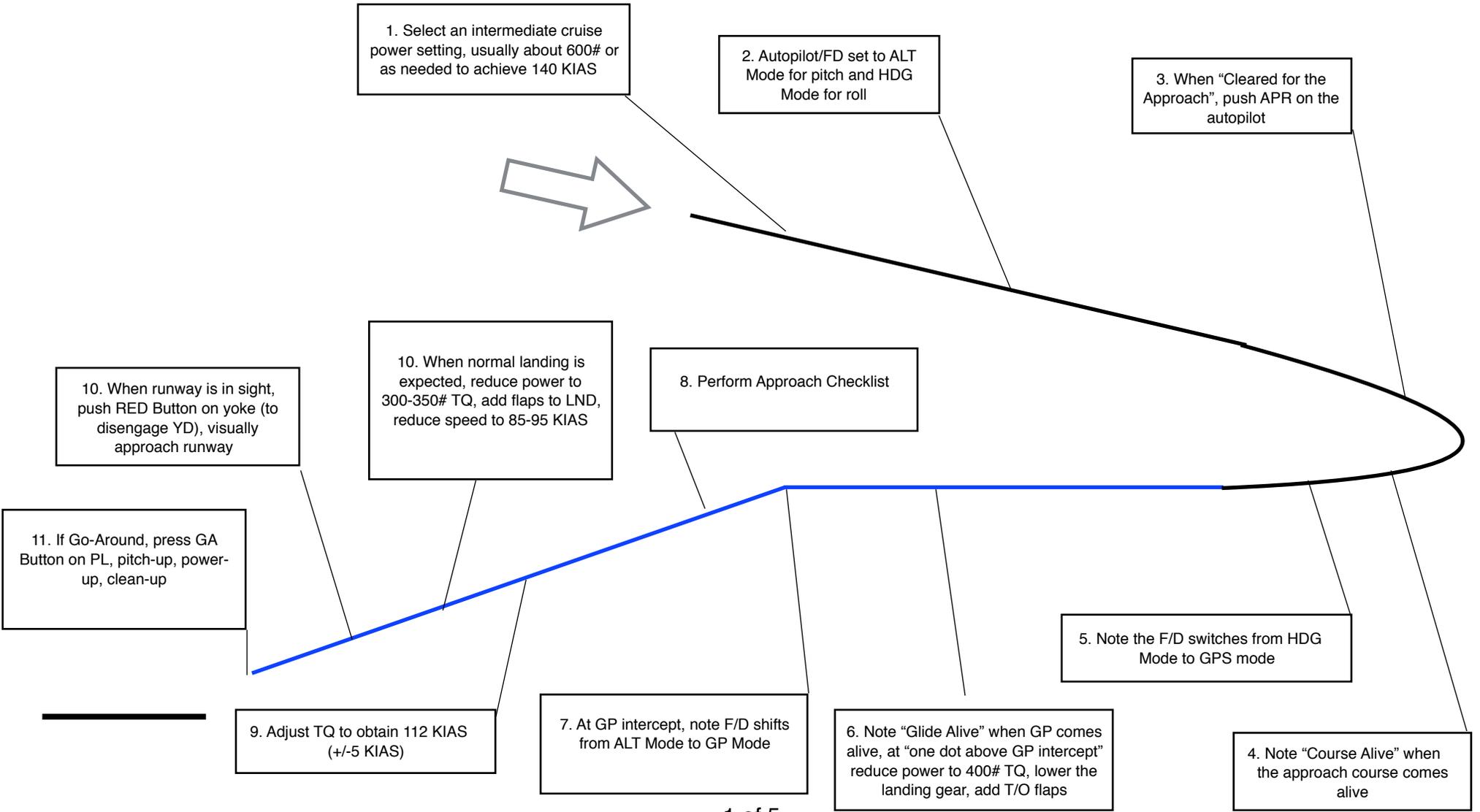




# Operating Practices (OP's) M600 Precision Approach - Radar Vectors



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## Precision Approach - Radar Vectors

*Operating Practices (OP's) are recommended because they have proven to be successful under most circumstances with a normally operating PA46. OP's provide a repeatable flow for a pilot in a critical phase of flight, creating a repeatable "normal observation". Thus, when a deviation from "normal" occurs, it becomes blatantly obvious and the pilot can make corrections. Certain situations could exist that would make it prudent for a pilot to deviate from the OP's detailed below. Some of those circumstances are: icing conditions present or icing on the airframe, strong crosswinds, turbulence, excessively short or excessively long runways, a glide slope that is significantly different than 3 degrees, strong headwinds on approach, and an emergency/abnormal situation. Good pilot decision-making is required in any flight regime to ensure the safety of the flight. In all scenarios, adherence to the FAR's (Federal Aviation Regulations) is mandatory and information in the POH (Pilot Operating handbook) supersedes any practices illustrated below.*

1. **Select Cruise Power to achieve 140 KIAS, usually 600# TQ:** Selection of cruise speed should be determined by pilot experience, the "flow of traffic" (possibly faster at airports with jet traffic, for example), level of turbulence (always below  $V_a$  in turbulent air), and other pilot-desired factors.
2. **HDG and ALT Mode:** For radar vectors, the autopilot should always be set to HDG Mode for roll axis and ALT Mode for the pitch axis.

