DA-42NG
Standard Operarting Procedures

Rev [2.0]

CONTENTS

A-Z

DEFINITIONS

Flags: Any annunciator lights, sign of a malfunction, concern, red X's, instrument Loss of Integrity, mechanical problems etc...

Gust factor: The value in "kt" added to your approach speed in ordert to account for the gusts.

Profile: SOPs are also known as "profiles". Judging if you are on "profile" is judging the relative position of the airplane in relation to our SOPs.

RTB: Retun To Base.

TDP: Touch Down Point.

Vref: Reference speed chosen for the approach and landing, given current conditions.

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Part I: General

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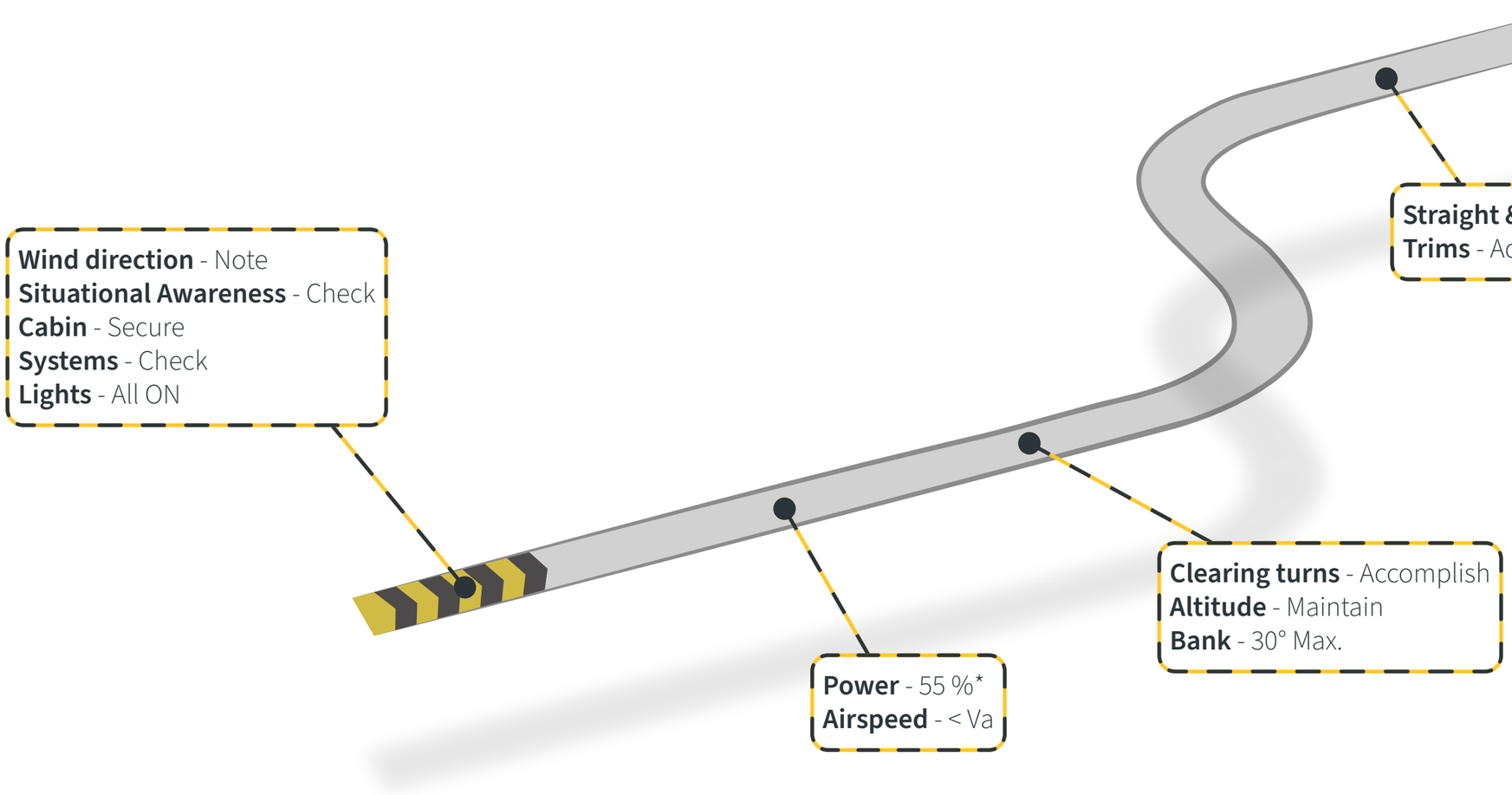
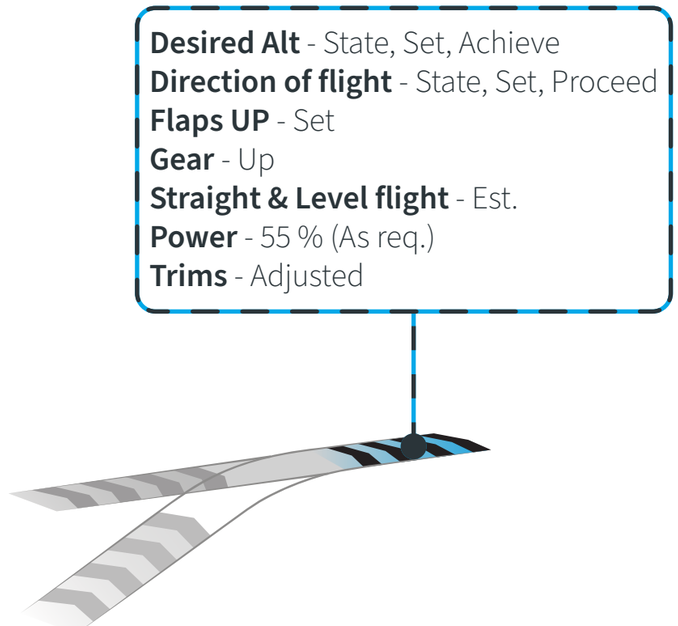
PRE MANEUVER / CLEARING TURN

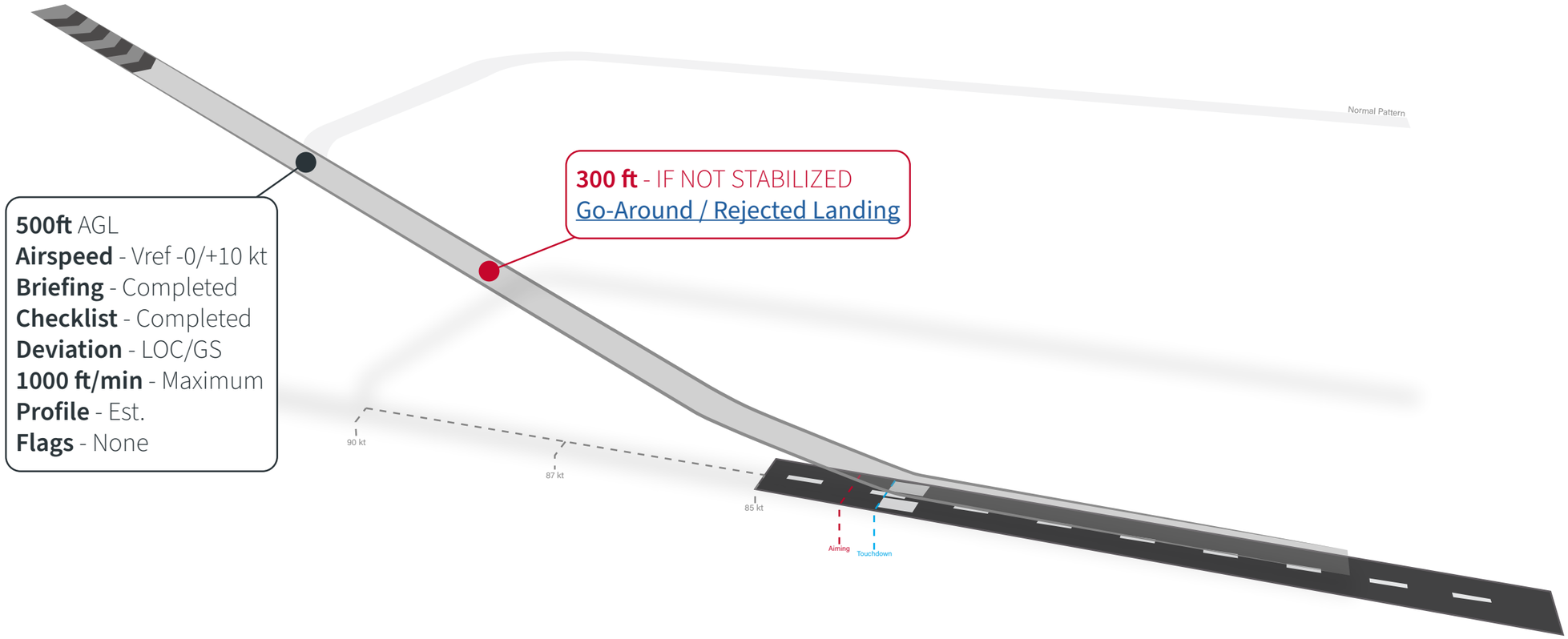


**Or as required for next maneuver*

POST MANEUVER



STABILIZED APPROACH



MANUFACTURER SPEEDS

	FLAPS	up to 1900 kg (4189 lb)	above 1900 kg (4189 lb)
Airspeed for rotation (take-off run, v_R)	UP	min. 80 KIAS	min. 80 KIAS
	APP	min. 76 KIAS	min. 76 KIAS
Airspeed for take-off climb (best rate-of-climb speed v_Y)	UP	min. 90 KIAS	min. 92 KIAS
Airspeed for take-off climb (best angle-of-climb speed v_x)	APP	min. 82 KIAS	min. 82 KIAS
Airspeed for best rate-of-climb (v_Y)	UP	90 KIAS	92 KIAS
	APP	85 KIAS	85 KIAS
Airspeed for cruise climb	UP	min. 90 KIAS	min. 92 KIAS
Reference landing approach speed	UP	86 KIAS	92 KIAS
	APP	min. 84 KIAS	min. 88 KIAS
Final approach speed	LDG	min. 84 KIAS	min. 86 KIAS
Minimum speed during go around	UP	min. 90 KIAS	min. 92 KIAS
Max. structural cruising speed Do not exceed this speed except in smooth air, and then only with caution.	UP	151 KIAS	151 KIAS

** For reference only*

	Airspeed		KIAS	Remarks
v_O	Operating maneuvering speed	above 1800 kg (3968 lb)	122 KIAS	Do not make full or abrupt control surface movement above this speed.
		above 1700 kg (3748 lb) to 1800 kg (3968 lb)	119 KIAS	
		up to 1700 kg (3748 lb)	112 KIAS	
v_{FE}	Max. flaps extended speed	LDG	113 KIAS	Do not exceed these speeds with the given flap setting.
		APP	133 KIAS	
v_{LO}	Max. landing gear operating speed	Extension v_{LOE}	188 KIAS	Do not operate the landing gear above this speed.
		Retraction v_{LOR}	152 KIAS	
v_{LE}	Max. landing gear extended speed		188 KIAS	Do not exceed this speed with the landing gear extended.
v_{MCA}	Minimum control speed airborne	UP	76 KIAS	With one engine inoperative, keep airspeed above this limit.
		APP	73 KIAS	
v_{NO}	Max. structural cruising speed		151 KIAS	Do not exceed this speed except in smooth air, and then only with caution.
v_{NE}	Never exceed speed in smooth air		188 KIAS	Do not exceed this speed in any operation.

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Part II: Takeoffs & Landings

