

TransNorthern Aviation
Metro III Maneuvers



Principal Base of Operations:

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TABLE OF CONTENTS

Table of Contents 1
Revisions/Log of Revisions 2
List of Effective Pages 3

Use of the Flight Maneuvers 4
V-Speeds 4

Powerplant Failure - Below V₁ 5
Powerplant Failure - After V₁ 6

Normal Takeoff and Departure - Flaps 1/4 7
Short Field Takeoff and Departure - Flaps 1/4 8
Takeoff Configuration Stall 9
Landing Configuration Stall 10
Clean Configuration Stall - Autopilot On 11

Visual Approach - Normal / Single Engine 12
Visual Approach with Flap Malfunction (No Flaps) 13
ILS / LPV / VNAV Approach - Normal and Single Engine 14
Missed Approach - From Precision Approach 15
Circling Approach 16
Non-Precision Approach - Normal and Single Engine 17
Missed Approach – One Engine Inoperative 18
Emergency Descent 19
Steep Turns 20

EFFECTIVE PAGES

This list shows the current revision and effective date of each page.

<u>PAGE</u>	<u>REVISION</u>	<u>DATE</u>
1	Original	01-01-21
2	Original	01-01-21
3	Original	01-01-21
4	Original	01-01-21
5	Original	01-01-21
6	Original	01-01-21
7	Original	01-01-21
8	Original	01-01-21
9	Original	01-01-21
10	Original	01-01-21
11	Original	01-01-21
12	Original	01-01-21
13	Original	01-01-21
14	Original	01-01-21
15	Original	01-01-21
16	Original	01-01-21
17	Original	01-01-21
18	Original	01-01-21
19	Original	01-01-21
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Effective date 12/7/2023
James Howery, POI

**JAMES M
HOWERY** Digitally signed by
JAMES M HOWERY
Date: 2023.12.07
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USE OF THE MANEUVERS GUIDE

The flight maneuvers contained herein are designed to support the flight training curriculum segment. The procedures established for each maneuver are designed to standardize company flight training.

All crewmembers are expected to demonstrate knowledge and proficiency in each maneuver (both ground & flight) listed in the flight training curriculum segment in accordance with the standards set forth in the applicable airman certification standards guide. While TransNorthern LLC recognizes standards for operating the aircraft, we also recognize our diverse operating environment may require the pilot to use judgement in determining the proper operational criteria for a given situation.

Instructors and check airman will carry a current copy of the ATP (FAA-S-ACS-11), Commercial Pilot (FAA-S-ACS-7A), or Instrument Rating (FAA-S-ACS-8B) Airman Certification Standards as applicable, when conducting training & testing.

These flight training maneuvers do not replace the aircraft performance and operating limitations published in the Metro III AFM. Listed Speeds may be confirmed by consulting the Metro III AFM.

Each flight training session is to be preceded and followed by an instructor briefing and debriefing. All inflight maneuvers should be completed above 3,000' AGL and the pilot and instructor will maintain external vigilance and perform clearing turns prior to initiating the maneuver. Instructors will emphasize use of appropriate checklists and single or multi-crewmember resource management.

METRO III OPERATIONAL SPEEDS (KIAS)

V _X	98	Two Engine Best Angle of Climb Speed
V _{YSE}	134	Single Engine Best Rate of Climb Speed (Blue Line)
V _Y	147	Two Engine Best Rate of Climb Speed
	150	Cruise Climb Speed
	140	Recommended Approach Speed (see notes)
	20	Demonstrated Crosswind

METRO III LIMITATION SPEEDS (KIAS)

V _{MC}	87	Minimum Single Engine Control Speed (Red Line)
V _{FE}	214	Flaps 1/4
	179	Flaps 1/2
	159	Flaps Full
V _{LO}	176	Landing Gear - Maximum Operating Speed
V _{LE}	173	Landing Gear - Maximum Extended Speed
V _A	176	Maneuvering Speed
V _{MO}	246	Max Operating Speed (SL to 17,800 FT)

Notes:

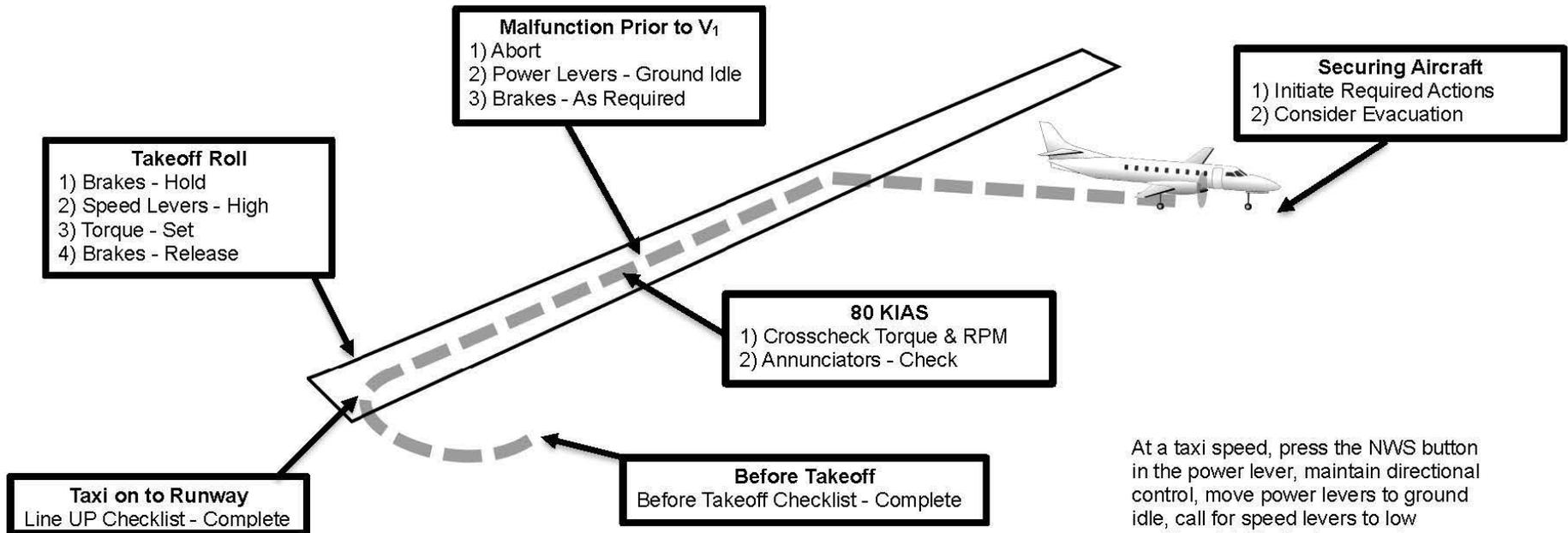
Company policy is to fly all approaches at 140 KIAS (ILS, Non-Precision, Circling, Single Engine, No Flaps etc.) reducing to V_{REF} + 10 when landing is assured and crossing threshold at V_{REF}.

