

Prep/Sub Assembly Inspection Procedure **Engine Prep FX**

Aircraft Serial #FX-2000- 005 Engine Serial # CC3631-1002 Date: 11/17/2017
Drawings

SK56100 Rev: B Engine Assembly CC363i
SP50363 Rev: B Mounting Lug, throttle Body, CC363i
SK50100 Rev: A Powerplant Installation, CC363i

SP50009 Rev A

- 1 Ensure lift ring is installed on engine case.
- 2 Ensure all spark plugs are torqued.
- 3 Ensure oil pressure fitting is installed.
- 4 Ensure engine manifold pressure fitting is installed.
- 5 Ensure oil temp probe is installed and safetied.
- 6 Ensure vernathern is installed and safetied.
- 7 Ensure oil filter is installed and safetied.
- 8 Ensure Tachometer is capped.
- 9 Ensure proper fittings are installed to the accessory case.
- 10 Ensure mechanical fuel pump is installed and correct fittings are installed to the mechanical fuel pump.
- 11 Ensure oil filler tube is installed and safetied.
- 12 Ensure quick drain is installed and safetied.
- 13 Ensure links are installed.
- 14 Ensure oil cooler is attached to center AFT baffle.
- 15 Ensure all baffles are installed and secured.
- 16 Ensure all air gaps are sealed with high temp RTV around baffles.
- 17 Ensure oil cooler lines are installed.
- 18 Ensure alternator noise filter is installed and secured.
- 19 Ensure alternator mount block, adjustment bracket and alternator assembly are installed per drawing.
- 20 Ensure servo body, servo body brackets and intake manifold are installed correctly.
- 21 Ensure fuel lines (metered and unmetered) are connected.
- 22 Ensure prop governor is secured and bracket is attached and secured to governor.
- 23 Ensure CHT probes are installed.
- 24 Ensure exhaust is installed. No collector at this time.
- 25 Ensure cabin heat collectors are installed.
- 26 Ensure E.G.T. probes are installed.
- 27 Ensure Powdercoat is removed from 4 engine mount flanges (fuselage side) and grounding tab.
- 28 Ensure engine mount is attached to engine and torqued with cotter keys.
- 29 Ensure ground strap is attached.
- 30 Ensure the crankcase breather hose is installed.

Discrepancies

	Tech	Prod.	QA
1			
Corrective action:			
2			
Corrective action:			
Final Q.A. 			
Date: <u>11/28/17</u>			

Work Order Sheet

SUB ASSEMBLIES

Job: FX3-0005 Asm: 17 Part: STA-CC363I-E Engine Build Up

Alt Meth: Rev: 00



Asm 17 Engine Build Up

OPERATIONS		Seq No.	IssuePar	Oper.	IssuePar	Description	Oper. Qty	Res.	Est. Hours	Prod.	Standard
		10	IssuePar			Issue Parts	1.00	1.00	0.00	0.00	0.00MP
		20	STA-09A			STA09A Engine Prep	1.00	1.00	0.00	0.00	0.00MP
		40	STA-00			6) STA00 Inspection Use Data Plate SN# for Job SN# upon completion.	1.00	1.00	0.50	0.50	30.00MP
		50	RECV			FAB RECEIVING	1.00	1.00	0.01	0.01	0.02MP

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Work Order Sheet

SUB ASSEMBLIES

Engine Build Up

Job: FX3-0005

Asm: 17

Part: STA-CC363I-E

Rev: 00

Alt Meth:

