

LEGACY MAINTENANCE CLINIC

***LANCAIR OWNERS AND BUILDERS ORGANIZATION - LOBO
COLUMBIA AIRPORT, NOVEMBER 7, 2009***

How-Tos

TEMPLATES

CHEAT-SHEETS

OVERVIEW OF SEMINAR

Arrivals & Greeting

Aero Resources Services—Greg Thompson & Ryan

- Propeller Balancing
- Weight and Balance
- Pitot Static System Check
- Servicing Gear Struts (height and pressure)

Routine Maintenance

- Wheels, Tires & Brakes
- Continental IO-550
- Hartzell Propeller
- Control System

Annual Condition Inspection

- Inspection Checklist
- Nose gear shimmy damper maintenance

Special Airframe Problems

- Wheel well not deep enough on airframes 101 to 199

Lunch Break – Walk Into Columbia Historic State Park

Special Presentations

- Setridge Crawford – Electrical System Modifications
- Leighton Mangles – Airframe Modifications

Modifications

- Grove or Beringer wheels and brakes
- LED Lighting
- Odyssey Batteries

Performance

- Scott Alair – Achieving a peak CAFÉ score

Service Bulletins

- Lancair Service Bulletins
- Continental Service Bulletins – Avoid Operation below 2300 rpm
- Magnetos

Airworthiness Directives

- Continental IO-550
- Bendix Mags
- Hartzell Propeller

Questions & Individual Concerns

LANCAIR LEGACY SERVICE BULLETIN LISTING

(AS OF OCTOBER, 2009)

SB057-0801	Nose Gear Struts (Revised Torque Values).....	Mandatory
SB058-0801	Clearance Between Tire and Aileron Pushrod	Mandatory
SB059-0801	Legacy Rudder Tab Reinforcement	Mandatory
SB060-1001	Legacy Inboard Gear Door Reinforcement	Mandatory
SB063-0602	Legacy Lycoming Engine Mount Cross Brace	Mandatory
SB064-0802	Lancair Legacy Fuel Selector Valve	Mandatory
SB067-0803	Nose Gear Strut Clamp	Mandatory
SB069-1004	Ram Air Butterfly Plate	Mandatory
SB643A	Bendix Magneto Maintenance Intervals.....	Recommended

IO-550G AIRWORTHINESS DIRECTIVES

2009-19-07	EQ3 cylinders	0/7/09,
2009-16-03	Cylinder assemblies	9/9/09
99-19-01	No. 2 and No. 5 Crankshaft Inspections	9/30/99
98-01-08 E	Exhaust Roller Rocker Arm	Upon Receipt
93-16-15	Fuel Pump Drive Shaft.....	12/14/93

IO-550N AIRWORTHINESS DIRECTIVES

2009-19-07	EQ3 cylinders	40093
2009-16-03	Cylinder assemblies	40065
2007-16-10	Kelly Aerospace Power Systems turbochargers.....	39317
99-19-01	No. 2 and No. 5 Crankshaft Inspections	36433



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TCM IO-550 SERVICE BULLETIN LISTING

(As of OCTOBER, 2009)

