

STALL MARGINS AND NORMAL OPERATING SPEEDS

V_2 : Takeoff speed – from 1.23 V_s to 1.40 V_s for takeoff configuration (V_s : stall speed).

FLAP RETRACTION SPEED

Corresponds to V_{2+5} with flaps at 11° and V_{2+15} with flaps at 15°.

SLAT RETRACTION SPEED

Corresponds to 1.20 V_s in clean configuration (UP/RET).

MANEUVERING SPEED

V_{MAN} : Corresponds to 1.50 V_s with no flaps and 1.40 V_s with fully extended flaps.

FINAL CLIMB SPEED

Corresponds to 1.33 V_s in clean configuration.

FLAP/SLAT EXTENSION SPEED

The minimum speed for FLAP/SLAT extension is the V_{MAN} of the present configuration. During normal operations flaps/slats extension should be performed at or below the followings “Normal Operating Speeds”:

FLAP / SLAT	NORMAL OPERATING SPEEDS (KIAS)
0/EXT	250
15/EXT	210
28/EXT	180
40/EXT	160

Only if required by specific operational condition, higher extension speeds may be used provided maximum allowable speeds are not exceeded.

V_{TH} : Threshold speed:

1.30 V_s +5 in normal landing configuration.

bank angle limits are:

30° (normal 25°) above maneuvering speed

15° below maneuvering speed.

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SPEED ADDITIVE

The speed to add must be calculated as half of head wind (HWC Head wind Component) plus the total gust factor. The total additive should not exceed 20 KIAS. Since the V_{TH} already includes 5 KIAS, maximum speed additive must be 15 KIAS.

FINAL APPROACH SPEED/TARGET SPEED

During final approach in normal configuration, target speed must be $V_{TH} +$ additive speed (calculated according to the wind).

WIND CORRECTIONS

To correct wind effects during visual and circling approaches:

- add or subtract 1 sec for each two knots of frontal component or tail.
- apply 1 degree of correction for each knot of XWC cross wind component.

Due to very short extension time in circling approaches, the above drift correction should be started before runway end (about 45 secs before base turn).

BEST ANGLE SPEED

Best angle speed (two engines) is:

- 1.33 V_S in clean configuration (UP/RET) to FL180.
- 1.54 V_S over FL180.

BEST RATE SPEED (two engines)

best rate speed is 270 KIAS (average value).

PITCH ATTITUDES AND THRUST SETTINGS FOR STANDARD CONFIGURATIONS

Condition	Configuration	Required Parameter
Holding	FLAPS/SLATS = UP/RET (CLEAN) V = V _{MAN} V _z = 0 gear up	EPR ~ 1.20
Initial Approach	FLAPS/SLATS = 15/EXT V = V _{MAN} V _z = 0 gear up	A ~ 8° EPR ₂ ~ 1.25 EPR ₁ ~ 1.54
Final Approach	FLAPS/SLATS = 28/EXT V = V _{TH} V _z = -700 ft/min gear down	A ~ 5° EPR ₂ ~ 1.16 EPR ₁ ~ 1.37
	FLAPS/SLATS = 40/EXT V = V _{TH} V _z = -700 ft/min gear down	A ~ 3.5° EPR ₂ ~ 1.22

Note:

EPR₂ = 2 Engines

EPR₁ = 1 Engine

EPR values are based on

For each

Compensate with:

Temp = Standard
Weight = 55 ton
PA = Sea level
Slope = 3°
Wind = 0

±2000 kg
±2000 ft
±0.5° Slope
±10 knots

TWO ENG	ONE ENG
~ .01 EPR	.02 EPR
~ .01 EPR	.02 EPR
~ .02 EPR	.04 EPR
~ .01 EPR	.02 EPR

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GENERAL INFORMATION

Approaching procedures with one engine are the same as with two engines. Maximum flaps extension for landing with one engine is 28/EXT.

To fly any configuration with one engine it is necessary to increase speed from .20 to .30 EPR.