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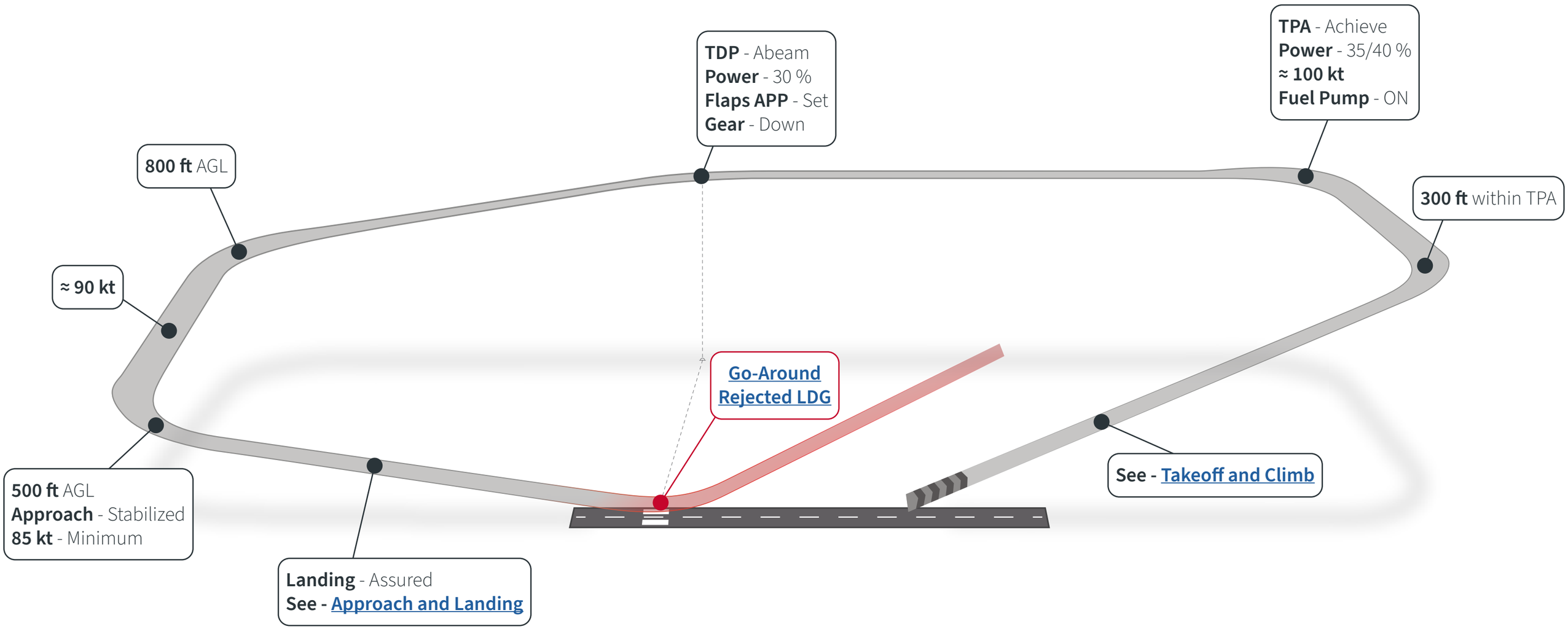
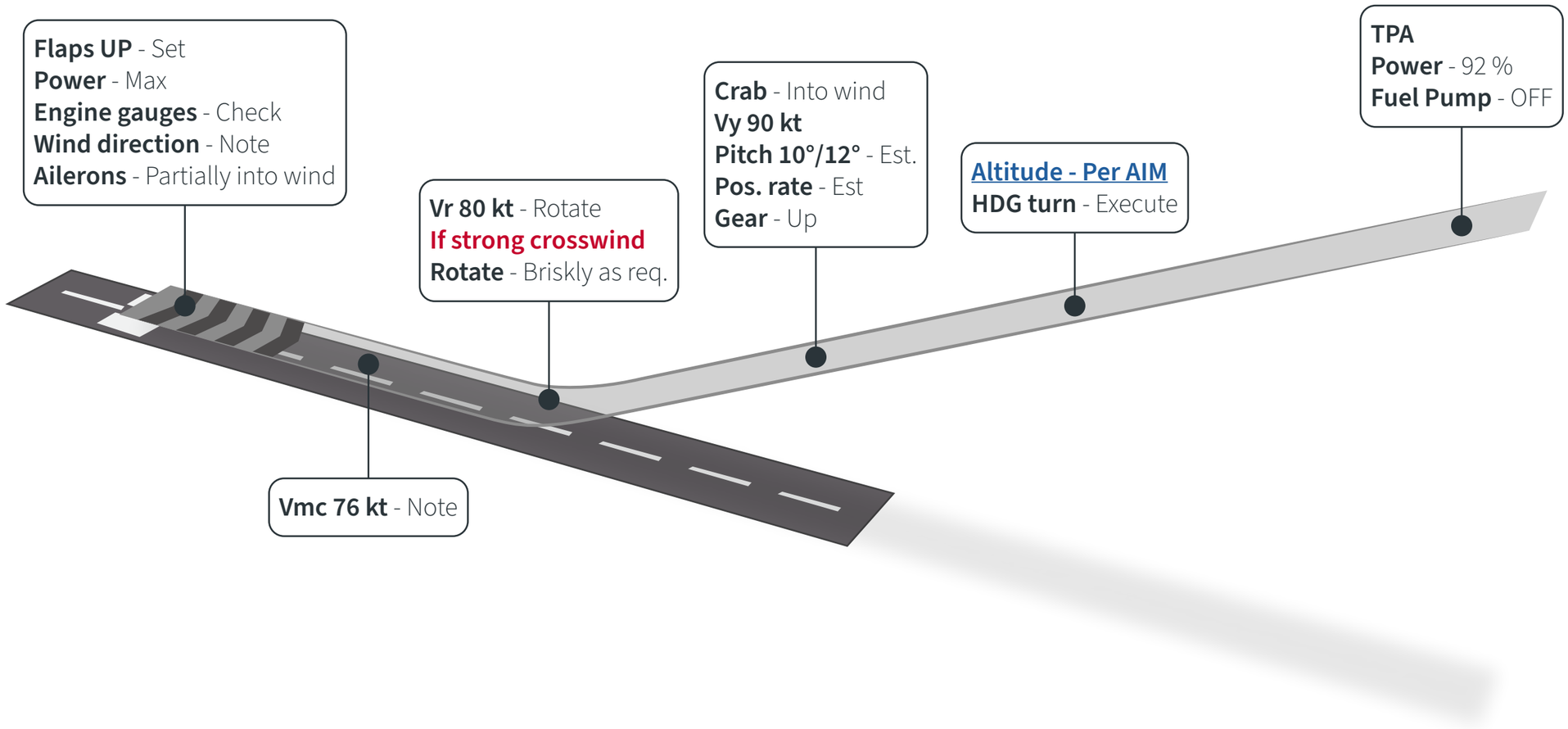
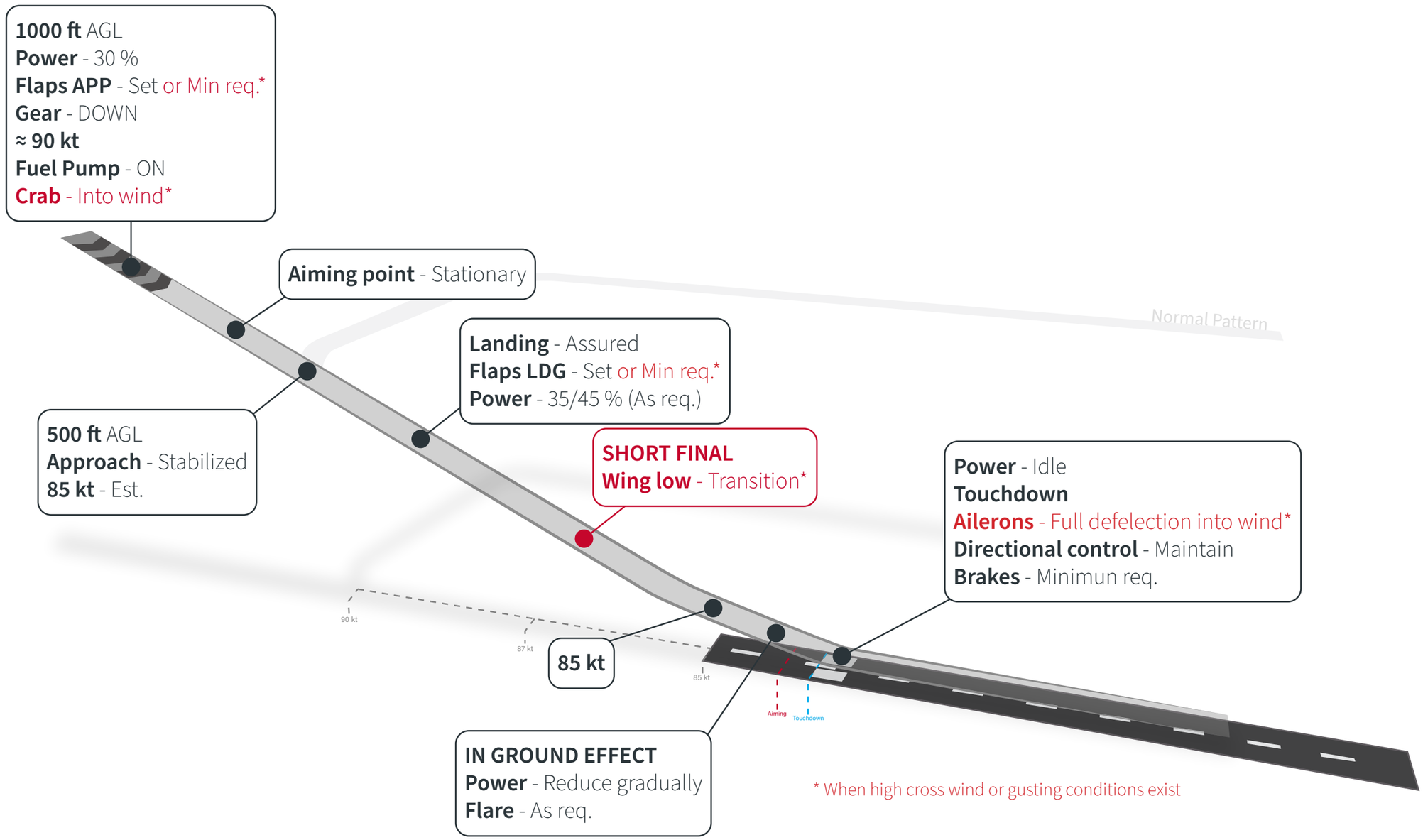
NORMAL PATTERN / GO AROUND