Appropriate Callouts by FP (Flying Pilot) and NFP (Non-Flying Pilot) are discussed during two pilot CRM (Crew Resource Management) and are not listed in these maneuvers.

Powerplant Failure - Before V₁

Conditions: Paved, Level, Dry Surface

Apply max brakes, reduce power levers to ground idle. Use rudder pedal pressure to maintain directional control. Use reverse if available, and directional control will not be compromised.

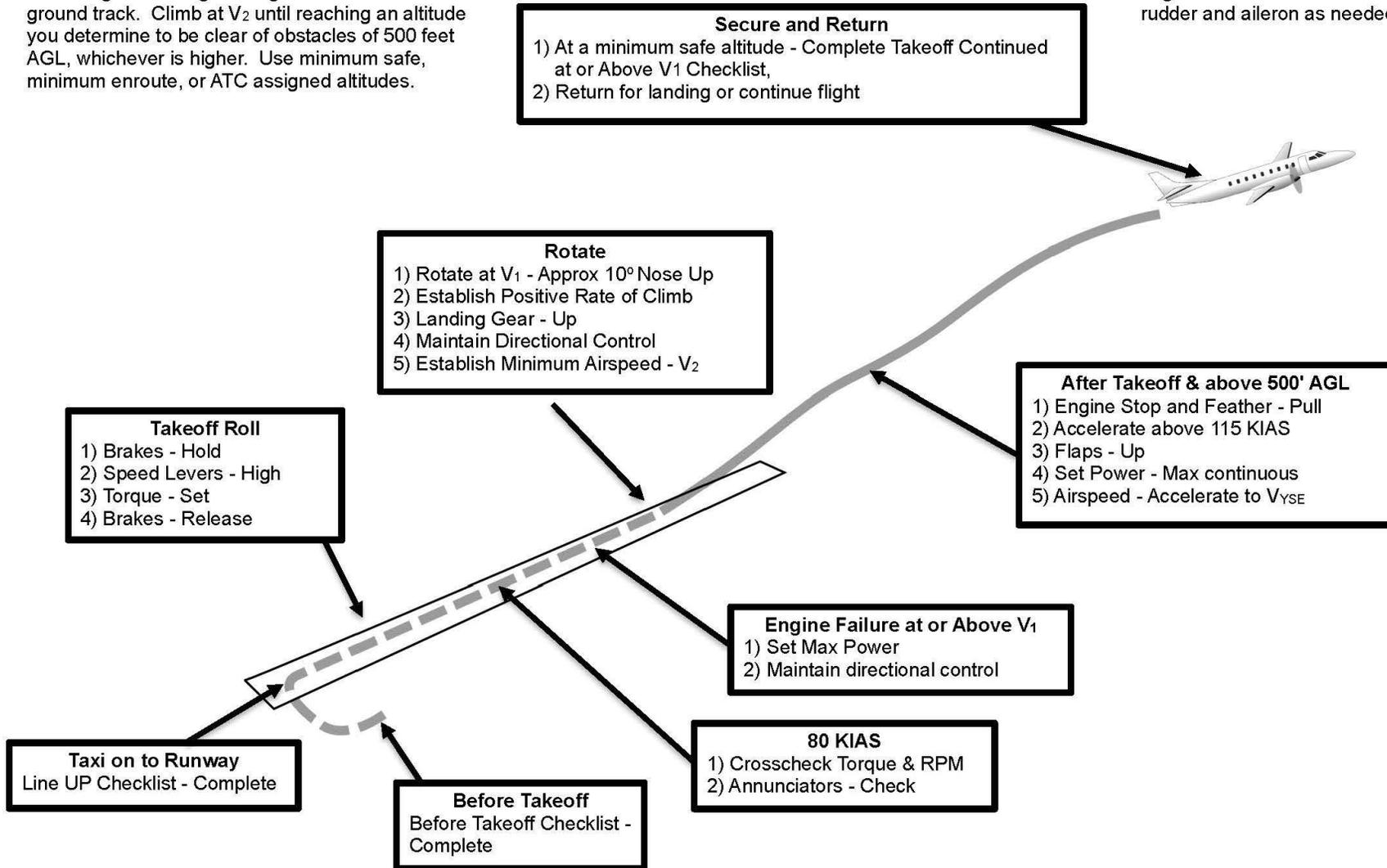


At a taxi speed, press the NWS button in the power lever, maintain directional control, move power levers to ground idle, call for speed levers to low position. Notify the tower and accomplish any other memory items as needed.

Powerplant Failure - After V₁
Conditions: Paved, Level, Dry Surface

Maintain directional control with rudder, rotate at V_R, and raise the gear with a positive rate of climb. Use the aileron to obtain a 5° bank, the ball half-way out of the cage into the good engine to maintain the ground track. Climb at V₂ until reaching an altitude you determine to be clear of obstacles of 500 feet AGL, whichever is higher. Use minimum safe, minimum enroute, or ATC assigned altitudes.

At 500 feet AGL or clear of obstacles, perform the memory items. Accelerate to V₂+5 and retract the flaps, then accelerate to V_{YSE} and perform the engine failure takeoff continued checklist. Retrim rudder and aileron as needed as speed increases.



