REVISION	CHANGE	APPROVED	DATE
1	Published release	JTS	30/05/2025

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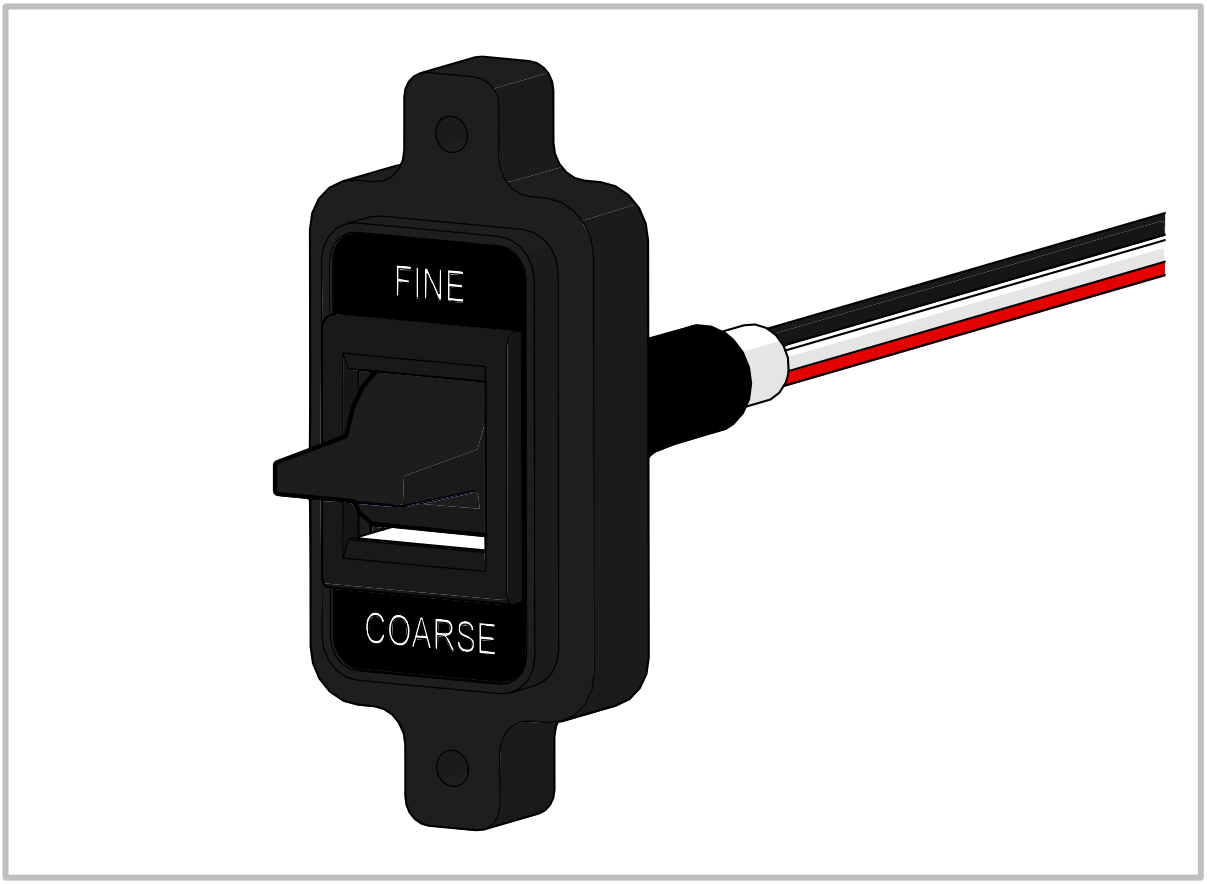
ASI-7-4-3

MANUAL CONTROL SWITCH FUNCTIONAL TEST

PROCEDURE



SUBJECT:	
Service & Maintenance	
ASSEMBLY NO:	**APPLICABILITY:**
A0115	All propeller models

1. TOPIC

1.1 Introduction

This document covers the procedure for testing the function of an Airmaster manual control switch (*A0115*).

Symptoms of a failed manual control switch may include open circuit indications (all lamps flashing red on the controller), or improper operation of the propeller in manual override mode (or AUTO/HOLD). A defective switch must be removed from service and replaced with a new airworthy component.