Part List

Oper. 10	IssuePar	Issue Parts	Seq No.	Part Number	Description	Lot	Issued Qty	Req Qty	Whse
			680	755-605	Gasket, Rocker (Neoprene)	N/A	4.00 EA	4.00 EA	CC
			200	C81262-19	Link	OS141024	4.00 EA	4.00 EA	CC
			660	CH48108-1	Spin-on oil filter (CH48108-01)	81715302	1.00 EA	1.00 EA	CC
			640	LW-75444	Sniffle Valve	81388701	1.00 EA	1.00 EA	CC
			600	RDBLANK	R & D Material Issue	N/A		1.00 EA	FB
			320	SC51200-003	Grounding Wire Assembly, CC340	WH147628	1.00 EA	1.00 EA	CC
			740	SK50363-001	Mounting Lug, Throttle Body, CC363i	os145030	2.00 EA	2.00 EA	CC
			690	SK50364-001	Intake Manifold, CC363i	RW144692	1.00 EA	1.00 EA	CC
			330	SK50372-001	Support Bracket, Throttle	RT148463	1.00 EA	1.00 EA	CC
					NEW REV "A" 9/19/17				
			340	SK50372-003	Support Bracket, Throttle, Upper	RT146047	1.00 EA	1.00 EA	CC
					NEW REV "A" 9/19/17				
			350	SK50374-001	Badge, Valve Cover	MS144422	2.00 EA	2.00 EA	CC
			360	SK50374-003	Badge, Valve Cover	MS144424	2.00 EA	2.00 EA	CC
			370	SK50375-001	Support Hanger Weldment, Servo	WD147613	1.00 EA	1.00 EA	CC
			380	SK57310-001	Cabin Heat Collector, CC363i	WD147614	1.00 EA	1.00 EA	CC
			390	SK57310-002	Cabin Heat Collector, CC363i	WD148505	1.00 EA	1.00 EA	CC
			400	SK57310-003	Cabin Heat Collector, CC363i	WD146093	1.00 EA	1.00 EA	CC
			410	SK57310-004	Cabin Heat Collector, CC363i	WD146094	1.00 EA	1.00 EA	CC
			440	SP50211-105	Hose Assembly, 90° to Straight, -6, 20.31"	81433302	1.00 EA	1.00 EA	CC
			450	SP50211-107	Hose Assembly, Straight to Straight, -4, 14.5	81531003	1.00 EA	1.00 EA	CC
			700	SP55020-107	High Tension Ignition Lead, 19"	N/A	2.00 EA	2.00 EA	CC
			710	SP55020-108	High Tension Ignition Lead, 23"	N/A	3.00 EA	3.00 EA	CC

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Work Order Sheet

SUB ASSEMBLIES

Job: FX3-0005

Asm: 17

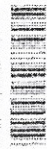
Part: STA-CC363I-E

Engine Build Up



Alt Meth:

Rev: 00

	720	SP55020-134	High Tension Ignition Lead, 26"	N/A	1.00 EA		1.00 EA	\$
				N/A	1.00 EA			\$
	730	SP55020-136	High Tension Ignition Lead, 33"	N/A	2.00 EA		2.00 EA	\$
	460	SP56201-107	Lightweight Oil Hose, CC340/O-320 -8 X 15.:	81567401	1.00 EA		1.00 EA	\$
	470	SP56201-111	Lightweight Oil Hose, CC340/O-320, -8 X 9.0	81542802	1.00 EA		1.00 EA	\$
	480	SP71328-001	4 Cylinder Sensor Kit, Garmin	N/A	1.00 EA		1.00 EA	\$
Issue for costing only, no parts to pull !!!								
MUST ISSUE FOR INVENTORY CONTROL - NO PARTS TO PULL								
	490	SP71328-005	Type K Thermocouple, Bayonet CHT	81720301	4.00 EA		4.00 EA	\$
	500	SP71328-006	Type K Thermocouple, 3/3-24 Bayonet EGT	81726701	4.00 EA		4.00 EA	\$
	510	SP71328-007	RTD, Oil Temperature, UMA 1B3-2.5R	80969101	1.00 EA		1.00 EA	\$
	520	STA-CC363-FGSK	Engine Baffle Kanban (EX/FX3)	AC149197	1.00 EA		1.00 EA	\$
	550	VP5216-001	Oil Cooler, CC19	81500901	1.00 EA		1.00 EA	\$
				S/N(s): 123456				
Quantity Adjust Out SP56101-101 and adjust in as VP5216-001								
				3731565				
				81500901	-1.00 EA			
				S/N(s): 123456				
Quantity Adjust Out SP56101-101 and adjust in as VP5216-001								
				3731565				
				81500901	1.00 EA			
				S/N(s): 123456				
Quantity Adjust Out SP56101-101 and adjust in as VP5216-001								
	560	VP5313-001	Propeller Governor Assembly, Hartzell	81553203	1.00 EA		1.00 EA	\$
				S/N(s): G3725NJ				
	570	VP5608-001	Nut, Tachometer	81719704	1.00 EA		1.00 EA	\$
	580	VP6125-014	Fuel Flow Transducer, EI FT-60	81504103	1.00 EA		1.00 EA	\$
	590	XC50205-001	Propeller Governor Control Cable Bracket	fx3-016-a	1.00 EA		1.00 EA	\$

