



09-02 Unreliable Airspeed Indications/ Radome Damage

Reason: Provide more detailed information / procedure for Unreliable Airspeed Indications caused by pitot/static probe obstruction or Radome Damage. This bulletin supersedes the procedure in COM 2.31.

1. Disconnect the autopilot, flight directors, and autothrust.
2. Adjust pitch attitude and thrust using the following approximate parameters to stabilize the aircraft safely within the flight envelope. If the unreliable airspeed indications persist, refer to the charts starting on page OB09-2.3 for the remainder of the flight.

Flight Phase	Weight	Flt. Level	Pitch Att.	N ₁
Takeoff	ALL	< 1,500' AGL	+ 15°	TOGA
Climb (250 KT)	ALL	< FL 100	+ 10°	CLB
Climb (250 KT)	> 420,000	> FL 100	+ 5°	CLB
Cruise	> 420,000	FL 250-360	+ 3°	80%
Cruise	> 420,000	> FL 360	+ 3°	85%
Descent (260 KT)	390,000	FL 200	0°	IDLE
Appr. Flaps 1	390,000	LEVEL	+ 8°	58%
Appr. Flaps 2-3	390,000	LEVEL	+ 6°	65%
Appr. Gear/Flaps 3	390,000	FINAL - G/S	+ 4°	50%

Note: The drag associated with major damage to the radome may require an increase of the N₁ up to 3% above the table figures and a fuel flow increase of up to 13%.

Note: Respect Stall Warnings and disregard "RISK OF UNDUE STALL WARNING" ECAM status message, if displayed.

3. Maintain current flap/slat configuration.
4. Check speedbrakes retracted.

(Continued)



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5. After takeoff and safely airborne, retract the landing gear.
6. Use MCDU GPS ALT (DATA/GPS MONITOR) and ND groundspeed.
7. Ensure that the PROBE / WINDOW HEAT pb is ON.
 - ▶ If altitude indications are not reliable:
 - Do not use FPV or V/S which are affected.
 - ATC altitude readout may be affected.
 - Refer to GPS altitude as an altitude cue.
 - Refer to Radio Altimeter.

ADR CHECK PROC

8. Attempt to identify faulty ADR(s) through comparison of primary and secondary instruments or erratic operation.
 - ▶ If at least one ADR is reliable:
 - Turn the faulty ADR(s) to OFF.
 - Confirm remaining air data is correct using GPS altitude and GPS or IRS ground speeds (taking into account altitude and wind effect).
 - ▶ If affected ADR(s) cannot be identified or all ADRs are affected:
 - Keep one ADR on to maintain STALL WARNING protection.
 - Turn remaining two ADRs off to prevent flight control laws from using unreliable data.
 - EFIS DMC switching as required.

APPROACH PROCEDURES	INOP SYS
<ul style="list-style-type: none">▶ If two ADRs are turned OFF<ul style="list-style-type: none">• Use Flaps 3 for landing.• $V_{APP} = V_{LS} + 10 \text{ KT}$• LDG DIST PR ... APPLY (1.2)	ADR 1, 2, and/or 3 (if turned OFF)



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Pitch and power settings for the **A330-300**.

SLATS/FLAPS EXTENDED				
		Above 420,000 lb	420,000 - 350,000 lb	Below 350,000 lb
CONF	Speed	Pitch (°)/Thrust (%N ₁)		
3	F	7.5/68.3	7.5/64.2	7.0/60.2
2	F	9.5/66.2	9.5/61.1	8.5/55.0
1+F	S	6.0/64.0	6.5/58.9	6.5/53.6
1	S	9.0/62.7	9.0/57.7	9.0/52.4
CLIMB - CLEAN				
		Above 420,000 lb	420,000 - 350,000 lb	Below 350,000 lb
FL	Speed	Pitch (°)/Thrust (%N ₁)		
Below FL100	240 kts	9.5/CLB	10.5/CLB	11.5/CLB
FL100-FL150		8.5/CLB	8.5/CLB	9.5/CLB
FL150-FL200		7.5/CLB	7.5/CLB	8.0/CLB
FL200-FL250		7.0/CLB	6.5/CLB	7.0/CLB
FL250-FL300	260 kts	5.0/CLB	4.5/CLB	5.0/CLB
FL300-FL360		4.0/CLB	3.5/CLB	3.5/CLB
Above FL360	M 0.78	3.5/CLB	4.0/CLB	4.0/CLB
CRUISE - CLEAN				
		Above 420,000 lb	420,000 - 350,000 lb	Below 350,000 lb
FL	Speed	Pitch (°)/Thrust (%N ₁)		
Below FL250	240 kts	5.0/66.6	3.5/62.0	2.5/59.7
FL250-FL360	260 kts	3.5/79.1	2.5/75.4	2.0/73.1
Above FL360	M 0.78	3.5/84.3	3.0/81.6	2.5/78.4