The manual control switch is a double-pole double-throw (DPDT) switch that facilitates manual adjustment of the propeller's blade pitch. It connects to the controller via connector [CN3] located at the rear.

2. MATERIAL REQUIREMENTS

2.1 Parts

ITEM	QTY	PART NO.	DESCRIPTION	IMAGE
1.	As required	A0115	Manual Control Switch	

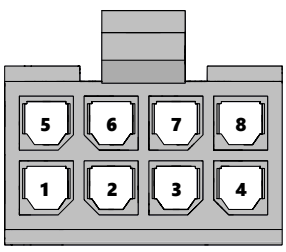
2.2 Tooling

ITEM	QTY	DESCRIPTION	IMAGE
1.	1	Digital Multimeter (*with probes)*	

3. PROCEDURE

3.1 Preparation

- Disconnect manual control switch connector from rear of controller [CN3].
- To perform the following test, multimeter probes are brought in contact with specified combinations of pins in the manual control switch connector, and measurements are taken at each switch position to assess the electrical functionality of the switch
- The manual control switch connector pins are numbered 1 – 8 as shown below.

PIN MAP	PIN NO.	FUNCTION	WIRE COLOUR
	1	+12V DC Supply (to switch)	Red
	6	Coarse Input (from switch)	White
	7	Fine Input (from switch)	Blue
	8	Ground (current sense ground)	Black

3.2 Inspection

Inspect the manual control switch as follows:

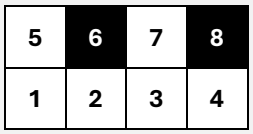
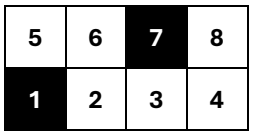
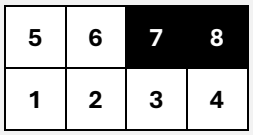
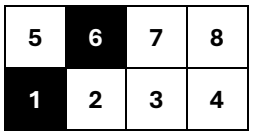
- Inspection condition of manual control switch (including cable) and check for signs of damage.
- Check connector pins are all inserted properly and none are bent.
- Toggle switch in both directions to check for smooth function (no sticking).

3.3 Test Switch Function

Perform this test as follows:

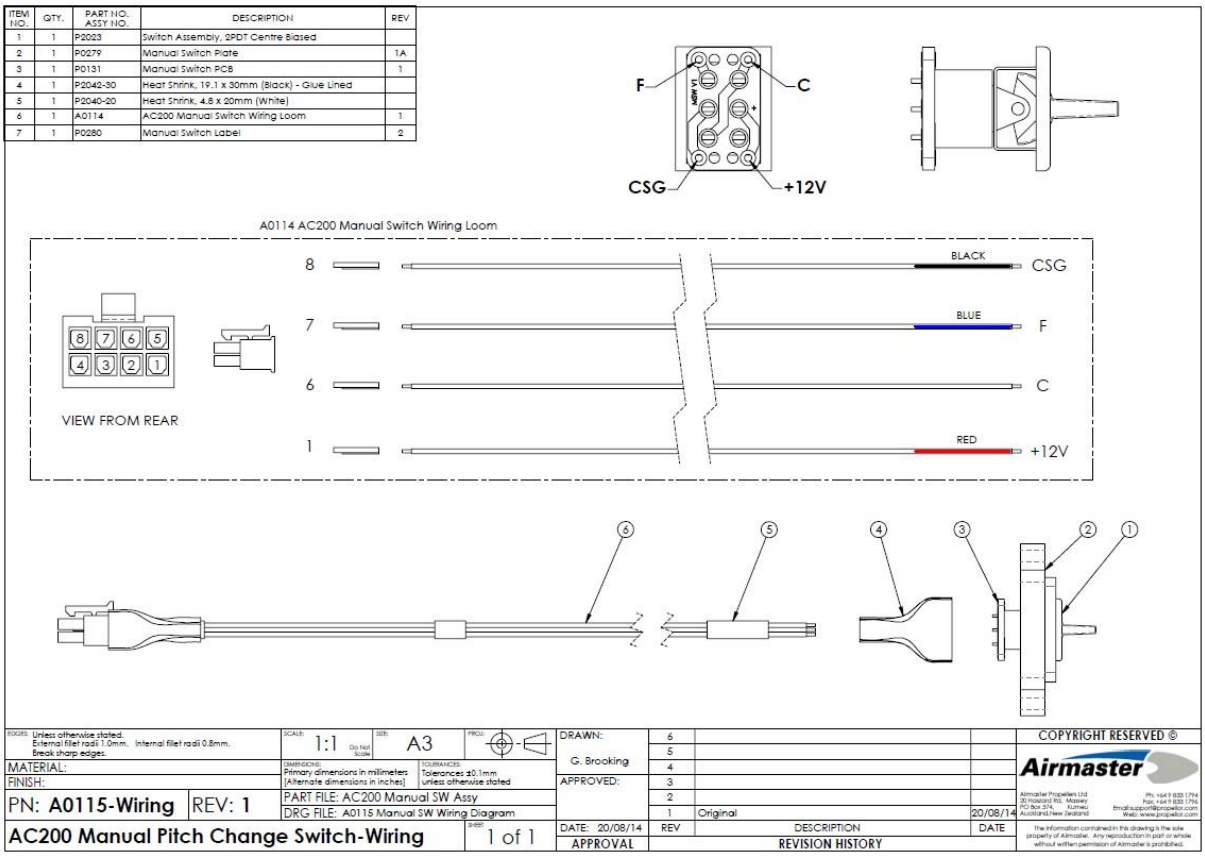
- Set multimeter to continuity or resistance-meter (0 - 1kΩ) reading.
- Measure continuity (or resistance) across (2) pins specified below (highlighted black) at each of the three switch positions.