TAKEOFF AND CLIMB

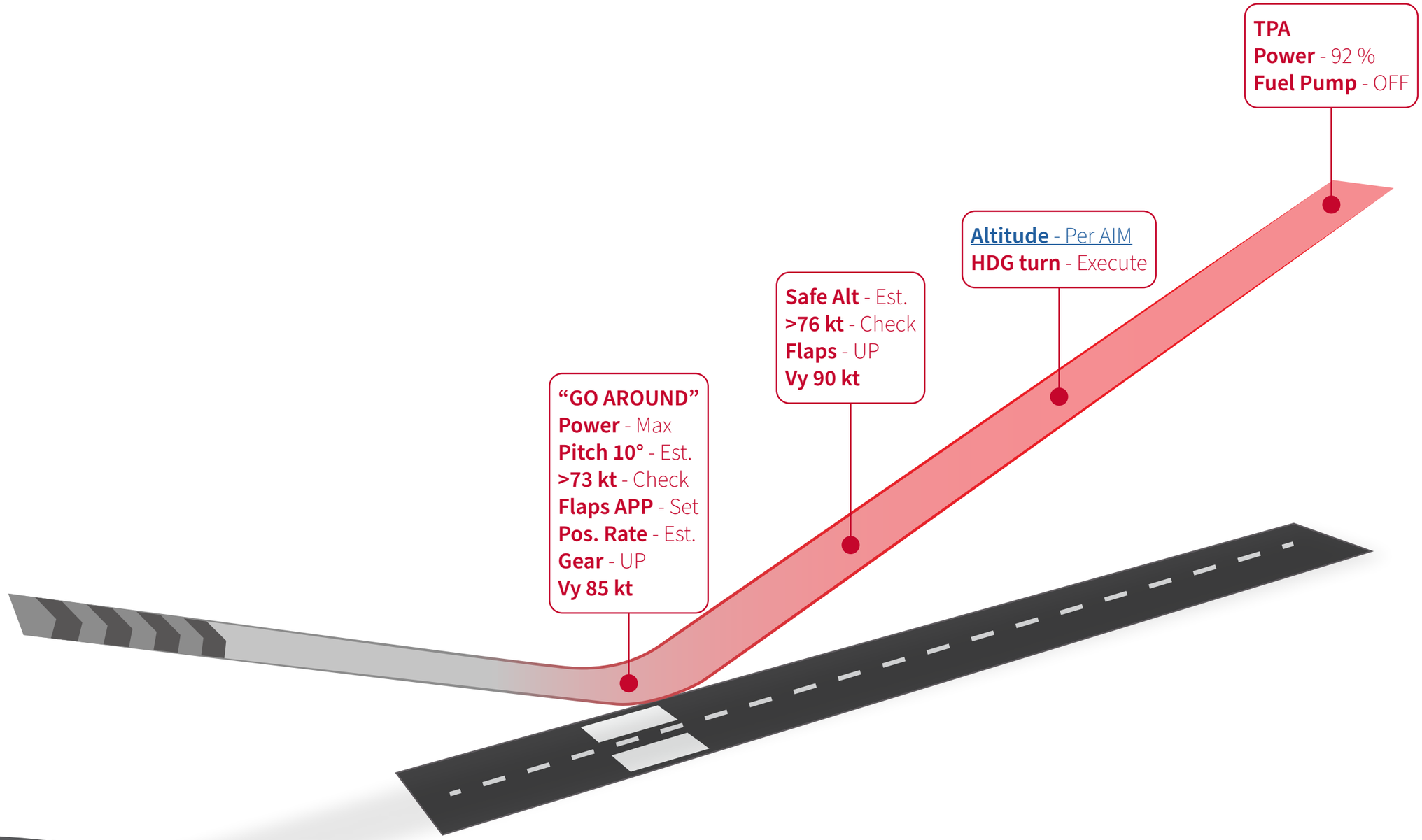


APPROACH AND LANDING

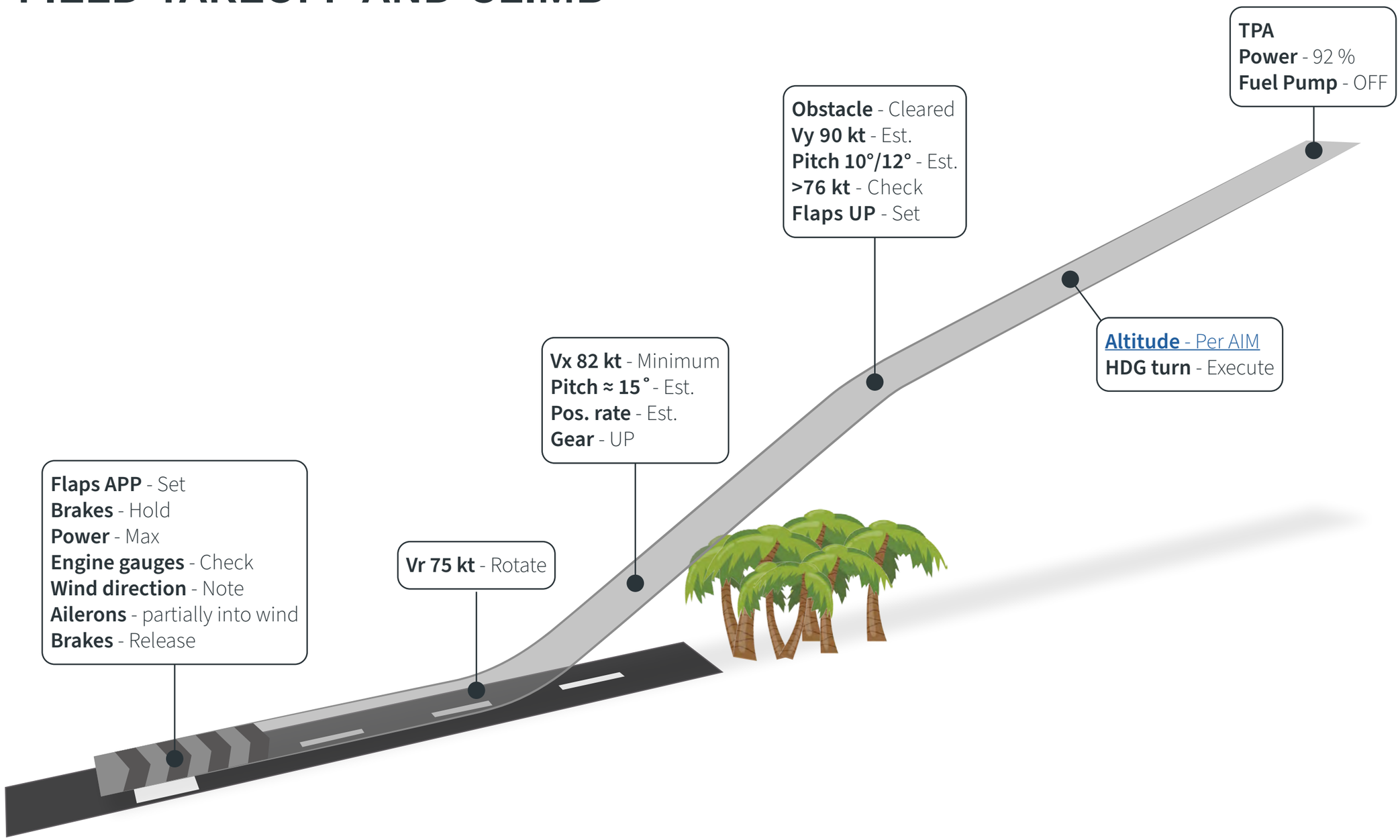


* When high cross wind or gusting conditions exist

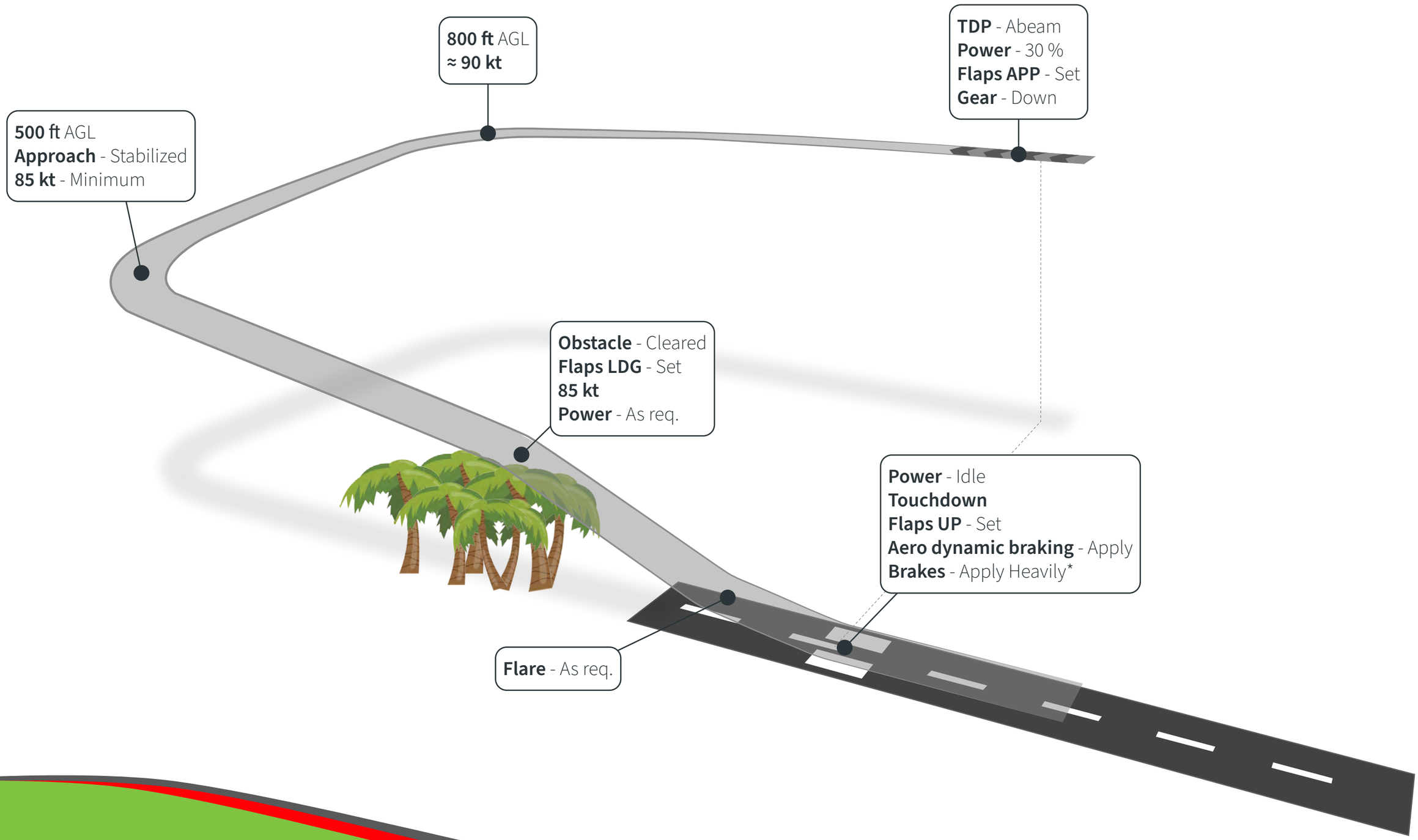
GO AROUND / REJECTED LANDING



SHORT FIELD TAKEOFF AND CLIMB



SHORT FIELD APPROACH AND LANDING



* Simulated only for flight training purposes

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Part III: Air Work

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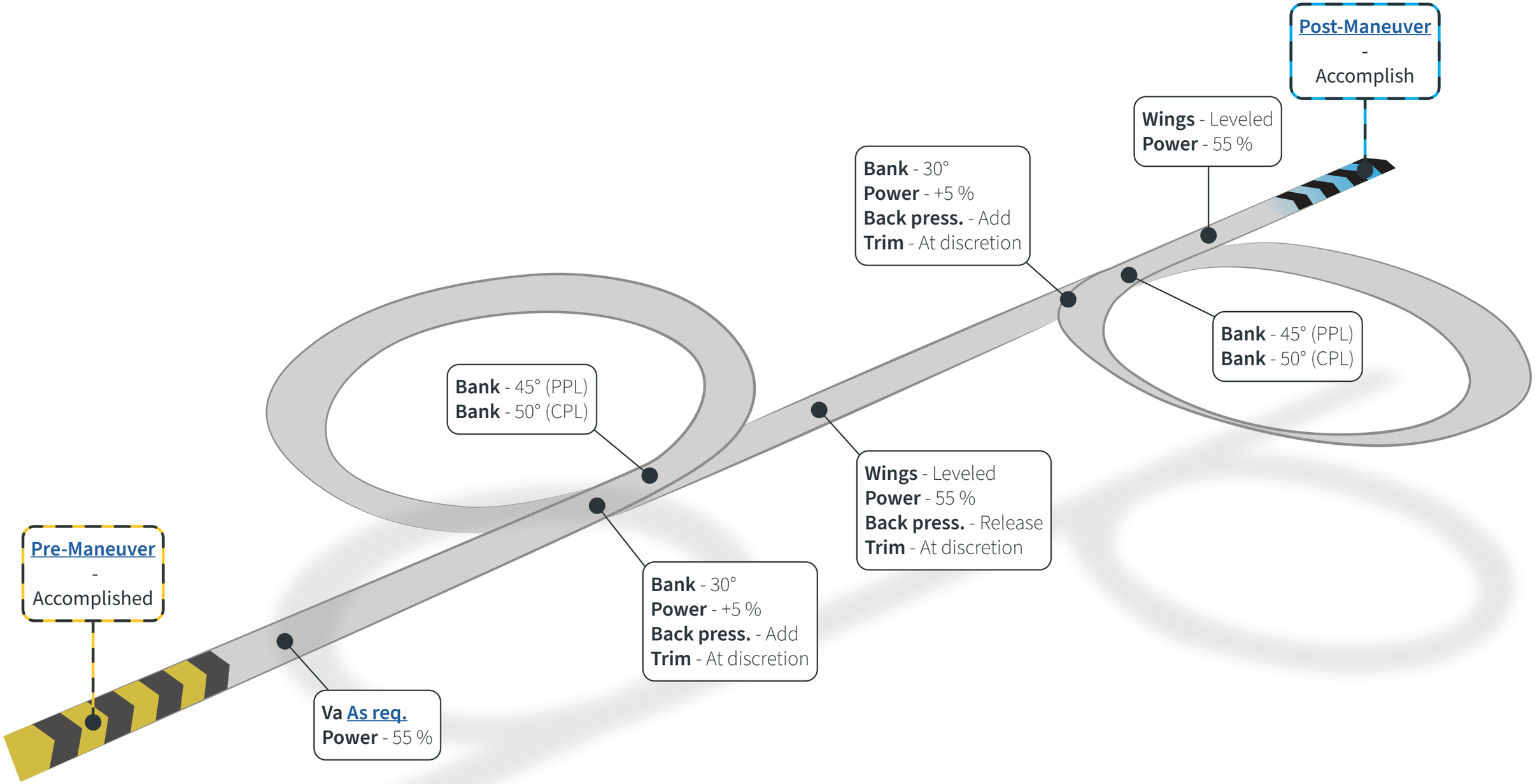
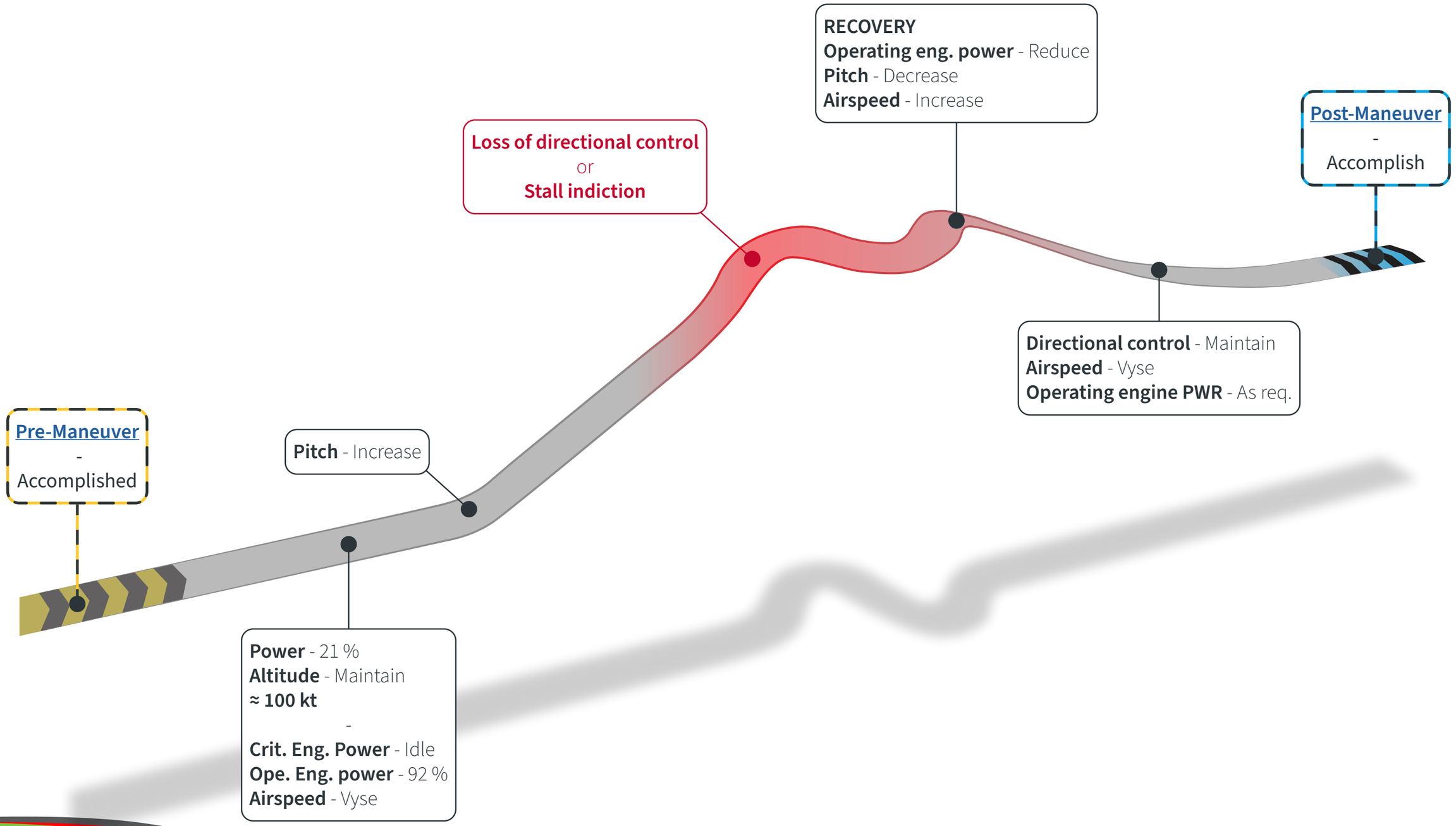
STEEP TURNS


Post-Maneuver
-
Accomplish
Wings - Leveled
Power - 55 %
Bank - 30°
Power - +5 %
Back press. - Add
Trim - At discretion
Bank - 45° (PPL)
Bank - 50° (CPL)
Bank - 45° (PPL)
Bank - 50° (CPL)
Wings - Leveled
Power - 55 %
Back press. - Release
Trim - At discretion
Bank - 30°
Power - +5 %
Back press. - Add
Trim - At discretion
Pre-Maneuver
-
Accomplished
Va As req.
Power - 55 %

