CITATION
CJ3+

Inflight Guide

October 2023

Edition 5

Table of Contents

NOTE: This document contains excerpts from OEM and FAA sources. Ensure you have the latest information. In all cases the applicable FAR's and aircraft manuals and checklists govern operation of your aircraft.

BRIEFING GUIDES

PRE-TAKEOFF BRIEFING ITEMS

General

1. Takeoff Data card – complete and review
2. Brief planned Departure procedure and engine out procedure
3. Brief Departure threats and mitigations

Initial Autopilot Plan

1. FD set TO – TO or HDG – TO (and Arm Nav as appropriate) and set Altitude Preselect
2. Autopilot engage altitude___
3. If low altitude initial level off: CWS, pitch 5 deg., reduce power

Takeoff Malfunctions

1. Designate emergency return: Airport and Runway Approach type, MSA, Vspeeds
2. Review Memory Items for:
   a. Any serious malfunction prior to V_1 (consider 70/80 knot max for amber cautions for runway lengths > 1.5 runway required
   b. After V_1 for continued takeoff
3. Address other emergency procedures after level off.

Verbal Callouts

Note: If runway margin dictates, establish 70 kts. "Max amber abort speed"

'Thrust Set' 'Airspeed Alive' 'Cross-Check 70 knots'
'V_1'* 'Rotate' 'Positive Rate - Gear Up' 'Flaps Up'
'Climb Thrust Set'
*Recommend V_1 call at V_1-5 knots

TOP OF DESCENT BRIEFING ITEMS

General

1. Landing Data Card – complete and review
2. Brief STAR Waypoints, Altitudes, Airspeeds, AP modes, and planned use of VNAV
3. Brief Approach from Chart Briefing Strip
   Review AP Mode Sequencing
   If Circling, Draw Protected Radii on MFD Map
   Missed Approach Procedure
4. Airport Diagram: Turnoff / Taxi Plan, Hot Spots, Parking

Min Maneuvering Speeds (.6 AoA +10 knots):
Clean: V_{REF} +30 Flaps 15: V_{REF} +20 Flaps 35: V_{REF} +10

Verbal Callouts per the Safe to Land℠ Cue Card

Review Approach / Landing Threats and Go Around "Triggers"

Missed Approach Steps: Pickle, Power, Pitch, Flaps - Takeoff and Approach, Positive Rate – Gear Up, FMS Source – NAV, AP Mode - NAV, Pitch (Check Alt Bug), Flaps – Up, Climb Thrust

For Visual Approach Missed – Decide at Least 10nm Out
Initial Climb Altitude, Initial Heading and Turn in Pattern, G-A Power and Flaps Settings

Diversion Plan for Missed or Discontinued Approach
Course, Altitude, Airport, Runway, Planned Approach Fuel Required, Alternate Wx

Brief Approach Malfunctions

Engine Failure on Approach: Thrust Good Engine – Increase as Required; Airspeed V_{APP} then Flaps - Takeoff and Approach

APPROACH INFO

Autopilot: Generally, APPR for DAs, NAV for MDAs
(Except VOR, use APPR)

Holding:
Max Speeds / Altitude
200 kts < 6,000'
230 kts <14,000'
265 kts >14,000'

Minima:
Use CAT C
(C if IAS > 120)
(D if No  * per CJP SOPs)

Circling Radii

For MSL Alt	Cat C
With 	
1000	2.7
3000	2.8
5000	3.0
7000	3.2
No *	1.7

* Where the symbol  is absent means old obstacle clearance criteria
Reference SOP section for further Circling info.

- **Set Missed App Alt once on Glide Slope**
- **For FMS Overlay: Show raw data or bearing pointer for the underlying Nav Source**
- **VNAV not avail if MAP not at Rwy threshold (Circling App), manually control vertical after FAF**
- **If Vectors to Final, verify FAF in Go To (FAF is waypoint in the active leg, to avoid AP reversal to intermediate fix)**

G3000 INFO

Circling Approach Aid:
-TRACK VECTOR turned ON, with 60 sec max display
-RWY EXTENSION turned to 5NM or greater
-MAP Range set to 2.5 NM on ring around aircraft
Keep any part of any runway inside this circle to stay in the protected airspace (see page 6 for specific ranges)

V-speed set up: When setting takeoff speeds, enter, but do not turn on, V_{REF} and V_{APP} (for the takeoff weight), for emergency return. Enter 1,500 AGL altitude in the BARO MINS field, for the engine fail level off target:
With weight page on right GTC, on left GTC:
-First enter return to land speeds
-Then takeoff speeds
-Then acceleration altitude (Utilities, Minimums)

Visual Approach advisory guidance:
-Select Destination Airport
-Select Desired Arrival Runway, enter altitude to enable TOD
-Select the RUNWAY from GTC
-Direct To - Press
-VNAV Altitude = 50 ft.
-COURSE – Enter Runway Heading
-Activate Direct -To Runway

Descent Approach and Land Checklist

Use of these checklists minimizes workload near landing. Their use is at the pilot's discretion and the OEM checklists remain authoritative.

Pre-Descent

1. Landing Data ..... Determined
   (Vapp, Vref, Landing Distance and TPL for weight and factors)
2. Minimums and Vspeeds ..... Set
3. Approach Briefing ..... Completed
4. DEFOG Button..... .....As Required
5. COCKPIT AIR DIST Slider ..... MAX
6. Pressurization ..... VERIFY, set landing field elevation set
7. Ice Protection Systems throughout descent ..... As Required
   (Maintain sufficient minimum N2 for anti-ice/deice systems)

18,000-Foot

1. Passenger Seats ..... Check Full Upright, Outboard
2. Passenger Briefing..... Complete
3. Seats, Seat Belts, Shoulder Harnesses, Rudder Pedals.....
   .....Adjust and Secure
4. PAX SAFETY Switch ..... PAX SAFETY
5. WINDSHIELD ANTI-ICE BLEED AIR Knobs..... MAX
6. WINDSHIELD ANTI-ICE BLEED Switch..... LOW
   (Below 18,000 feet if landing with temp/dew point spread of less than 10°F (5°C))
7. Altimeters..... Set at Transition Level and Crosscheck
8. Exterior Lights..... As Required

Pre-Approach [normally completed prior to 10,000 feet]

1. FUEL TRANSFER Selector ..... OFF
2. Approach Briefing ..... Update as Required
3. Avionics, Flight Instruments and CAS Messages ..... Check
4. Minimums, Vspeeds, and TPL..... Confirm

Before Landing [normally completed prior to 1000 feet]

1. Landing Gear ..... Down (3 green)
2. Flaps ..... 35°
3. Pressurization..... ΔP < 0.5 PSI by touchdown
4. Speedbrakes..... Retracted

Diversion

1. FMS ..... Set up for Diversion Airport as destination
2. Pre-Approach Flow..... Repeat
3. Before Landing Flow..... Repeat

NOTE: All Landing Lights ON with Landing Clearance, or when #1 to land (Uncontrolled Airports)

WEATHER (US / FAA)

Alternate Filing Requirements:

ETA +/- 1 hour:

Destination ≥ 2,000'/3 SM, otherwise alternate required

Note - Aircraft equipped with WAAS may file airports without ground-based navaid approaches as their alternate if the "A NA" symbol has been removed from the approach plate. Plan on LNAV only minimums (AIM 1-1-18)

Weather Minimums for airport to qualify as an Alternate

With Precision approach: At least 600'/2SM

If only Non-Precision approach: At least 800'/2SM

No approach: At least 1000'/3SM (VFR)

Fuel Requirements:

Departure > Destination > Alternate + 45 min. at cruise

VFR Minimums

Class B: Clear of Clouds / 3SM

Class C, D, E: 500' below, 1000' above, 2000' horiz / 3SM

Class G (uncontrolled airspace) 1SM day, 3SM night

500' below, 1000' above, 2000' horiz.