639	3/1/93	PROPER INSTALLATION OF IMPULSE COUPLINGS
CSB01-1	4/25/01	FUEL PUMP INSPECTION AND SEAL LEAK TEST.
CSB02-2C	12/11/02	STARTER ADAPTER SHAFT SEAL INSPECTION.
CSB04-5A	8/30/04	TELEDYNE CONTINENTAL MOTORS IGNITION SYSTEMS CRITICAL SERVICE BULLETIN CSB665A
CSB04-6	7/2/04	INSPECTION OF TSIO-550 AND TSIOL-550 ENGINES WITH P/N 654867 PISTONS INSTALLED
CSB07-2	5/25/07	TURBOCHARGER WASTEGATE OIL INLET FITTING INSPECTION AND REPLACEMENT
CSB08-9A	10/14/08	SLICK SERVICE BULLETIN SB03-8A
CSB665A	8/30/04	MAGNETO CAPACITOR P/N 10-400615 INSPECTION AND REPLACEMENT
CSB96-8	6/25/96	REPLACEMENT OF AIRMELT (NON-VAR) CRANKSHAFTS
M89-7R1	8/4/89	ENGINE OPERATION AFTER CYLINDER REPLACEMENT AND/OR MAJOR OVERHAUL
MSB00-5D	10/17/01	CRANKSHAFT MATERIAL INSPECTION.
MSB07-4	7/26/07	KELLY AEROSPACE POWER SYSTEMS TURBOCHARGER REPLACEMENT
MSB08-2	3/14/08	AD2008-06-51 PRECISION AIRMOTIVE LLC FUEL INJECTION SERVO
MSB09-1B	8/18/09	CYLINDER REPLACEMENT
MSB645	4/4/94	INSPECTION OF RIVETED IMPULSE COUPLINGS AND STOP PINS
MSB94-4G	11/1/05	STARTER ADAPTER SHAFTGEAR AND CRANKSHAFT GEAR INSPECTION
MSB94-8C	4/25/07	MAGNETO TO ENGINE TIMING
MSB96-10A	10/14/08	CRANKSHAFT ULTRASONIC INSPECTION
MSB99-3C	7/27/99	CRANKSHAFT INSPECTION.
SB03-3	3/28/03	DIFFERENTIAL PRESSURE TEST AND BORESCOPE INSPECTION PROCEDURES FOR CYLINDERS.
SB04-10	10/28/04	PISTON POSITION MARKING
SB04-11	11/2/04	VALVE GUIDE APPLICATION, INSTALLATION AND REAMING PROCEDURES
SB04-4A	6/21/04	REPLACEMENT OF MANIFOLD VALVE SPRING P/N 630184
SB06-1A	4/28/06	TELEDYNE CONTINENTAL MOTORS (TCM) FUEL SYSTEM FUEL NOZZLE INSPECTION AND REPLACEMENT
SB06-5	5/25/06	CRANKSHAFT OIL TRANSFER TUBE INSPECTION AND REPLACEMENT
SB07-1	3/19/07	CONNECTING ROD PISTON PIN BUSHING INSTALLATION
SB07-8A	7/23/09	RECOMMENDED MINIMUM CRUISE RPM LIMITS
SB07-9	12/21/07	IO240B INLINE FUEL FILTER REORIENTATION
SB08-12	9/9/08	CRANKSHAFT GEAR SUPERSEDEURE
SB08-13	10/14/08	INDUCTION SYSTEM HOSE AND CLAMP INSTALLATION
SB08-4	3/25/08	FUEL INJECTION SYSTEM CONTAMINATION
SB09-4A	6/10/09	CRANKCASE INSPECTION FOR "PERMOLD" ENGINES EQUIPPED WITH AIR CONDITIONER SYSTEMS INSTALLED FROM 1998 TO PRESENT.
SB643B	4/12/05	MAINTENANCE INTERVALS FOR ALL TCM AND BENDIX AIRCRAFT MAGNETOS AND RELATED EQUIPMENT
SB653	5/23/95	HOT MAGNETO TEST
SB658	8/16/96	DISTRIBUTOR GEAR MAINTENANCE.
SB663A	2/5/07	TWO WIRE MAGNETO TACHOMETER BREAKER (CONTACT) POINTS ASSEMBLY PART NUMBER 10-400507
SB96-11B	7/10/08	PROPELLER STRIKES AND HYDRAULIC LOCKS
SB96-7C	2/9/05	TORQUE LIMITS
SB97-6A	9/9/08	MANDATORY REPLACEMENT PARTS
SID05-1	1/4/05	THIS SERVICE INFORMATION DIRECTIVE (SID) SUMMARIZES INFORMATION PERTINENT TO THE DESIGN, OPERATION, MAINTENANCE, AND WARRANTY FOR TCM CAMSHAFTS AND HYDRAULIC LIFTERS
SID05-7	6/24/05	TELEDYNE CONTINENTAL MOTORS (TCM) POSITION TUNED FUEL INJECTION NOZZLES
SID97-2B	4/19/04	THIS SERVICE INFORMATION DIRECTIVE (SID) SUMMARIZES INFORMATION PERTINENT TO THE DESIGN, OPERATION, MAINTENANCE AND WARRANTY FOR TCM CYLINDERS
SID97-3E	6/25/08	PROCEDURES AND SPECIFICATIONS FOR ADJUSTMENT OF TELEDYNE CONTINENTAL MOTORS (TCM) CONTINUOUS FLOW FUEL INJECTION SYSTEMS
SID97-4C	4/1/99	CYLINDER BORE AND PISTON FIT SPECIFICATIONS.
SIL00-9A	9/10/04	ENGINE DATA PLATES
SIL03-2B	10/28/04	CURRENTLY ACTIVE APPROVED SPARK PLUG APPLICATION
SIL08-10	7/16/08	PRECISION AIRMOTIVE LLC SIL R5-88. RSA5, RSA10 SERVO INSPECTIONS OF HEX HEAD PLUG
SIL648	10/18/94	OPTIONAL CONVERSION TO "SHOWER-OF-SPARKS" IGNITION
SIL93-11A	9/20/06	SERVICE DOCUMENT FORMAT
SIL98-9A	3/28/03	TIME BETWEEN OVERHAUL PERIODS. (TBO)
SIL99-1	3/25/99	ENGINE PRESERVATION FOR ACTIVE AND STORED AIRCRAFT.
SIL99-2B	10/20/05	CURRENT LISTING OF SEALANTS, LUBRICANTS & ADHESIVES AUTHORIZED BY TCM
X-09-06	9/26/06	ACTIVE SERVICE BULLETIN INDEX