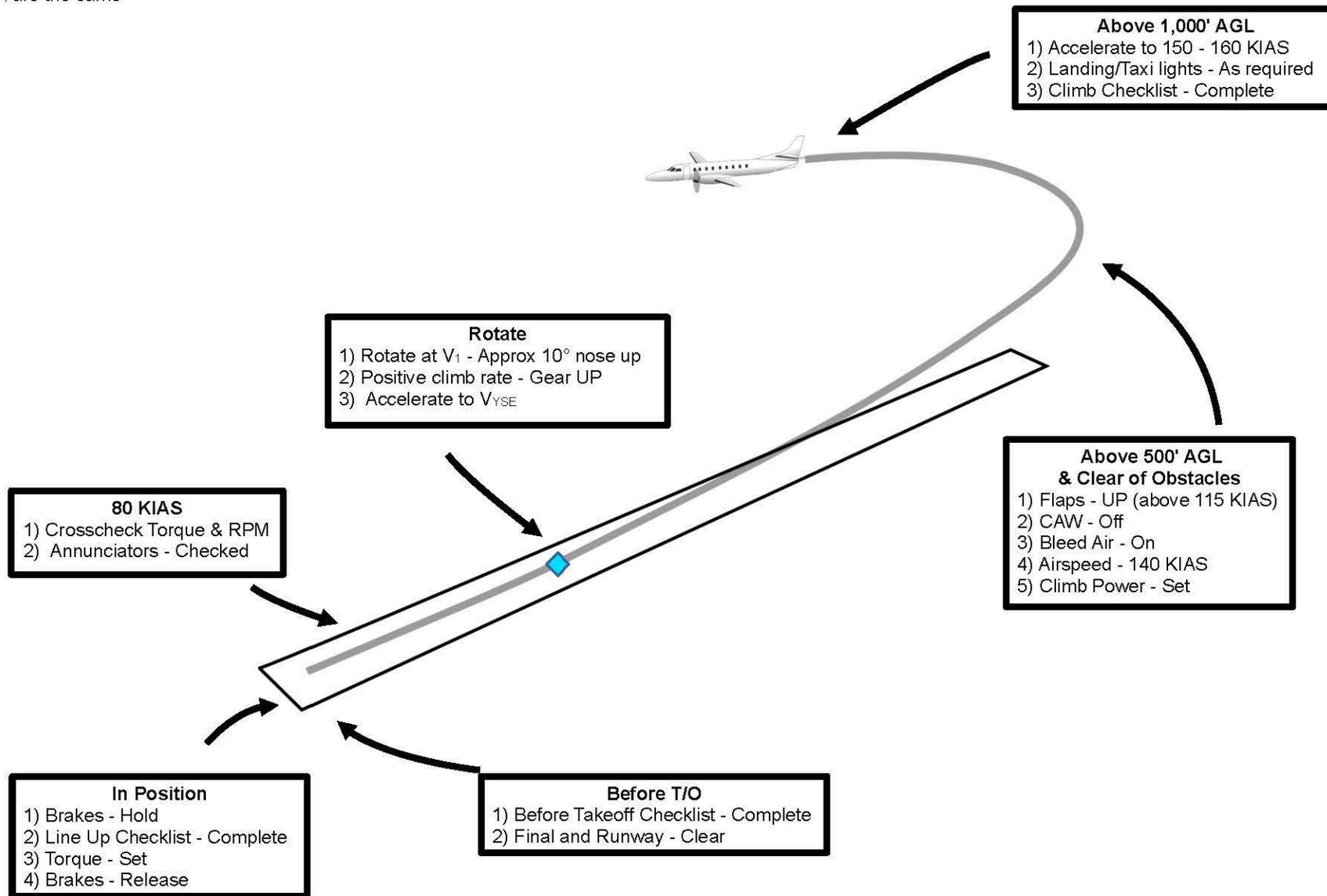
Notes:

V_{REF} speeds are determined during W&B computation.

V_R and V₁ are the same

Normal Takeoff and Departure – Flaps 1/4

Conditions: Paved, Level, Dry Surface



Notes:

Determine Short Field V_R and V_{50} speeds from AFM page 6-3.

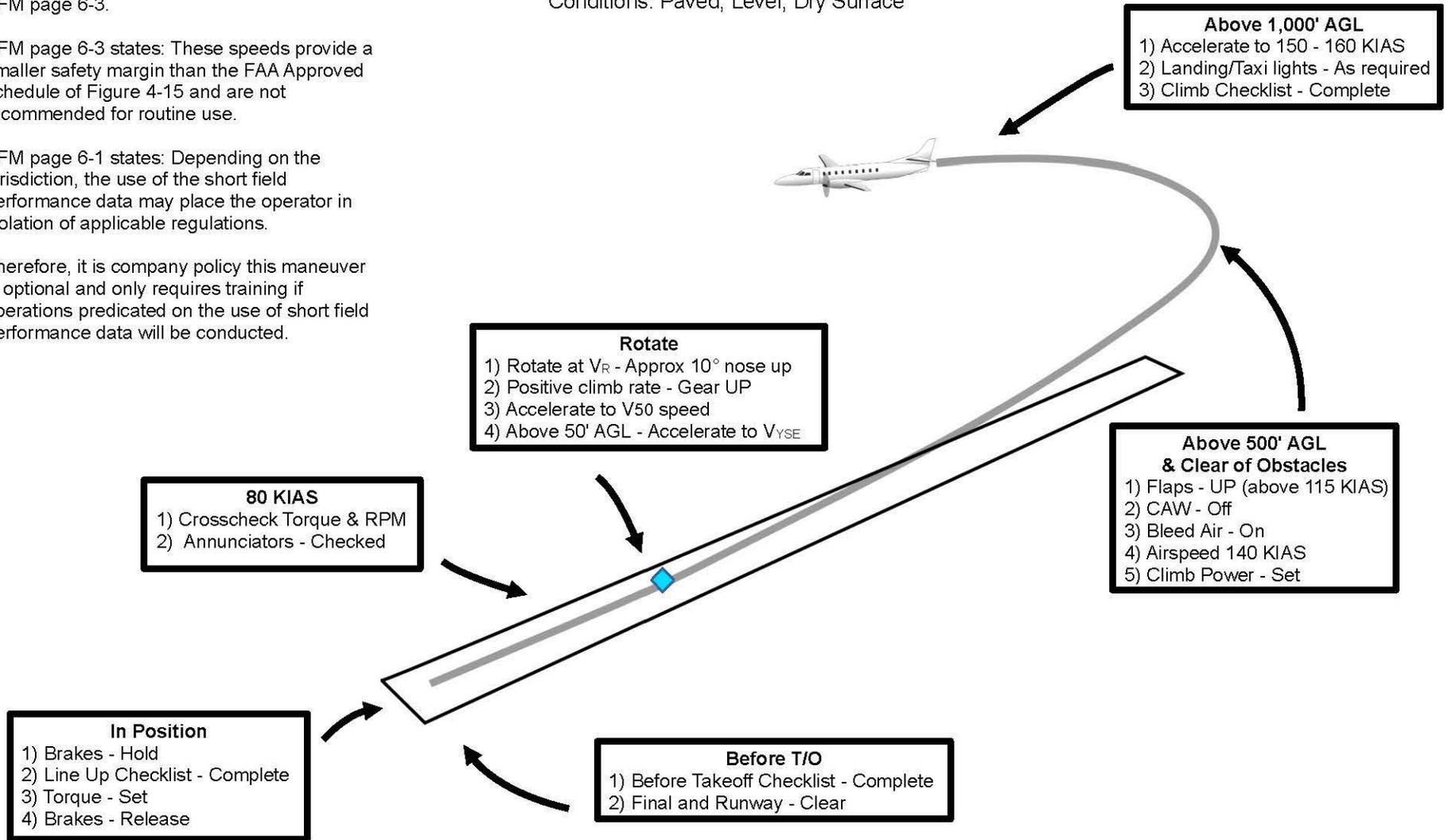
AFM page 6-3 states: These speeds provide a smaller safety margin than the FAA Approved schedule of Figure 4-15 and are not recommended for routine use.

