

LANCAIR ES-P ANNUAL CONDITION OR 100 HOUR AIRCRAFT INSPECTION REPORT CHECKLIST

OWNER'S NAME

FAA REGISTRATION NUMBER:

100 HOUR- _____ ANNUAL- _____
DATE _____

TACH TIME _____ TOTAL AIRCRAFT
TIME _____

POWER PLANT INSPECTION – ENGINE

- ____ 1. Remove engine cowling and make visual inspection of the entire engine section for evidence of fuel, oil and hydraulic leaks. Check the aluminum baffle for contact around inlet area.

- ____ 2. Drain oil while engine is warm. Replace oil filter and drain plug. Refill oil sump.

- ____ 3. Check internal conditions of engine by compression while hot:

1- /80	2- /80	3-
4- /80	5- /80	6-

- ____ 4. Remove, clean and regap spark plugs. Rotate plugs from upper to lower positions and lower to upper positions to lengthen plug life.

- ____ 5. Inspect spark plug terminal ends and wiring.

- ____ 6. Check engine compartment fuel and oil lines for leaks, loose hose clamps, fittings and general condition.

- ____ 7. Check and clean gascolator screen and bowl check for safely.
- ____ 8. Check fuel filter clean and safety wire.
- ____ 9. Remove and inspect air filter in cowling.
- ____ 10. Check alternate air door.
- ____ 11. Inspect cylinders, fins, and baffles.
- ____ 12. Inspect fuel induction system and tighten intake pipes and hose clamps, look for fuel stains.
- ____ 13. Inspect magneto points, armature shaft for looseness and oil leakage. Magnetos need to be rebuilt or replaced after 500 hours. NOTE... Minor changes in magneto timing can be expected during normal engine service. The time and effort required to check and adjust the magnetos will be rewarded by longer contact point and spark plug life. A smoother-running engine requiring less maintenance will be the result.
- ____ 14. Check fuel injection system for loose fittings, chafing.
- ____ 15. Check alternator and/or generator, make sure wires are tight and are not chaffing.
- ____ 16. Check pressure mixing box and valve.
- ____ 17. Wash down engine.
- ____ 18. Inspect and lubricate all engine controls.
- ____ 19. Check engine accessories for defects and security.
- ____ 20. Check brake fluid level.
- ____ 21. Examine flexible vibration dampners for condition.
- ____ 22. Check heater control mechanism and heat ducts.
- ____ 23. Check heat ducts for condition.
- ____ 24. Check engine mount and mount bushings for condition and security.

- _____ 25. Check engine for loose nuts, bolts, screws, studs, etc.
- _____ 26. Check engine cowling and baffles: repair when necessary. Install cowling and check security of installation.
- _____ 27. Review engine airworthiness directive notes for compliance.
- _____ 28. Check general maintenance aid notes applicable to engine.

TURBOS

- _____ 1. Duct tape the exhaust side of a vacuum into the exhaust pipe of the engine. Note the vacuum should be cleaned prior to this test.
- _____ 2. Check the compressor and turbo housing for leaks. Fill a spray bottle with water and then put one drop of soap in it.
- _____ 3. Inspect impellers on the compressor for freedom of movement and condition.

COMPRESSORS

- _____ 1. Duct tape the exhaust side of a vacuum into the Compressor side of the induction system. Remove the scheet tubing from the mixer or heat valve. Plug the end of the skeet tubing. Check the Compressor and induction system for leaks, also check the bleed air and after coolers for leaks.

PROPELLER GROUP

- _____ 1. Inspect propeller blades for nicks, bends, cracks and condition of the tips.
- _____ 2. Remove spinner and check for cracks. Check blade shake, max 1/8 inch. The blade shake must be checked IN and OPPOSITE the direction of rotation. Measure blade shake 4 inches from blade tip at the trailing edge.
- _____ 3. Check blade angle play, max 2°. If the check shows values above these tolerances, contact the service department of MT-Propeller.