VMC DEMO


RECOVERY
Operating eng. power - Reduce
Pitch - Decrease
Airspeed - Increase
Post-Maneuver
-
Accomplish
Loss of directional control
or
Stall indiction
Directional control - Maintain
Airspeed - Vyse
Operating engine PWR - As req.
Pre-Maneuver
-
Accomplished
Pitch - Increase
Power - 21 %
Altitude - Maintain
≈ 100 kt
-
Crit. Eng. Power - Idle
Ope. Eng. power - 92 %
Airspeed - Vyse

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Part IV: Slow Flight and Stalls

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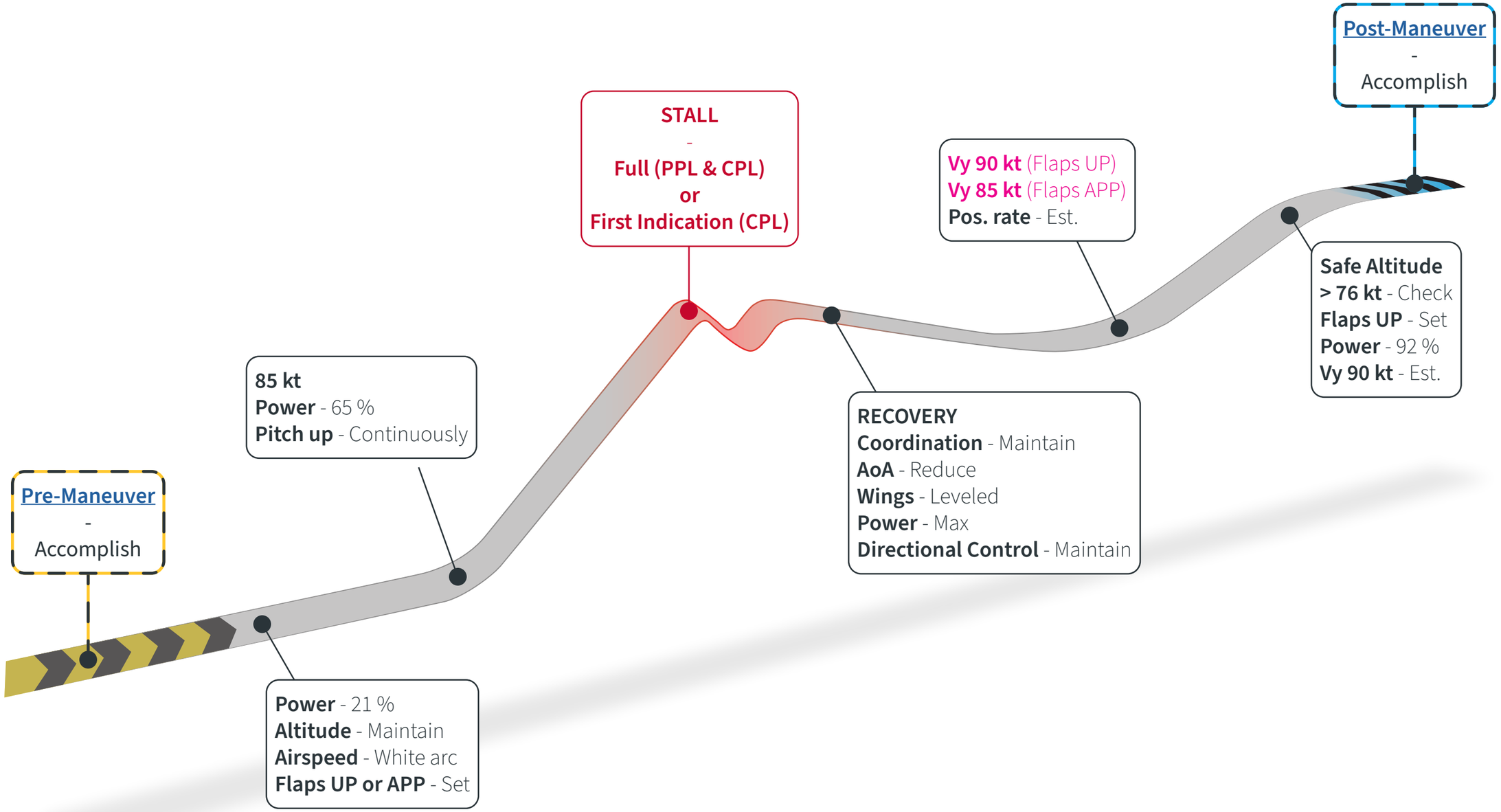
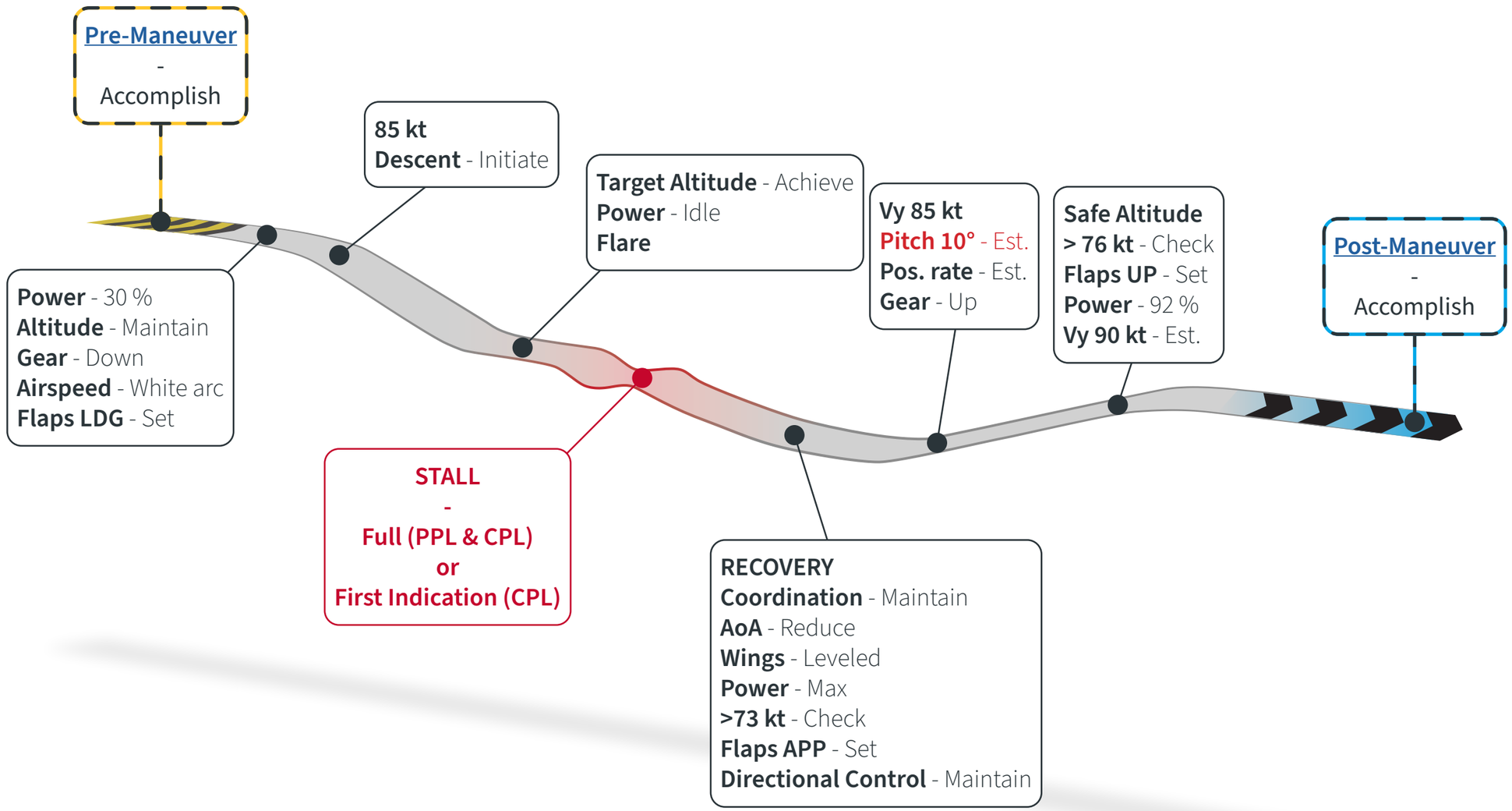
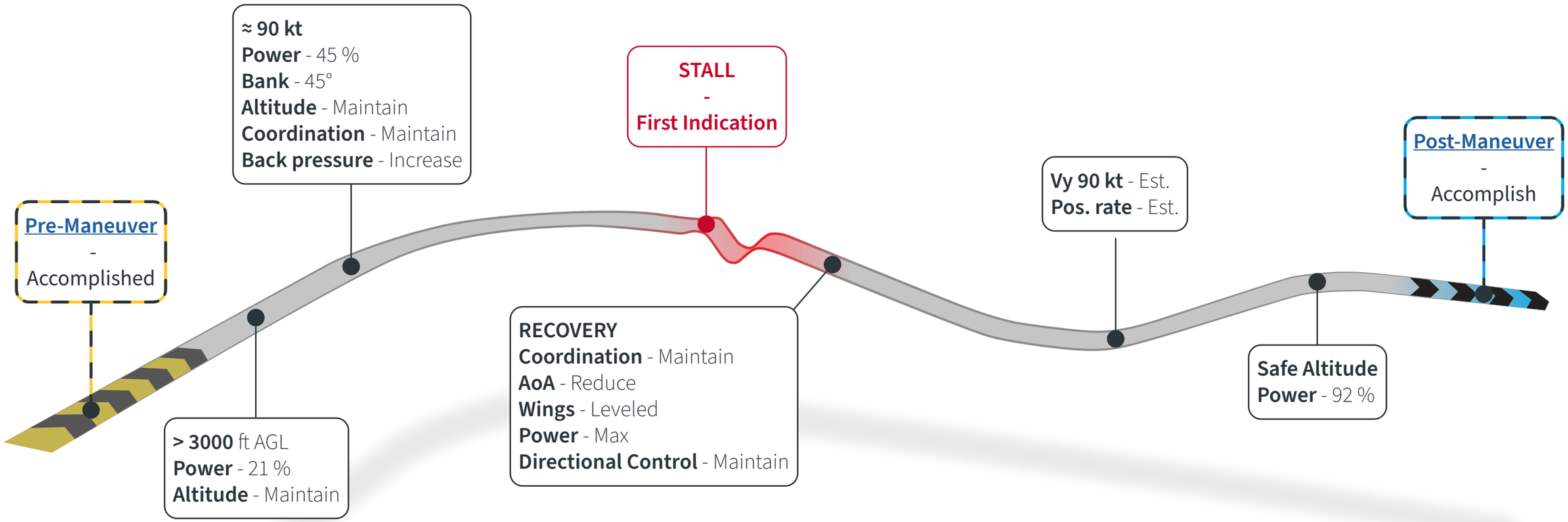
POWER ON STALL



