sec.
- Select AUTO / CLIMB. Stay for 5 sec.

Step 4 Apply Full Power

- Select AUTO / T.O.
- Smoothly advance to full power (WOT).

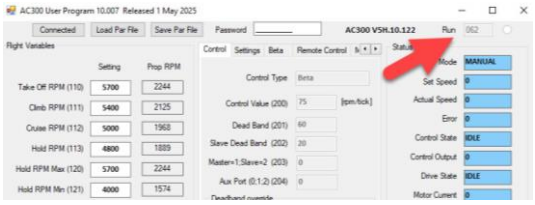
Step 5 Toggle at Full Power

- Select AUTO / CLIMB. Stay for 5 sec.
- Select AUTO / CRUISE. Stay for 5 sec.
- Select AUTO / T.O. Stay for 5 sec.
- Shut down engine to complete ground test. Allow engine to cool between runs.

3.3 Perform In-Flight Test

PROCEDURE

Step 1 Record Run Number



- Record the Run Number shown in the top right-hand box of the User Program.

Step 2 Take-Off

- Select AUTO / T.O.
- Take off at full power.

Step 3 Climb

- Select AUTO / CLIMB at approximately 500ft, remaining at full power.
- Climb to testing altitude.

Step 4 Cruise

- Select AUTO / CRUISE
- Reduce power to 75%.

Step 5 Toggle at Partial Power

- Select AUTO / CLIMB. Stay 5 sec.
- Select AUTO / CRUISE. Stay 5 sec.
- Land aircraft and shut down engine to complete in-flight test.

3.4 Subsequent Action

Perform the following tasks once this procedure is complete:

- Download log files from controller in accordance with procedure ***ASI-7-2-4***.
- Send log file(s) to Airmaster and advise the following:
  - Run number and approximate period for test(s).
  - Report any abnormal behavior.