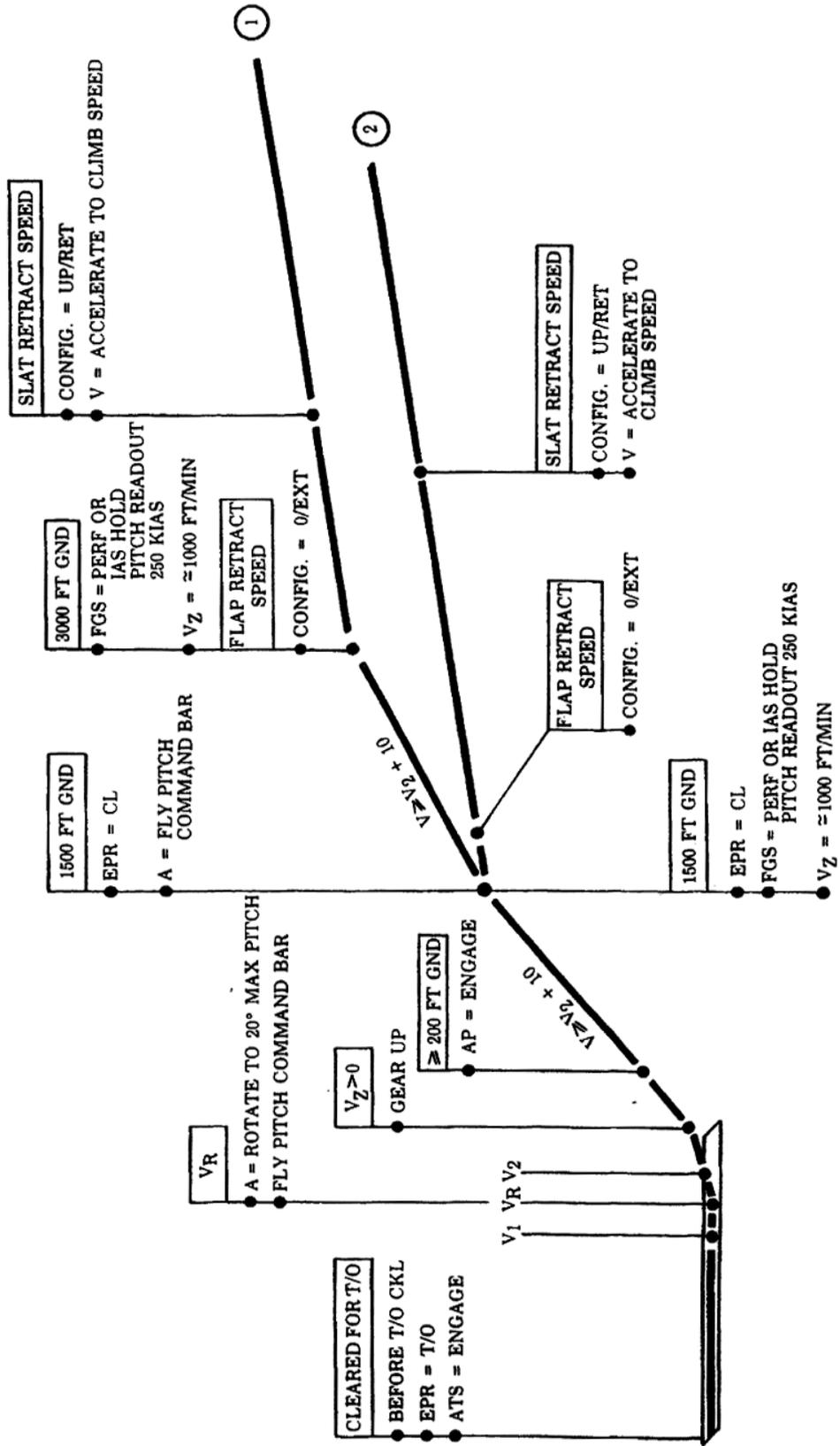
A turn of 25° bank made at the V_{MAN} creates a descent rate (V_z) of about - 250 ft/min or requires a power increase of about .05 EPR for two engines or .15 EPR for one engine.

Gear retraction at V_{MAN} and 15/EXT creates a V_z of -150 ft/min or requires a power increase of about .05 EPR for two engines and 0.07 for one engine.

Auto throttle can be used in every phase of approach, and can be used even with one single engine, in this case throttle must be allineated.

