

Color Canyon Aviation Work/Log Sheet

Start Date: May 07, 2019

Work Order#: 1048

Finish Date: June 19, 2019

Owner: [REDACTED]
[REDACTED]
[REDACTED]

Aircraft N Number: N6330N	Aircraft Serial Number: 21062974
Aircraft Model: CT210N	Aircraft Tach: 3973.0
Aircraft Total Time: 3973.0	
Engine Make: Continental	Engine Model: TSIO-520-R (9)
Engine Serial Number: 294278-R	
Engine Total Time: 630.0 (since TCM rebuild 0722/2001)	Engine TSMOH: N/A TSTOP: 0.0 *note: only core engine was overhauled, no accessories were overhauled
Propeller Model: McCauley DA34C-402C-C	Propeller Serial Number: 010713
Propeller Total Time:	Propeller TSMOH:

TASK/DATE: May 07, 2019	Start Time	End Time	Total Hours	Initials
INSPECTION DISCREPANCY REPAIR				
(A)Rod and his pilot Charlie had already opened up much of the aircraft for the inspection. Began the inspection by complying with a "cold" engine compression check: Removed all bottom spark plugs: Cyl #1 50/80, Cyl #2 12/80, Cyl #3 65/80, Cyl #4 52/80, Cyl #5 45/80, Cyl #6 58/80	9:00am			
(A)Removed all top spark plugs. Owner has ordered a complete set of new spark plugs. All plugs were hard to remove due to incorrect anti-sieze used on plugs at last installation.				
(A)Checked magneto to engine timing: Timing is set to 28 dg BTDC. Correct setting is 22 dg. BTDC. Magneto Time Since Last 500 hr inspection was not determined at this time.				
(A)Checked condition of major rubber oil and fuel hoses firewall forward: Fuel hose dates are 1Q94 and 01/01. Turbo charger oil hoses are all age hardened.				
(A)Cylinder #6 EGT probe is bent and loose in retention clamp, clamp is tight. Other EGT Probe clamps are cracked around the retention holes				
(A)Both vacuum system garter filters on the vacuum regulators are extremely dirty.		11:30am	2.5	
Lunch break Bring additional tools back after lunch.	11:30	12:30		
(A)Recheck cylinder compressions with larger compressor brought from shop and a different gage set, results: SAME. Cylinder #2 will have to be removed for repair.	1:00pm			
(A)Begin cabin inspection: Checked all lights: Tail light inop.				

(A)L/R flexible rubber brake lines from both master cylinders are worn, i.e., rubber outer cover is cracked away in places. (see photos).				
(A)RH door pull aft attach bracket is broken.				
(A)Recheck compression Cyl's #2 and #5 using a different pressure gage, results are the same for both cylinders. Borescoped Cylinder #2 and determined exhaust valve has been severely overheated along the inboard edge indicating damage exists in this area.				
(E) Jon to begin removing L/H engine baffling to access Cyl #2 mounting nuts. Removed upper deck fuel lines and prepped exhaust manifold nuts for removal tomorrow by spraying on penetrant.				
(A)Continue with cabin area inspection: Inspect L/R fuel header tanks, no defects noted. Inspected fuel shutoff valve, valve operating shaft "U" joint, no defects noted. Set fuel valve to the "OFF" position for future test when gascolator is removed for debris/contamination check.				
(A)Removed ELT for inspection: ELT is a AIRTEX ME406. Battery due date: Dec 2020				
(A)Inspected empennage and tail cone areas, no defects noted.				
(A)Inspect elevators, vertical fin and rudder: Rudder is missing 1 static wick. Metallic lightening hole tape is missing a piece inbd LH elevator.		4:00pm	3.0	
TASK/DATE: May 08, 2019 INSPECTION DISCREPANCY REPAIR	Start Time	End Time	Total Hours	Initials
(A)Inspect wings, wing attach points, flaps, flap drive motor & jackscrew in LH wing, ailerons, aileron control cables/bellcranks and push/pull tubes. RH flap has damaged area inboard, where an incorrect length screw had been installed in the aft wingroot access/inspection cover. One LH wing lower outboard inspection cover panel had incorrect attachment screw installed into a broken tinnerman nut plate.	9:00am			
(E) Jon to continue with removal of engine Cylinder #2. Remove exhaust to exhaust riser clamps (damage during removal to the Cyl #4 clamp due to a frozen in place attach bolt). Removed heat exchanger. Loosened rear LH engine baffling for access to cylinder base nuts. Removed cylinder base nuts and removed #2 cylinder.				
(E #2 cylinder has two bent cooling fins and one fin broken off at the base next to the intake port. Took #2 cylinder back to shop for removal of exhaust valve for further inspection.		12:00pm	3.0	
(A)Brought the wing jacks and tail stand over to Sky Ranch after lunch in prep for gear inspection tomorrow.			N/C	
TASK/DATE: May 09, 2019 INSPECTION DISCREPANCY REPAIR	Start Time	End Time	Total Hours	Initials
(E) Removed exhaust valve from cylinder #2 and determined valve seat has excessive wear on the inboard surface 1/3 rd of the way around. Valve face shows no contact in this area. Determined probable cause of the valve failure was due to an excessively worn out valve guide. Cylinder must be sent out for rework.	9:00am	10:00am	1.0	
Return to Sky Ranch, continue with aircraft inspections.	10:00am			

