

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
- Injector cleaning
- 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



COLLECTED MAINTENANCE TID BITS

1. Safety wire the inner gear door hinge pins so they don't work their way out
2. Check the trim tabs for play that may indicate a worn hinge or clevis
3. The Carbinge has Teflon inserts that can be pushed out making the pin loose in the hinge lug
4. Add two additional screws to the pitot tube mounting plate; one on each side between the front and back screw. The plate will deform in flight.
5. Safety wire the baffling bolts right behind the propeller. You will need drilled head bolts for this.
6. If you can see the edge of fuel through the fuel caps you have approximately ½ full tanks.
7. The Carbinge can deform with engine heat. To re align the individual hinge lugs use a heat gun to soften the hinge and realign the lugs using the hinge pin as an alignment tool.
8. When performing the compression check listen for leaking air for indications of problems
 - a. *Air leaking out the exhaust pipe means a bad exhaust valve*
 - b. *Air leaking out the air filter means a bad intake valve*
 - c. *Air leaking out the crankcase breather tube indicates bad rings*
9. Locktite and inspection paint the sequenceing valve screw as it can come out leaving your inner door extended. Check at pre-flight.

ANNUAL CONDITION SPECIAL INSPECTIONS

1. Check for cracks on the oil cooler mounting flange – SBo34-0597
2. Check the ram air butterfly attachment screws – SBo69-1004



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

Tip: Use a desposable foil cooking pan to create a resevoir and spout to collect oil and channel it to flow into a bucket directly aft of your nose wheel.

LANCAIR LEGACY WEIGHT & BALANCE NOTES

I made all my Legacy's CG calculations from the firewall joggle. I wrote in my POH that the firewall joggle is assigned the arbitrary value of fuselage station (FS) 65.0, regardless of the actual distance from the propeller spinner. I used 65.0" instead of the 64.625" number in the factory POH because since both the 65.0" and 64.625" are arbitrary numbers, I started with a round number. (Besides, perhaps due to my finance background, I don't like to use numbers that imply more precision than is actually there. (Sure, I know that 64.625" is the round number of 64-5/8", but who uses fractions to compute CG?))

I could have just as easily assigned the value of 0" to the firewall joggle, but then I would have to deal with negative numbers forward of the firewall joggle and positive numbers aft. That would just make this more difficult than it needs to be.

Once I defined the firewall joggle as FS 65.0, I measured the distance between the center of the nose wheel and FS 65.0 and the distance between the center of the main gear and FS 65.0. I measured the distance between the leading edge of the wing at butt line (BL) 27 and FS 65.0". From there, the rest is straight mathematics from the factory POH.

Using this method, I don't think it makes any difference where a builder sets the reference point. So long as they use actual measurements of the distance between the reference point and the wheels and leading edge of the wing at BL 27, the mathematics will be identical.

I backed into the CG of the baggage area by weighing the airplane with and without weight in the baggage area and then computing the actual CG. In my case, the baggage CG is 144.5" (with a firewall reference point of 65.0"). That was with the weight loaded into the approximate center of the baggage area.

This part isn't related to your question, but so long as we're talking about CG, I compute my Legacy's CG with and without fuel. My empty Legacy has a forward CG and burning fuel moves the CG forward. I can theoretically take off with the CG within limits and then be too far forward on landing. My zero fuel CG calculation checks to make sure I'll still be in limits on landing in the worst case situation that I land with empty tanks.

To eliminate the need to compute the baggage effect on CG for every flight, I made up the following table that shows the minimum and maximum allowable baggage weight for various combinations of pilot weights. Note that this is based on forward CG considerations; many of these combinations would result in exceeding max gross weight of 2,400 pounds with full fuel. However, if the amount of fuel is managed to stay within the max allowable gross weight, the following baggage weights are acceptable. Here's the page from my POH:

Note: The baggage weights are the minimum and maximum weights for the combined weight of the pilot and copilot. For example, a pilot weighing 175 pounds would have to carry at least 20 pounds of baggage in addition to the oxygen bottle, or 28 pounds if not carrying the oxygen bottle. The weight of the baggage should be roughly centered (forward-aft) in the baggage area. Moving the bags aft is better than moving them forward. Although heavier baggage is acceptable, the maximum recommended is 100 pounds. The weight of the pilots includes gear they carry and wear and center console glove box contents. The maximum weight of instrument panel glove box contents is three pounds.

The key factor in this table is the forward CG upon landing, assuming the worst case situation of zero usable fuel. If additional fuel is assured on landing, each gallon of fuel eliminates the need for 1.5 pounds of baggage. For example, a 175 pound pilot would have no minimum baggage requirement if the usable fuel upon landing was assured to be at least 20 gallons.

*The empty weight of the airplane includes all avionics, radios, instruments, two gallons of unusable fuel in each wing, eight quarts of oil in the engine, a headset, and a two-pound toolkit behind the seat.