AFM page 6-1 states: Depending on the jurisdiction, the use of the short field performance data may place the operator in violation of applicable regulations.

Therefore, it is company policy this maneuver is optional and only requires training if operations predicated on the use of short field performance data will be conducted.

Short Field Takeoff and Departure – Flaps 1/4

Conditions: Paved, Level, Dry Surface



Takeoff Configuration Stall

Notes: Complete maneuver above 3000' AGL

- At Stall Indication**
- 1) Pitch - Reduce to eliminate stall Indication and simultaneously level Wings (trim as required)
 - 2) Power - Set Maximum
 - 3) Airspeed - Increasing
 - 4) Flaps - Up (above 115 KIAS)



- 1) Speed Levers - High
- 2) Prop Sync - Takeoff & Landing
- 3) A/P - Off
- 4) Gear - Down
- 5) Flaps - Set 1/4 (below 214 KIAS)
- 6) Power Levers - 20% Torque
- 7) Speed - slow to 120 KIAS

- 1) Roll into a 20° bank
- 2) Increase pitch to 15°
- 3) Power Levers - 40% Torque

- 1) Return to desired speed and altitude
- 2) Power - As required

Landing Configuration Stall

Note: Complete maneuver above 3000' AGL

- At Stall Indication**
- 1) Pitch - Reduce to eliminate stall indication and simultaneously level wings (trim as required)
 - 2) Power - Set Maximum
 - 3) Flaps - Retract to 1/2
 - 4) Positive Climb Rate - Gear UP
 - 5) 115 KIAS - Flaps UP

Caution:
To prevent secondary stall use care when retracting flaps to 1/2



- 1) Speed Levers - High
- 2) Prop Sync - Takeoff & Landing
- 3) A/P - Off
- 4) Gear - Down (below 176 KIAS)
- 5) Flaps - Set Full (below 169 KIAS)
- 6) Power Levers - 20% Torque
- 7) Maintain HDG and Altitude

- 1) Return to desired speed and altitude
- 2) Power - As required

Clean Configuration Stall – Autopilot On

Notes:

Complete maneuver above 3000' AGL

Aircraft will not stall with autopilot engaged but will descend at speed above stall when autopilot pitch servo reaches travel limit. Disengage autopilot and initiate recovery at first indication of altitude loss.

- At Stall Indication (See Notes)**
- 1) Autopilot - Disengage
 - 2) Pitch - Reduce to eliminate stall Indication and simultaneously level Wings (trim as required)
 - 3) Power - Set Maximum
 - 4) Airspeed - Increasing



- 1) Speed Levers - High
- 2) Prop Sync - Takeoff & Landing
- 3) A/P - ON (HDG and Altitude Hold)
- 4) Power Levers - 10% Torque
- 5) Power Levers - Flight Idle
- 6) Gear Horn - Silence

- 1) Recover to desired speed and altitude
- 2) Power - As required

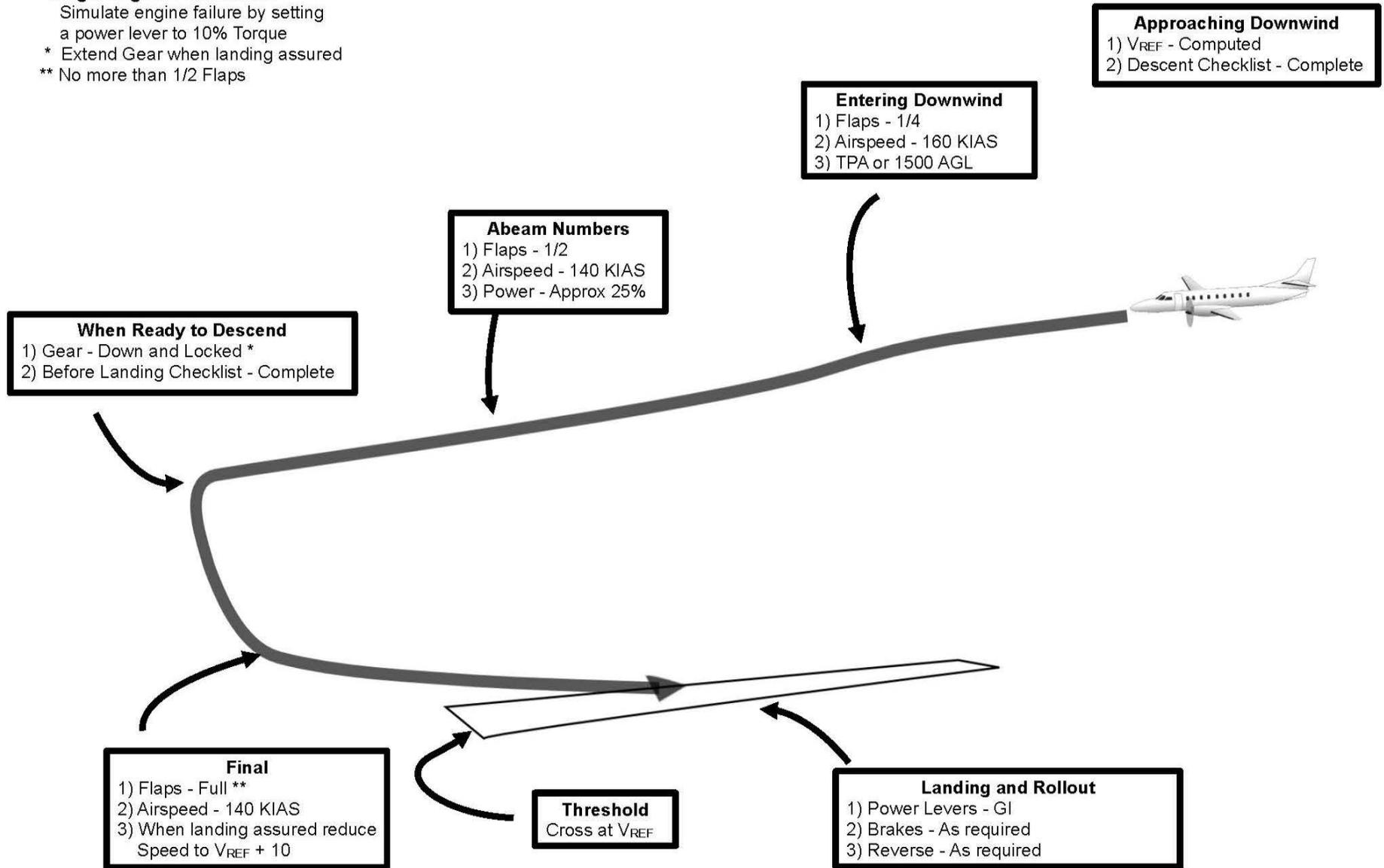
Visual Approach - Normal/Single Engine

Single Engine Procedures:

