

Area of Operation **V** - Task **A**

Preflight Inspection

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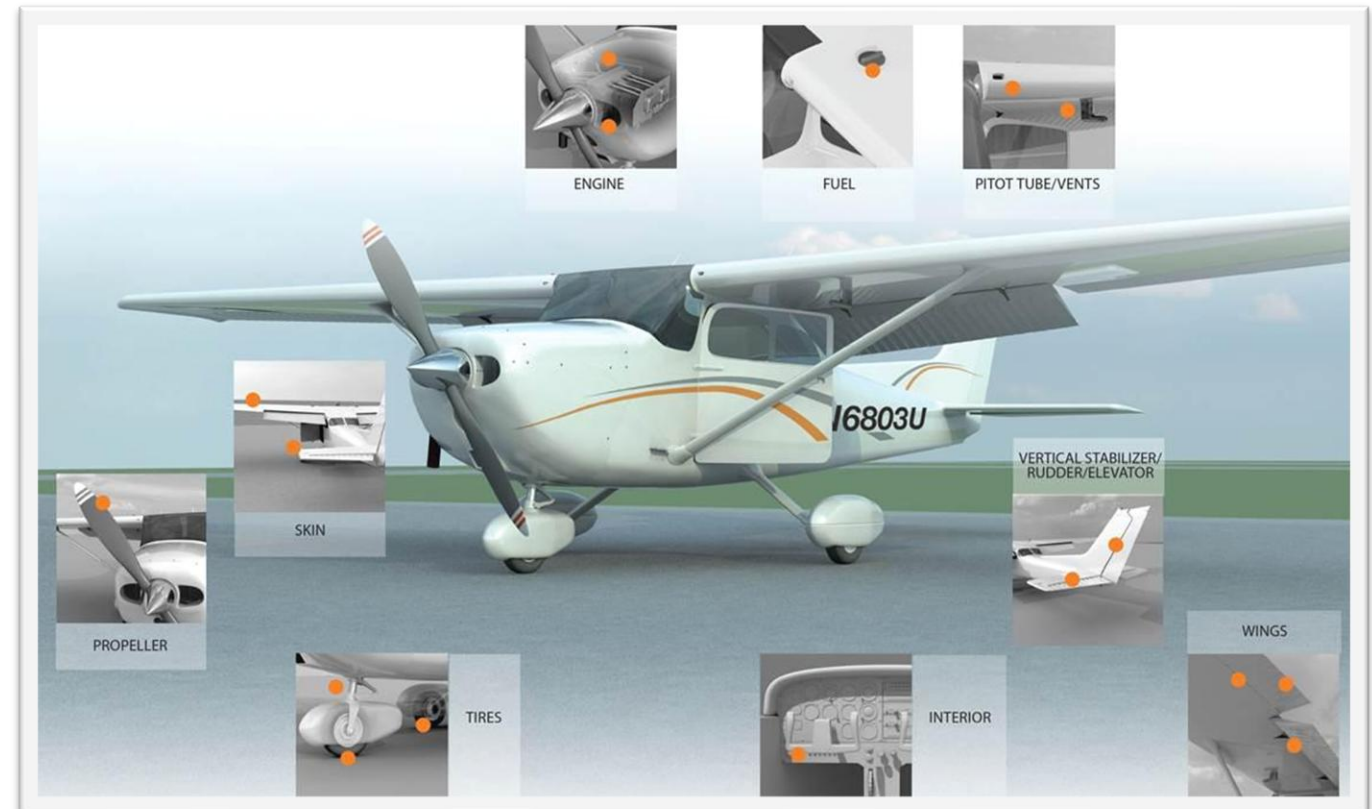


Key References:

- Airplane Flying Handbook
- POH/AFM

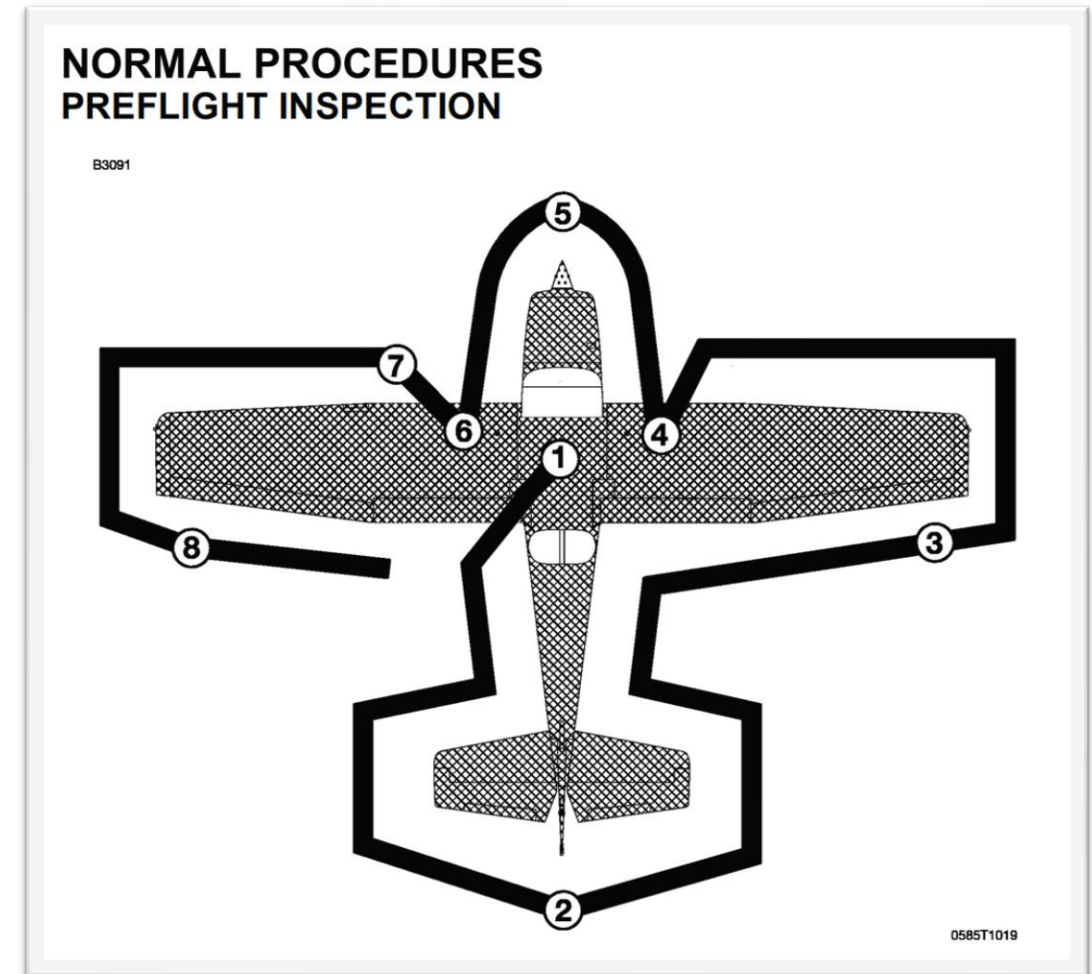
1. Introduction

- **What:** A thorough check of the airplane to ensure airworthiness and safety prior to flight
- **Why:** Determines the airplane is legally airworthy, and in a condition for safe flight
- **What we are looking for:**
 - Documents (ARROW), Inspections, Squawks
 - Use checklist (POH Chapter 4)
 - Preflight is divided in major components:
 - Interior Cabin
 - Airframe and Antennas
 - Control surfaces
 - Landing gear, Tires and Brakes
 - Fuel and Oil
 - Alternator belt
 - Propeller blades
 - Static ports, Pitot, Vents, etc
 - Lights