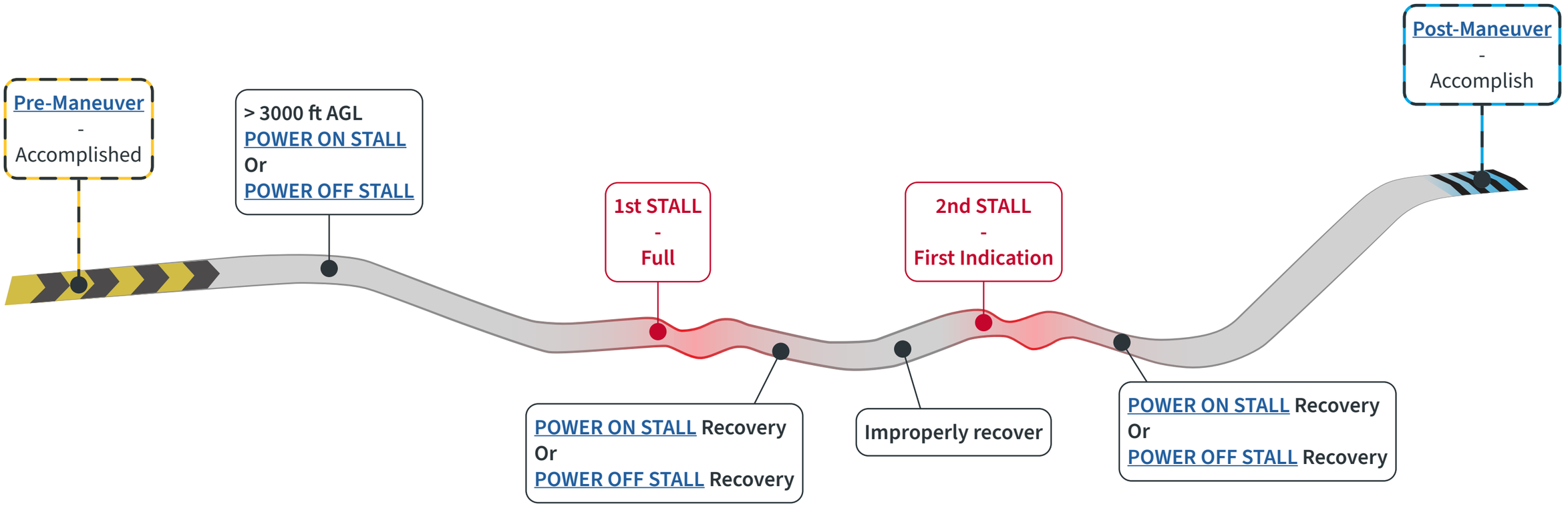
POWER OFF STALL



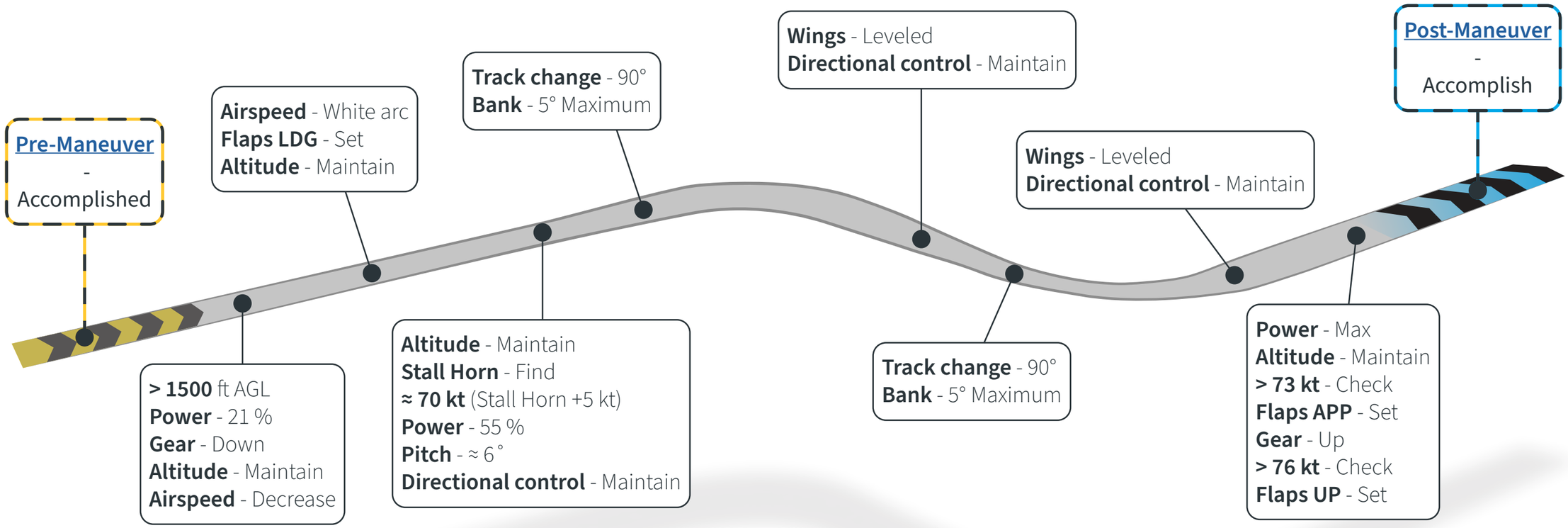
ACCELERATED STALL



SECONDARY STALL (CFI)



MANEUVERING DURING SLOW FLIGHT



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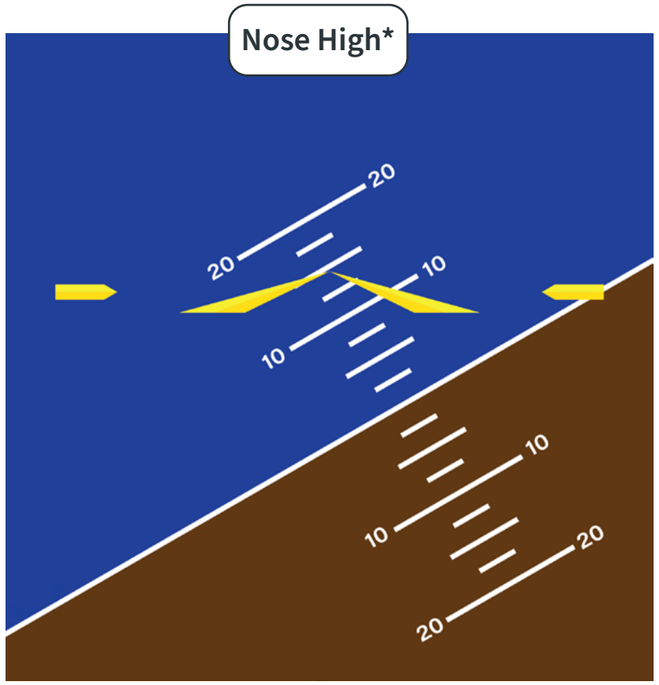
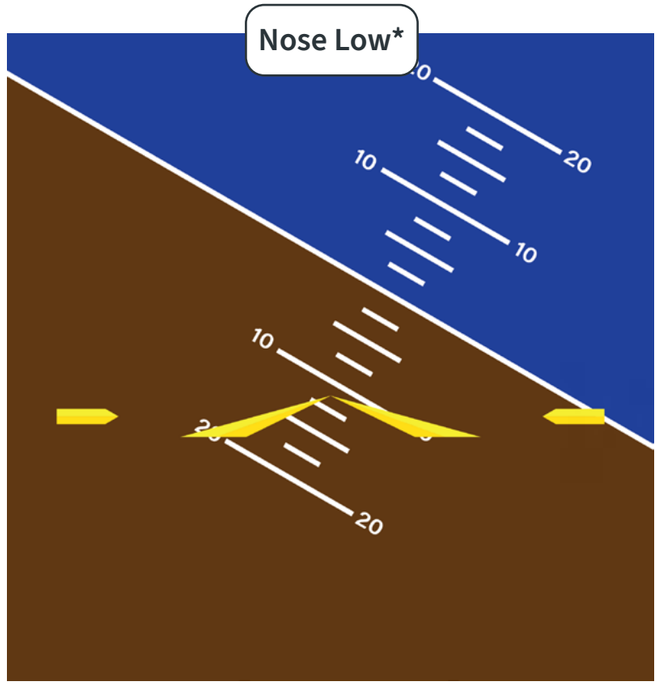
Part V: Emergency Procedures

UNUSUAL ATTITUDE RECOVERY



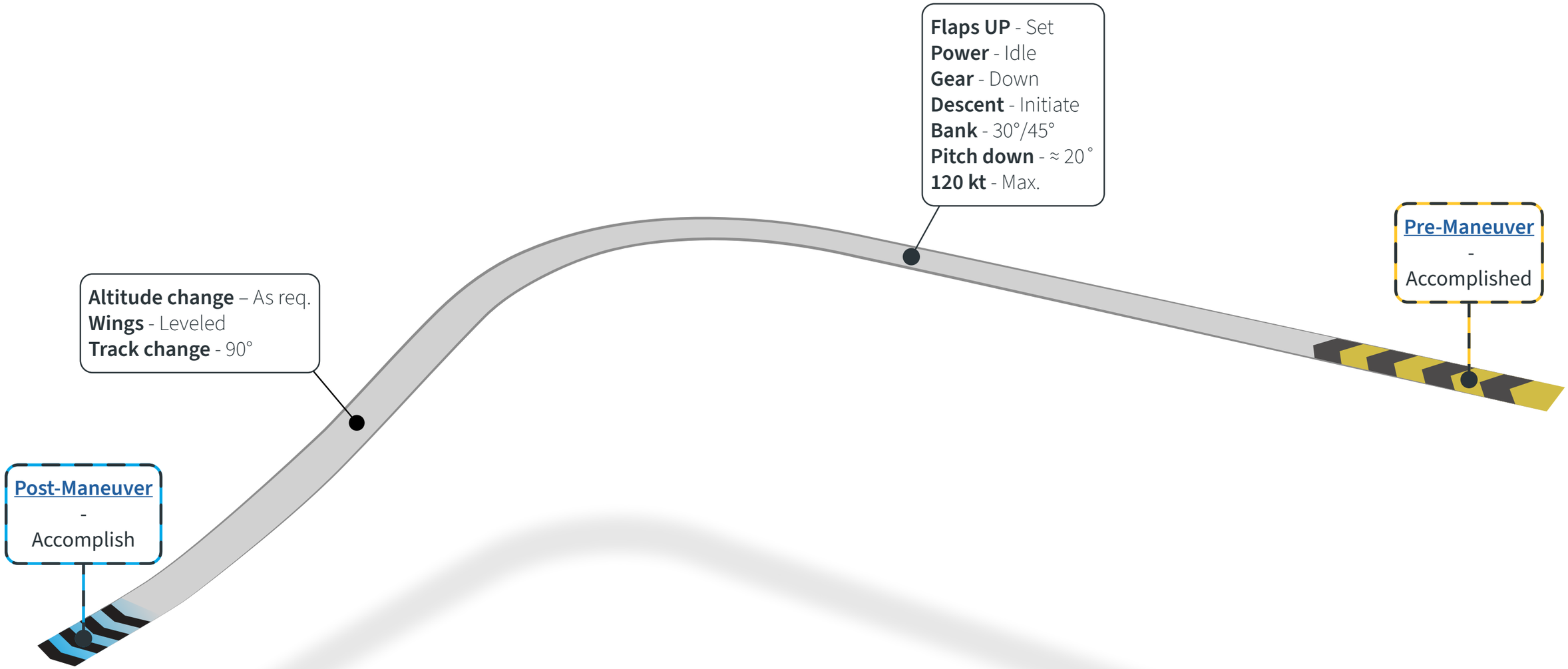
1. **POWER** MAX
2. **PITCH** DECREASE
3. **WINGS** LEVEL WITH RUDDER COORDINATION
4. **ALTITUDE** RETURN
5. **HEADING** RETURN



1. **POWER** IDLE OR AS REQ.
2. **WINGS** LEVEL WITH RUDDER COORDINATION
3. **PITCH** INCREASE
4. **ALTITUDE** RETURN
5. **HEADING** RETURN

* Nose high or nose low unusual attitudes can be made with a left, right or no bank. The bank does not change the recovery procedure

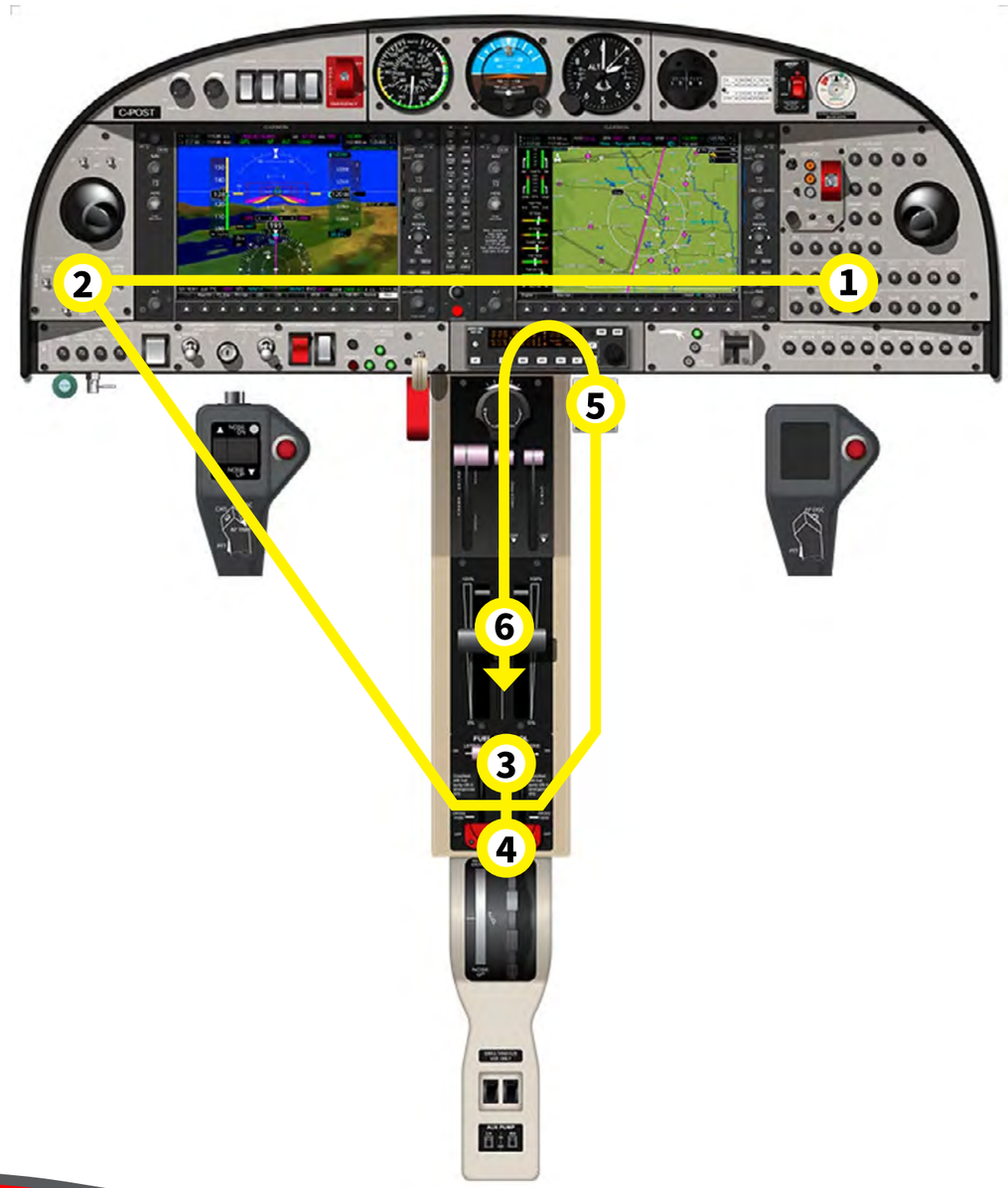
EMERGENCY DESCENT



ENGINE FAILURE INFLIGHT - IMMEDIATE RESPONSE

1. DIR. CONTROL..... MAINTAIN
2. POWER .....MAX/AS REQ.
3. GEAR..... UP
4. FLAPS ..... UP
5. FAILED ENGINE.....IDENTIFY/VERIFY
6. SITUATION .....ASSESS

ENGINE FAILURE IN FLIGHT - TROUBLESHOOTING



Immediate response items:

1. DIR. CONTROL ..... MAINTAIN
2. POWER ..... MAX/AS REQ.
3. GEAR ..... UP
4. FLAPS ..... UP
5. FAILED ENGINE ..... IDENTIFY/VERIFY
6. SITUATION ..... ASSESS

Memory items:

1. CIRCUIT BREAKERS ..... CHECK/RESET AS REQ.
2. VOTER SWITCH ..... SWAP AS REQ./AUTO
3. FUEL SELECTOR AFFECTED ENGINE ... CROSSFEED

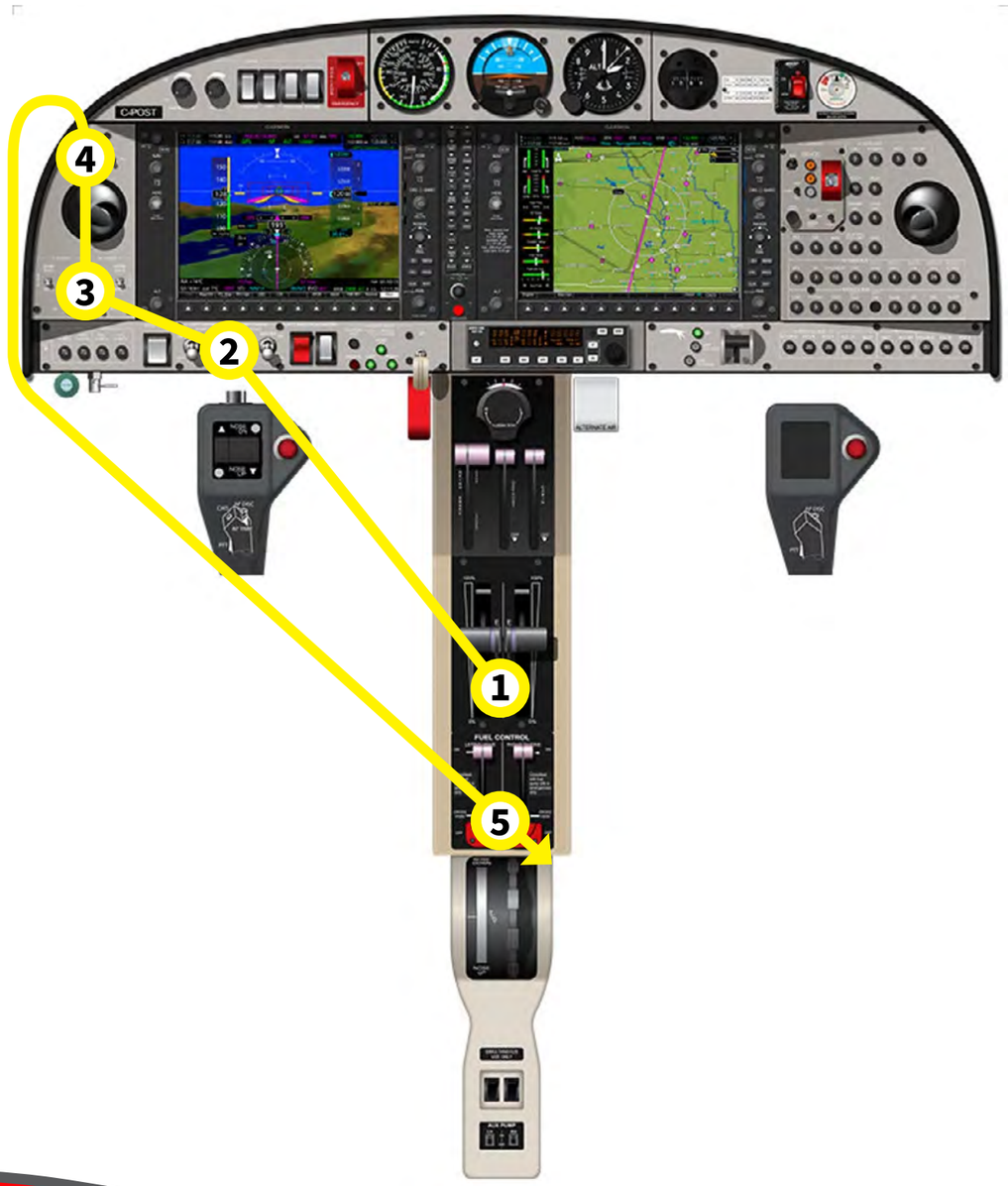
- If normal operation could not be restored -

4. FUEL SEL. AFF. ENG. ..... ON/CROSSFEED AS REQ.
5. ALTERNATE AIR ..... OPEN
6. POWER AFFECTED ENGINE ..... APPLY AS REQ.

- If normal operation could not be restored -

7. ENGINE ....SECURING (FEATHERING) PROCEDURE

ENGINE FAILURE IN FLIGHT - FEATHER



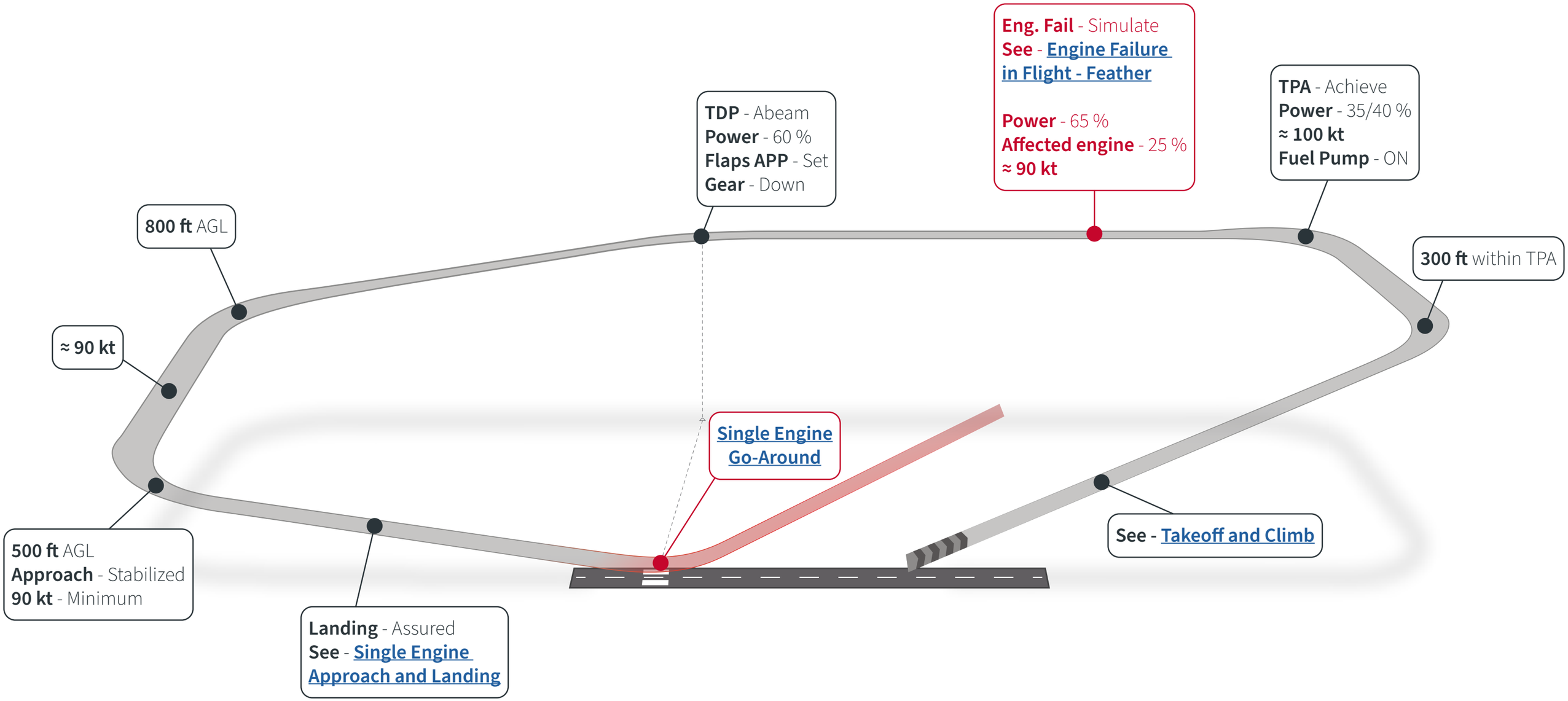
Immediate response items:

1. DIR. CONTROL..... MAINTAIN
2. POWER.....MAX/AS REQ.
3. GEAR.....UP
4. FLAPS.....UP
5. FAILED ENGINE.....IDENTIFY/VERIFY
6. SITUATION .....ASSESS

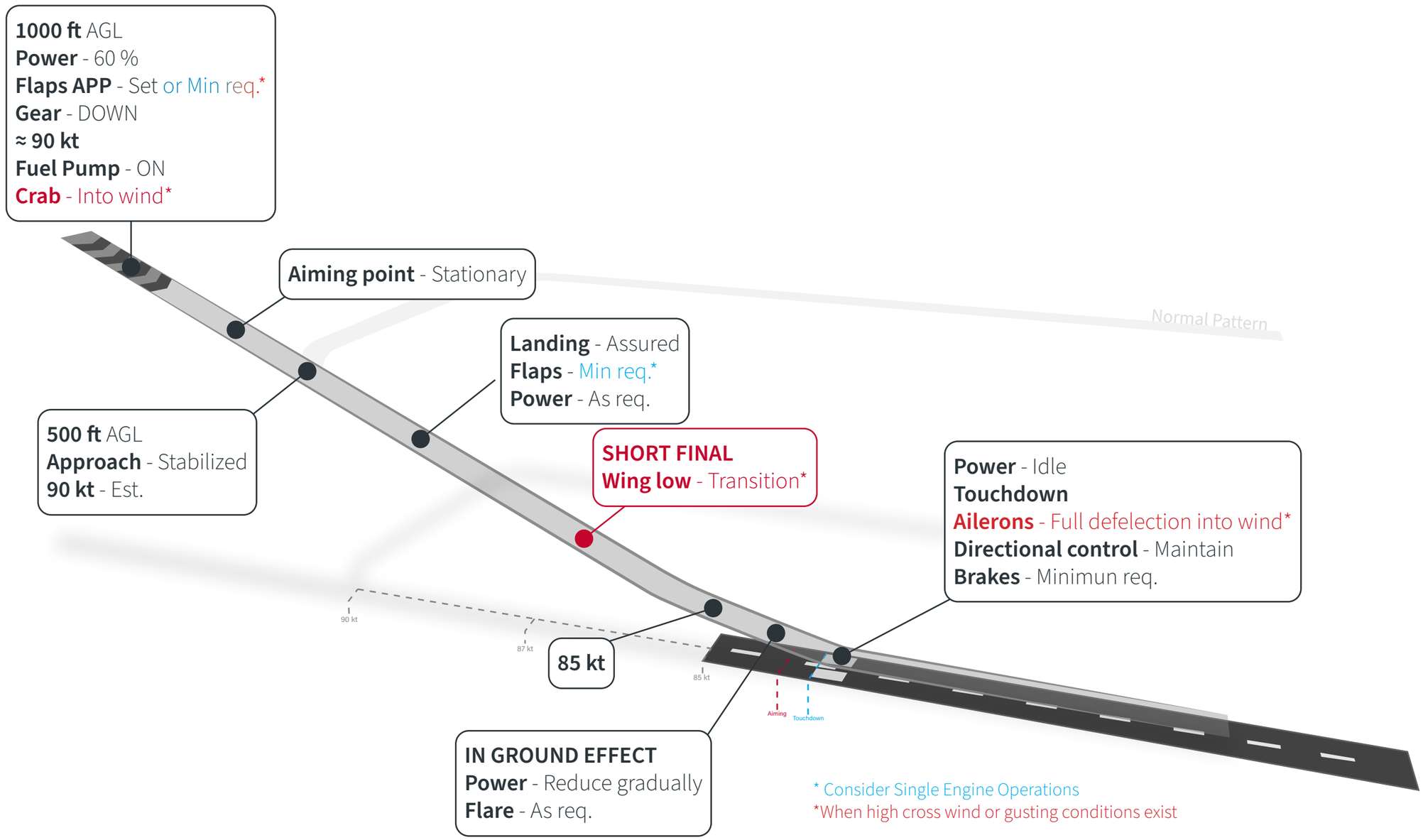
Memory items:

1. AFFECTED ENGINE.....CONFIRM
2. ENGINE MASTER AFFECTED ENGINE ..... OFF
3. ALTERNATOR AFFECTED ENGINE..... OFF
4. FUEL PUMP.....CHECK OFF
5. FUEL SELECTOR AFFECTED ENGINE ..... OFF