Class E, G ≥ 10,000' MSL

5SM 1000' below, 1000' above, 1SM horiz.

Decoding PIREPS

UA = Routine Report **UUA** = Urgent Report

/OV Location 3-letter Navaid ID, i.e. /OV BOS radial/DME

/TM Time, GMT **/FL** Altitude

/TP Type Aircraft **/SK** Cloud (SCT, BKN, OVC)

/WX Flight vis. followed by symbols for Rain, Snow, etc

/TA Air Temp, Celsius **/WV** Wind direction, speed

/TB Turbulence i.e LGT, MOD or EXTRM

/IC Icing using standard abbreviations

/RM Remarks

COLD WEATHER RESTRICTED AIRPORTS

Manually applying altitude corrections

Step 1: Determine if there is a "snowflake" icon on the approach chart (NACO) or minimum temp requirement in Notes section (Jepp).

Step 2: **Per CJP SOP, if flying approach at night or in IMC, apply appropriate altimeter corrections if the temperature of the pressure-reporting station is below 0°C. Use the "All Segments Method":** Apply cold temperature corrections to all published altitudes from the IAF to the MA final holding altitude (see 2a – 2c below). **Inform ATC you are applying corrections**

The ILS glideslope and WAAS glidepath are unaffected by cold temperatures and will provide reliable vertical guidance to the **corrected** DA/DH. A Baro-VNAV glidepath **will be affected** by cold temperatures and must be corrected when at or below the temperature limit by using the LNAV/VNAV line of minima to DA/DH.

ICAO Cold Temperature Error Table
Height Above Airport in Feet

REPORTED TEMP °C	200	300	400	500	600	700	800	900	1000	1500	2000	3000	4000	5000
+10	10	10	10	10	20	20	20	20	20	30	40	60	80	90
0	20	20	30	30	40	40	50	50	60	90	120	170	230	280
-10	20	30	40	50	60	70	80	90	100	150	200	290	390	490
-20	30	50	60	70	90	100	120	130	140	210	280	420	570	710
-30	40	60	80	100	120	140	150	170	190	280	380	570	760	950
-40	50	80	100	120	150	170	190	220	240	360	480	720	970	1210
-50	60	90	120	150	180	210	240	270	300	450	590	890	1190	1500

2.a Enter chart with FAF altitude (AGL) and apply that correction to FAF. Also apply this correction to all fixes out to the IAF.
2.b. Enter chart with DA/DH/MDA altitude (AGL) and apply that correction to the DA/DH/MDA and any stepdown fixes.
2.c. Enter chart with MAP Final Hold altitude (AGL) and apply that correction to the MAP Final Hold altitude.

COMMUNICATIONS / FAA No.'s

Flight Watch 122.0 (0600-2200 local)
"Any Radio" 122.2

IFR Clearance at Uncontrolled Fields:

- Use Phone number or the RCO Freq. listed in Chart Supplement
- Communications Section (Airport Facility Directory)
- Or Use the Center Phone number below for ARTCC
- Or Call FSS at 800-992-7433 to get the RAPCON phone #

AIR ROUTE TRAFFIC CONTROL CENTERS (ARTCCs)

ARTCC NAME	*24 HR RGNL DUTY OFFICE TELEPHONE #	BUSINESS HOURS	BUSINESS TELEPHONE #	**CLEARANCE DELIVERY TELEPHONE #
Albuquerque	817–222–5006	7:30 a.m.–4:00 p.m.	505–856–4300	505–856–4561
Anchorage	907–271–5936	7:30 a.m.–4:00 p.m.	907–269–1137	
Atlanta	404–305–5180	7:30 a.m.–5:00 p.m.	770–210–7601	770–210–7692
Boston	404–305–5156	7:30 a.m.–4:00 p.m.	603–879–6633	603–879–6859
Chicago	817–222–5006	8:00 a.m.–4:00 p.m.	630–906–8221	630–906–8921
Cleveland	817–222–5006	8:00 a.m.–4:00 p.m.	440–774–0310	440–774–0490
Denver	206–231–2099	7:30 a.m.–4:00 p.m.	303–342–1600	303–651–4257
Ft. Worth	817–222–5006	7:30 a.m.–4:00 p.m.	817–858–7500	817–858–7584
Honolulu	310–725–3300	7:30 a.m.–4:00 p.m.	808–840–6100	808–840–6201
Houston	817–222–5006	7:30 a.m.–4:00 p.m.	281–230–5300	281–230–5622
Indianapolis	817–222–5006	8:00 a.m.–4:00 p.m.	317–247–2231	317–247–2411
Jacksonville	404–305–5180	8:00 a.m.–4:30 p.m.	904–549–1501	904–845–1592
Kansas City	817–222–5006	7:30 a.m.–4:00 p.m.	913–254–8500	913–254–8508
Los Angeles	661–265–8200	7:30 a.m.–4:00 p.m.	661–265–8200	661–575–2079
Memphis	404–305–5180	7:30 a.m.–4:00 p.m.	901–368–8103	901–368–8453
Miami	404–305–5180	7:00 a.m.–3:30 p.m.	305–716–1500	305–716–1731
Minneapolis	817–222–5006	8:00 a.m.–4:00 p.m.	651–463–5580	651–463–5588
New York	718–995–5426	8:00 a.m.–4:40 p.m.	631–468–1001	631–468–1425
Oakland	310–725–3300	6:30 a.m.–3:00 p.m.	510–745–3331	
Salt Lake City	206–231–2099	7:30 a.m.–4:00 p.m.	801–320–2500	801–320–2568
San Juan	404–305–5180	7:30 a.m.–5:00 p.m.	787–253–8663	787–253–8664
Seattle	206–231–2099	7:30 a.m.–4:00 p.m.	253–351–3500	253–351–3694
Washington	718–995–5426	8:00 a.m.–4:30 p.m.	703–771–3401	703–771–3587

*Facilities can be contacted through the Rgnl Duty Officer during non–business hours.
**For use when numbers or frequencies are not listed in the airport listing

Lost Communications

Transponder: 7600
Route: Cleared, then Expected, then Filed
Altitude: Highest of assigned, minimum or expected
Leave clearance limit: At EFC, or absent that, to arrive at ETA

NASA ASRS Reports link:
https://asrs.arc.nasa.gov/report/caveat.html?formType=atc

TAKEOFF / LANDING DATA INFO

TOFL = Greatest of:
115% of 2-Eng Distance to 35 ft AGL, or
Accel/Stop (from V_1), or
1-Eng Accel/Go Distance (= Eng. fail at V_1 and climb to 35 ft AGL)

V_1 = Max speed enabling a Stop or Min speed to Takeoff to 35' in remaining Rwy. This distance is the balanced field length.