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jetTrav_001_FuelFlow.vpt

Work Order Sheet

SUB ASSEMBLIES

Job: FX3-0005

Asm: 17

Part: STA-CC363I-E

Engine Build Up

Rev: 00

610	XC56111-001	Restrictor Elbow, Steel	WD137779	1.00	EA	1.00	EA
620	XC57390-001	O-360 Exhaust Tube Assembly	81493101	1.00	EA	1.00	EA
630	XC75010-001	Alternator Noise Filter Assembly	81493101	1.00	EA	1.00	EA
			WH139800	1.00	EA	1.00	EA

JobTrav 001-00

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CCX Areas Critical to Flight Safety Inspection

Serial No. CCX-2800-0005

Reg. "N" No:	<u>NS7FX</u>	Date:	<u>1/8/2018</u>	(H-3)
Name of person completing checklist. 				
1.0	<u>TAIL</u>	QA 		
1.1	Stabilizer Yoke			
1.2	Rudder Cable connections			
1.3	Elevator Cable connections			
1.4	Tail Brace Wire connections			
notes:				
2.0	<u>FUSELAGE</u>			
2.1	Aileron Cable connections Belly Panel removed			
2.2	Torque Tube forward and aft connections			
2.3	Flap Cone and inboard Flap Hinge			
notes:				
3.0	<u>WINGS</u>			
3.1	Aileron Turnbuckles			
3.2	Aileron Hinge bolts			
3.3	Flap Hinge outboard bolt			
3.4	Aileron Disconnect			
notes:				
4.0	<u>ENGINE</u>			
4.1	Throttle Cable			
4.2	Mixture Cable			
4.3	Carb Heat Cable			
4.4	Fuel Line Installation			
notes:				

Engine Run Up

Serial No: CCX-200-0005 Date: 1-8-18

1.0 INITIAL ENGINE START UP

(K-5/6)

Note: Before starting engine check oil level. Oil level should be in "normal" range of dipstick (between the "3" and "4.5" marks).

1.1 Oil level: (circle one) 3 - 4.5 qts.

Note a rise in oil pressure within 30 seconds of starting engine. If no rise in oil pressure is observed within this time, shut down engine and investigate. Run engine at 1000 RPM.

1.2 Oil pressure at 1000 RPM: Minimum 25-70 PSI

1.3 Electronic Ignition @1700 RPM

Left: 6 RPM

Right: 6 RPM

Check for no roughness or fault lights. RPM should not drop.

Return ignition switch to "BOTH" position following this test.

1.4 Momentarily place ignition switch in the "Off" position, engine should "cut out" > Immediately move ignition switch to "On" position.