NORMAL PATTERN / GO AROUND

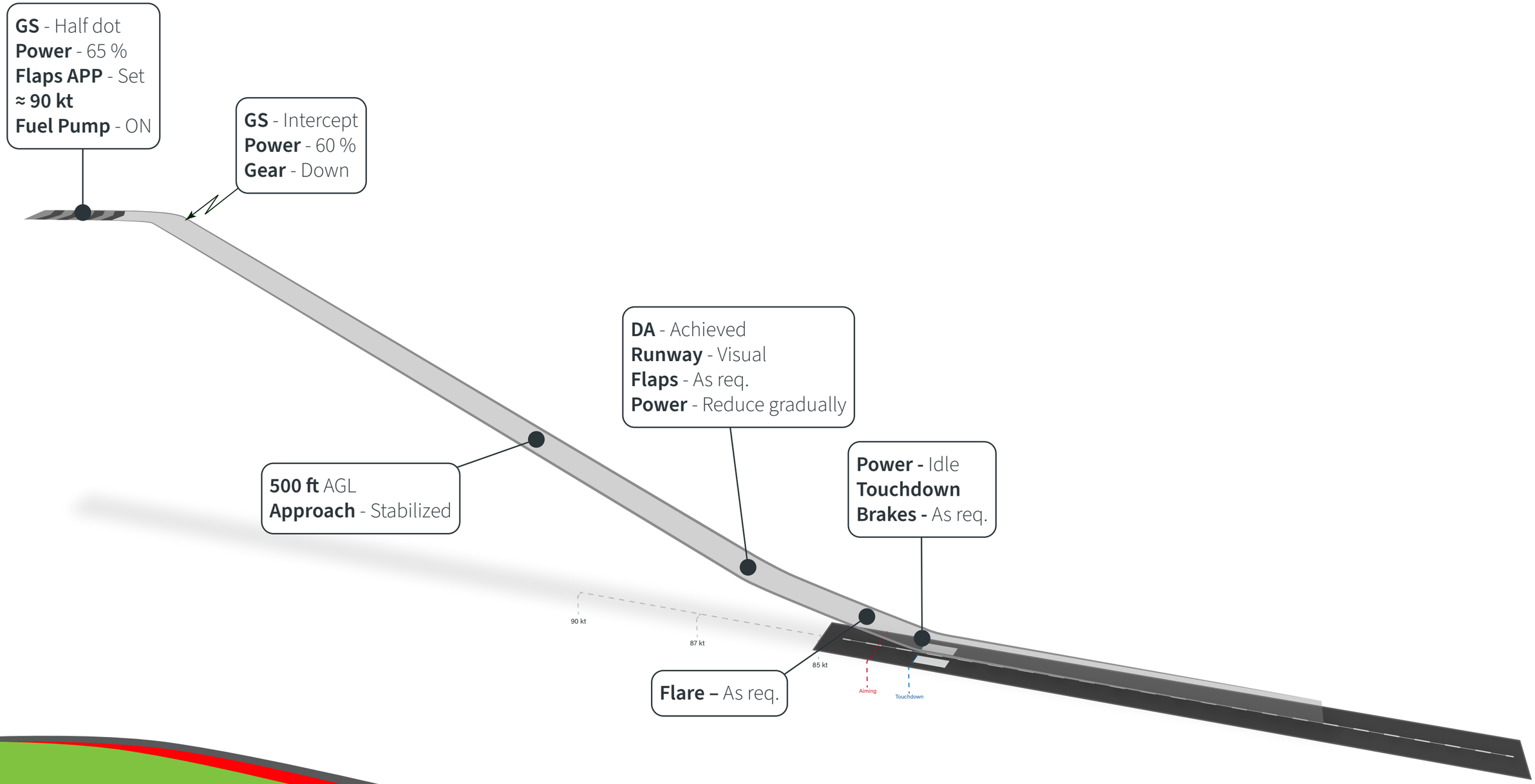


SINGLE ENGINE APPROACH AND LANDING

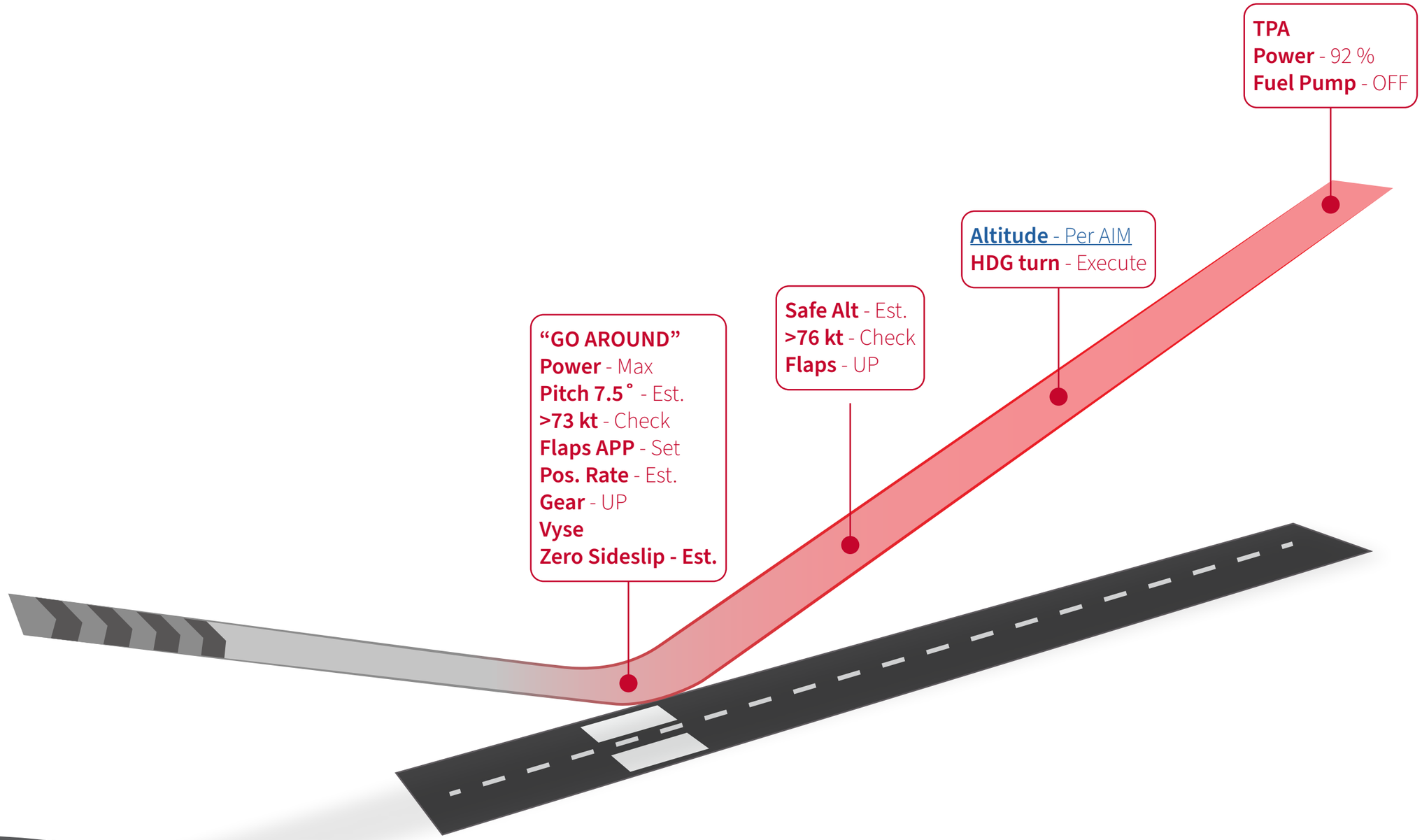


* Consider Single Engine Operations
*When high cross wind or gusting conditions exist

SINGLE ENGINE PRECISION APPROACH



SINGLE ENGINE GO AROUND



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Part VI: IFR

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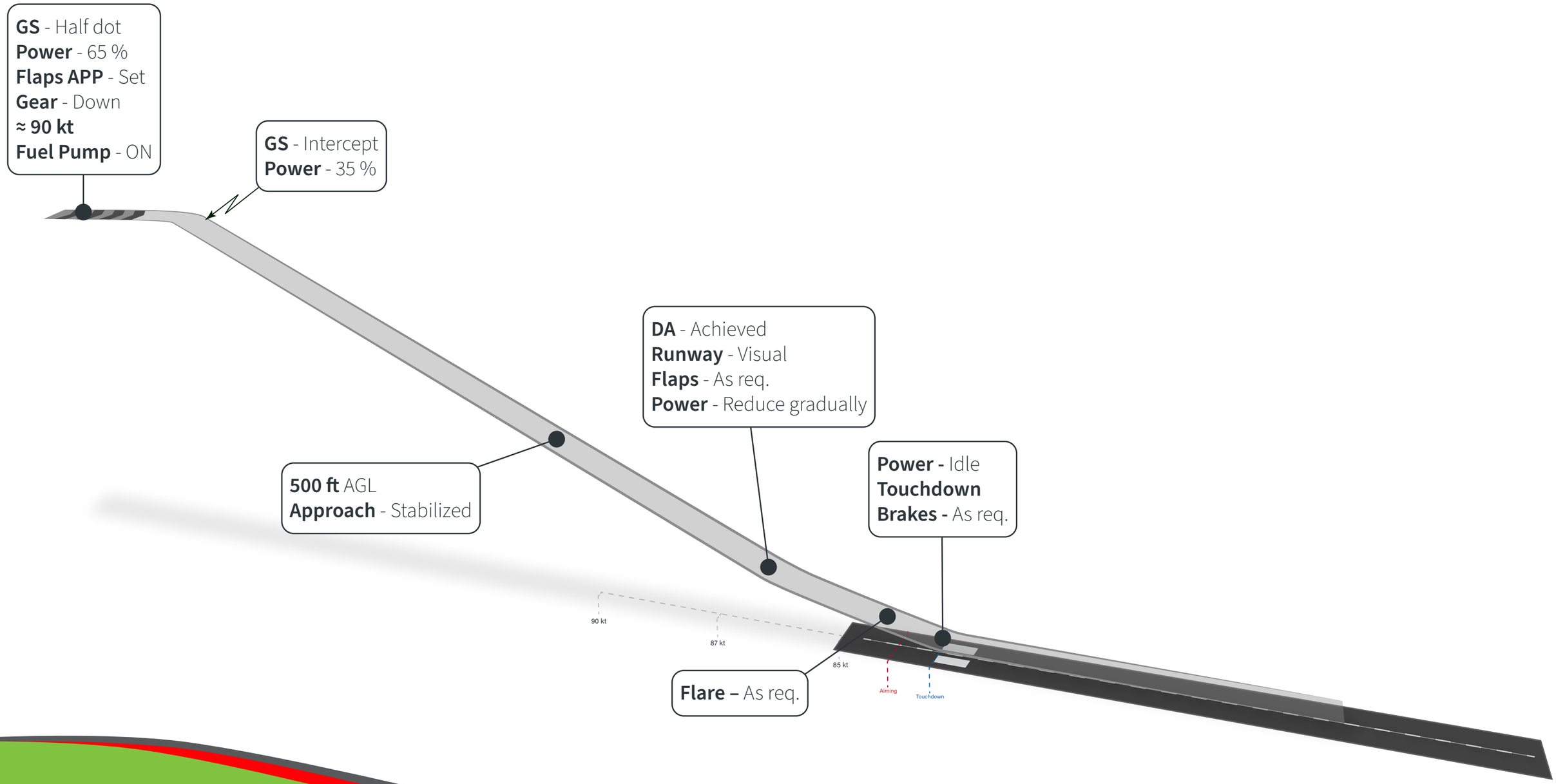
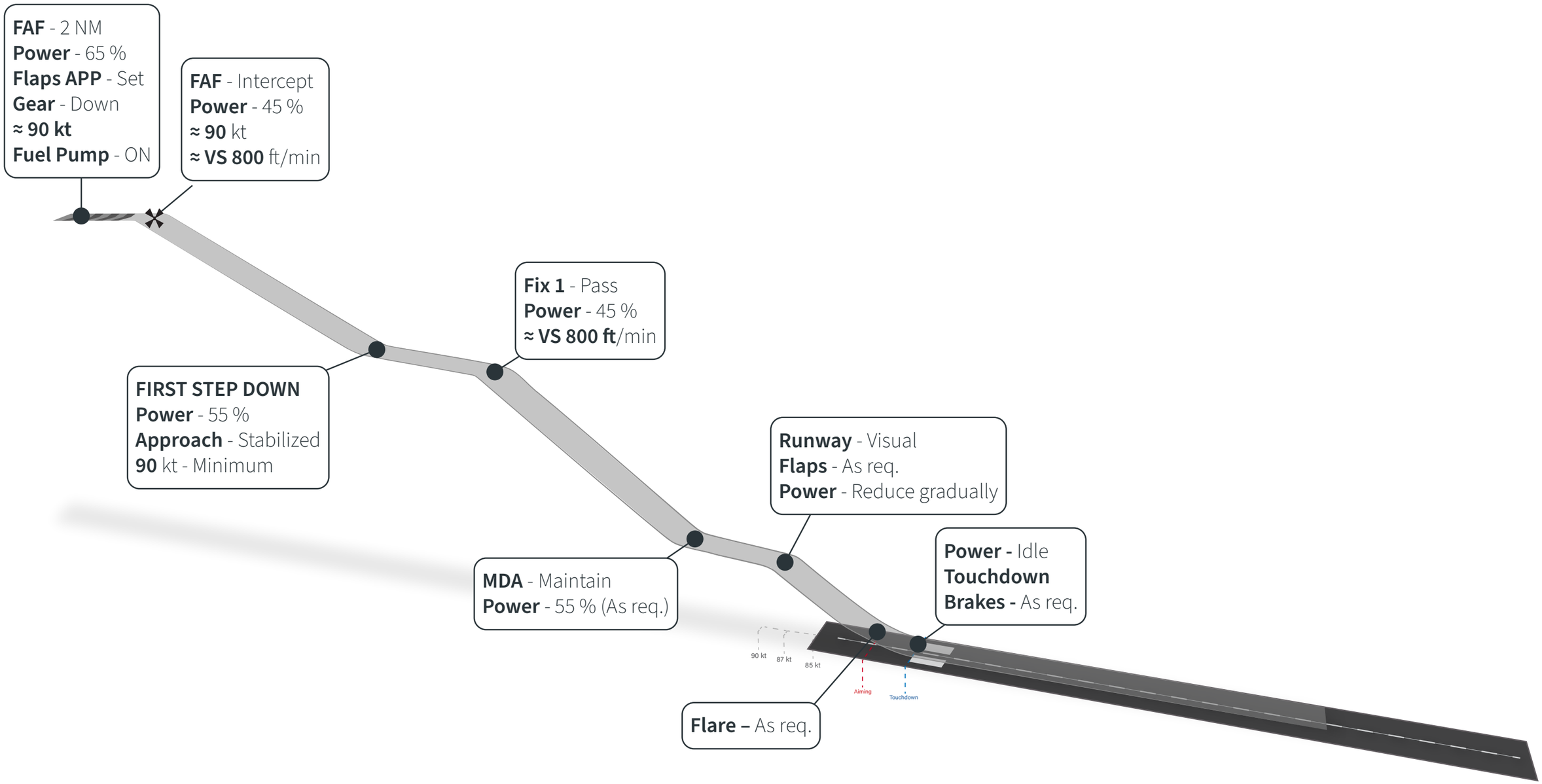
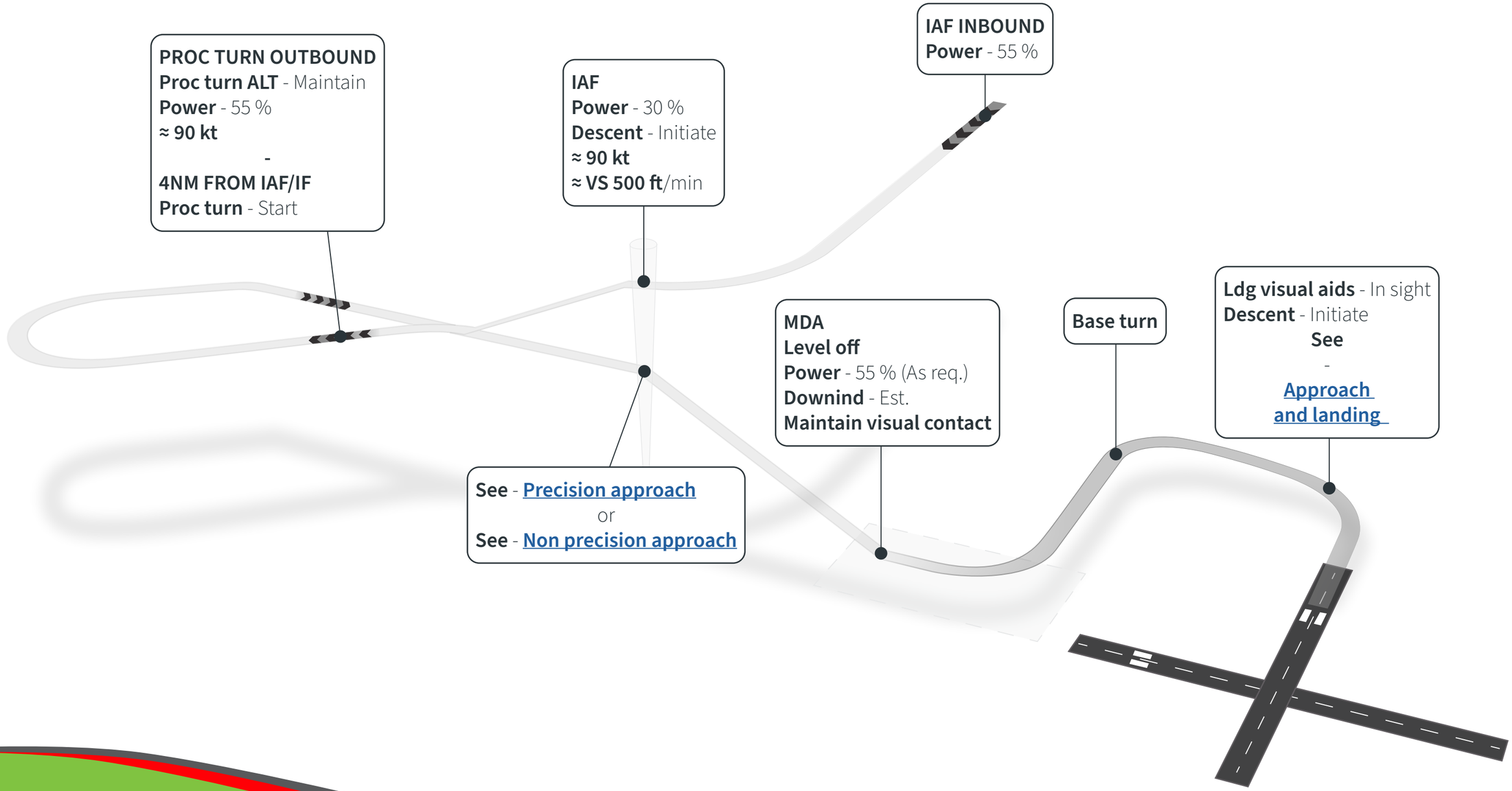
PRECISION APPROACH