(A)Reinstalled all wing inspection panels except for panels requiring replacement of broken attach tinerman. Left inboard wing root panels off. (A)Reinstalled all cabin floor panels. End of work for today. Gear inspection tomorrow.		12:00pm	2.0	
TASK/DATE: May 10, 2019 INSPECTION DISCREPANCY REPAIR	Start Time	End Time	Total Hours	Initials
(A)C/W landing gear inspection: Prepared aircraft for raising on jacks, placed aircraft on jacks, jacked as necessary high enough to remove main wheel assemblies so that main landing gear will clear the floor.	9:30am	10:30am	1.0	
(E)At lunch, called Rod with an update on where we are with the inspection and the need to replace Cylinder #2. After discussing the probable cause of all cylinder low readings, he decided to proceed with replacing all 6 cylinders with either exchange or new depending on price.	8:55am			
(E)Called Gibson Aviation and got quotes on both chrome and nickel cylinder assemblies, Chrome are \$995.00, nickel are \$1195.00 both come with "serviceable" piston, new piston pin and new rings and gaskets.elayed this information to Rod and got his approval and CC to order 6 exchange cylinders either Chrome or Nickel. I ordered the Chrome cylinders which should ship out on Monday.		12:34pm	0.5	
(A)Return to Rod's hangar at Sky Ranch and completed gear swing, C/W landing gear emergency extension check and normal extension/retraction/extension checks, no defects noted. Reinstalled L/R main wheel assemblies and lowered aircraft back onto owner's caster dollies. Removed jacks, disassembled and loaded into truck for return to 1L8.	1:00pm	2:00pm	1.0	
(A)Jon repaired the tail light wiring, checked taillight operation and installed tail cone.	2:00pm			
(A)Removed and replaced the broken tinerman in the outboard LH wing and installed the inspection panel.				
(E Began removal of the RH engine cylinder baffling. Removed the fuel system flow divider and steel fuel lines, also removed the ignition leads and distributor caps as an assembly, for unrestricted access to the upper L/R cylinder base nuts.		4:00pm	2.0	
TASK/DATE: May 13, 2019 INSPECTION DISCREPANCY REPAIR	Start Time	End Time	Total Hours	Initials
(E Research parts to order for reinstallation of components removed for cylinder change	8:00am	9:00am	1.0	
(E Continue researching parts (purchase Cessna TSIO 520-N Parts Manual and download). Continue with parts research.	4:00pm	5:00pm	1.0	
TASK/DATE: May 14, 2019 INSPECTION DISCREPANCY REPAIR	Start Time	End Time	Total Hours	Initials
(E Removed Cylinders #'s 4 & 6. Removed exhaust system and intake system from RH side to removed Cyl #'s 1, 3 and 5.	9:30am	4:00pm	5.5	

