

# B737-300

## Attitude & Power Settings



Data valid for :      48.000 kg      1.013,25 hPa    15°C    wind calm  
                                  105,000 lbs      29.92 "Hg      59°F

### NORMAL OPERATION ON 2 ENGINES

Phase	Body Attitude °	Fuel Flow kg / lbs	N1 %	Speed kts
<b>Takeoff</b>				
Takeoff Flaps 5	20°	4500 / 10000	> 90%	V2 + 15 to 25 kts
Reduced TO Flaps 5	17°	4500 / 10000	> 85%	V2 + 15 to 25 kts
Climb thrust (reduced)	15°	-	80%-85%	V2 + 15 to 25 kts
<b>Climb</b>				
Flap retraction	9° to 7°	-	80%-85%	speedtape
1000 fpm	7° to 5°	-	77%	acceleration
1000 fpm	7°	-	72%	Vman
FL050	11°	-	CLB-1-2	250 kts
FL100	9°	-	CLB-1-2	250 kts
FL200	7°	-	CLB-1-2	300 kts
<b>Level flight</b>				
Flap retraction	6°	-	70%	acceleration
Clean FL100	2°	1300 / 2800	-	300 kts
Clean FL100	4°	1050 / 2300	55%	250 kts
Clean low altitude	6°	1000 / 2200	-	210 kts
Flaps 1	6°	1000 / 2200	-	190 kts
Flaps 5	6° to 7°	1200 / 2600	60%	170 kts
Gear down Flaps 15	8°	1500 / 3300	65%	150 kts
<b>Idle Descent</b>				
Idle descent	1°	idle	-	250 kts
<b>Descent 1000 fpm</b>				
Clean, Flaps 1 or Flaps 5	3°	700 / 1500	50%	Vman
Clean, Flaps 1 or Flaps 5	1° to 3°	idle	-	deceleration
<b>Glide slope 3°</b>				
Gear down Flaps 40	1°	1300 / 2800	62%	Vref + 5 kts
Gear down Flaps 30	3°	1000 / 2200	57%	Vref + 5 kts
<b>Go around</b>				
Flaps 15	15°	-	85%	Vref + 15 kts

**Apply the following corrections :**

- For each  $\pm 4$  ton / 10000 lbs  $\rightarrow$  add or subtract 100 kg / 200 lbs from the fuel flow
- During turns with 25° bank  $\rightarrow$  add 200 kg / 400 lbs to the fuel flow
- For each 10 knots faster during final approach  $\rightarrow$  subtract 1° from the Body Attitude
  
- N1 values to remember :
  - \* Full Takeoff thrust is always > 90%
  - \* Reduced Takeoff thrust is always >85%
  - \* Max Continuous Thrust =  $\pm$  Max Climb Thrust
  - \* Reduced Go-Around is 85%, full Go-Around is > 90%

*ONE ENGINE OUT OPERATION*

Phase	Body Attitude °	Fuel Flow kg / lbs	N1 %	Speed kts
<b>Engine failure at V1</b>				
Takeoff Flaps 5	13° to 15°	4500 / 10000	> 90%	V2
<b>Level flight</b>				
Level acceleration	7° to 10°	4500 / 9900	> 90%	V2 to 210 kts
Clean low altitude	5°	1800 / 4000	-	210 kts
Flaps 1	6°	1800 / 4000	-	190 kts
Flaps 5	6°	1900 / 4200	-	170 kts
Gear down Flaps 15	8°	2800 / 6200	-	150 kts
<b>Idle Descent</b>				
Idle descent	1°	idle	-	250 kts
<b>Descent 1000 fpm</b>				
Clean, Flaps 1 or Flaps 5	3°	700 / 1500	-	Vman
Clean, Flaps 1 or Flaps 5	2° to 3°	idle	-	deceleration
<b>Glide slope 3°</b>				
Gear down Flaps 15	5°	1400 / 3100	-	Vref + 5 kts
<b>Go around</b>				
Flaps 1	13° to 15°	-	>90%	Vref + 5 kts

**Apply the following corrections :**

- For each  $\pm 4$  ton / 10000 lbs  $\rightarrow$  add or subtract 400 kg / 1000 lbs from the fuel flow
- During turns with 25° bank  $\rightarrow$  add 400 kg / 1000 lbs to the fuel flow
  
- N1 values to remember :
  - \* One engine out fuel flow = 2x twin engine fuel flow

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