*Warning: If icing conditions exist, or if icing is present on the airplane, additional speed must be utilized on the approach. Care must be taken to ensure the airplane does not decelerate below 130 KIAS (Flaps UP) or 110 KIAS (Flaps T/O) on the approach until landing is assured. Under no circumstances should full deflection of flaps (Flaps LND) be applied with icing present on the airframe. See the POH for greater icing situation/discussion.*

For the remainder of the approach procedures, each step has a "cue" and an "action". The cue is the event that prompts the action of the pilot. The pilot should have each "cue" and "action" memorized so the approach is flown in a sequential fashion.

3. **"Cleared for the approach":** Always a good habit to follow, the Approach Button should always be armed on the autopilot when "cleared for the approach" by ATC.

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Cue = ATC advising "cleared for the approach" in the approach clearance  
Action = Activate the APCH Mode

4.) **Course Alive:** Notice that the course bar (either localizer or approach course) begins to move from edge of display towards the center.

Cue = Course bar begins to move  
Action = Verbalize "Course Alive"

5.) **Roll Mode Change:** Note the roll mode on the autopilot changes to the mode associated with the approach being flown (ILS, GPS, etc)

Cue = HDG light goes out on autopilot display, appropriate mode light remain steadily illuminated  
Action = Note the change

6.) **Glide Alive:** Note that that glide slope begins to move...not that it is centered, but that it begins to move from the top of the scale. When the glide slope lowers to "one dot above glide slope intercept", reduce power to 400 lbs of TQ, lower the landing gear, and add flaps to T/O.

Cue = Glide slope indicator begins to move  
Action = Note "glide alive"

Cue = Glide slope at "one dot above glide slope intercept"  
Action = Reduce power to 400 # TQ, lower the landing gear, add flaps to T/O. For good operational practices, the hand should not be removed from the gear handle until the following are observed or completed:

- a.) Three green landing gear lights are observed
- b.) Brake pressure is tested (if one or both toe brakes are "soft" or inoperative, DO NOT attempt landing on a short field)
- c.) Move the balls of the feet to the bottom pad of the rudder pedal (thereby precluding braking during touchdown)

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After the gear is extended, the flaps should be moved to T/O position (and verified by the flap gauge)

7.) **Glide Slope Centers:** When the glide slope centers, note the pitch mode changes from ALT to GP Mode. Noting the change in pitch mode is important because sometimes the autopilot doesn't behave perfectly. If the change from ALT to GP doesn't happen properly (and the airplane does not descend on the glide slope), the airplane could slow excessively and approach a stall if drag factors are added.

8.) **Perform Approach Checklist:** There are several items that must be accomplished on the Approach Checklist. These items should be validated with the Approach Checklist.

9.) **112 KIAS:** The target airspeed for the glide slope portion of the approach is 112 KIAS. This POH recommends the M600 be flown on approach between 110 KIAS to 120 KIAS, but the Vfe for LND Flaps is 112 KIAS. At this speed the airplane has sufficient energy for a safe go-around and is also easily configured for final approach and landing.

10.) **Runway in sight:** When the runway become visible and a safe landing can be safely attempted, add flaps LND. Power should be adjusted to achieve 85-95 KIAS (usually about 300-350# of TQ), which is a good airspeed to approach the runway. The flaps should not be moved to LND until:

- a.) The runway is in sight
- b.) A safe landing can be reasonably expected
- c.) The approach is stable

LND Flaps makes a go-around or a balked landing more difficult to perform due to the increased drag. If strong crosswinds are present, or the pilot prefers to approach the runway with lesser flaps (for example, when the runway environment is not seen due to weather conditions until 200' above TDZE), a landing with flaps at T/O can be performed. However, the M600 will have a longer landing distance with T/O Flaps, and sufficient runway length must be considered.

The RED button (autopilot disengage button) on the yoke should be pressed before landing to ensure that the yaw damper is OFF before touchdown. Landing should never be attempted with the yaw damper ON, and pushing the red button on the yoke is the best way to ensure it is OFF. There are other ways to turn OFF the yaw damper, but these methods require the pilot to remove a hand from a primary flight control in a critical phase of flight.

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11.) **Go Around:** If the runway is not in sight, a stable approach is not present, or a safe landing cannot be made successfully, a go-around must be performed. A go-around always includes these actions:

- a.) Pitch up (to 7.5 degrees nose up)
- b.) Power up: Power Lever to takeoff power
- c.) Clean up: Gear and flaps should be retracted

Pressing the TO/GA Button on the PL will change the pitch mode of the autopilot to GA Mode (which is 7.5 degrees nose up) and move the roll mode of the autopilot to GA Mode (which is "wings level"). The autopilot will NOT disengage when the TO/GA Button is pushed.

Consideration should then be given to selecting appropriate pitch and roll flight director modes for the assigned missed approach procedure.