

**Report of Major Changes to Pilot Checklists**  
Purdue Aviation, LLC

**Aircraft affected:**

Cessna 152, 172P, 172N, 172SP, 172S G1000, 172RG - All Checklists

Piper PA28-161 Warrior: Normal And Emergency Checklists only, not exterior checklist

All of these checklists share a number of minor changes in wording and ordering to facilitate ease of use and faster comprehension, especially for new students unfamiliar with the aircraft.

**Minor changes to the checklists include but are not limited to:**

1. All “mixture” commands have been shifted from “lean” to either “idle cut-off,” “lean 1” for taxi,” or similar as necessary, to clarify where the mixture should be set at that specific point in the checklist.
2. “vacuum” has been replaced with “suction gauge” to more clearly direct pilots to the gauge they need to check on ground check.
3. In the Before Starting Engines checklist, “Chocks” and “Brakes” have been flipped to help remind pilots to pull the chocks out before they get in the plane.
4. The “Pax brief” command has been switched to “S.A.F.E.T.Y.” to prompt pilots to perform a “Seat belts, Air vents, Fire extinguisher, Exits, Traffic and Talking, Your questions” formatted safety brief, reducing the likelihood they would forget to brief a passenger on a safety-critical item.
5. “Lights/Pitot Heat” has been changed from “check amps” to just “check.” The ammeters installed in these airplanes barely show any battery discharge rate with lights and pitot heat running, so it is more relevant to check that the lights and pitot heat are working and not burnt out rather than testing the electrical system indicators.
6. “As req’d” has been changed to “As required” in multiple locations due to a number of students asking what “as req’d” means and for ease of readership.
7. Reminders for Ground and Tower frequency have been placed in the Pre-taxi and Before Takeoff checklist to remind pilots when to contact ATC. This should standardize and simplify ATC calling procedures.
8. “MX Log... check” was moved to after turning the battery master on in the C172S because the tach time is required to check maintenance compliance, and that only shows up when there is power to the PFD. “Alt” was also removed from the transponder prompt since the G1000 transponder shows “gnd” when on the ground and automatically switches to “alt” in the air.
9. Other small wording changes have been placed as necessary to facilitate ease of use.
10. Minor formatting changes have taken place for branding purposes, ease of use reasons, and to fit the new information on one page.

**The Normal Operations checklist has some major changes worth noting and describing, including but not limited to:**

1. The command to install the “Control Lock and Pitot” has been removed from the checklist because our standard operating procedures no longer involve installing the control lock and pitot tube cover in between flights.
2. The “While taxiing checklist” has been simplified, shortened, and merged into the “pre-taxi” checklist due to a number of pilots forgetting the while taxiing checklist and to reduce heads-down time while taxiing the airplane.
3. The “Descent” and “Before Landing” checklists have been merged into the new “Descent/Approach” checklist. The goal of this change is to simplify the before landing procedures and make the checklist line up with what an ordinary pilot would do on approach and landing at an airport. The checklist now starts with getting the weather, then contacting ATC or CTAF, then the normal descent and before landing checks which have been simplified to only what is required and recommended for a landing. Items including but not limited to “airspeed 65-75” and “flaps as required” have been removed because they are self-explanatory elements of any normal landing and are primarily done on final approach, a critical phase of flight in which pilots should not be distracted by checklists.
  - a. NOTE: Carb heat has been removed from the PA28-161 Warrior “Descent/Approach” checklist because the manufacturer does not recommend nor require the use of carb heat on landing. As per the POH: “If a prolonged power off descent is to be made, apply full carburetor heat prior to power reduction if icing conditions are suspected,” then later, “Carburetor heat should not be applied unless there is an indication of carburetor icing, since the use of carburetor heat causes a reduction in power which may be critical in case of a go-around. Full throttle operation with carburetor heat on can cause detonation.”
4. The “After landing” checklist has been majorly reordered to follow a left to right flow in the Cessnas: Pitot heat, lights, carb heat, mixture, flaps, and a bottom to top flow in the Warrior. This flow facilitates ease of use and reduces time spent running checklists when blocking an exit from a runway before contacting ground.
5. “Mixture..... Full rich” has been added to the ground check checklist as recommended by the manufacturer.

#### **Emergency checklist major changes:**

1. Removed the “ammeter shows excessive charge” checklist from the emergency checklist. This is a rare occurrence and does not have any immediate action requirements, so pilots have time to pull out the POH/AFM and follow the procedure outlined there.
2. Added “engine fire in flight” checklist to emergency checklist using Engine Fire In Flight procedures from the POH/AFM of the respective aircraft. This is an event that would require immediate action items, so we wanted that procedure readily available.
3. Edited checklists to match with POH/AFM procedures almost perfectly
  - a. NOTE: certain checklists do not line up perfectly with POH/AFM procedures. This was done to simplify and speed up the checklist process. For example, the C172S G1000 “Engine Fire During Start” checklist does not have the “if engine starts” section because a logical pilot would shut down the engine if it started after a fire, and that’s essentially all the checklist says to do.
  - b. Another example of this is omitting “Touchdown - SLIGHTLY TAIL LOW” and “Brakes - APPLY HEAVILY” from the end of the “forced landing” checklist, because

these elements do not apply to every forced landing in every landing field and to avoid saturating the pilot with supplementary information in a critical phase of flight.

- c. Some wording and ordering from the previous checklists was kept, i.e. “If fire persists.... Emergency descent” in the “Engine Fire In Flight” checklist, despite being different from POH/AFM wording.
4. Rearranged the order of items in each aircraft’s “Engine failure in flight” checklist to match the ABCDE model of engine failure memory items: Airspeed, Best place to land, Checklist, Declare, Evacuate. This will help synthesize information learned in training to better transfer learning to the airplane, as well as guiding pilots more smoothly during the emergency.

**The Exterior checklist of the Cessna 152/172/172RG had only minor formatting and wording changes, including but not limited to:**

1. “Main Wheel and Tire condition: check” changed to “Main wheel and tire: check”
2. “...Aileron/Aileron Hinges” changed to “...Aileron & Hinges”
3. “Antennas... visually inspect” changed to “Antennas... inspect”
4. Reformatted and reworded the “required items” section