TASK/DATE: May 15, 2019 INSPECTION DISCREPANCY REPAIR	Start Time	End Time	Total Hours	Initials
Jon to continue researching parts required for reinstallation of parts removed to access, remove and replace all engine cylinders	9:00am	12:00pm	3.0 N/C	
TASK/DATE: May 16, 2019 INSPECTION DISCREPANCY REPAIR	Start Time	End Time	Total Hours	Initials
(E Remove cylinders #'s 1, 3 and 5.	1:00pm	4:00pm	3.0	
TASK/DATE: May 28, 2019 INSPECTION DISCREPANCY REPAIR	Start Time	End Time	Total Hours	Initials
** installation of new engine hoses. Removed L/R vacuum pumps to access fuel pump hoses. Removed turbo-charger waste gate and turbo charger with RH side exhaust tube to access turbo charger and waste gate hoses for removal/replacement. Began installation of new hoses.	11:00am		1.0	
Lunch break	12:00pm	1:00pm		
Continue with new hose installations	1:00pm	3:30pm	2.5	
TASK/DATE: May 29, 2019 INSPECTION DISCREPANCY REPAIR	Start Time	End Time	Total Hours	Initials
**Continue with engine hose installations: Removed alternator to access fuel line connections at the fuel pump. Determined LH AFT engine mount and bracket will have to be removed to access the lower fuel pump hose fittings.	11:00am	1:00pm	2.0	
Lunch break	1:00	1:30:00pm		
**Got all hoses installed except for 4 fuel hoses that connect to the fuel pump, they were NOT included in the engine hose kit received from Aero Hose Shop	2:00pm	3:30pm	1.5	
TASK/DATE: May 30, 2019 INSPECTION DISCREPANCY REPAIR	Start Time	End Time	Total Hours	Initials

(E Begin new cylinder prep: Unpack all cylinder parts, begin checking ring end gaps.	10:00am			
(E Cylinder tagged #5 has an imperfection in the chrome plating at the barrel edge, will call El Reno Aircraft tomorrow.			3.0	
Lunch break	1:00pm	12:30pm		
(E Continue with ring gap checks: Cylinder # 3 and #5 oil ring gaps are too small, will have to be adjusted.	1:00pm			
**Replaced RH forward and aft intake manifold drain rubber connecting tube from right front of the engine to the right aft engine position.		3:00pm	2.0	
TASK/DATE: May 31, 2019 INSPECTION DISCREPANCY REPAIR	Start Time	End Time	Total Hours	Initials
(E Finish ring gap checks and adjustments on all cylinders. Began installation of rings onto pistons.	10:00am			
(E Called El Reno Air re: Chrome chipped off end of one cylinder. Took pictures and the tech at El Reno and I agreed that he would ship out another replacement cylinder right away and I will ship this cylinder along with the rest of them next week.			3.0	
Lunch break	1:00pm	1:30pm		
(E Completed installation of piston rings onto pistons. Found that I need a special size ring compressor to install the scraper ring onto the piston when the cylinder is installed onto the engine, (the ring compressors I have are too wide to allow the installation of the piston pin with the scraper ring depressed.	1:30pm	3:00pm	1.5	
TASK/DATE: June 04, 2019 INSPECTION DISCREPANCY REPAIR	Start Time	End Time	Total Hours	Initials
(E Installed cylinder piston and barrel assemblies onto engine Cyl #1, Cyl #3 and Cyl #5.	2:30pm	3:30pm	1.0	
(E Took new Cylinders 2, and 6 back to shop to re-check ring clearance and install pistons and rings in preparation for installation on L/H engine case.		3:30pm	1.0	
TASK/DATE: June 05, 2019 INSPECTION DISCREPANCY REPAIR	Start Time	End Time	Total Hours	Initials
(E Recheck the piston rings to cylinder for cylinder #2 and 6, necessary to verify top and 2 nd compression rings have a .006 gap difference IAW Superior Air Parts SL L05-09 B	9:00am	10:00am	1.0	
**Take cylinders over to Rod's hangar, along with 3 new fuel hoses that arrived this morning from Aero Hose Svc. Using my engine hoist, raised engine to remove the LH rear engine isolator mount and engine mount leg for access to remove and replace the lower fuel hose to fuel pump.	10:00am			