V_2 = Takeoff safety speed = Speed at 35' if Single Engine

1st Segment – Liftoff to Gear up and V_2
2nd Segment – Gear up to Level off at V_2
3rd Segment – Level transition from V_2 to V_{Enr}

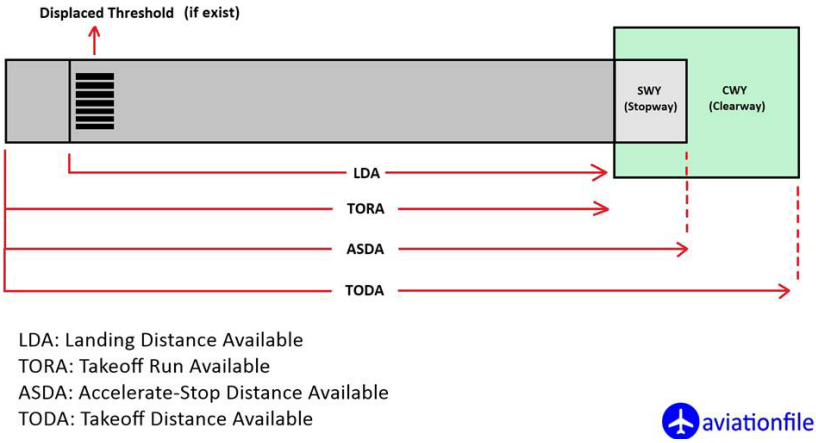
Climb Gradient Minimums:
Takeoff (2-Eng) 3.3% or 200 Ft/NM (TERPS)
OEI takeoff (2nd segment) gross 2.4% (145 Ft/NM)
net 1.6% (100 Ft/NM)
Approach Gross climb gradient (OEI) 2.1% min. (125 Ft/NM)
Landing Gross climb gradient (2 Eng.) 3.2% min. (190 Ft/NM)

Landing Distance = Total from 50 ft AGL to stopping point

Applying Factors to AFM calculated landing distance data:
CJP SOP: Apply 1.67 factor to AFM computed values
If a visual or electronic GP available, then may use 1.25

Other industry standards for reference, applied to dry Ldg. Dist.:
1.15 for minimum FAA recommended margin
1.25 for 1% down slope
1.67 for Part 135 conservatism to normal AFM landing data
1.92 for Part 135 conservatism Wet Rwy (1.15 x 1.67 = 1.92)

1.15 = Provides Landing within 86% of available distance
1.25 = Provides Landing within 80% of available distance
1.67 = Provides Landing within 60% of available distance
1.92 = Provides Landing within 52% of available distance



Runway Declared Distances defined below are available in the Chart Supplement, Airport Facility Directory (A/FD):

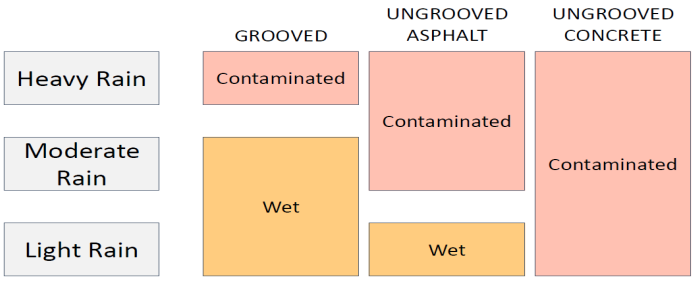
- **Clearway** is the area beyond the paved runway that is free of all types of obstructive material
- **Stopway** is the area used to slow the aircraft in case of an aborted takeoff
- **TORA** is the runway length available for the takeoff run.
- **TODA** is TORA plus clearway when available
- **ASDA** is TORA plus stopway when available
- **LDA** is the length of runway available for the ground run of the landing aircraft

APPENDIX B. RUNWAY CONDITION ASSESSMENT MATRIX (RCAM)*

Assessment Criteria		Downgrade Assessment Criteria		
Runway Condition Description	**Code**	**Mu (μ) [1]**	**Vehicle Deceleration or Directional Control Observation**	**Pilot Reported Braking Action**
• Dry	6		---	---
• Frost • Wet (Includes Damp and 1/8 inch depth or less of water) ***1/8 inch (3mm) depth or less of:*** • Slush • Dry Snow • Wet Snow	5	40 or Higher	Braking deceleration is normal for the wheel braking effort applied AND directional control is normal.	Good
5° F (-15°C) and Colder outside air temperature: • Compacted Snow	4	39 to 30	Braking deceleration OR directional control is between Good and Medium.	Good to Medium
• Slippery When Wet (wet runway) • Dry Snow or Wet Snow (Any depth) over Compacted Snow ***Greater than 1/8 inch (3mm) depth of:*** • Dry Snow • Wet Snow ***Warmer than 5° F (-15°C) outside air temperature:*** • Compacted Snow	3		Braking deceleration is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.	Medium
Greater than 1/8 (3mm) inch depth of: • Water • Slush	2	29 to 21	Braking deceleration OR directional control is between Medium and Poor.	Medium to Poor
• Ice [2]	1		Braking deceleration is significantly reduced for the wheel braking effort applied OR directional control is significantly reduced.	Poor
• Wet Ice [2] • Slush over Ice [2] • Water over Compacted Snow [2] • Dry Snow or Wet Snow over Ice [2]	0	20 or Lower	Braking deceleration is minimal to non-existent for the wheel braking effort applied OR directional control is uncertain.	Nil

1 Mu values are approximate and intended to be used only to downgrade a condition code, except as identified in Note 2. Airport managers use their best judgment applying readings from friction measuring devices.

2 In some cases the runway surface conditions may not be as slippery as the RCAM assigned values. The airport manager may opt to raise the condition code (no higher than 3) if the measured Mu is 40 or higher and all other indications support a higher code than a 0 or 1.