- _____ 4. Inspect hub and attaching parts for defects, tightness and safety.
- _____ 5. Check propeller hub for oil leaks.
- _____ 6. Check propeller governor for security of mounting and oil leakage.
- _____ 7. Check propeller control mechanism for operation, security of installation & operation through full range of travel.
- _____ 8. Check blades for looseness in hub.
- _____ 9. Lubricate propeller hub. Refer to owner's manual.
- _____ 10. Review Airworthiness Directive Notes on propeller for compliance.
- _____ 11. Check spinner backing plate and brackets. Install spinner.

CABIN AND COCKPIT GROUP

- _____ 1. Check brake master cylinders for leaks, security and fill with fluid.
- _____ 2. Check Cabin latches, handles, chains and sprockets for condition and security. Lubricate.
- _____ 3. Inspect cabin and cockpit for loose equipment which might foul controls.
- _____ 4. Inspect back of instrument panel for security of lines and wiring.
- _____ 5. Check condition of attachment of all instruments and instrument panel.
- _____ 6. Inspect for hydraulic and oil leaks.
- _____ 7. Check all engine and cockpit controls.
- _____ 8. Check control sticks for excessive play, security and ease of operation.

- ___ 9. Inspect all cable attachments, cables, push pull tubes, rod ends and attachment points for controls.
- ___ 10. Inspect all safety belts and security of attachment.
- ___ 11. Inspect upholstery and rugs for attachment.
- ___ 12. Check seats for breakage, distortion and slides.
- ___ 13. Clean windows and windshield.
- ___ 14. Check all windows and windshield for cracks and crazing condition.
- ___ 15. Check all flight controls for proper operations.
- ___ 16. Check instrument markings and placards.
- ___ 17. Clean faces of instruments.
- ___ 18. Clean the interior of the airplane.
- ___ 19. Check heating and ventilating system.
- ___ 20. Check boost pump for fuel stains and attachment.
- ___ 21. Inspect cabin door, locks and hinges. Remove one hinge at a time and inspect hinge pin for condition. Lubricate and install pins and hinge.
- ___ 22. Inspect hydraulic lines for leaks.

WING GROUP

- ___ 1. Check surface of skin for general condition, deterioration distortion, cracks and evidence of failure and attachment security.
- ___ 2. Check wing attachment bolts.
- ___ 3. Check wing tip fuel vent line.
- ___ 4. Inspect internal structure of wings through access holes.
- ___ 5. Check flaps and ailerons; check all push rods, clearances, rod ends, bell cranks, brackets and actuating devices for

condition and freedom of operation. Lubricate.

- _____ 6. Check aileron and flap hinge brackets and hinge pins for looseness and condition.
- _____ 7. Inspect drain holes in flaps and ailerons.
- _____ 8. Inspect pitot mast and airspeed lines. Test Pitot heat.
- _____ 9. Check all fairings and access panel screws.

EMPENNAGE GROUP

- _____ 1. Check surface condition of skin for general condition, deterioration, cracks, and other evidence of failure and security of attachment.
- _____ 2. Remove all access panels and inspect all surface attachments and adjacent areas.
- _____ 3. Check rudder cables for chafing and condition and safety.
- _____ 4. Check trim tabs for excessive looseness and proper operation.
- _____ 5. Inspect rudder and elevator hinge fittings and pins for cracks, looseness and proper installation.
- _____ 6. Operate rudder and elevator. Check for ease of operation and proper travel and stops.
- _____ 7. Inspect the trim tabs and push rods for looseness and for full travel clearances.
- _____ 8. Inspect fairings and screws.

ELECTRICAL SYSTEM

- _____ 1. Inspect battery box for condition, clean and paint if deteriorated by acid. Check drains and vents for proper operation.
- _____ 2. Check cables for corrosion and proper insulation from battery box cover and structure.

- _____ 3. Check tightness of battery terminals.
- _____ 4. Check electrical wiring and cables for possible chafing, security, and proper insulation.
- _____ 5. Check electrical switches for operations and fuses for abnormalities.
- _____ 6. Check strobe lights for operation and condition of flash tubes.
- _____ 7. Check navigation lights for operation and condition of bulbs and lenses.
- _____ 8. Check landing lights for operation and condition.
- _____ 9. Inspect cabin lights for operation and condition.
- _____ 10. Check door seal pump for condition.
- _____ 11. Check cabin controller and outflow valve for operation and condition.
- _____ 12. Evaluate the calibration and/or service needs of the CO Guardian carbon monoxide detector.