LEGACY MAINTENANCE CLINIC



2244 Airport Way, Redmond, Oregon 97756 Phone 541 923-2233 Fax 541 923-2255

SERVICE BULLETIN

SB069-1004

Subject: Ram air butterfly plate

Date: 08/21/2007

Ref: None

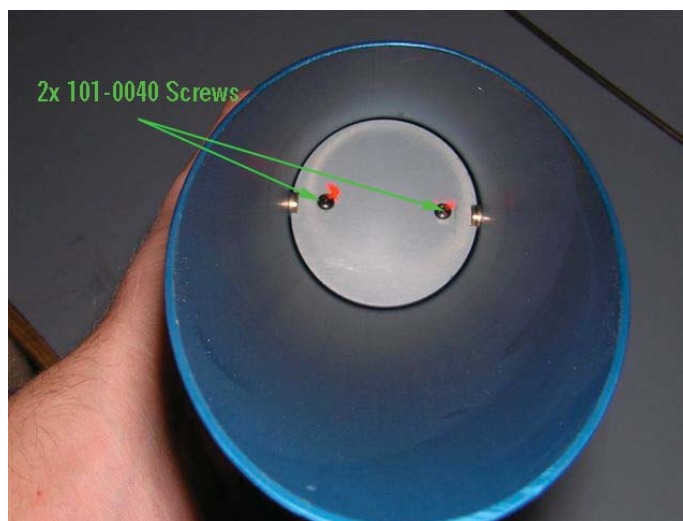
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Status: Mandatory Inspection

Background: We have discovered that some butterfly plates in the Ram Air induction tubes may not be fastened properly. Any aircraft utilizing a Lancair Ram Air kit must inspect the screws PN: 101-0040 immediately to insure the screws and butterfly are secured.

Action: Remove the Ram air tube, use an extended screw driver / allen wrench to check that the screws are secure to the pivot arm. To insure the screw is secure there are three options:

1. Take a long punch and score the threads to prevent the screw from backing out.
- or
2. Apply LocTITE 242 to the threads to prevent screw from backing out.
- or
3. Apply a metal lock nut PN: 2104-06 to secure the screw in place.



TORQUE VALUES AT-A-GLANCE

AN-3	20-25 inch lbs.
AN-4	50-70 inch lbs.
AN-5	100-140 inch lbs.
AN-6.....	15 foot lbs.
Wing Spar bolts	60 foot lbs.
Fuel Pump nuts	180-220 inch lbs.
Magneto clamps.....	8.3-10 foot lbs.
Prop Nuts (calculated with crows foot—check manual)	68.1 foot lbs.
Brake pad Caliper bolts	80 inch lbs.



LANCAIR LEGACY OIL CHANGE PROCEDURE

(CONTINENTAL IO-550 WITH STANDARD OIL FILTER PLACEMENT)

1. Fly aircraft or run aircraft to heat the oil up
2. Drain hot from quick drain using a 3/8" ID hose
3. Take oil sample for engine oil analysis if desired
4. Punch a single hole in the top of the oil filter in a location where tape can later be placed over the hole
5. Let oil drain overnight
6. remove drain hose & close the drain
7. Put masking tape over the hole in the oil filter
8. Cut oil filter safety wire
9. Place rags under the filter to catch any dripped oil
10. Remove the oil filter
11. Use a rag to soak up any oil left in the oil filter mount
12. Mark the date and engine hours on the new oil filter using a permanent marker
13. Apply lubricant (G66) to the new oil filter gasket
14. Install the new oil filter & torque it to the value printed on the filter (hand tightend)
15. Safety wire the oil filter
16. Add oil to the engine adding one extra quart for the oil filter capacity
17. Run engine and check for oil leaks
18. If no apparent leaks re-cowl the engine
19. Add appropriate log book or maintenance log entry noting the engine hours for the next oil change.
20. Dissect the old oil filter and look for signs of engine wear
21. Document engine oil analysis when returned from lab
22. Look for engine wear trends and investigate if any are found

CONDITIONAL INSPECTION TEMPLATES

Total Aircraft Time: _____ Hours _____

Tach Time _____ Hours _____

I certify that this aircraft has been inspected in accordance with the conditional inspection as per Lancair Legacy owner's manual and was determined to be in an airworthy condition.

Name _____

Repairman's certificate# _____

Signature _____

Total Aircraft Time: _____ Hours _____

Tach Time _____ Hours _____

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