> ⓘ *Note* *Polarity of multimeter probes does not affect readings.*

TEST	TEST SETUP (PIN MAP)	SWITCH POSITION	EXPECTED READING		☑
1.		FINE	**Continuity**	(~ 0.2Ω)	☐
		-	No continuity	(“OL”)	☐
		COARSE	No continuity	(“OL”)	☐
2.		FINE	**Continuity**	(~ 0.2Ω)	☐
		-	No continuity	(“OL”)	☐
		COARSE	No continuity	(“OL”)	☐
3.		FINE	No continuity	(“OL”)	☐
		-	No continuity	(“OL”)	☐
		COARSE	**Continuity**	(~ 0.2Ω)	☐
4.		FINE	No continuity	(“OL”)	☐
		-	No continuity	(“OL”)	☐
		COARSE	**Continuity**	(~ 0.2Ω)	☐

3.4 A0115 Wiring Diagram

ITEM NO.	QTY.	PART NO. ASSY NO.	DESCRIPTION	REV
1	1	P2023	Switch Assembly, 2PDT Centre Biased	
2	1	P0279	Manual Switch Plate	1A
3	1	P0131	Manual Switch PCB	1
4	1	P2042-30	Heat Shrink, 19.1 x 30mm (Black) - Glue Lined	
5	1	P2040-20	Heat Shrink, 4.8 x 20mm (White)	
6	1	A0114	AC200 Manual Switch Wiring Loom	1
7	1	P0280	Manual Switch Label	2



EDGES: Unless otherwise stated. External fillet radii 1.0mm. Internal fillet radii 0.8mm. Break sharp edges.
SCALE: 1:1 Do Not Scale SIZE: A3 PROJ:
MATERIAL:
FINISH:
DIMENSIONS: Primary dimensions in millimeters [Alternate dimensions in inches]
TOLERANCES: Tolerances: ±0.1mm unless otherwise stated
PN: **A0115-Wiring** REV: **1**
PART FILE: AC200 Manual SW Assy
DRG FILE: A0115 Manual SW Wiring Diagram
AC200 Manual Pitch Change Switch-Wiring SHEET 1 of 1
DRAWN: G. Brooking
APPROVED:
DATE: 20/08/14
APPROVAL

REV	DESCRIPTION	DATE
6		
5		
4		
3		
2		
1	Original	20/08/14

REVISION HISTORY

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