

## Airbus A340 Limitations

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## GENERAL

All references to airspeed, Mach and altitude relate to indicated airspeed, indicated Mach and pressure altitude, unless otherwise noted.

## KIND OF OPERATIONS

VFR and IFR

Extended over water flight

Flight in icing conditions

Maximum number of passenger seats: 375

## WEIGHT LIMITATIONS

	Kg	Lb
Maximum Taxi Weight	257,900	568,560
MTOW (brake release)	257,000	566,580
Maximum Landing Weight	181,000	399,030
Maximum Zero Fuel Weight	169,000	372,575
Minimum Weight	126,000	277,800
* MTOW (brake release) With Center Gear Retracted	212,000	467,375
* The maximum landing weight and the maximum zero fuel weight limitations do not change.		

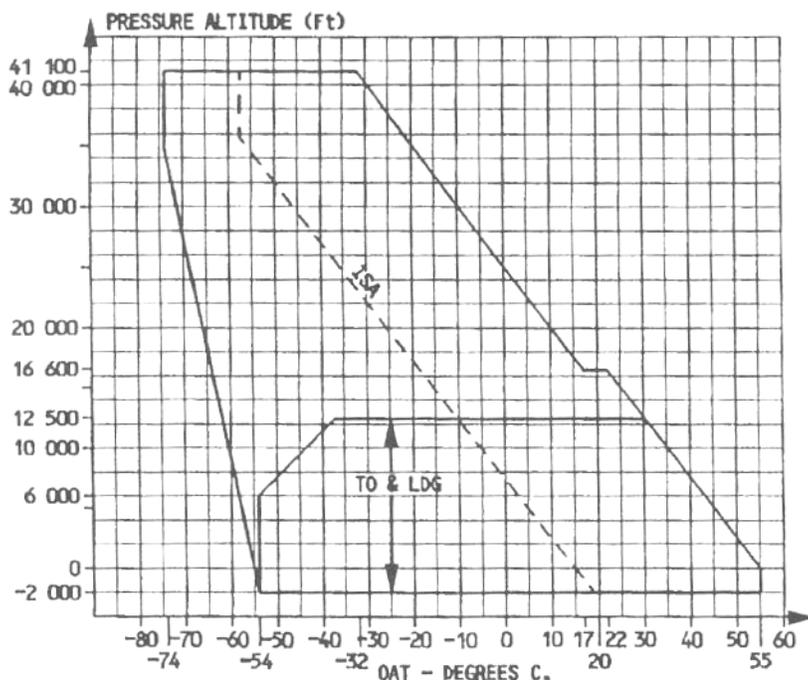
## FLIGHT MANEUVERING LOAD ACCELERATION LIMITS

Clean configuration: -1g to +2.5g

Slats extended: 0 to +2g

## ENVIRONMENTAL ENVELOPE

### A340 Environmental Envelope



## AIRPORT OPERATIONS

Runway slope:  $\pm 2\%$

Runway altitude: 12,500 ft

Wind for TO and LDG:

- Max demonstrated crosswind: 27 kt gusting to 33 kt

- Max tailwind: 10 kt

## SPEED LIMITATIONS

### Max Operating Speed Vmo/Mmo

Vmo: 330 kt

Mmo: 0.86

### Max Flaps Slats Speeds

Lever Position	SLATS	FLAPS	AILERONS	Ind. on ECAM	MAX SPD	FLIGHT PHASE	
0	0	0	0		VMO/MMO		CRUISE
1	20	0	0	1	240		HOLD
	20	17	10	1 + F	215	TAKEOFF	
2	24	17	10	2(a)	205		APPR
	24	22	10	2	196	TAKEOFF	
3	24	26	10	3	186		LDG
FULL	24	32	10	FULL	180		

(a) This slat/flaps position corresponds to CONF 1\*

Max altitude with flaps/slats extended: FL 200

### Gear Down Speeds

Max speed with landing gear extended (Vle): 250 kt / .55 M

Max operating speed (extension and retraction) (Vlo): 250 kt / .55 M

Max speed for gravity extension (Vle/Vlo): 200 kt

### Max Tire Speed

Ground speed: 195½ kt

### Windshield Wiper Use

Max speed: 230 kt

### Cockpit Window Open

Max speed: 230 kt

Note: Opening the cockpit window is not possible with packs ON.