Simulate engine failure by setting a power lever to 10% Torque

* Extend Gear when landing assured

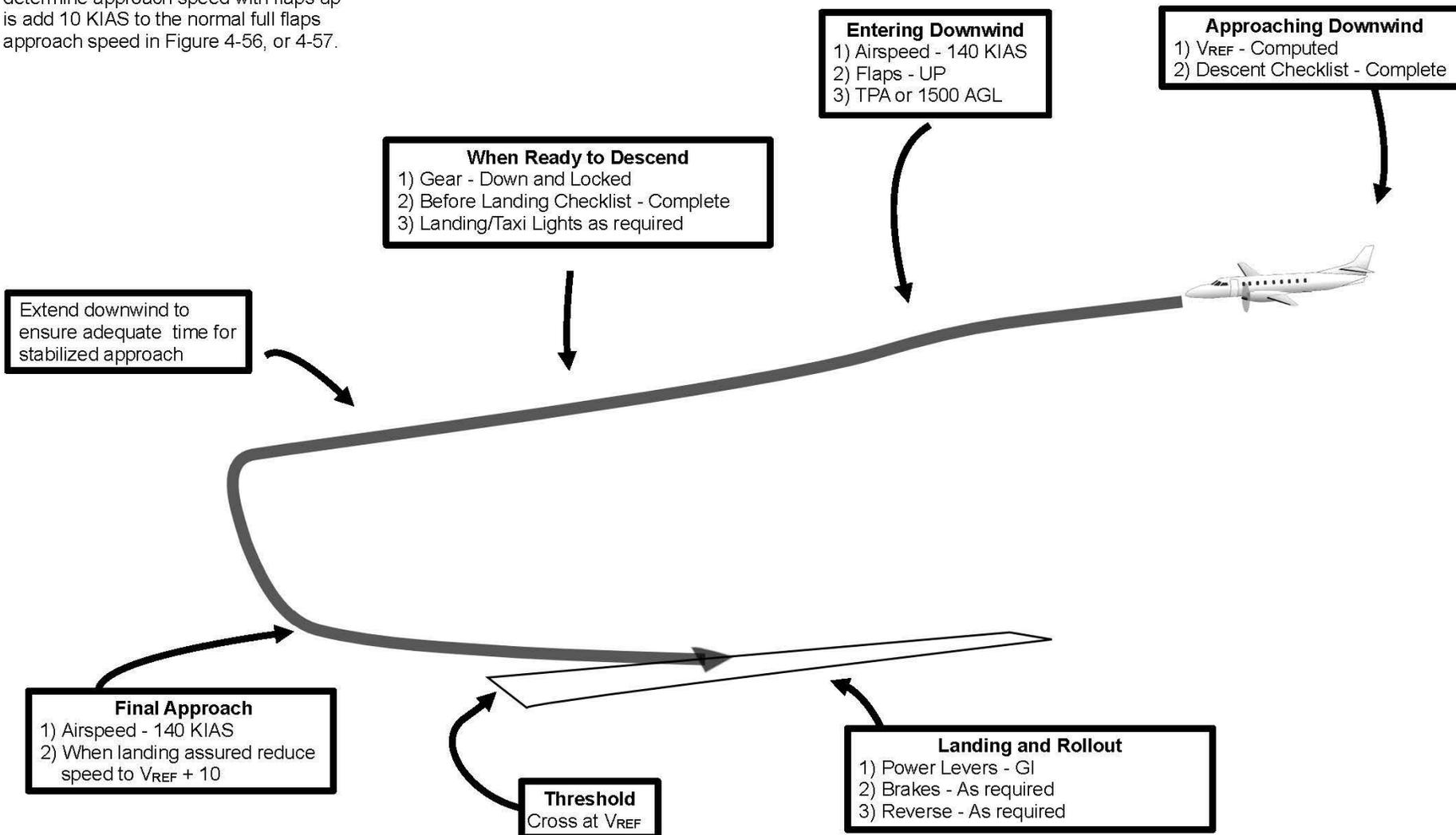
** No more than 1/2 Flaps



Visual Approach – Flap Malfunction (No Flaps)

Note:

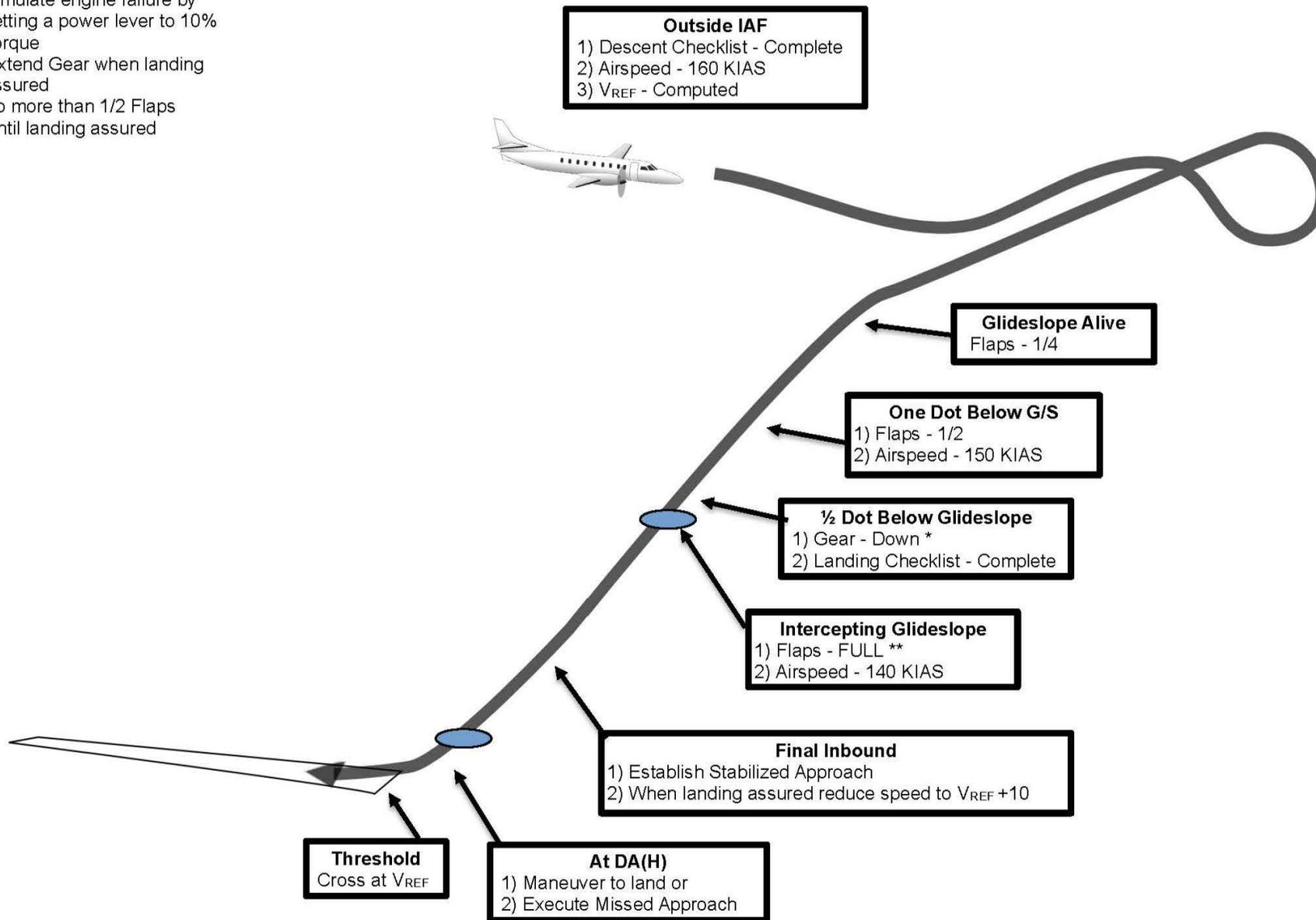
Approach speeds with partial or no flaps are located on AFM page 3-18. An acceptable, alternate procedure to determine approach speed with flaps up is add 10 KIAS to the normal full flaps approach speed in Figure 4-56, or 4-57.