LANDING DISTANCE - FEET

FLAPS - LAND

AIRSPEED - V_{REF}

DRY RUNWAY	ADVERSE RUNWAY CONDITIONS (ALL WINDS, 50 FT SCREEN HEIGHT)														
	WET RUNWAY	WATER COVERED RUNWAY - INCHES *					SLUSH OR WET SNOW COVERED RUNWAY - INCHES *					DRY SNOW INCHES *		COMPACT SNOW	WET ICE **
		0.125	0.2	0.3	0.4	0.5	0.125	0.2	0.3	0.4	0.5	1.0	2.0		
1600	2050	2550	2450	2350	2250	2150	2600	2600	2500	2350	2250	2750	2400	2850	6600
1800	2350	2850	2750	2650	2500	2400	3050	2950	2800	2700	2550	3250	2750	3350	7300
2000	2600	3300	3150	3000	2800	2700	3600	3400	3200	3050	2900	3700	3150	3800	8500
2200	2900	3750	3550	3300	3150	3000	4100	3850	3600	3350	3200	4150	3500	4300	10950
2400	3200	4200	3900	3650	3450	3250	4550	4250	3950	3700	3500	4650	3850	4800	15450
2600	3500	4600	4300	4000	3750	3550	4850	4550	4250	4000	3800	4850	4200	5000	
2800	3800	4950	4650	4300	4050	3800	5150	4800	4550	4300	4050	5050	4450	5200	
3000	4100	5350	5000	4650	4350	4100	5500	5150	4850	4600	4350	5300	4700	5450	
3200	4350	5850	5400	5000	4650	4400	5950	5550	5200	4900	4650	5600	4950	5800	
3400	4650	6350	5850	5350	5000	4700	6450	6050	5550	5200	4950	5900	5150	6150	
3600	4950	6850	6300	5750	5350	5050	6950	6450	5950	5550	5250	6200	5400	6450	
3800	5250	7300	6750	6150	5700	5350	7450	6900	6350	5900	5550	6550	5600	6800	
4000	5550	7800	7200	6550	6050	5650	7950	7400	6800	6300	5900	6850	5850	7150	
4200	5850	8250	7600	6950	6400	6000	8400	7800	7200	6700	6250	7150	6100	7500	
4400	6200	8700	8050	7350	6800	6350	8900	8250	7600	7050	6600	7450	6350	7750	
4600	6500	9200	8450	7700	7150	6650	9350	8700	8000	7400	6950	7700	6600	7950	
4800	6800	9650	8900	8100	7500	7000	9850	9150	8400	7800	7300	7900	6800	8150	
5000	7100	10050	9300	8500	7850	7300	10250	9550	8800	8150	7650	8150	7050	8350	
5200	7450	10450	9700	8850	8200	7650	10650	9950	9200	8550	8000	8300	7250	8500	
5400	7750	10800	10050	9250	8550	8000	11000	10350	9550	8900	8350	8600	7450	8750	
5600	8050	11200	10400	9600	8900	8300	11350	10700	9900	9250	8700	8800	7600	9000	
5800	8350	11600	10750	9950	9250	8650	11700	11050	10150	9500	8950	9000	7800	9250	
6000	8650	12000	11100	10300	9600	9000	12050	11400	10400	9750	9200	9200	8000	9500	
6200	8950	12400	11450	10650	9950	9350	12400	11750	10750	10150	9600	9400	8200	9750	
6400	9250	12800	11800	11000	10300	9700	12750	12100	11100	10500	9950	9600	8400	10000	
6600	9550	13200	12150	11350	10650	10050	13100	12450	11400	10850	10300	9800	8600	10250	
6800	9850	13600	12500	11700	11000	10400	13450	12800	11750	11200	10650	10000	8800	10500	
7000	10150	14000	12850	12050	11350	10750	13800	13150	12100	11550	11000	10200	9000	10750	
7200	10450	14400	13200	12400	11700	11100	14150	13500	12400	11900	11350	10400	9200	11000	
7400	10750	14800	13550	12750	12050	11450	14500	13850	12750	12250	11700	10600	9400	11250	
7600	11050	15200	13900	13100	12400	11800	14850	14200	13100	12600	12050	10800	9600	11500	
7800	11350		14250	13450	12750	12150	15200	14550	13400	12950	12400	11000	9800	11750	
8000	11650		14600	13800	13100	12500		14900	13750	13350	12800	11200	10000	12000	
8500	12400		15500	14700	14000	13400		15800	14600	14200	13650	11700	10500	12650	
9000	13150			15550	14850	14250			15400	15100	14550	12200	11000	13250	
9500	13900				15750	15150					15450	12700	11500	13900	
10000	14650											13200	12000	14500	
10500	15400											13700	12500	15150	
11000												14200	13000		
11500												14700	13500		
12000												15200	14000		
12500													14500		
13000													15000		
13500													15500		
14000															

RCAM Reading	5	5*	2	2	2	2	5*	2	2	2	2	3	3	3	0
								3	3	3	3			4	

*Note, although this equates to FAA RCAM 5, it is worst wet condition in Textron data. Calls of condition 5, with 1/8" water or slush could be as hazardous as a 2 condition

If < -15C

NOTE

The published limiting maximum tailwind component for this airplane is 10 knots: however, Cessna does not recommend landings on precipitation-covered runways with any tailwind component.

* Landings should not be attempted in any precipitation depth greater than the highest depth presented.

** Landings on Wet Ice should not be attempted at temperatures less than 0°C, or weights less than 11,000 lbs, or with any Tailwind.

AOA REFERENCES

Stall Warning = .79 - .91
Stick-Shaker = .80 - .85+
Stall = 1.00
Vref = .60 and is also
Max Endurance,
Vx (1- or 2-Eng)

.60 - .70 ≅ V_2 (1-Eng)
.35 ≅ Max Range Cruise,
Venr (1-Eng),
Vy (2-Eng)

Note: AOA values are most useful at approach speeds and near stall. AOA is not precise for cruise settings. Use Mach and airspeed as primary metrics for Cruise performance

Crosscheck AOA and Vref on approach to catch errors in configuration or speed calculations.

CJ3+ Glide Ratio is 12.7:1 at Max Glide Speed: This is the glide range to be expected when flying the glide speeds provided in the Emergency Procedures Checklist for Maximum Glide Emergency Landing checklist. If using Foreflight, can insert this value in the Foreflight Glide Advisor function.

HIGH ALTITUDE STALLS

Pilots should carefully monitor aircraft energy state in high altitude climbs by cross checking:

- IAS / Mach
- AOA
- Pitch

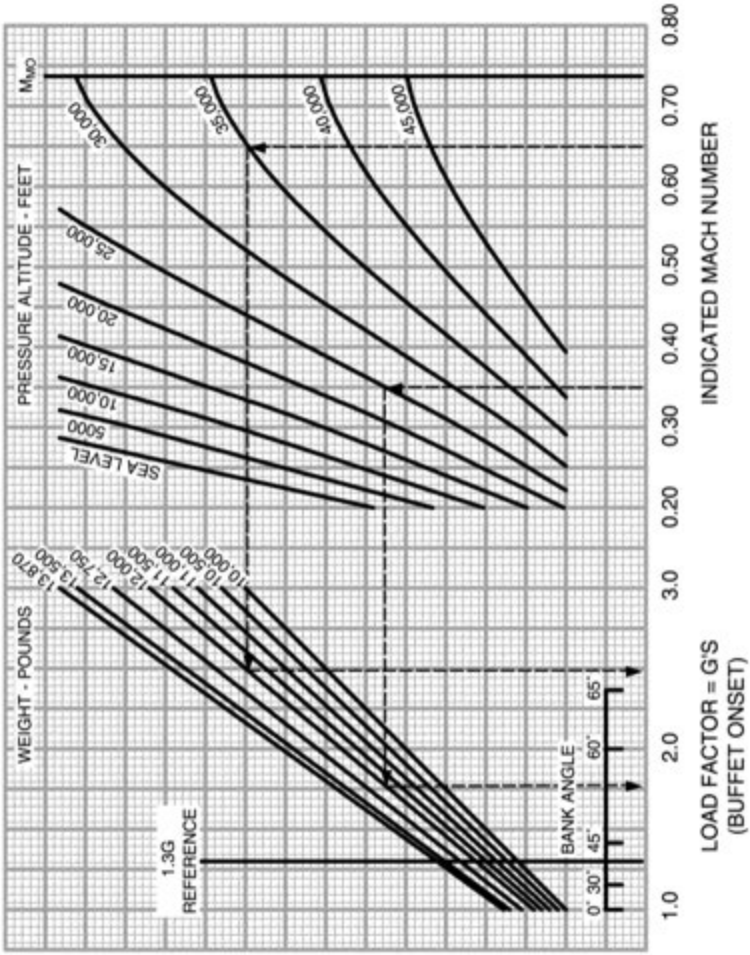
IAS decay to 1.3Vs (green donut) or **AOA>0.5** indicate a possible behind-the-curve energy state.

Flight conditions warranting extra caution include:

- High Weight
- High ISA
- Climb / Descent through the jet stream with large changes in head-winds or tail-winds
- Turbulence

Reference Mach-Buffet Chart in AFM, copy included below.

<u>If the stick shaker activates, aggressive action should be taken immediately to regain airspeed.</u>



Hot Weather Ground Operations CJ3+

(Limitations to be added)

	CJ3+ Approximate Power Settings			
	Config	Speed	N_1 setting 2 Eng	N_1 setting 1 Eng
Below 10,000 ft 2000 fpm descent	Clean	250	53%	65%
Terminal area level	Clean 15 Flaps	180 155	60% 58%	77% 78%
FAF inbound 3 deg path	35 Flaps, Gear Dn 15 Flaps, Gear Dn	115 130	50% 42%	NA 59%
Level (circle)	15 Flaps, Gear Dn	130	60%	78%
Level (MDA)	35 Flaps, Gear Dn	115	64%	NA

Cold Weather Operations CJ3+

On-Ground Operations

Temperature:		Operating Constraint:
-54°C / -65°F		Minimum Ambient Temp for Takeoff (observing other limits below)
-40°C / -40°F		Minimum Temp for Jet A Fuel (EIS). Put aircraft in hangar if exceeded a) If the airplane has been cold soaked in ambient air temperatures below -40°C, Heat the FADECs to -40°C or greater. Alternatively, FADECs may be warmed with electrical power for at least 3 minutes followed by a power cycle with the battery switch. b) If engine and/or engine oil temperature is below -40°C, the engine must be preheated prior to start. Min Eng. Oil Temp ind. on EIS is -40°C
-35°C / -31°F -30°C / -21°F		Minimum RAT to operate boots (cracking potential) Aux Battery may be inert below -30 and will not charge or discharge
-20°C / -4°F		Below -20°C batteries may be inert and will not charge or discharge. Below -20°C the MFD nay have to operate for 10 minutes to be usable
-18°C / -0°F		If battery is cold soaked > 2 hours at -18°C or colder, preheat > -18°C prior to start. Emer Hatch forces may be heavy if cold soaked < -18°C
-10°C / +14°F		a) "Cold Soak" is defined as ≥ 2 hours below -10°C / airplane parked without engines and systems operating. Remove battery to a warm area or use battery heater. Do not use control lock, chock wheels (parking brake unreliable), retract flaps. b) Cabin must be ≥0°C for >20 min. before takeoff and for flight above FL240, if cold soaked >2 hours at -10°C or colder, for proper operation of the Pax O2 masks. N/A if no Pax. c) Starting after cold soak - use external power or preheated battery. Terminate start if N2< 8%.
0°C / +32°F		Remove O2 masks if parked at <0°C
6ºC / +43°F		a) Tactile check of the wing leading edge/upper surface to verify no frost, ice, snow, or slush if OAT <6ºC and: visible moisture in the air, water on wing, <3ºC temp-dewpoint spread, or conditions conducive to frost. Also required if can't determine fuel temp >0°C regardless of OAT. b) Do not operate engine >80% N2 until Oil Temp >10°C

Notes:

1. Ambient surface temperature must be obtained from the RAT display on the PFD, with at least one engine running, or from an appropriate ground station. The SAT display is unreliable on the ground.
2. Icing conditions on the ground exist when the OAT or indicated RAT is +10°C or below, and where surface snow, slush, ice, or standing water may be ingested by the engines or freeze on engine nacelles, or engine sensor probes. Use Anti-Ice ON for these conditions, even if "clear and a million."

In-flight Operations (Cold Weather)

Temperature (RAT):		Operating Constraint:
-54°C / -65°F		Minimum Ambient Temp for Takeoff (observing other limits below)
-40°C / -40°F		Minimum Temp for Jet A Fuel (EIS). Put aircraft in hangar if exceeded
-40°C / -40°F(SAT)		When SAT is below -40°C, wing and engine anti-ice systems may be operated in ENG ONLY if it can be visually verified no ice is accumulating.
-35°C / -31°F		Minimum RAT to operate boots (cracking potential)
-18°C / -0°F		a) When windshield anti-icing is required, WINDSHIELD BLEED AIR knobs are MAX, and the WINDSHIELD BLEED switch is turned to LOW if RAT is above -18°C or HI if RAT is -18°C or below. b) Severe icing can be encountered at temperatures as cold as -18°C.
0°C / +32°F		a) Cabin must be ≥0°C for flight above FL240 for proper operation of the Pax O2 masks. N/A if no Pax.
+5°C / +10F		On descent WINDSHIELD BLEED Switch **LOW** below 18,000 feet if landing with temperature/dewpoint spread of less than 5°C (**HIGH** if RAT is -18°C or below)
10ºC / +50°F		a) Engine anti-ice must be ENG ON or WING/ENG for operations with indicated RAT of +10°C or below, when flight into visible moisture is a possibility. b) The wing/engine anti-ice systems may be operated in the ENG ON position and the windshield anti-ice and tail deice may be OFF provided it can be visually verified that no ice is accumulating.

Notes:

1. **Flight is prohibited in freezing rain, freezing drizzle, or mixed icing conditions (supercooled liquid water and ice crystals).**
2. Icing conditions exist when the indicated RAT in flight is +10°C or below, and visible moisture in any form is present (such as clouds, fog with visibility of 1 mile or less, rain, snow, sleet, or ice crystals).