### Vmca, Vmcg

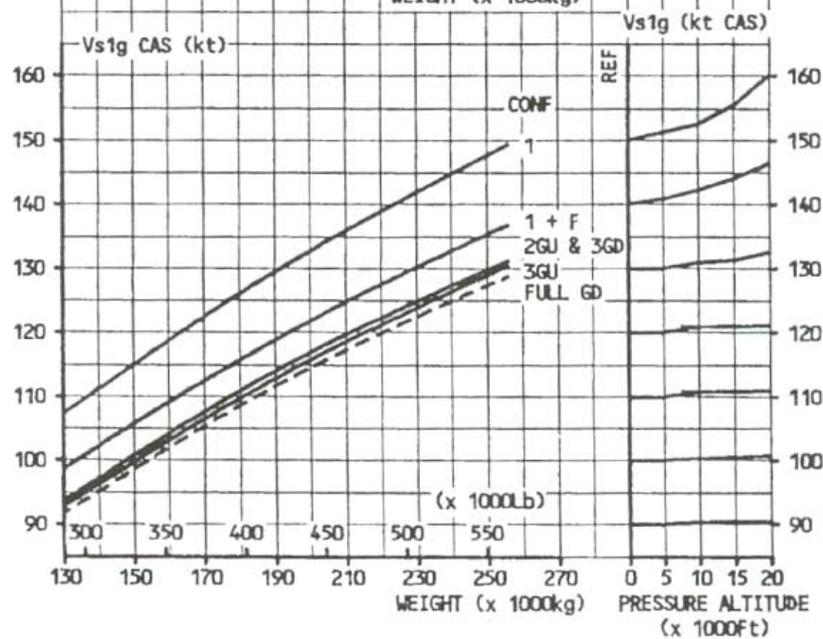
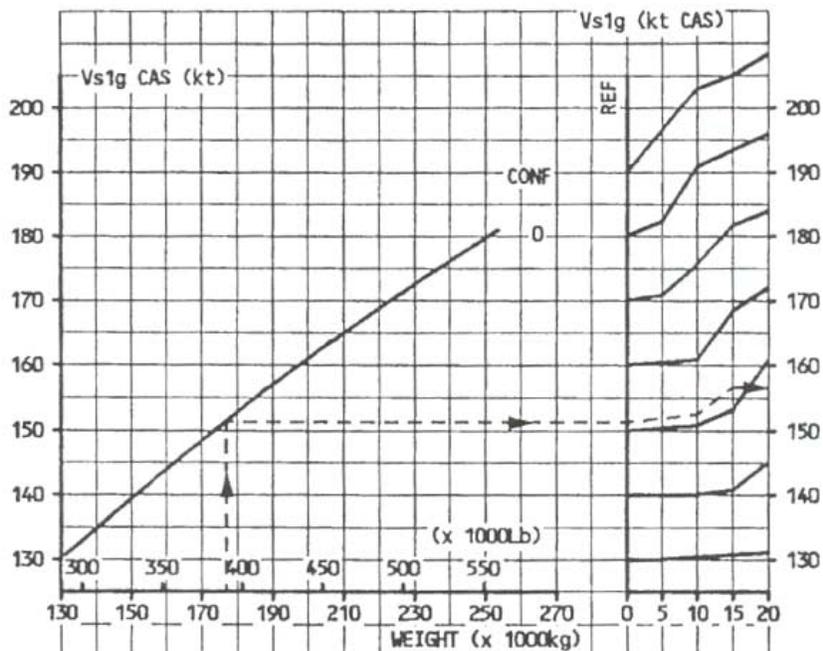
Vmca: 122.5 kt at SL (subtract 3 kt for each 2000 ft above)

Vmcg: 125 kt at SL (subtract 3 kt for each 2000 ft above)

# Stall Speeds

## A340 Stall Speed Graph

### STALLING SPEEDS



FFCS-03-0120-006-A100AA

EXAMPLE : DATA : 178 000 kg (392419 lb), PRESS ALT 15000 ft, CLEAN CONF  
RESULT : VS1G CAS = 158 kt

## AUTO FLIGHT

### Autopilot Function

Minimum height for use of autopilot:

- At takeoff in SRS mode: 100 ft AGL and at least 5 seconds after lift-off
- in cruise modes (climb, cruise, descent): 550 ft AGL

- in non precision approach: applicable MDA for straight in approach or 500 ft AGL for circling approach
- ILS approach: 160 ft AGL if CAT 1 capability is displayed on FMA

Minimum height for use of Autopilot in HDG or NAV mode after a go-around: 100 ft AGL

The use of AP and FD in OPEN DEScent mode is not permitted on approach unless FCU altitude is set to MDA or 500 ft AGL, whichever is higher.