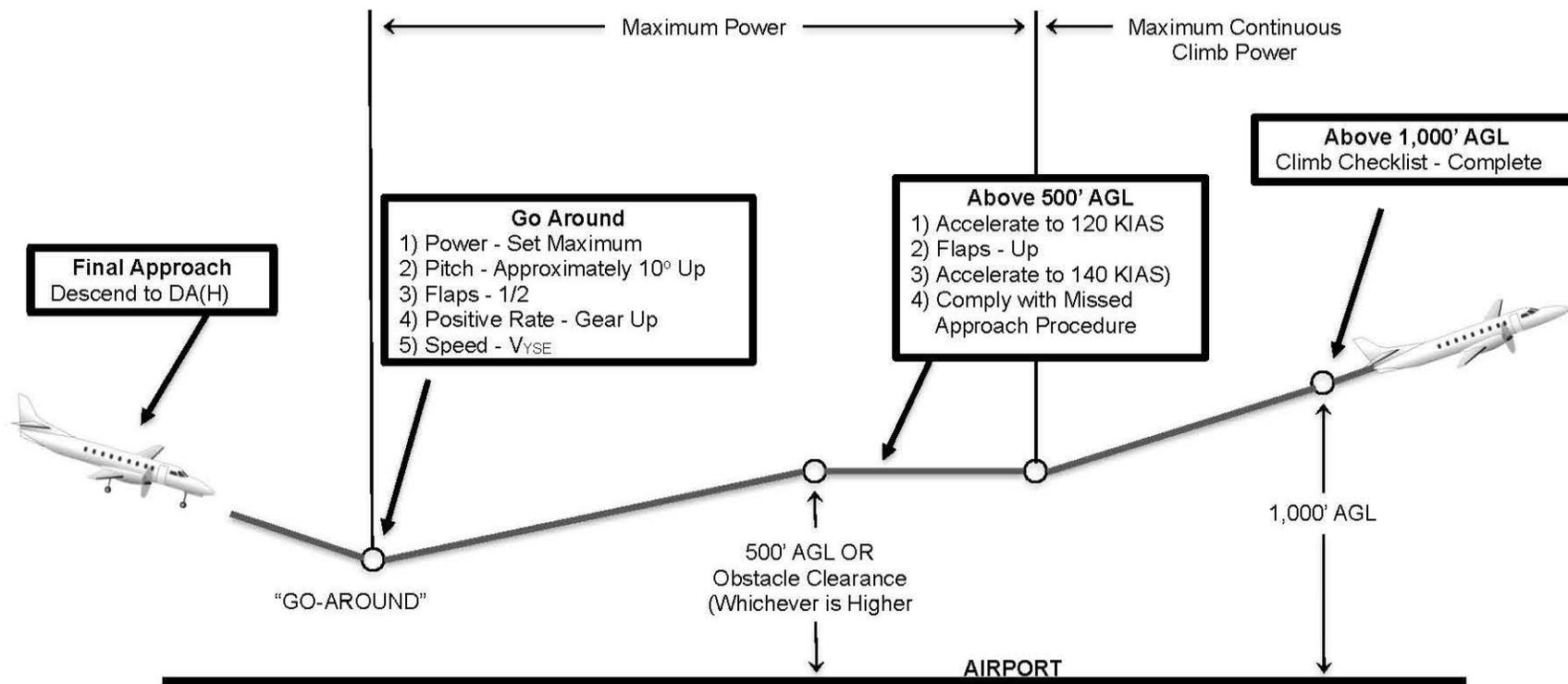
ILS / LPV / VNAV Approach - Normal and Single Engine

Single Engine Procedures:

- Simulate engine failure by setting a power lever to 10% Torque
- * Extend Gear when landing assured
- ** No more than 1/2 Flaps Until landing assured