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DESCENT - CLEAN				
		Above 420,000 lb	420,000 - 350,000 lb	Below 350,000 lb
FL	Speed	Pitch (°)/Thrust (%N ₁)		
Above FL360	M 0.78	1.0/IDLE	0.5/IDLE	-0.5/IDLE
FL360-FL250	260 kts	1.5/IDLE	0.5/IDLE	-0.5/IDLE
FL250-FL100	240 kts	2.0/IDLE	0.5/IDLE	-0.5/IDLE
Below FL100	240 kts	2.5/IDLE	1.0/IDLE	0.0/IDLE
Below FL100	G-DOT	2.5/IDLE	2.5/IDLE	2.5/IDLE
LANDING GEAR UP IN LEVEL FLIGHT				
		Above 420,000 lb	420,000 - 350,000 lb	Below 350,000 lb
CONF	Speed	Pitch (°)/Thrust (%N ₁)		
0	G-DOT	5.0/59.3	5.5/54.0	5.0/49.1
1	S	9.0/63.2	9.8/58.1	9.0/52.8
1+F	S	6.5/64.3	6.5/59.1	6.5/53.8
2	F	6.0/65.1	6.0/60.1	6.0/54.4
LANDING GEAR DOWN IN LEVEL FLIGHT (EXPECT GRAVITY GEAR EXTENSION)				
3	F	6.5/70.7	6.5/65.5	6.5/60.1
FINAL APPROACH AT 3° DESCENT FLIGHT PATH				
CONF	Speed	Pitch (°)/Thrust (%N ₁)		
3	VLS+10	4.5/52.2	4.5/47.7	4.0/43.0



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Pitch and power settings for the **A330-200**.

SLATS/FLAPS EXTENDED				
		Above 420,000 lb	420,000 - 350,000 lb	Below 350,000 lb
CONF	Speed	Pitch (°)/Thrust (%N ₁)		
3	F	8.0/69.9	8.0/66.4	8.5/62.9
2	F	9.5/66.0	9.5/61.0	9.0/55.0
1+F	S	6.5/64.3	6.5/59.1	6.5/53.8
1	S	9.0/63.2	9.0/58.1	9.0/52.8
CLIMB - CLEAN				
		Above 420,000 lb	420,000 - 350,000 lb	Below 350,000 lb
FL	Speed	Pitch (°)/Thrust (%N ₁)		
Below FL100	240 kts	10.0/CLB	11.0/CLB	12.0/CLB
FL100-FL150		9.0/CLB	9.0/CLB	10.0/CLB
FL150-FL200		8.0/CLB	8.0/CLB	8.5/CLB
FL200-FL250		7.0/CLB	7.0/CLB	7.0/CLB
FL250-FL300	260 kts	5.0/CLB	5.0/CLB	5.0/CLB
FL300-FL360		4.0/CLB	4.0/CLB	3.5/CLB
Above FL360	M 0.80	3.5/CLB	3.5/CLB	3.5/CLB
CRUISE - CLEAN				
		Above 420,000 lb	420,000 - 350,000 lb	Below 350,000 lb
FL	Speed	Pitch (°)/Thrust (%N ₁)		
Below FL250	240 kts	5.0/66.1	3.5/61.4	2.5/59.1
FL250-FL360	260 kts	3.5/78.9	2.5/75.2	2.0/72.1
Above FL360	M 0.80	3.0/84.2	2.5/81.6	2.0/78.7



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A330-200 (continued)

DESCENT - CLEAN				
		Above 420,000 lb	420,000 - 350,000 lb	Below 350,000 lb
FL	Speed	Pitch (°)/Thrust (%N ₁)		
Above FL360	M 0.80	1.0/IDLE	0.0/IDLE	-0.5/IDLE
FL360-FL250	260 kts	1.5/IDLE	0.5/IDLE	-1.0/IDLE
FL250-FL100	240 kts	2.0/IDLE	0.5/IDLE	-0.5/IDLE
Below FL100	240 kts	2.0/IDLE	1.0/IDLE	-0.5/IDLE
Below FL100	G-DOT	3.0/IDLE	3.0/IDLE	3.0/IDLE
LANDING GEAR UP IN LEVEL FLIGHT				
		Above 420,000 lb	420,000 - 350,000 lb	Below 350,000 lb
CONF	Speed	Pitch (°)/Thrust (%N ₁)		
0	G-DOT	5.0/60.2	5.5/55.7	5.0/50.6
1	S	9.0/62.8	9.0/57.8	9.0/52.6
1+F	S	6.0/64.0	6.5/58.9	6.5/53.6
2	F	6.0/65.1	6.0/60.2	6.0/54.5
LANDING GEAR DOWN IN LEVEL FLIGHT (EXPECT GRAVITY GEAR EXTENSION)				
3	F	6.5/71.4	6.5/66.1	6.0/60.8
FINAL APPROACH AT 3° DESCENT FLIGHT PATH				
CONF	Speed	Pitch (°)/Thrust (%N ₁)		
3	VLS+10	5.0/52.8	4.0/48.7	3.0/44.2



Erroneous Airspeed Indications/ Radome Damage

Message: N/A
Condition: Unreliable airspeed indications caused by pitot/static probe obstruction or radome damage.

1. Disconnect the autopilot, flight directors, and autothrust.
2. Maintain current flap/slat configuration and retract speedbrakes.
3. After takeoff and safely airborne, retract the landing gear.
4. Ensure that the PROBE / WINDOW HEAT pb is ON.
5. Use ND groundspeed and MCDU GPS ALT data (if available).
6. Adjust pitch attitude and thrust according to the guidance below.

Note: The drag associated with major damage to the radome may require an increase of the N_1 up to 3% above the table figures and a fuel flow increase of up to 13%.

Note: Respect stall warnings if in Alternate Law.

Flight Phase	Weight	Flt. Level	Pitch Att.	N_1
Takeoff	ALL	<5,000'	+ 13°	TO/FLX
Climb (250 KT)	ALL	<FL 200	+ 8°	CL
Cruise (260 KT)	400,000	FL 250	+ 2°	72%
Descent (260 KT)	(DO NOT USE SPD BRKS)		0°	IDLE
Appr. Flaps 1 - 3	390,000	LEVEL	+ 8°	58%
Appr. Flaps FULL	390,000	LEVEL	+ 6°	64%
Approach GEAR / FULL FLAPS	390,000	FINAL - ON GLIDESLOPE	+ 3°	50%