LANDING GEAR GROUP

- _____ 1. Inspect landing gear for general condition and security of attachment.
- _____ 2. Check condition of nose strut.
- _____ 3. Check all linkage, trusses, and members for evidence of excessive wear, fatigue, safety, distortion and security of attachment.
- _____ 4. Remove wheels. Examine for cracks and other defects, check bearings, races, clean and repack.
- _____ 5. Check tires for wear, bruises, cuts and other defects.
- _____ 6. Check brakes for condition and adjustment, blocks, lining and discs.

- _____ 7. Inspect hydraulic brake lines and hydraulic cylinders.
- _____ 8. Check oleo strut for correct inflation and height, approximately 1.5 inches compression, which will leave about 3 inches of shaft showing.
- _____ 9. Check nose gear for alignment.
- _____ 10. Inspect main gear sockets and fasteners.
- _____ 11. Check shimmy damper on nose wheel.
- _____ 12. Inflate all tires to proper pressure and inspect safety of axle nuts.
- _____ 13. Clean off landing gear.

FUEL SYSTEM

- _____ 1. Check both tanks and filler caps.
- _____ 2. Drain sumps.
- _____ 3. Check all fuel lines for leaks at connections and security of mounting.
- _____ 4. Check fuel tank vents.
- _____ 5. Check condition and operation of fuel tank selector valve.
- _____ 6. Check placard at fuel tank filler caps.

FUSELAGE AND HULL GROUP

- _____ 1. Check surface condition of skin for general condition, deterioration, distortion, cracks, and other evidence of failure and security of attachment.
- _____ 2. Inspect fuselage primary structure for damage.
- _____ 3. Inspect internal condition of fuselage.
- _____ 4. Inspect for defects, security and safety of all attachment fittings of various systems attached to the fuselage.

- _____ 5. Inspect and check condition of baggage door hinges and locks.
- _____ 6. Inspect antennas for attachment and condition.
- _____ 7. Clean off belly.

RADIO GROUP (INSTALLATION)

- _____ 1. Inspect radio and electronic equipment for proper installation and security of mounting.
- _____ 2. Check equipment and wiring for proper clearance and routing.
- _____ 3. Inspect wiring and conduits for proper routing and security of mounting, to prevent chafing and short-circuiting.
- _____ 4. Check bonding and shielding for proper installation and condition.
- _____ 5. Check all antennas for condition and security of mounting.

EMERGENCY LOCATOR TRANSMITTER

- _____ 1. Check batteries and note the date they should be replaced.
- _____ 2. Remove ELT from A/C. Install Portable Antenna. Test between 5 min. to the hour and 5 min. after the hour.
- _____ 3. Lightly tap the ELT into your other hand, increasing the intensity of the impacts until it starts to transmit. Check for Reception on 121.5. Reset the ELT.
- _____ 4. Install the ELT back into the A/C, attach the aircraft ELT antenna and push the test button. Check for reception. Reset ELT.
- _____ 5. Reset ELT.

MISCELLANEOUS GROUP

- _____ 1. Inspect any miscellaneous items of equipment installed.
Inspect for proper installation security of mounting and proper operation.
- _____ 2. Compass correction card in view of pilot.

ITEMS REQUIRED FOR FLIGHT

- _____ 1. Airworthiness Certificate.
- _____ 2. Registration.
- _____ 3. Operating Manual.
- _____ 4. Weight and Balance.
- _____ 5. Fuel Grade and capacity by filler cap.
- _____ 6. Passenger warning in cabin.
- _____ 7. Experimental on door.
- _____ 8. Identification on tail.

WORK PERFORMED

POWER PLANT OPERATIONAL- PREFLIGHT CHECK

ENGINE MAKE: _____

MODEL _____

SERIAL NO _____

TIME: _____

Warm up engine and check the following:

Generator / Alternator
output _____

Oil Pressure _____

Oil Temperature _____

Fuel Pressure _____

Head Temperature _____

Magnetos Left drop _____ right
drop _____

Run propeller thru range _____

Check all engine controls _____

Brakes and parking brakes _____

Idle rpm _____

Idle cut-off

Static rpm

Idle mixture

Check engine for oil leaks