**Removed old fuel hoses (3 each) from fuel pump housing. Installed new bottom fuel hose at the fuel pump to the fuel metering assembly				
**Installed the additional two new fuel hoses onto the top of the fuel pump.		12:00pm	3.0	
Lunch break	12:00pm	1:00pm		
**Installed several hose clamps on both sides of the engine, securing oil and fuel hoses. Checked torque on hose fittings that were installed today	1:00pm			
**Reinstalled the LH aft engine mount arm and reinstalled the LH aft isolator mount and bolts and the LH fwd engine mount isolator bolt. Removed the aircraft from the wheel dollies to allow for better cylinder installation tomorrow.		3:00pm	2.0	
TASK/DATE: June 06, 2019 INSPECTION DISCREPANCY REPAIR	Start Time	End Time	Total Hours	Initials
(E Replacement cylinder arrived after 5:00pm yesterday. Removed cylinder and performed acceptance inspection. Checked ring end gaps IAW Superior Air Parts SL. Oil control ring needed to be ground to fit correctly.	9:00am			
(E Installed all rings onto piston and installed piston into cylinder.		10:00am	1.0	
(E Relocate to Sky Ranch (Rod's hangar). Began installation of cylinders #'s 2,4 & 6. All cylinders are now installed.	10:00am	12:00pm	2.0	
Lunch break	12:00pm	1:00pm		
(E Began torquing cylinders to engine. All cylinders are torqued to spec	1:00pm	3:00pm	2.0	
TASK/DATE: June 07, 2019 INSPECTION DISCREPANCY REPAIR	Start Time	End Time	Total Hours	Initials
(E Began solvent cleaning of all cylinder valve system parts: rocker arms, rocker arm shims, push rods, push rod tubes and springs, push rod tube seal washers Valve covers, intake manifolds and clamps.	9:00am	11:00am	2.0	
(E To Sky Ranch, Rod's hangar: Began installation into cylinder heads of all push rod tubes, push rods and valve rocker arms.	11:00am	12:00pm	1.0	
Lunch break and meet with production company renting Jesse's South Hangar to give them the door codes.	12:00pm	1:30pm		
(E Continue with installation of cylinder parts: push rod tubes, push rods and valve rocker arms. All cylinders were completed. Fuel injectors and valve covers to go.	1:30pm	3:30pm	2.0	
TASK/DATE: June 11, 2019 INSPECTION DISCREPANCY REPAIR	Start Time	End Time	Total Hours	Initials
(E Reinstall engine inner cylinder baffles	1:00pm			
(E Reinstall all fuel injectors, fuel manifold, and all fuel lines		4:00pm	3.0	

TASK/DATE: June 12, 2019 INSPECTION DISCREPANCY REPAIR	Start Time	End Time	Total Hours	Initials
(E Install jump leads from battery box leads to aircraft 24VDC battery and power up electric fuel pump, leak check all fuel lines, hoses and connections, no defects noted.	9:00am			
(E Remove L/R forward engine isolator mounts. Installed new forward engine isolator mounts L/R.		12:00pm	3.0	
Lunch break	12:00pm	1:00pm		
(E Began re-installing L/R engine driven vacuum pumps. Installed RH pump 1 st . Installed LH vacuum pump 2 nd , then connected all vacuum hoses previously removed.	1:00pm	2:30pm	1.5	
(E Reinstalled alternator with new alternator drive belt. Re-connected all electrical wiring to the alternator.	2:30pm	4:00pm	1.5	
A) Back at the office: Began work on log book entry's: Review squawk lists and squawk repairs completed. Review AD records for compliance.	5:00pm	6:00pm	1.0	
TASK/DATE: June 13, 2019 INSPECTION DISCREPANCY REPAIR	Start Time	End Time	Total Hours	Initials
E) Installed intake manifolds L/R sides and front crossover connecting tube.	9:00am			
E) Installed intake manifold heat shields 6 ea on R/L sides.				
E) Began installation of exhaust manifold system, installed all 6 risers and new gaskets. exhaust system.		12:00pm	3.0	
Lunch break	12:00pm	1:00pm		
E) Began re-installation of turbocharger and associated pipes. (some difficulty lining up the turbo mounts which is normal in my experience)	1:00pm			
E) Began installation of new exhaust riser to exhaust manifold clamps. L/H side completed, right hand side to be addressed tomorrow		4:00pm	3.0	
TASK/DATE: June 14, 2019 INSPECTION DISCREPANCY REPAIR	Start Time	End Time	Total Hours	Initials
E) Continue with installation of engine exhaust components: RH exhaust risers to RH exhaust manifold clamps.	10:00am			
E) Remove turbocharger exhaust stack and connector to the turbocharger waste gate controller. Install turbocharger waste gate controller, then . reinstall turbocharger exhaust pipe. and connect oil lines		12:00pm	2.0	
Lunch break	12:00pm	1:00pm		
. E) Install cabin heat shroud onto LH side exhaust manifold.				
E) Clean and inspect engine oil cooler. Install oil cooler assembly onto engine.	1:00pm			