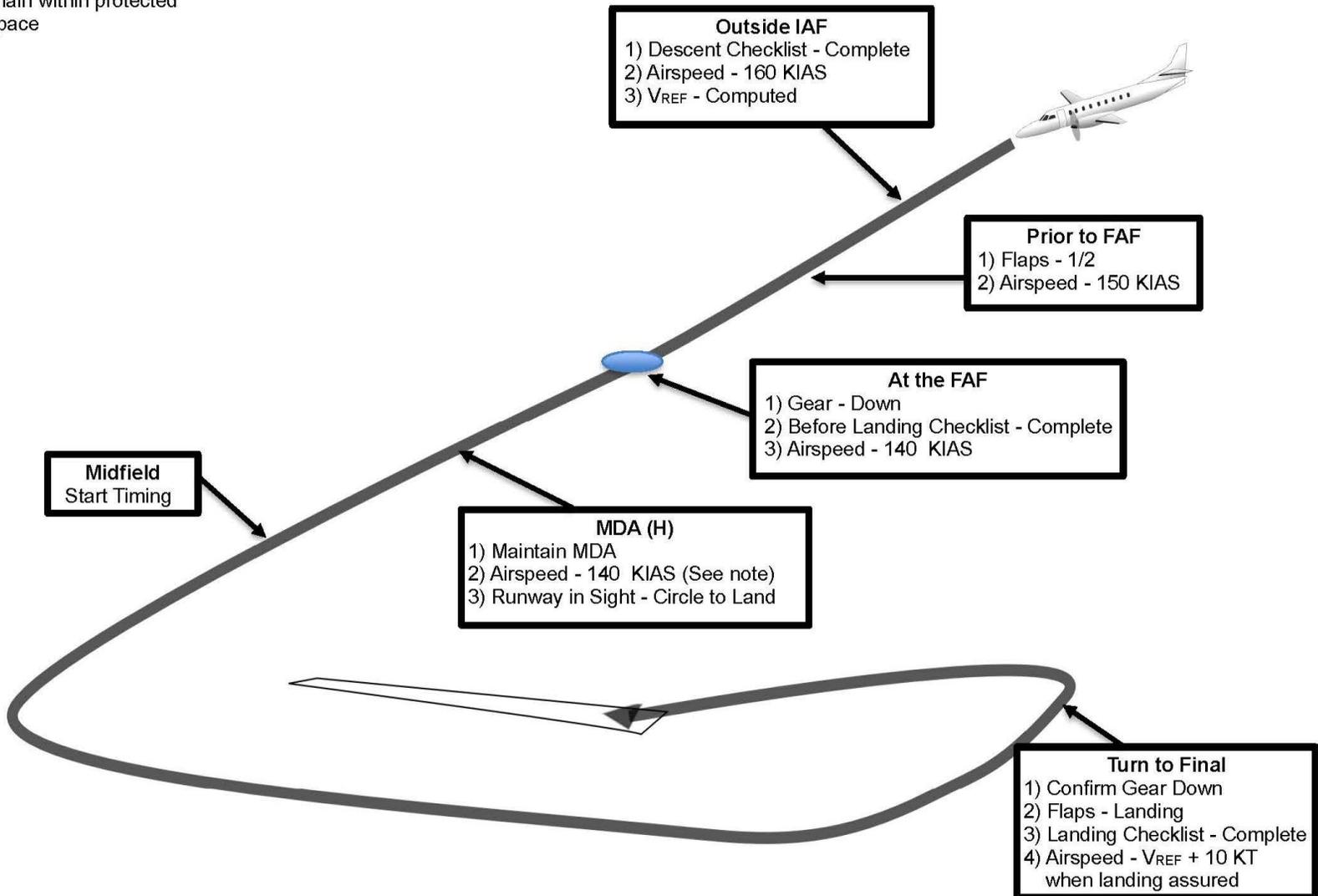


Missed Approach – From Precision Approach



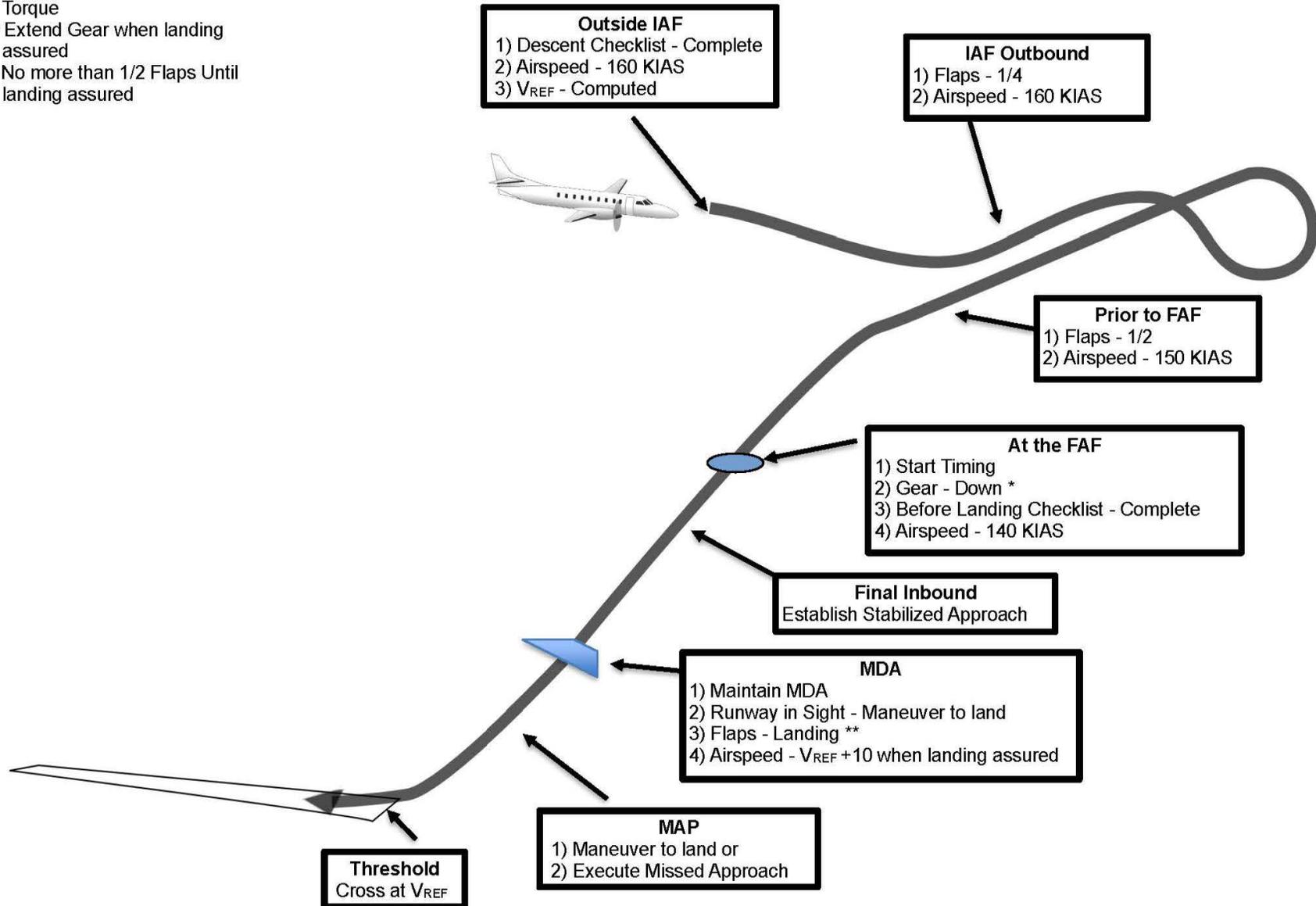
Circling Approach

Note: Maneuvering Speeds
Category C 121-140 KTS
Category D 141-165 KTS
Remain within protected
airspace