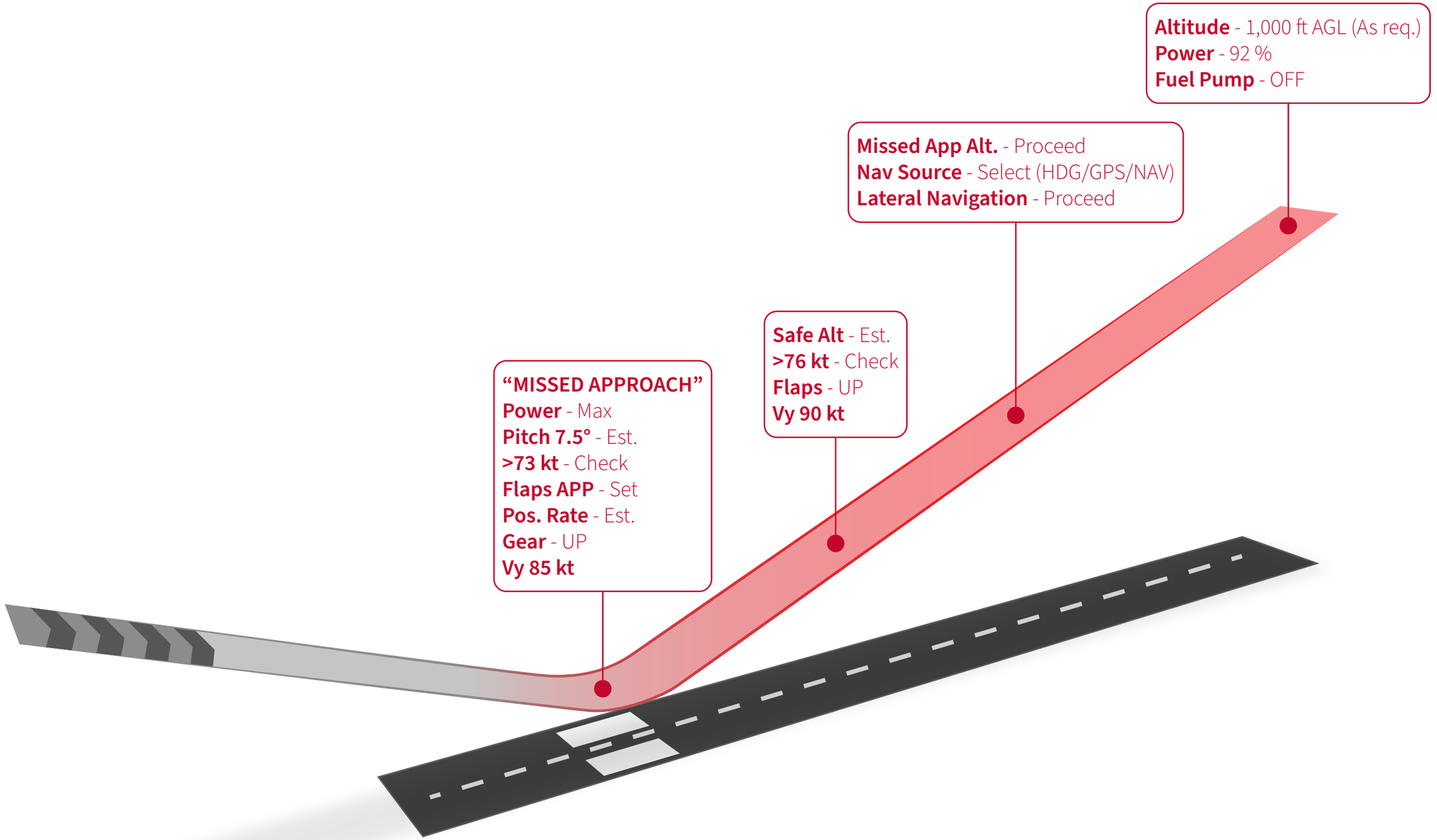
NON PRECISION APPROACH



PROC. TURN & CIRCLING APPROACH



MISSED APPROACH



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Part VII: Cockpit Flows

Rev [2.0]

ACCEPTANCE FLOW

1. BREAKERS → ALL IN
2. FLAPS → UP
3. ALTERNATE AIR → CLOSED
4. RUDDER TRIM → NEUTRAL
5. ENVIRONMENTAL → CLOSED
6. POWER → IDLE
7. FUEL SELECTOR → ON
8. ELEVATOR TRIM → NEUTRAL
9. AUX FUEL PUMPS → OFF
10. PARKING BRAKE → RELEASED
11. EMER GEAR EXTENSION → PUSHED IN
12. GEAR SELECTOR → DOWN
13. AVIONICS → OFF
14. MASTER SWITCH → OFF
15. ENGINE MASTERS → OFF
16. KEYS → OFF STARTER
17. PITOT HEAT → OFF
18. ALTERNATE STATIC SOURCE → OFF
19. OXYGEN SYSTEM → PUSHED IN
20. ALTERNATORS → OFF
21. VOTER SWITCHES → AUTO
22. FUEL PUMPS → OFF
23. INSTRUMENT/FLOOD LIGHTS → OFF
24. ALL LIGHTS → OFF
25. EMERGENCY BATTERY → OFF/GUARDED
26. ELT → ARMED
27. O2 → CHECK LEVEL

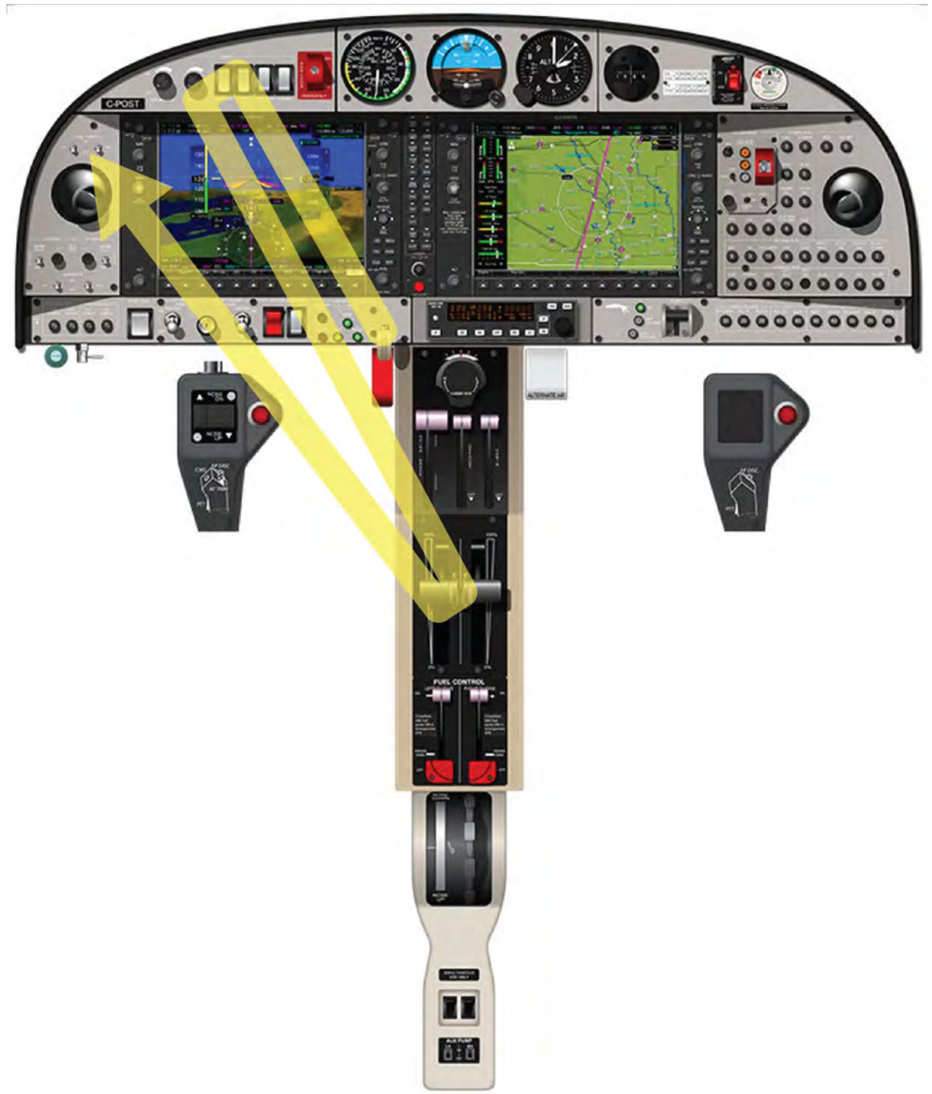
BEFORE ENGINE START FLOW

1. ALTERNATORS → ON
2. ELECTRIC MASTER → ON
3. RUDDERS → ADJUST
4. FLIGHT CONTROLS → CHECK
5. GEAR WRNG + FIRE DETECTION → TEST
6. VARIABLE ELEVATOR STOP → CHECK
7. FLAPS LDG/UP → CHECK
8. MFD → ACKNOWLEDGE + EIS
9. STROBE LIGHTS → ON
10. KEYS → INSERT

STARTING ENGINE FLOW

1. ENGINE MASTER → ON
2. L/R GLOW CAS → CHECK
3. EIS → CHECK
4. STARTER → ENGAGE
5. EIS → CHECK

AFTER TAKEOFF FLOW



1. GEAR SELECTOR → UP
2. LANDING/TAXI LIGHTS → OFF
3. POWER → 92 %
4. FUEL PUMPS → OFF

AFTER LANDING FLOW

1. FLAPS → UP
2. ALTERNATE AIR → CLOSED
3. PITOT HEAT → OFF
4. FUEL PUMPS → OFF
5. LIGHTS → LDG OFF/TAXI AS REQ.

MANEUVERS A TO Z

TOC