

Crew Chief Inspection Check List for Aircraft: N _ _ _ _ _

Inspectors name: _____ Date: ___/___/___ Tach: _____ Hobbs: _____

1. Review maintenance squawks on white board and discrepancy sheets.

Aircraft Exterior

1. General exterior condition, looking at **whole aircraft** from distance. Damage? ___
2. Undercarriage:
 - a. Check for **fluid leaks** on bottom of aircraft or puddles of fluid on ramp.
 - b. Inspection **port covers**: check security, screws.
3. Main Gear:
 - a. Condition of **tires**: inflation, degree of wear.
 - b. **Brakes: Disc** smooth on both sides. **Pads** have sufficient life remaining. No **fluid** leaking.
 - c. Tire **nut** in place. Cotter **pin** in place.
4. Nose Gear
 - a. Nuts, bolts, cotter pins
 - b. **Strut** extends 3 inches.
5. Empennage
 - a. Inspection **port covers**: check security, screws.
 - b. **Elevators**: nuts, bolts, stops, safety wire, security
 - c. **Rudder**: nuts, bolts, stops, safety wire, security
 - d. **Beacon**
 - e. **Nav light**
 - f. **Antennas** firmly affixed?
 - g. **Baggage door** locked(172s)
6. Wings
 - a. **Flaps**: operation, nuts, bolts, rollers & slots, lubrication, security
 - b. **Ailerons**: hinges, nuts, bolts, cotter pins, weights
 - c. **Pitot tube**: heat, drain hole, ram air hole, cover moves freely
 - d. Inspection **port covers**: check security, screws.
 - e. **Stall horn**
 - f. **Fuel sumps**
 - g. **Leading edge**
 - h. **Fuel Caps**: security chain attached, caps seal well
 - i. **Fuel Vent**: hole clear
 - j. **Nav Lights**
 - k. **Strobes**
7. Nose
 - a. **Propeller** damage/knicks?
 - b. **Cowling/Spinner** screws tight/missing?
 - c. **Alternator Belt**
 - d. **Fuel Drain & Sump**
 - e. sufficient **Oil**
 - f. **Static port**
 - g. **Landing light**
 - h. **Air filter** clean?
8. Interior

- a. **Lights:** panel, dome, map, compass
 - b. Avionics cooling **fan:** (00J, 124, 15M only)
 - c. Documentation
 - i. **Airworthiness**
 - ii. **Registration**
 - iii. **Weight & Balance**
 - iv. **POH**
 - v. **Checklist**
 - vi. **Compass Correction Chart** beside/near compass
 - vii. 52D: 180 hp engine/performance manual
 - d. Miscellaneous Items
 - i. Control wheel **lock**
 - ii. Fuel sample **cup & dipstick**
 - iii. Window **cleaner & towels**
 - iv. 2 **rags**
 - v. 2 airsick **bags**
 - vi. IFR **hood**
 - e. Seats
 - i. **Belts & Shoulder Harness**
 - ii. All seat **adjustments**
 - iii. Seat **locks** in place
 - f. General Interior Condition
 - i. **Trash**
 - ii. Personal belongings
 - iii. Straighten carpet
 - g. **Fire extinguisher** – charged in green arc?
 - h. **Carbon Monoxide Detector** - test
 - i. SET the **CLOCK** to local Central time.
9. Controls
- a. **Free and Correct:** ailerons, rudder, elevator
 - b. **Brakes:** report if brakes feel mushy.
10. Avionics
- a. Request radio check on UNICOM (122.95)
11. Books
- a. Verify current tach and Hobbs **times** entered.
 - b. Inop. **Stickers**
 - c. **Pens** or Pencils
 - d. Extra **tach sheets**
 - e. **VOR check** sheet
 - f. **Stuck-away** procedure list - add the current Crew Chiefs phone number.
 - g. **Discrepancy** sheets
 - h. Check for **squawks:** transfer to board & box if necessary
 - i. Move full tach sheets to bottom of stack
12. White Board
- a. Post current **TACH** time and Date.
 - b. Compare with 50-hour or 100-hour inspection schedule and TBO?
 - c. **Put this form in Aircraft Maintenance Manager box.**