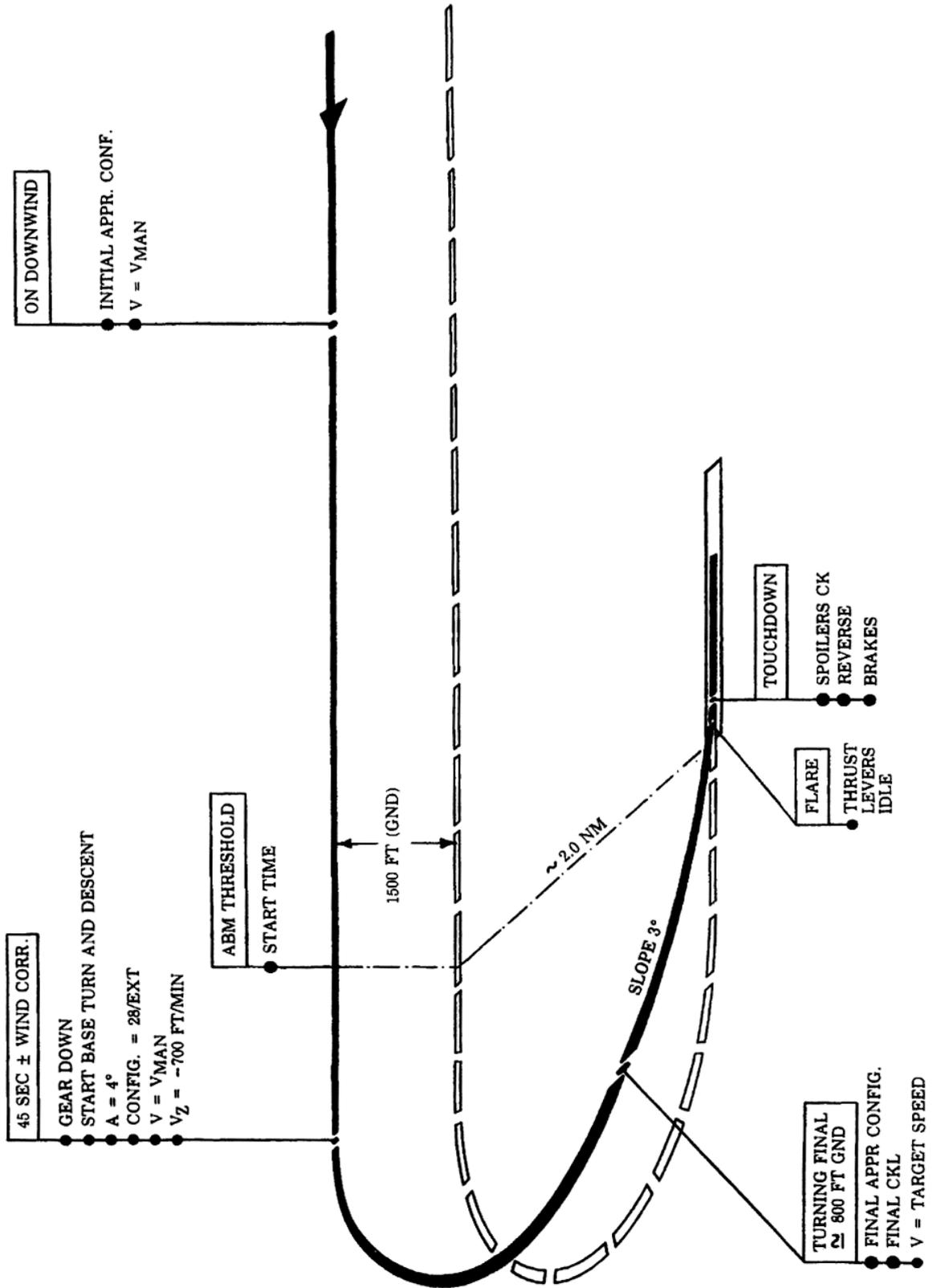


NOISE ABATEMENT TAKEOFF-1
NORMAL TAKEOFF -2

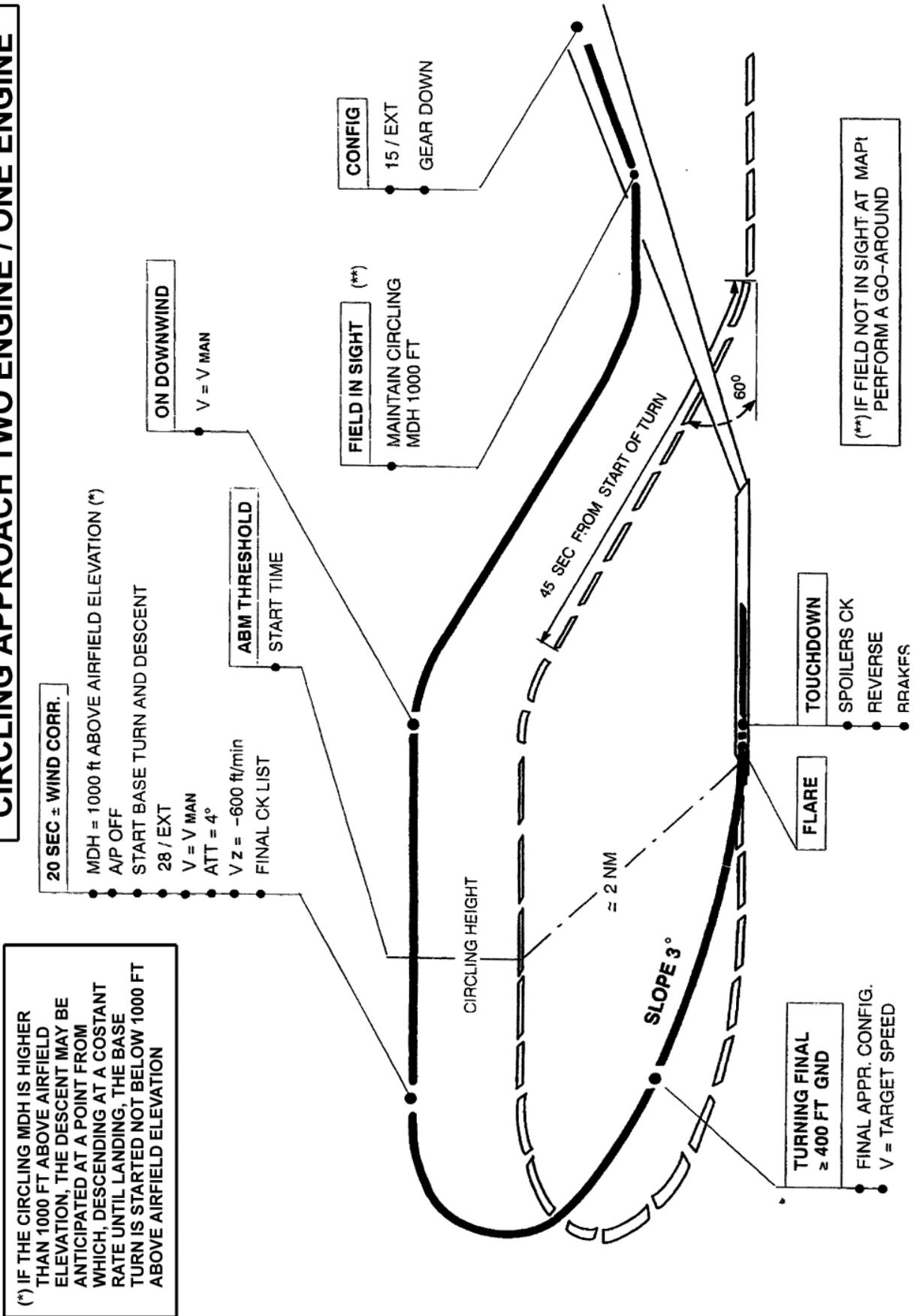




STANDARD VISUAL APPROACH



CIRCLING APPROACH TWO ENGINE / ONE ENGINE



(*) IF THE CIRCLING MDH IS HIGHER THAN 1000 FT ABOVE AIRFIELD ELEVATION, THE DESCENT MAY BE ANTICIPATED AT A POINT FROM WHICH, DESCENDING AT A CONSTANT RATE UNTIL LANDING, THE BASE TURN IS STARTED NOT BELOW 1000 FT ABOVE AIRFIELD ELEVATION