### **Flight Management Function**

Lateral navigation of FMGS is approved for:

- en route navigation
- terminal area and approach navigation provided the pilot has positively crosschecked the navigation accuracy using raw data or "HIGH ACCY" is displayed on MCDU if no raw data.

### **Autopilot With Flight Management Function**

NAV mode may be used for non precision approaches (LOC, LOC B/C, VOR/DME, VOR, ADF, ADF/DME) provided raw data from the specified navaid is displayed on ND.

## **AUTOMATIC APPROACH AND LANDING**

### **Category II**

Minimum decision height: 100 ft

### **Category III Fail Passive**

Minimum decision height: 50 ft

### **Category III Fail Operational**

Alert height: 200 ft

- CAT III with DH, Minimum decision height: 20 ft
- CAT III without DH, Minimum RVR: 75m

### **Maximum Wind Conditions For Automatic Approach, Landing and Rollout**

Headwind: 30 kt

Tailwind: 10 kt

Crosswind: 15 kt

### **Autoland**

Autoland has not been demonstrated for:

- CAT I ILS
- ILS glide slope outside (2.5° - 3.15°) range
- Airport altitude higher than 7500 ft

## FUEL

### Usable Fuel Volume

	OUTER TANK	INNER TANK	CENTER TANK	TRIM TANK	TOTAL
LITERS	3,650 X 2	42,750 X 2	42,420	6,230	141,500
US GAL	964 X 2	11,301 X 2	11,207	1,646	37,383

### Maximum Allowed Wing Fuel Imbalance

Maximum allowed wing fuel imbalance in either the inner or outer tanks at takeoff, landing and in flight.

INNER TANKS		OUTER TANKS	
Tank Content	Authorized Asymmetry	Tank Content	Authorized Asymmetry
FULL	2900 kg	FULL	1500 kg
HALF	4800 kg	HALF	1600 kg
EMPTY	7500 kg	EMPTY	1700 kg

### Fuel Management

Tanks must be emptied in the following order: CTR TK then WING TANKS.

T TANK FWD must not be selected when pitch attitude is above 3° to avoid fuel aft transfer.

Transfer from CTR to INR when using JP4 is possible up to 20,000 ft.

### Minimum Fuel Quantity For Takeoff

5200 kg

## LANDING GEAR

### Brakes

Max brake temperature for TO: 300°C

Note: If brake fans are running, the max brake temperature for TO is: 150°C

### Parking Brake

Do not set N1 above 70% with the parking brake ON.

## POWER PLANT

### Thrust Setting / EGT Limits

OPERATING CONDITION	TIME LIMIT	EGT LIMIT	NOTE
TO and GA	5 min	950°C	Only in case of engine failure
	10 min		
MCT	Unlimited	915°C	
CL	Unlimited	915°C	
STARTING		725°C	

### OIL

Max continuous temperature: 140°C

Max transient temperature (15 minutes): 155°C

Minimum starting temperature: -54°C

### **RPM**

N1 max: 100.3%

N2 max: 105%

### **Reverse Thrust**

Selection of REV thrust in flight is prohibited.

Backing the aircraft with reverse thrust is not permitted.

Maximum reverse thrust should not be used below 60 kt (or when indicators start to fluctuate).

Idle reverse is allowed down to aircraft stop.

### **Reduced Thrust Takeoff**

Takeoff at reduced thrust is permitted only if the airplane meets all applicable performance requirements at the planned takeoff weight with the operating engines at the thrust available for the flexible temperature.

As the amount of thrust reduction must not exceed 25% the flexible temperature must not be higher than ISA + 40°C.

The flexible temperature must not be lower than the flat rating temperature or actual OAT.

Takeoff reduced thrust is not permitted on contaminated runways, or with any inoperative item affecting the performance.

### **Tailwind Limit For Start**

Max tailwind for engine start: 25 kt