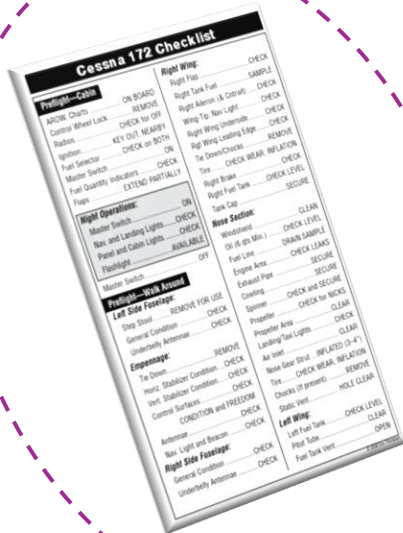
2. What to Look For

- **Visible Structural Damage**
 - Check for dents, cracks, bending, separating, antennas
 - Check for leaks, stains, missing rivets, bolts, nut pins
- **Flight Controls and Flaps**
 - Move freely, correctly and are properly attached
- **Fuel & Oil Quantity and Contamination**
 - Confirm the fuel quantity indicated on the gauges
 - Sump fuel: check for color (blue), water, other contaminants
 - Oil quantity and discoloration (contaminants)
- **Check and remove Ice and Frost**
- **Verify items are secure, properly loaded and W&B**
- **Full preflight every time the plane was left unattended**
- **If found any issue**
 - *Consult POH*
 - *Ask advise (e.g. Mechanic) and make a go/no-go decision*



3. Preflight Procedure (C172S)

- Follow the POH or use approved checklists
- You can develop your flow, but always verify with checklist later



PRE-FLIGHT

Cabin

Pitot Tube Cover	REMOVE
Required Docs / Hobbs	ABOARD / CHECK
Control Wheel Lock	REMOVE
Magnetos	OFF
Avionics Switches	OFF
Master Switch	ON
PFD	CHECK ON
Fuel Quantity	CHECK
Oil Press / Low Vac Annunciator	CHECK ON
Avionics Bus 1	ON → CHECK AUDIBLY FAN → OFF
Avionics Bus 2	ON → CHECK AUDIBLY FAN → OFF
Alternate Static	ON → CHECK → OFF
Flaps	EXTEND FULL DOWN
Lights/Pitot Heat	ON → CHECK → OFF
Master Switch	OFF
Elevator Trim	TAKE OFF POSITION
Empennage	
Tail Tie-Down	DISCONNECT
Control Surfaces	CHECK
Trim Tab	CHECK
Antennas	CHECK

Right Wing

Flap & Aileron	CHECK
Wing Tie-Down	DISCONNECT
Main Wheel Tire & Brake	CHECK
Fuel Tank Sump	DRAIN & CHECK
Fuel Quantity	CHECK VISUALLY
Fuel Filler Cap	SECURE/VENT CLEAR

Nose

Fuel Strainer	DRAIN & CHECK
Fuel Reservoir & Selector	DRAIN & CHECK
Oil	CHECK 5-8 QTS
Alternator Belt	CHECK
Engine Cooling Air Inlets	CLEAR
Prop & Spinner	CHECK
Air Filter	CHECK
Nose Wheel Strut & Tire	CHECK
Static Source	CHECK

Left Wing

Fuel Tank Sump	DRAIN & CHECK
Fuel Quantity	CHECK VISUALLY
Fuel Filler Cap	SECURE/VENT CLEAR
Pitot Tube	CHECK
Stall Warning Opening	CHECK
Fuel Tank Vent Opening	CHECK
Wing Tie-Down	DISCONNECT
Flap & Aileron	CHECK
Main Wheel Tire & Brake	CHECK
Parking Brake	VERIFY OFF
Tow Bar and Baggage Door	SECURE

4. Examples of Problems

Fuel Contamination



Pitot or Vents obstructed



Tail Strike



Propeller Ding



Brake fluid leaking



Low Oil



Alternator belt lack of tension



Stuck or bent control surfaces



5. Common Errors

1. Failure to use or the improper use of checklist
2. Hazards which may result from allowing distractions to interrupt a visual inspection.
3. Inability to recognize discrepancies to determine airworthiness
4. Failure to ensure servicing with the proper fuel and oil
5. Failure to ensure proper loading and securing of baggage, cargo, and equipment

Questions?

