TOC Examiner's Guide

V1.3- Alan Blore, MAAC Jet Committee Chairman October 16, 2022

Summary:

The MAAC TOC evaluation is comprised of 3 stages:

A. Discussion on key topics, outlined below.
B. A number of flights demonstrating the pilot's repeated ability to fly in general. The pilot must demonstrate confident and safe control of the aircraft at all times. Basically just fly around as you would on any given day…
C. A single flight to specifically demonstrate the key elements, as detailed below. Extra flights at this stage may be requested by either examiner if deemed necessary.

Notes:

This process is not to be taken lightly. Any pilot that treats this process as trivial may not be awarded a TOC, at the discretion of either examiner and/or the Jet Committee Chairman. This is a very small investment of time and effort that the Committee is requesting from all MAAC jet pilots, for the benefit of MAAC and our privilege to fly long term in the US.

The evaluation process does not begin until the application form is completely filled out and handed to the examiners. Example: "You've seen me fly all day, I should get pass now right?" does not equate to a TOC being granted. The pilot needs to submit the application form up front, then follow stages A, B, and C above.

The qualification flight(s) shall be performed with a turbine powered fixed wing aircraft weighing at least 12 pounds (dry).

As a prerequisite for applying, the pilot must be willing to accept constructive criticism.

Guidelines for TOC Examiners Selection:

Two* 'examiners' are required for each TOC application. The primary examiner shall be certified by the Jet Committee and publicly listed in the Jet Committee section on the MAAC web site. The secondary reference shall be another certified examiner if possible. If needed, a qualified turbine pilot may stand in as the secondary examiner if they have a current MAAC membership and have possessed a TOC (or LoP) for a period no less than 1 year. If possible, the Jet Committee Chairman should be one of the examiners.

(*) A 3rd references may be required from the applicant's Zone Director if necessary, as directed by the Jet Committee Chairman.

There shall not be any outside relationship between the applicant and any examiner that could be deemed a conflict of interest for the purposes of this evaluation. Such relationships include: family, business (including a profit related customer/product rep/supplier relationship or that of an employer/employee), or close personal friendship *(ie: flying buddies…)*. The examiners shall be independent and impartial. The Jet Committee Chairman shall judge the degree of conflict of interest if in question, and reserve the right to select examiners or reference pilots in any TOC application.

Examiner's Role:

The examiners must be completely confident in the applicant's piloting ability, understanding, and willingness to abide by both MAAC and AMA rules prior to recommending him/her for a TOC.

All examiners are responsible for independently reporting an unbiased summary of the results to the Jet Committee Chairman through the use of the TOC application form. All applications are reviewed by the Jet Committee Chairman, who is ultimately responsible for the signoff on MAAC's behalf.

If a qualified MAAC turbine pilot is included in the application as a stand in examiner, as detailed in section 5.1, the primary examiner is responsible for communicating the overall expectations and standards for quality of examination to the reference pilot. This must occur prior to beginning any portion of the official review process.

The applicant should expect one of two responses to an application, those being **"yes"** or **"not yet"**.

If the testing session does not result in a TOC being granted, the examiners shall be prepared to discuss areas where more practice is required. The applicant may request a complete re-test when the additional practice results in improved performance in the noted areas. This may occur no less than 2 weeks after the 1st test, allowing the applicant ample time to address the constructive feedback. No limit shall be placed on the number of tests per applicant.

A. Discussion Stage:

The following questions are to be asked of the applicant:

- Explain the appropriate precautions to be taken on the ground with onlookers, spotters, and other jet pilots relating to:
  (1) Turbine exhaust flow
  (2) Turbine intake suction

(3) Sound generation

- Explain the necessary precautions a pilot must take with respect to fire prevention, and what equipment a pilot should have on hand as a minimum for fire containment as a result of a crash.
- Discuss current FAA/AMA requirements as they apply to RPAS operation in the USA.
- Explain the AMA's rules with respect to turbine modeling as they apply to:
  (1) Aircraft Weight (wet or dry?)
  (2) Speed
  (3) Failsafe delay time limit
- Explain how to configure the failsafe operation in your turbine(s) (applicant should know how to do this on all brands they own)
- Explain how to start your turbine(s) and list precautions to be aware of.
- Explain the reasonable options for shutting down your turbine(s), in regular or emergency situations.
- Explain what should be done if an accident occurs in the US which:
  (1) involves an injury or property damage.
  (2) does not involve an injury or property damage.
- Give a few reasons why a pilot might choose <u>not</u> to fly on any given day, at a jet rally, etc…

B. Flying Demonstration - General:

As stated in the summary, this stage involved the pilot performing a number of flights, demonstrating confident and safe control of the aircraft in any maneuvers they wish. The purpose of this stage is for examiners to casually watch a pilot's flying, note points of concern / recommended improvements, etc according to the pilot's typical flying style.

Again, it's as simple as fuel up, start, fly around, land, shut off safely, and repeat. Quantity of flights in this stage will be at the discretion of the examiner, suggesting 2 as a minimum. This must be successfully completed prior to the key elements demonstration.

C. Flying Demonstration - Key Elements:

The purpose of the key elements stage is to demonstrate that the pilot can safely and confidently control the aircraft outside of the typical "race track" pattern. Demonstrating the pilot's ability to safely control the aircraft in a variety of different orientation is assumed to translate into confidence in recovering from unexpected flight conditions.

Most applicants will not consider this to be much of a challenge; however the transition from prop driven to turbine has proven to hinder basic flying skills in rare cases.

The following steps must be completed in the key elements flight(s):

Takeoff

- To be held ~ +/- 10 ft of centerline (roughly), with smooth, controlled corrections as necessary. The pilot must demonstrate a successful takeoff while standing in a designated pilot station. *(ie: not standing behind the aircraft to perform this test.)* The examiners must be confident that the pilot is capable of performing the takeoff in both directions, only requiring a demonstration in both directions if in doubt. Examiners may request follow up test(s) at a later date or other location if necessary to verify this.

Horizontal figure-8

- Pilot to hold altitude to within ~ +/- 50 feet during the Figure 8. This demonstrates skills at both left and right hand patterns and the ability to control the models flight path.

High speed circuit

- Pilot to demonstrate a full lap at a safe but elevated rate of speed. The speed and / or required throttle setting to be determined by examiners. This is not required to be at full throttle. This demonstrates the pilot's ability to control a model aircraft at speed.

Low speed circuit

- Pilot to demonstrate a full lap in the lower portion of the model's speed envelope. The speed and / or required throttle setting to be determined by examiners. This demonstrates the pilot's ability to control a model aircraft in less stable flight conditions.

Aerobatic maneuvers

- Pilot to perform a minimum of 3 aerobatic maneuvers with combinations of rolling and looping elements. This demonstrates general flying skills and confidence in the pilot's control of the turbine powered model in a variety of flight conditions or orientations.

Missed approach and go-around.

- Pilot to demonstrate a square traffic pattern (in elevated drag state) then execute a recovery from an intentional missed landing approach.

Landing

- Pilot to execute a landing to a complete stop. Again, smooth, controlled corrections to the aircraft's path after touchdown are required. The landing must be completed on the runway and must include the use of brakes. As with takeoff, the examiners must be confident that the pilot is capable of performing the landing in both directions, and may request follow up test(s) if necessary.