FUEL CONVERSIONS JET A

Pounds	Gallons
100	15
200	30
300	45
400	60
500	75
600	90
700	105
800	120
900	135
1000	150

CJP SOPs

I. Pilot Physiological Considerations

Duty Day:

a) 8 hours of flight time in any calendar day (12 hours with safety pilot)
b) Duty day max 14 hours, or 8 hours during 0200-0600; 16 hours with safety pilot, or12 during 0200-0600
c) Rest 10 hours between duty periods; 8 hours with safety pilot

Other Physiological Concerns:

d) Donate blood: wait 72 hours to act as crew
e) SCUBA: pilots and pax don't fly within 24 hours

II. Hazardous Materials

a) No dry ice on aircraft
b) No lithium batteries in any baggage compartment.
c) Only charge OEM lithium batteries during flight
d) Secure terminals of batteries not installed in a device

III. Flight Planning and Preparation

a) Designate a suitable alternate airport for **all** flights
    i) If destination doesn't have IAP, alternate should have acceptable IAP
b) Use 2 current copies of electronic charts on two different electronic devices, utilizing two different software packages
c) Check cruise performance for planned cruise within 4000' of the aircraft ceiling
d) After significant maintenance event: no flight at night / IMC until day VMC functional check flight has been done

If flying VFR:

a) Request VFR flight following if flying >25nm
b) Be able to maintain ≥ 2000' above the tallest obstacle within 5 miles laterally of route

IV. Runway Field Length Guidelines

a) Takeoff / landing performance computation:
   -Count no performance benefit for headwinds.
   -If any tailwind is expected to exist, compute using 10 knots of tailwind component.
b) For landing the computed required field length must be:
   ≤80% of available landing distance with electronic / visual descent path indicator (1.25 Factor)
   ≤60% of available landing distance without path indicator (1.67 Factor)

V. Surface Operations

a) Max wind for taxi, take off or land is 50 knots, including gusts
b) Do not operate on any surface with braking action reported as nil

VI. Takeoff and Departure

a) Use published takeoff minimums for the runway to be used.
b) If takeoff weather is below minimums for the expected return-to-land runway, identify a suitable takeoff alternate within 25 NM of the departure airport

VII. Enroute

a) No non-operationally necessary conversation below 10,000' MSL: during any segment of an approach procedure, or during the last 1000' before level off during climb or descent
b) No vertical speed mode for autopilot climb above 30,000' MSL
c) "Minimum Fuel" when fuel state becomes less than fuel to destination plus 45 minutes at current burn
d) "Emergency Fuel" when fuel less than 45 min at current fuel flow. Divert to and land at the nearest suitable airport

VIII. Approach and Landing

a) Visual approach minimums:
    a. ≥ 1500' ceiling, and 3 SM day / 5 SM night
    b. No visual approach to unfamiliar airport at night unless the runway is served by an approach with vertical guidance
    c. No visual approach to any airport at night unless the runway is served by an approach with vertical guidance or a visual glidepath indication
b) Circling:
    a. If approach does not have expanded circling protection area use Category D minimums
    b. Minimum visibility 3 SM day / 5 SM night
    c. Minimum ceiling 500' above the circling MDA
    d. At night landing runway must have visual glide path guidance
c) In IMC / night, apply altimeter corrections if the temperature of the pressure-reporting station is below 0°C
d) Don't commence an IAP if prior to the FAF weather reports indicate surface visibility is less than required for the approach

e) If the reported visibility is less than 1 SM, conduct approach with the autopilot engaged

f) During any approach autopilot engaged, maintain a hand on the yoke when the aircraft is below 1,000' AFL

g) **Apply Safe To Land ^{SM} Stable Approach and Landing Criteria for all flights VMC and IMC:** Initiate a Go - Around if the approach cannot be stabilized by the 200' Go Around Gate (DA / MDA if Instrument Approach) or earlier if in the pilot's judgement approach stability will not be achieved. Refer to the STL Cue Card
Additionally, touchdown within Longitudinal TPL ('Floating') and Lateral TPL ('Drifting') touchdown zone gates ('Limit') or Go Around. Refer to STL Cue Card

h) When flying an approach with Baro-VNAV guidance on final, the pilot should obtain and cross-check a minimum of two independent altimeter settings. Possible sources include:
ATIS/ AWOS / ASOS / ATC / METAR via SXM, ADS-B in, or Datalink
Approaching minimums, the pilot should check the radar altitude (if equipped), against the charted height above TDZ at minimums. Understand that variations in terrain and buildings can cause a difference in displayed RA
If the aircraft has the ability to set two different minimums alerts (e.g., ProLine 21), consider setting one alert to Radar height above TDZ and one to Baro minimums

i) When landing on a runway with a parallel runway also actively being used for landing, load an instrument approach if one exists and use the autopilot for lateral tracking until short final, even if flying a visual approach

j) Don't exceed the demonstrated crosswind component:
If braking action is reported as less than good observe the following crosswind component restrictions:

Braking Action	X-Wind Component
Good	Max demonstrated
Good-Medium	Max minus 5
Medium	Max minus 10
Medium-Poor	Max minus 15
Poor	Max minus 20
Nil	Do not operate

IX. Flight Hazards

a) Practice donning your oxygen mask every 90 days
b) No flight in freezing drizzle / rain / severe icing; avoid continued flight in moderate / greater icing

X. Pilot Limitations, Training and Currency

Observe the following restrictions if the PIC has not flown at least 15 hours as PIC in the last 90 days (or less than 100 hours time in type):

a) Minimum planned fuel reserve 1 hour
b) Minimum visibility for takeoff is 1 mile
c) On instrument approaches, increase the published minimums by one-half mile visibility and 200 feet to DA or MDA
d) Do not conduct any approaches in IMC or at night without vertical guidance
e) Do not land at unfamiliar fields at night unless the runway used is served by an approach with vertical guidance and functioning visual approach indicators (VASI / PAPI).
f) Do not conduct circling approaches
g) Perform landings at a weight that allows a full stop in 60 percent of available runway length

Only act as PIC if the following minimum training and currency requirements have been met:

h) Logged in an aircraft of the same type, within the preceding 45 days, at least 1 hour of flight time, and 1 takeoff and landing, and
i) Completed simulator based recurrent training (including a 61.58) in type within the preceding 12 calendar months

PILOT IFR CURRENCY (FAA)

Previous Six Calendar Months: Six approaches, holding procedures, intercepting / tracking courses

If IFR Currency Lapsed: Six-month grace period to meet requirements, then after six months, must take IPC

Light Gun Signals

	MEANING	
Color and type of signal	Aircraft on the ground	Aircraft in flight
Steady green	Cleared for takeoff	Cleared to land
Flashing green	Cleared to taxi	Return for landing (*to be followed by steady green at the proper time*)
Steady red	Stop	Give way to other aircraft and continue circling
Flashing red	Taxi clear of landing area or runway in use	Airport unsafe- Do not land
Flashing white	Return to starting point on airport	Not applicable
Alternating red and green	General warning signal – exercise extreme caution	General warning signal – exercise extreme caution

Reply with one of the following

Daylight: Rock wings if in flight, move ailerons/rudder on ground

Night: Flash Landing light or navigation lights

Transponder Codes

0000 – Never Use

1200 – VFR

7500 – Hijack
('special emergency")
Controller will
discretely ask
"Confirm squawking 7500"

7600 – Communications Failure

7700 – Emergency

7777 – Do not use, reserved for military interceptor ops.

