

DPE Bulletin #19 Checklist Usage

One of the emphasis items on the practical test is the use of an appropriate checklist. The key word here is **emphasis**. As stated in the PTS, this is an item that if not consistently complied with is cause for a disapproval. This seems to be a missed or forgotten task on the practical tests. For so many years it has been thought that a checklist was more of an airline or very complex aircraft requirement. After many years of accidents and investigations by the NTSB it has become an important topic for all of aviation.

What seems to be happening is a compliance with a checklist for BEFORE START, TAXI, RUN-UP, and TAKE OFF. There is still a lack of compliance on the PREFLIGHT portion of the test. Beyond that, the compliance for CLIMB, CRUISE, DESCENT AND BEFORE LANDING checklists is lacking. We as examiners should be very diligent in our assessment as to whether the applicant is in compliance during the test.

There is a misunderstood concept that a GUMPS check is a checklist. This a **flow** of items either done silently or out loud to cover the items on a LANDING checklist. The intent should be for the pilot to back up such memory items with a visual check of the appropriate checklist. This is the intent of the emphasis item in the PTS. You will see below the FAA definition of a checklist.

I have taken some excerpts from the FAA's "HUMAN PERFORMANCE CONSIDERATIONS IN THE USE AND DESIGN OF AIRCRAFT CHECKLISTS".

Checklists have been the foundation of pilot standardization and cockpit safety for years. Such procedures, when applied in a disciplined and standard manner, are intended to support human performance by providing a firm foundation for the task, one which the pilot and crew can depend on during a "low" in performance. The checklist is an aid to the memory and helps to ensure that critical items necessary for the safe operation of aircraft are not overlooked or forgotten.

However, checklists are of no value if the pilot is not committed to its use. Without discipline and dedication to using the checklist at the appropriate times, the odds are on the side of error. Crewmembers who fail to take the checklist seriously become complacent and the only thing they can rely on is memory and the fact that not all errors resulting from poor checklist discipline result in accidents

Pilots who develop strong cockpit discipline, and make a concerted effort to comply with tried and tested operational procedures are seldom surprised by an occurrence that was not anticipated. From a human factors point of view, the checklist is an important interface between the human and the aircraft.

Below are some FAA definitions regarding checklists:

Checklist: A **formal list** used to identify, schedule, compare, or verify a group of elements or actions. A checklist is used as a visual or oral aid that enables the user to enhance short-term human memory.

Immediate Action: An action that must be taken in response to a non-routine event so quickly that reference to a checklist is not practical because of a potential loss of aircraft control, incapacitation of a crewmember, damage to or loss of an aircraft component or system, which would make continued safe flight improbable.

Non normal or Abnormal: Used to describe a procedure or checklist in reference to a non-routine operation in which certain procedures or actions must be taken to maintain an acceptable level of systems integrity or airworthiness.

Normal Checklist: A checklist comprised of all of the phase checklists used sequentially in routine flight operations.

Phase Checklist: A checklist used to establish and/or verify aircraft configuration during a specific phase of flight. An example of a phase checklist is an "after-takeoff checklist."

There are times when the use of a checklist may be a safety issue, such as during an engine failure at a low altitude. This is where the memory items or **immediate actions** would be utilized to be followed up the checklist with time permitting.

Even the simplest aircraft like a Cessna 172 with a fixed gear needs this attention on landing. The items on the checklist relating to **FUEL ON BOTH** could have a detrimental effect if the aircraft was flying in the Left or Right position. **CARB HEAT ON** is another checklist item that is required by the manufacturer.

We have to remember that what we are evaluating in a procedure to be used at all times regardless of the aircraft and phase of flight. At some point a more complex aircraft will be flown by this individual and what we hope has happened is a **change in behavior** that will lend itself to whatever aircraft they are flying. It should be a habit created early on in the training and evaluation of the applicant.

When there is a single pilot operation involved it becomes more important because there is not another pilot to back up what might have been missed. The workload can be reduced greatly by only committing to memory those critical items necessary for the safe operations and rely on the checklist for a back up or additional items to be completed.

The other part of this discussion is to determine what constitutes a proper checklist. In the FAA article I referred to earlier there is a very extensive explanation of what is necessary to create a good checklist. We have all seen various checklists made up by the applicant or ourselves as examples. What needs to be addressed as well is does the checklist comply with the manufacturer's requirements as well as the FAA's recommendations. To put it simply, does the checklist cover all safety of flight items...i.e. **FUEL PUMP ON FOR TAKEOFF, LANDING GEAR DOWN**, etc. I think it would be prudent for us to pay close attention to the checklist being used and offer any corrections or additions during the de-briefings.

By the proper instruction given by the instructors in the use of the checklist and proper task loading of when and where to use them we will be able to evaluate the emphasis item to its proper intent.