E) Replace scat tubing from the heat shroud to the cabin heat control box.				
A) Disassemble the throttle cable and landing gear position switch. Pressure lubricate engine throttle cable, re-install throttle arm and landing gear warning horn switch cable.				
E) Rotate engine with the starter motor (no spark plugs installed) to obtain oil pressure, 3 times for 30 second duration intervals without success. Disconnected oil pressure gage line and made one more attempt without success. Oil system will have to be pre-oiled by pressure pot per instructions in Cessna Engine Removal/Installation M/M Section 5-2.9		4:00m	3.0	
TASK/DATE: June 17, 2019 INSPECTION DISCREPANCY REPAIR	Start Time	End Time	Total Hours	Initials
E) Pre-Oiled engine, cranked engine with starter motor for a short period of time (30 sec's) oil pressure noted at the oil pressure to gage line. Reinstalled the oil pressure gage line then cranked the engine until oil flowed from all rocker pushrods to rocker arms. (again motored engine only for short intervals).	9:00am	12:00pm	3.0	
Lunch break	12:00pm	1:00pm		
E) Fabricated two new EGT probe clamps and Installed all EGT probes. Installed all new spark plugs top and bottom.	1:00pm			
E) Installed all rocker box covers				
E) Removed cabin heat muff to access forward engine mount heat shield, reinstalled LH fwd heat shield in correct position.				
E) Adjusted engine timing to 22 dg., BTDC both left and right mags. (they were set at 28 dg., BTDC.				
E) Installed all top and bottom spark plugs and torqued to 30 ft lbs.		4:00pm	3.0	
TASK/DATE: June 18, 2019 INSPECTION DISCREPANCY REPAIR	Start Time	End Time	Total Hours	Initials
E) Install outer baffling panels L/R. Install all ignition lead clamps to both baffling panels and to valve covers. Connect all ignition leads. Install intake air filter and plenum.	1:00pm			
E) Ground run engine and leak check IAW El Reno Air initial cylinder break-in and TCM initial break in procedures. Checked magnetos for positive shutoff during engine shutdown.				
E) Ground run engine a second time bringing RPM up to 1500 for two minutes, checked magnetos L/R and checked propeller control check alternator for charging status and all EGT/CHT readings IAW an operational check, no defects noted.		4:00pm	3.0	
A) Log book entries	7:00pm	9:00pm	2.0	

TASK/DATE INSPECTION DISCREPANCY REPAIR	Start Time	End Time	Total Hours	Initials
A) Log Book entries	7:00am	9:00am	2.0	
START NEW WORK ORDER # 1056				
TASK/DATE: July 02, 2019 INSPECTION DISCREPANCY REPAIR	Start Time	End Time	Total Hours	Initials
Remove oil cooler to install new gaskets due to oil leak at bottom aft corner.	10:00am			
Removed Engine side bracket after determining oil cooler thermostat was not working (no oil in oil cooler, just a minor amount). Took bracket and thermostat back to the shop to test. Found thermostat does respond to heat appropriately when heated in a can of oil, however the sealing surface of the oil thermostat shows evidence of not closing properly i.e., surface wear on the sealing face shows improper seal, not sealing all the way around it. Placed new thermostat on order thru Aviall. I paid for part & shipping		12:00pm	2.0	
Shipped all cylinders and piston assemblies back to Gibson Aviation I paid for the shipping			N/C	
TASK/DATE: July 03, 2019 INSPECTION DISCREPANCY REPAIR	Start Time	End Time	Total Hours	Initials
To Sky Ranch, began reinstallation of oil cooler, noted that oil cooler gasket does not fit flat on mating surface of oil cooler adapter, determined that all 3 bottom adapter retaining studs are too long by about ½ thread (original cause of oil leak at the lower aft corner of the oil cooler) also old gasket shows where the "too long" studs had destroyed the original gasket, also evidenced by marks from the studs digging into the oil cooler mating surface). Using a dremel tool, ground studs down until the gasket and the oil cooler fit properly. Reinstalled the oil cooler and torqued attachment bolts. Installed the new oil temp sensor P/N639305 & gasket P/N 627496. Oil system thermostat due in Friday.	9:00am	12:00pm	3.0	
TASK/DATE : July 09, 2019 INSPECTION DISCREPANCY REPAIR	Start Time	End Time	Total Hours	Initials
Received new oil temp regulator P/N 639305 to install. To Sky Ranch to install the new part and reinstall the air induction tube and associated hardware on the RH side of the engine. Reinstall all engine cowling	1:00pm	2:00pm		
Ground run engine at idle then at 1500 rpm for 5 minutes to check oil temperature control, no defects noted.	2:00pm			

Removed engine cowlings R/L and front to check for oil leaks, no leaks were noted. Reinstalled all engine cowling.		3:00pm	2.0	
End				
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