2.0 AFTER INITIAL START UP (Engine off, check the following)

2.1 Check all oil line connections for any sign of oil leaks.

2.2 Check all fuel line connections for any sign of fuel leaks.

2.3 Check all primer line connections for any sign of fuel leaks in engine comp.

2.4 Check all primer line connections for any sign of fuel leaks behind instrument panel.

Notes:

Techs completing above start up

Name

Name

Move airplane to fuel station and fill with fuel. Complete the following:

3.0 POST FUEL FILL

3.1 Visually check for fuel leaks now that tanks are full.

3.2 Check for proper erection of artificial horizon when engine starts.

3.3 Brakes: Start, stop and turn as required to insure proper brake operation. Ensure brake pedal travel is relatively equal with no binding or bleed down.

3.4 Park brake test: Set park brake. Increase RPM to 1700. Verify aircraft does not creep. Reduce RPM to idle, release parking brake. Verify aircraft rolls easily.

3.5

Brake tail wheel out of steering detent both right and left. Taxi forward and regain steering detent.

3.6 Tail wheel operation is smooth and positive.

3.7 Ensure tail wheel has proper break outs in both directions.

3.8 Tail wheel must track rudder through rudder arc.

3.9 Tail wheel must full caster beyond rudder arc.

3.10 Complete a radio check to ensure there is no static in any possible combination of radio settings and installed equipment usage.

3.11 Ensure that the XM radio functions properly. (if installed)

4.0 ENGINE RUN UP Note: move aircraft to a safe location for the following

4.1 Carburetor Heat: Check engine RPM decrease with full carb heat applied. (There should be a positive drop in RPM)

Record RPM drop: N/A

4.2 Electronic Ignition at 1700 RPM:

RPM drop left 0

RPM drop Right 0

Check for roughness or fault lights. There should be no significant drop with dual electronic systems

4.3

Oil pressure at 1700 RPM: 40 PSI

4.4

Oil temp at 1700 RPM: 171 °F

4.5

Record voltage from portable voltage meter plugged into Aux. power outlet. Normal: 13.8 to 14.8 volts.

Actual voltage recorded: 14.4

4.6 Check charging system should show less than 5 amps. (if amp meter installed)

4.7 Static RPM: recorded with full brakes and at full power. Check prop used, record actual RPM

Prop

Actual RPM

Gatto 80 X 50

2680

Reduce RPM to idle. Minimum idle speed 500 RPM

Record idle: 630

Pass Fail

Pass Fail

Pass Fail

Pass Fail

Pass Fail

Pass Fail

Pass Fail

Pass Fail

Pass Fail

Pass Fail

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Pass Fail

Pass Fail

Pass Fail

Engine Run Up

Serial No: CCX- 2000-0005 Date: 18-18

		(K-7/8)	Pass	Fail
4.0 ENGINE RUN UP cont				
4.8	Pull mixture control. There should be an increase in RPM (25-50 RPM increase) Record increase in RPM <u>40</u>		☒	☐
4.9	Verify the following settings on the Garmin GDU37X Executive Glass & Performance VFR Panels.		☒	☐
4.9.1	Empty weight: (A/C Specific)		☒	☐
4.9.2	Min. Weight: (=Empty Weight)		☒	☐
4.9.3	Max Weight: on wheels= <u>1320</u> on floats= <u>1430</u>		☒	☐
Stop! Complete the compass swing report before continuing.				
5.0 AFTER ENGINE RUN UP AND COMPASS SWING (Engine off, check the following)				
5.1	Check all oil line connections for any sign of oil leaks.		☒	☐
5.2	Check all fuel line connections for any sign of fuel leaks.		☒	☐
5.3	Check all primer line connections for any sign of fuel leaks in engine compt.		☒	☐
5.4	Check all primer line connections for any sign of fuel leaks behind instrument panel.		☒	☐

Tech. completing Engine Run Up: [Redacted] Date: 1-8-18

QA: [Redacted] Date: 1/9/2018
 6.0 ENGINE COWL INSTALL Drawing PG53000 Rev: A
 of 565300

- 6.1 Install engine cowl per drawing.
- 6.2 Ensure baffle seal properly fitted to engine cowl.
- 6.3 Ensure upper and lower induction tube installed and secured.
- 6.4 Ensure induction foam air filter installed in engine cowl.
- 6.5 Ensure the lower inspection door and air filter retainer is secured.
- 6.6 Ensure oil fill door secured.
- 6.7 Verify exhaust pipes do not contact cowling.
- 6.8 Ensure clearance for cowl flaps from exhaust system and fuel line.