13. Internal: **remove cowling** with Phillips-head screw driver.
 (* means you must be OK'd by Maintenance Manager to do these steps.)
- a. Inspect for **oil leaks** around filter, bad seals, and cracks in dipstick sheath.
 - b. Air-cooling **baffles** in good condition? Both metal and rubber.
 - c. Have valve-cover **screws** backed-off? Re-secure firmly, not too tight.
 - d. ***BATTERY** – Check fluids in all wet cells. Add electrolyte or distilled water to fill-line if needed. If unavailable replace battery *or* **ground plane**.
 - use a **7/16 inch socket** to remove and replace battery holder lid.
 - e. Clean (+) and (–) terminals and ground strap of **corrosion**.
 - use a **½ inch socket** on battery terminals
 - f. ***Nose strut** – charge if necessary. 4 ½ inches > metal strut > 2 inches.
 - g. Inspect all **wiring** for fraying/corrosion and **metal tubing** for holes/cracks.
 - h. **Carburetor Heat Cable** - attached/inspect for signs of breakage
 (note: you are NOT able to service this item)
 - i. **Fuel Mixture Cable** - attached/inspect for signs of breakage.
 (note: you are NOT able to service this item)
 - j. ***SPARK PLUGS** – clean and gap at least once per month or when fouling is suspected (i.e. failed Mag-test, difficulty starting, etc).
 - i. Use a **¾ inch crescent wrench** to remove wires from plugs.
 - ii. Inspect spring-ends of wires and clean corrosion with sand paper.
 - iii. Remove all plugs with spark plug socket. Be certain to note **top/bottom position** of plug and **cylinder #** of each plug on holding tray.
 - iv. When bottom plugs are removed, inspect inside of cylinders for loose chunks of crap and fish out of cylinder if able.
 - v. Clean plugs with sand blaster and dental picks.
 - vi. **Gap** size should be between **0.016 to 0.025 inches**.
 - vii. Test-fire each plug in air chamber with airflow in green arc.
 - viii. Apply **anti-seize compound** to spark plug threads lightly.
 - ix. **Rotate** spark plug order when re-installing in cylinders:
 ex. **1-top -> 2-bottom**, according to standard rotation scheme.
 - x. Tighten spark plugs to **30 lbs.** with torque wrench.
 - xi. Tighten wires onto plugs with ¾ inch crescent wrench firmly.
 - xii. Start engine and perform a **Run-up and Mag-test**.
 - xiii. record run-up time used in log book as FMS #000; MAINTENANCE.

Describe abnormal findings below. Place form in Aircraft Maintenance Manager box.

14. INSTRUMENTS – perform once per month during flight

***Check NOTAMS first to make certain all Nav aids are functioning**

- Listen to ATIS and set altimeter: is indicated altitude +/- 30 feet of 320 ft.? ____ ft.
- Set clock to be accurate to local Central Time.

- Request ground control permission to taxi to VOR-checkpoint
- Position aircraft in VOR check point position near intersection of taxiway Alpha/Bravo.
- check accuracy of (both) VOR on 113.3 College Station VORTAC and record deviations onto VOR-sheet in log book. Are radials within two (2) degrees? _____

a. Check localizer(s) accuracy by sitting on the 34-16 centerline and tuning to 111.7

If localizer needle(s) not dead center:

- how many dots offset is the **NAV1** needle from the center? ____ to the **Left** or **Right**?
- how many dots offset is the **NAV2** needle from the center? ____ to the **Left** or **Right**?
- are you on the **front course** (heading 34) or **back course** (heading 16)?

b. DME – tune to 113.3 and fly directly TO/FROM the CLL VORTAC.

Is indicated airspeed comparable to DME ground speed? Yes No

If you have GPS compare ground speed and range to DME. Compare results.

c. Turn and Bank Indicator test - conduct a timed standard rate turn. Did the turn

require exactly *2-minutes* to turn 180 degrees? *4-minutes* for 360 degrees?

If you arrived on heading consistently early the gyro may need servicing.

d. Directional Gyro - Set to compass heading, then perform turns (360 turns are best).

Does the gyro precess more than 10 degrees? How many? _____

e. Attitude indicator - in good order? Vacuum pumps fail every 1000 hours, so

monitor the suction and vacuum line instruments carefully and suspiciously.

f. Magnetic Compass - Does the **compass offset chart** agree with the compass card?

Check with **full electrical load**: turn EVERYTHING electrical on (except flaps):

Does compass heading further distort? How many degrees? ____

g. EGT - are these readings reasonable? Does it respond to mixture changes?

h. Manifold Pressure - does it respond to altitude/changes in rpm/mixture?

Fly Approach ILS-34/localizer-34: Tune (both) NAV radio(s) to 111.7

h. NDB – tune to *Rowdy 260*, is the ADF tracking well down the approach?

i. Marker beacons - lights and tones:

Outer (- - -), middle (_ . _ .) and inner marker (.....) tones and lights working?

j. Glide Slope - accuracy: compare to your rate of descent/approach speed.

k. Localizer(s) - tracking well? _____ If there are two, do they agree? _____