TIMES OF USEFUL CONSCIOUSNESS AT VARIOUS ALTITUDES		
Standard Ascent Rate		After Rapid Decompression
Altitude (Feet)	Time	Time
18,000	20 to 30 minutes	10 to 15 minutes
22,000	10 minutes	5 minutes
25,000	3 to 5 minutes	1.5 to 3.5 minutes
28,000	2.5 to 3 minutes	1.25 to 1.5 minutes
30,000	1 to 2 minutes	30 to 60 seconds
35,000	30 to 60 seconds	15 to 30 seconds
40,000	15 to 20 seconds	7 to 10 seconds
43,000	9 to 12 seconds	5 seconds
50,000	9 to 12 seconds	5 seconds

MAINTENANCE FACILITIES

Textron Service Centers

Greensboro, NC KGSO 336-605-7000
Houston, TX KHOU 713-567-5000
Indianapolis, IN KIND 317- 227-3600
Mesa, AZ KIWA 480-840-9400
Milwaukee, WI KMKE 414-744-1500
Newburgh NY KSWF 845-567-9210
Orlando, FL KMCO 407-859-1245
Sacramento, CA KSMF 916-286-4300
San Antonio, TX KSAT 210-357-6120
Tampa, FL KTPA 813-878-4500
Wichita, KS KICT 316-517-6313

Textron MSUs - 1CALL Team 316-517-2090

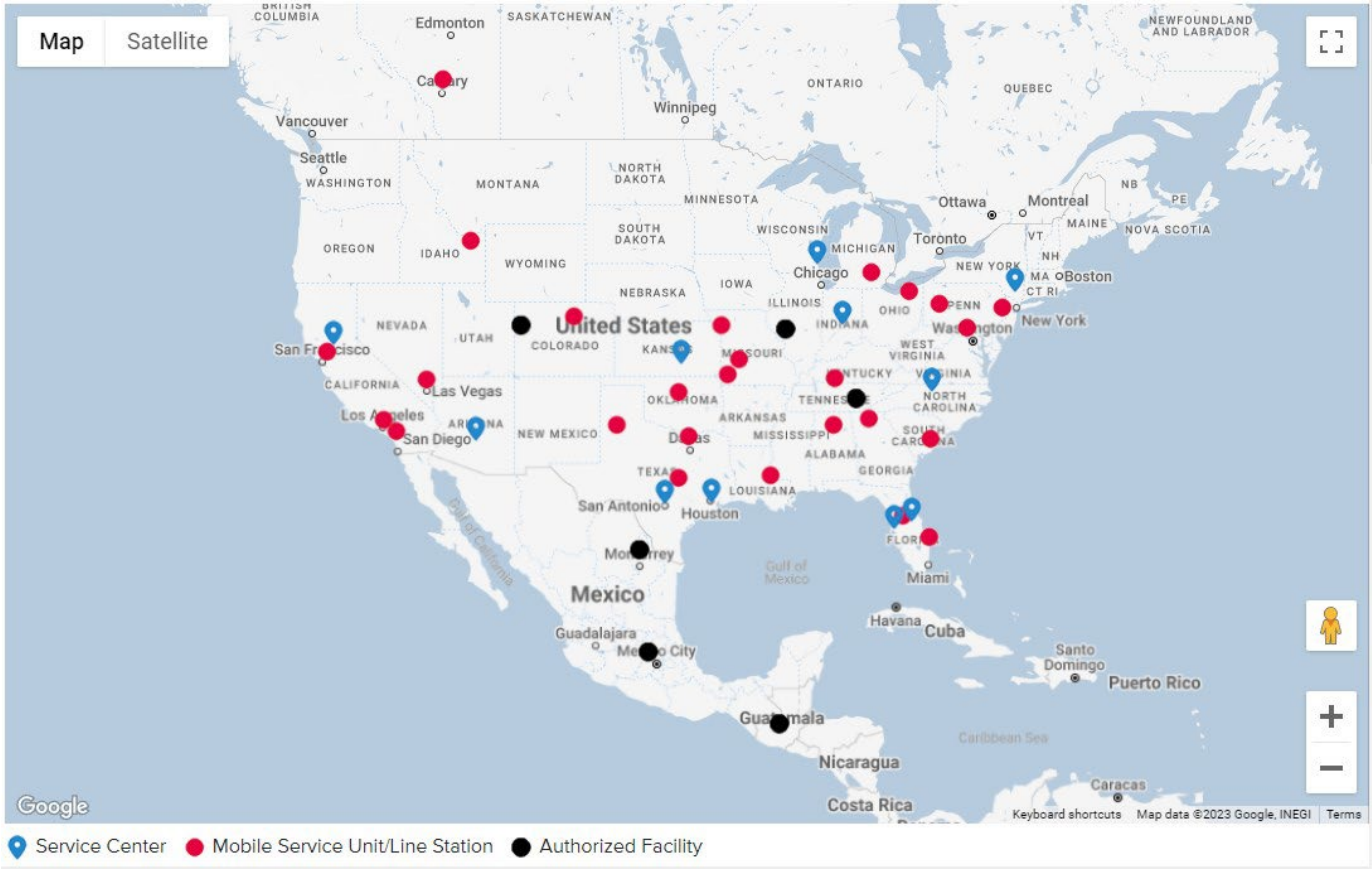
Rogers, AR KROG
Springfield, MO KSGF
Idaho Falls, ID KIDA
Hayward, CA KHWD
Carlsbad, CA KCRQ
Long Beach, CA KLGB
Las Vegas, NV KLAS
Denver, CO KAPA
Lubbock, TX KLBB
Austin, TX KEDC
Dallas, TX KDAL
Kansas City, MO KMKC
Adrian, MI KLCA
Birmingham, AL KBHM
Oklahoma City, OK KPWA
Baton Rouge, LA KBTR
Nashville, TN KBNA
Atlanta, GA KPDK
Charleston, SC KJZI
W. Palm Beach, FL KPBI
Lakeland, FL KLAL
Wash., DC KIAD
Philadelphia, PA KPNE
Pittsburgh Latrobe, PA KLBE
Akron, OH KCAK

West Star

East Alton, IL KALN 800-922-2421
Chattanooga, TN KCHA 423-661-8900
Grand Junction, CO KGJT 800-255-4193
Perryville, MO KPCD 573-605-6140

Duncan *(Not Shown on Map)*

Battle Creek, MI KBTL 800-525-2376
Lincoln, NE KLNK 800-228-4277
Provo, UT KPVU 801-342-5600


Map
Satellite
Edmonton
Calgary
Vancouver
Seattle
Winnipeg
ONTARIO
QUEBEC
NEWFOUNDLAND AND LABRADOR
Ottawa
Montreal
Toronto
Chicago
Boston
New York
United States
Mexico
Las Vegas
San Diego
Houston
San Antonio
Miami
Havana
Cuba
Puerto Rico
Nicaragua
Costa Rica
Caracas
Guadalajara
Gulf of Mexico
Caribbean Sea
Google
Keyboard shortcuts
Map data ©2023 Google, INEGI
Terms
Service Center
Mobile Service Unit/Line Station
Authorized Facility

DATABASE LOADING

1) Remove the lower Garmin SD card from the PFD 1, MFD, and PFD 2.