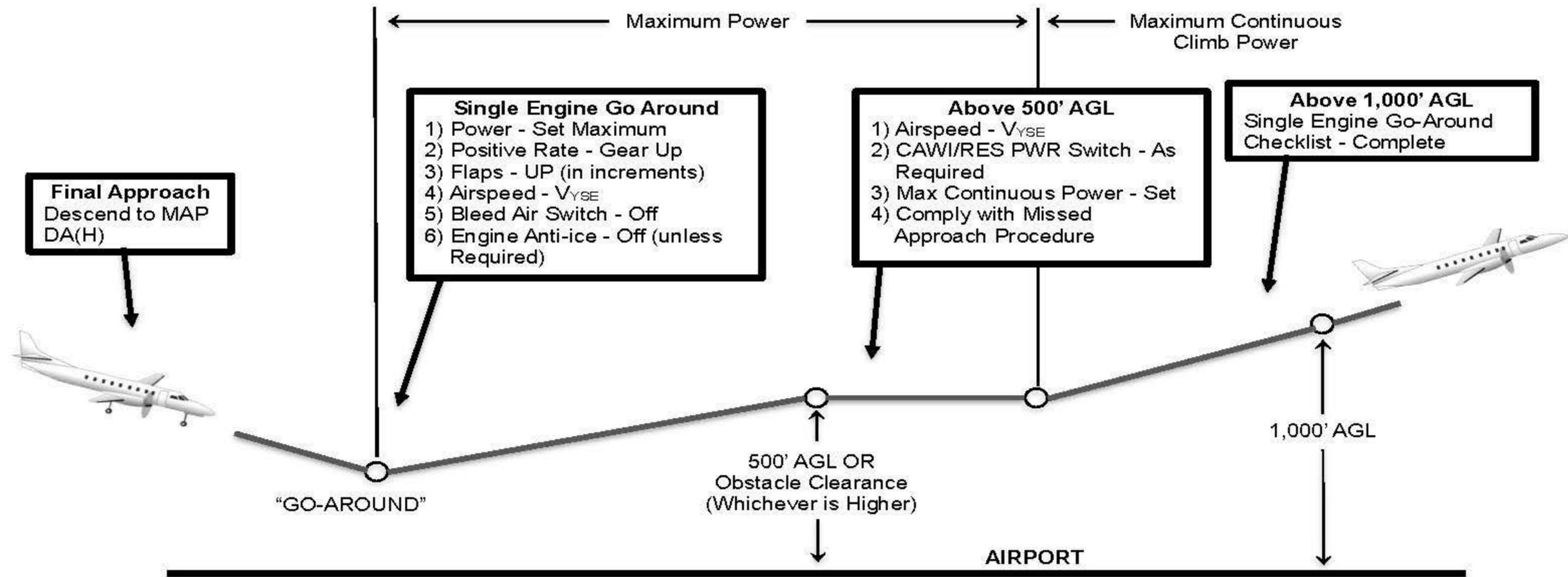


Non-Precision Approach - Normal and Single Engine

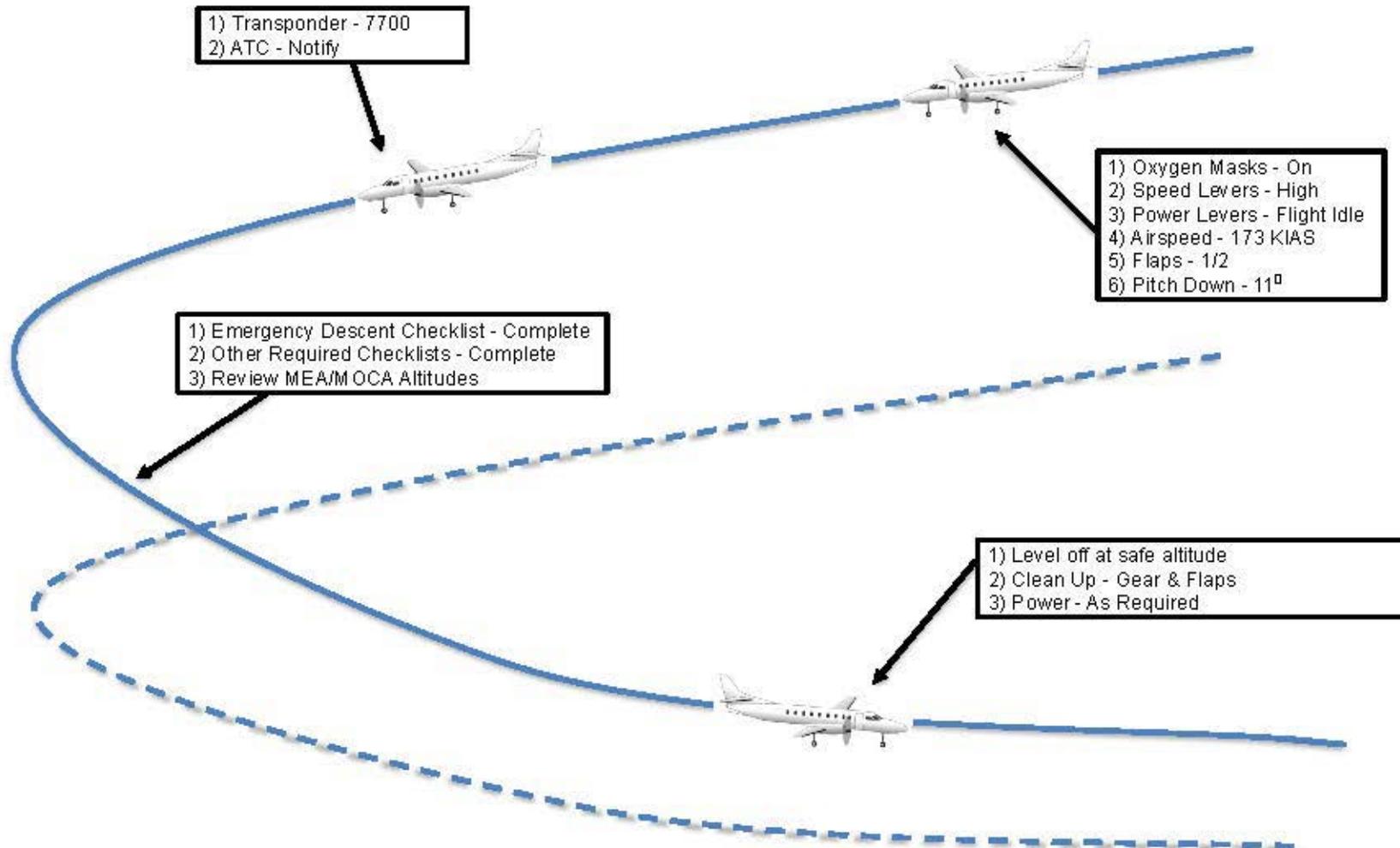
Single Engine Procedures:
Simulate engine failure by setting a power lever to 10% Torque
* Extend Gear when landing assured
** No more than 1/2 Flaps Until landing assured



Missed Approach – One Engine Inoperative



Emergency Descent



Steep Turn