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 SUPERSEURE
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



ANNUAL CONDITION INSPECTION CHECKLIST

LANCAIR LEGACY N#

PERFORMED BY:

COMPLETION DATE:

COMPLETE	MAINTENANCE/INSPECTION ITEM	COMMENTS
	PRE-INSPECTION	
	Research AD and Service bulletins	
	Clean out glove box	
	Remove all items from baggage compartments	
	Inspect entire airframe for evidence of de-lamination or damage	
	Remove the cowling	
	Remove inspection panels	
	Remove rear bulkhead	
	Remove spinner	
	Remove seat cushions & seat pans	
	WING GROUP	
	Check landing, position & strobe lights	
	Inspect aileron hinges & lube with Tri-flow	
	Inspect aileron control rods and bell crank	
	Inspect wing attachment bolts	
	Inspect quick drains	
	Verify operation of fuel tank vents	
	Inspect fuel cap seal for wear	
	Inspect aileron trim for full motion	
	Inspect speed brakes (use a Bend-a-Light to look inside the trunk)	
	Verify speed brakes retract with loss of electrical power	
	Check & drain AOA ports (stick a wire in the port openings to verify clear)	
	Inspect pitot tube	
	Verify pitot heat is operational	
	FLAP GROUP	
	Inspect flap motor & wiring	
	Inspect flap torque tube	
	Inspect flap position switch	
	Inspect flap hinges	
	Verify full operation of flaps	
	Inspect actuator tubes	
	TAIL GROUP	
	Inspect rudder hinges & lube with Tri-flow	
	Inspect elevator hinges & lube with Tri-flow	
	Inspect rudder pushrod	
	Inspect elevator pushrod	
	Inspect elevator trim for full movement	
	Inspect rudder trim for full movement	
	Inspect rudder bell crank	
	Check elevator stops	

ANNUAL CONDITION INSPECTION CHECKLIST

LANCAIR LEGACY N#

PERFORMED BY:

COMPLETION DATE:

COMPLETE	MAINTENANCE/INSPECTION ITEM ENGINE GROUP	COMMENTS
	Inspect oil dip stick access door for proper operation	
	Inspect cowling for wear or damage	
	Remove spinner and inspect propeller hub	
	Grease propeller as required by Hartzell (Aeroshell 6 grease)	
	Checked engine for oil leaks	
	Remove spark plugs (Keep track of the location)	
	Perform Compression Check note type of leakage (valve or rings)	
	Cylinder #1 =	
	Cylinder #2=	
	Cylinder #3 =	
	Cylinder #4 =	
	Cylinder #5 =	
	Cylinder #6 =	
	Check engine case bolts for tightness	
	Inspect oil cooler for leaks and box for cracking per SBO34	
	Check oil cooler door for proper operation	
	Inspect engine mount for wear or corrosion	
	Remove air filter and inspect throttle butterfly	
	Inspect throttle cable for security and full movement	
	Inspect air filter element for cleanliness and damage then reinstall if OK	
	Inspect fuel hoses and distribution lines	
	Inspect fuel control cable for security and full movement	
	Inspect fuel system drain lines	
	Inspect crankcase breather hose	
	Drain and Inspect gascolator screen & clean if required	
	Inspect exhaust system for cracks and security	
	Inspect exhaust flange gaskets for leaks	
	Inspect prop governor	
	Inspect prop control cable for security and full movement	
	Inspect baffling for cracks and clearance with cowl	
	Check EGT and CHT leads	
	Inspect engine wiring for security and abrasion	
	Inspect, clean and gap spark plugs	
	Inspect spark plug leads	
	Inspect P-leads	
	Check & adjust magneto timing	
	Install spark plugs & torque to 25 ft-lb	
	Check alternator wiring	
	Check regulator wiring	
	Check engine starter for security	
	Check oil pressure sender, hose & wire	
	Check oil temp sender & wire	
	Check fuel pressure sender wire	
	Check fuel flow sender wire	
	Remove cabin heat muff and inspect exhaust for cracks	
	Inspect cabin heat SCAT	
	Reinstall spark plugs	
	Inspect propeller for nicks & dress as required	
	Lubricate propeller per Hartzell Maintenance procedure	
	Reinstall spinner, at proper index	

ANNUAL CONDITION INSPECTION CHECKLIST

LANCAIR LEGACY N#

PERFORMED BY:

COMPLETION DATE:

COMPLETE	MAINTENANCE/INSPECTION ITEM	COMMENTS
	LANDING GEAR GROUP	
	Inspect nose gear strut for leakage and proper inflation	
	Inspect main gear struts for leakage and proper inflation	
	Inspect brake pads for wear	
	Inspect tires for wear, cuts, flat spots & proper inflation pressure	
	Inspect landing gear doors	
	Inspect and repack wheel bearings every two years	
	Check brake fluid level	
	Inspect brake lines for abrasion or damage	
	Perform gear retraction	
	Perform emergency extension test	
	Swing gear freely and check for free and proper movement	
	Inspect wheel well hydraulic lines	
	Inspect down position micro-switches	
	Verify proper operation of airspeed pressure switch (squat switch)	
	Verify shimmy damper operation using "Lazy Susan" bearing	
	Verify nose gear centering mechanism	
	CABIN GROUP	
	Check seat belts for security	
	Vacuum cabin	
	Remove battery. Clean, service and charge it	
	Check cabin heat control for full movement	
	Inspect defrost & fresh air SCAT	
	Inspect hydraulic lines, cylinders & dump valve	
	Check canopy latch mechanism for wear and proper operation	
	Verify that the canopy handle torque bolt is secure using 5/32" Allen wrench	
	Inspect canopy seal for damage and full perimeter attachment	
	Check control system for security and free movement	
	Verify aileron stop position	
	Remove and inspect emergency exit window	
	Inspect the hydraulic pump wiring and fittings	
	Inspect elevator push tubes and bell crank	
	Inspect fresh air vents and tubing	
	Inspect rudder pedals, brake cylinders, brake hoses and rudder cables	
	Operate the fuel selector to all positions	
	Inspect fuel lines inside cabin	
	Inspect autopilot roll servo, pushrods & electrical connections	
	Inspect autopilot pitch servo, pushrods & electrical connections	

ANNUAL CONDITION INSPECTION CHECKLIST

LANCAIR LEGACY N#

PERFORMED BY:

COMPLETION DATE:

COMPLETE	MAINTENANCE/INSPECTION ITEM	COMMENTS
	Check pitot tube heat operation	
	Check static ports	
	Check ELT Battery for expiration date & test ELT	
	Inspect antennas & BNC connections for damage or corrosion	
	Cycle all breakers and switches to verify proper operation	
	Check trim selector switch for proper operation	
	Check ELT for proper operation using impact and panel mounted switches	
	Inspect antenna cables	
	Inspect oxygen system tubing	
	Inspect intercom wiring and plugs	
	Inspect wiring going to magnetometer	
	Inspect pitot static system tubing	
	Check switch and breaker connections for tightness	
	Check instrument connectors	
	Check strobe lights & nav lights for proper operation	

FUNCTIONAL CHECK AND RUN-UP

	Reinstall battery	
	Install all inspection panels	
	Remove jack fittings	
	Verify the gear dump valve is closed	
	Start engine verify oil pressure	
	Turn fuel selector to off and verify engine stops due to fuel starvation	
	Restart engine and let it warm up	
	Perform 1800 rpm run-up	
	Right mag drop =	
	Left mag drop =	
	Oil temperature =	
	Oil pressure =	
	Fuel pressure =	
	Fuel flow =	
	Cycle propeller	
	Shut engine down	
	Inspect engine for leaks	
	Install cowling	
	Wash the aircraft, clean canopy	
	Make appropriate entries into logbooks	

SQUAWK LIST ITEMS TO BE ADDRESSED

MODIFICATION ITEMS TO BE INSTALLED



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.



OPERATION INFORMATION AT-A-GLANCE

Charging Voltage - Lead Acid Battery.....	14.2
Charging Voltage - Odyssey.....	14.2
EGT for Best Power.....	1280- 1320 RoP
Cylinder Head Temperature	330-360 RoP
Oil Temperature	170-220
Oil Pressure	30-60
Fuel Pressure.....	7 psi-14 psi cruise
Main Strut Pressure	300-350 psi
Nose Strut Pressure	275-325 psi
Main Tire Pressure.....	55 psi
Nose Tire Pressure	50-60 psi
Fuel Flow at Take-Off (sea level)	28-32 gph
Fuel Pressure at Take-Off (sea level)	30-35 psi
Minimum Brake Pad Thickness15”
Firing Order (Continental IO-550).....	1-6-3-2-5-4



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 _____

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 _____



LANCAIR LEGACY SERVICE BULLETIN LISTING

(AS OF OCTOBER, 2009)

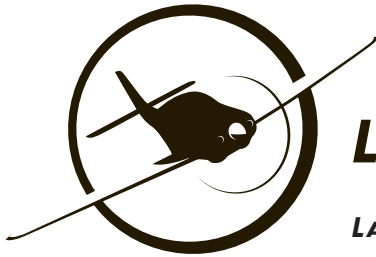
SB057-0801	Nose Gear Struts (Revised Torque Values).....	Mandatory
SB058-0801	Clearance Between Tire and Aileron Pushrod	Mandatory
SB059-0801	Legacy Rudder Tab Reinforcement.....	Mandatory
SB060-1001	Legacy Inboard Gear Door Reinforcement.....	Mandatory
SB063-0602	Legacy Lycoming Engine Mount Cross Brace	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



LEGACY MAINTENANCE CLINIC

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

CERTIFICATE OF ATTENDANCE

Thank you for participating in the lancair legacy maintenance clinic held for the purpose of helping lancair owners properly maintain their aircraft and to share maintenance information specific to the Lancair Legacy.

NAME OF MAINTENANCE CLINIC ATTENDEE:

ATTENDANCE VERIFICATION:

DON BARNES

JIM THOMAS