QA: PERFORM CRITICAL TO FLIGHT SAFETY INSPECTION QA: [Redacted] Date: 1/9/2018

7.0 POST ENGINE RUN UP

- 7.1 Ensure windows are cleaned, remove any residue left from the protective plastic.
- 7.2 Ensure belly panel is installed per drawing.
- 7.3 Ensure left yoke and stabilizer/elevator covers are installed per drawing.

QA: [Redacted] Date: 1/9/2018

Discrepancies Tech Prod

1
Corrective Action:

2
Corrective Action:

3
Corrective Action:

4
Corrective Action:

Final Q.A.: [Redacted] Date: 1/9/2018

CCX Production Flight Test

ENGINE START UP AND TAXI			
ENGINE START UP AND TAXI (Start and taxi per POH)			
137	Oil pressure at 1000 RPM	PSI (55 - 90 psi): <u>77</u>	PASS FAIL
WIND DIRECTION: <u>calm</u> WIND SPEED: <u>calm</u> ALTIMETER: <u>30.31</u>			
Temperature/Dewpoint from ATIS: <u>6/3</u> °C			
138	Check COM radio transmit and receive functions.		PASS FAIL
139	Brake check: Start, stop and turn as required to ensure proper brake operation. Ensure brake pedal travel is relatively equal with no binding or bleed down.		PASS FAIL
140	Verify tail wheel breaks out of steering detent properly both right, left and freely casters beyond rudder arc. Taxi forward and ensure reengagement of steering detent.		PASS FAIL
141	Verify tail wheel tracks with rudder through rudder arc.		PASS FAIL
ENGINE RUN UP Run engine up to 2000 RPM (Look out for loose pebbles and debris)			
142	Parking brake test: Set park brake. Increase RPM to 2000. Verify aircraft does not creep.		PASS FAIL
143	Carburetor Heat: Check engine RPM decrease with full carb heat applied. There should be a drop in RPM. Verify the operation of carb temperature. It should rise when carb heat is applied		PASS FAIL
	Record Drop In RPM: _____		PASS FAIL
144	Mag check at 2000 RPM: Record RPM drop below		
	Left Mag On: <u>10</u>		PASS FAIL
	Right Mag On: <u>10</u>		PASS FAIL
NOTE: Drop not to exceed 175 RPM or 50 RPM differential between magnetos, and there should be no engine roughness while operating on just one mag.			
145	Cycle prop: Ensure that there is a drop in oil pressure and RPM, and that there is a rise in manifold pressure.		PASS FAIL
NOTE: Operate engine until oil pressure and temp reach normal levels and record below:			
146	Oil pressure at 2000 RPM	PSI (55 - 90 psi): <u>82</u>	PASS FAIL
147	Oil temp at 2000 RPM	Temp (Minimum 70°): <u>127</u>	PASS FAIL
148	Ensure charging system does not show a discharge.		PASS FAIL
149	Reduce RPM to idle, release parking brake, verify aircraft rolls easily.		PASS FAIL
	Record Idle RPM (600 - 660 RPM): <u>670</u>		PASS FAIL
150	Ignition switch check: When at idle RPM, momentarily place ignition switches in the "Off" position, engine should "cut out". Immediately move ignition switches to the "On" position.		PASS FAIL
151	Static RPM: Ensure brakes are held, and record RPM with full power.		
	Note: Take off should not occur if RPM is less than 2650 RPM. Actual RPM <u>2680</u>		PASS FAIL
COMPLETE BEFORE TAKEOFF CHECKLIST, PER PILOT OPERATING HANDBOOK			