2) Load the cards in the SD card adapter of desktop computer. Download the databases from Garmin or Jeppesen subscription service.

3) For Nav Data updates use the spare SD card to load data from Jeppesen. Do not use the Lower SD cards.

4) For all except NAV Data (see step 6): With the avionics and aircraft power "OFF" place the cards back in the bottom slot of PFD1, MFD, & PFD2. Turn aircraft and avionics power "ON".

From the HOME screen on the GTC touch Utilities > Setup > Avionics Status > Database tab. Verify expiration date on MFD1, PFD1, and PFD2 to ensure update was successful

The Garmin lower display cards must remain in the aircraft displays to prevent error messages from displaying.

5) NOTE: The GTCs do not sync the databases easily. To improve the syncing process:

- Pull the MFD circuit breaker.
- Pull the R Touch Control circuit breaker.
- Apply aircraft power.
- When the left GTC is synced (Home or Initialization screen appears), wait one minute, and then pull the L Touch Control circuit breaker.
- Engage the R Touch Control circuit breaker.
- When the right GTC is synced (Home or Initialization screen appears), wait one minute, and then turn off aircraft power.
- Engage the L Touch Control and MFD circuit breakers.
- Apply aircraft power.

6) For NAV databases, with power off, pull MFD and R PFD circuit breakers (right side of cockpit).

- Place the SD card in the **TOP** slot on PFD 1, then MFD and PFD2 sequentially.

(continued next page)

- Aircraft power - On. A message will prompt update of the standby navigation database (bottom card). Select YES

- The display will ask to update the active Nav database. If the database is being updated before expiration of the previous database cycle, select NO. If the database is being updated on the expiration date or later on the previous database cycle, select YES.

- When complete, remove the NavData SD card.

- Turn aircraft power "ON". The MFD splash screen will display with database status on the right side of the screen (verify successful update).

SAVE FADEC DATA

Connect FADEC equipment / laptop
Battery / Avionics Pwr – ON
Launch EMT App on laptop
Setup Ports: COM 4,5,6,7
Once EMT is connected, Click Save FADEC Data button
Click Exit, then:
Files Created Popup window shows where file is located:
C:\WI_EMT Data\Fadec Data\525-0633\525-0633_YYYY-MM-DD-HHHH.einfo

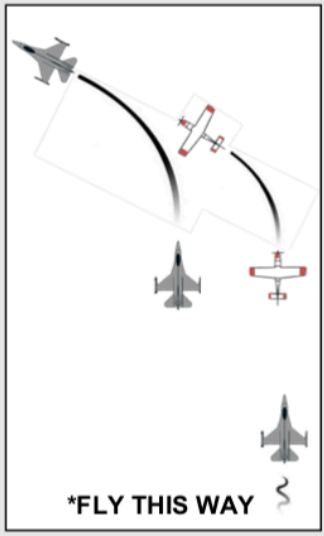
To e-mail to Williams, send file as attachment
To: FADEC@williams-int.com
Subj: 525-XXXX Serial number
Send – Automated response will indicate data received

Note: Williams does not actively review these files. If there was an ECU fault, use instructions in the Williams Automated Response e-mail.

NORAD / FAA INTERCEPT PROCEDURES

Intercept Procedures

- Typically two fighters approach from the stern -- you may only see one
- Fighter rocks wings to signal intercept
- Fighter responsible for safe separation



Your Actions

- Remain predictable – Altitude, heading, airspeed, don't descend
- Acknowledge fighter with wing rock
- Talk to ATC
- Talk to fighter on 121.5

Post Intercept

- Comply with instructions
- Land where directed

DAY INTERCEPT SIGNALS

Interceptor Signals	Meaning
Fighter slow turn to desired heading	*FLY THIS WAY
Fighter abrupt turn across nose to desired heading and may dispense flares	WARNING: TURN NOW (DIRECTION OF FIGHTER)
Fighter circles airport, lowers landing gear, overflies runway in direction of landing	LAND HERE

NIGHT INTERCEPT SIGNALS

Interceptor Signals	Meaning
Flash navigation lights	You have been intercepted
Turn on landing lights	Land here

Your Signal	Meaning
Flash navigation lights	I will comply
Turn on landing light	I will land
Flash landing light	Airport inadequate
Flash all lights regular	Can not comply
Flash all lights irregular	Distress

For more intercept information, reference the Aeronautical Information Manual 5-6-2 Interception Procedures: http://www.faa.gov/air_traffic/publications/#manuals

TAKEOFF

FREQS. ATIS_____ CLNC_____ GND _____ TWR_____

THREATS/NOTAMS

ATIS ID_____ **Weather:**

TO Rwy_____ **Rwy Cond.**_____

TODA/ASDA (shortest)_____ **T/O RWY Reqd.**_____

ZFW_____ **T/O Wt.**_____ **T/O Wt. Limit** _____

Flaps_____ **Anti Ice** _____

V_1____ V_R____ V_2____ V_{ENR}_____ L/O _____ft.

CLEARANCE

_ _

EOP:

Emer Return V_{REF}_____ V_{APP} _____ MSA _____

Taxi Routing/Hot Spots

ENROUTE NOTES

v 1.0

SAFE TO LAND℠

BEFORE TOD NOTES

FREQS. ATIS_____TWR_____GND _____ FBO_____

THREATS/NOTAMS

ATIS ID_____ **Weather:**

Ldg. Rwy._____ **Rwy. Cond.** _____ **Anti Ice** _____

LDA _____ **Slope**_____ **TDZE**_____ **Width**_____

Ldg. Wt._____ **Factored Ldg. Dist. Reqd. =** **FLD** _____

_____ - _____ + 1000 = _____ **TPL Visual Ref:** _____

LDA – FLD TPL Use 3500 ft max for TPL

V_{REF}_____V_{APP}_____ V_T_____MDA/DH_____ MSA_____

PAPI/VASI GP° / TCH _____/_____

IAP GP° / TCH _____/_____

__ = min data required

v 1.0

SAFE-TO-LAND Cue Card

GOALS AND LIMITS:

Stable Approach Criteria (The "Goals")

- **Configured** = Gear Down, Final Flaps Set
- **Airspeed** VREF -5 to +10
- **Bank Angle** within 15 deg.
- **Vertical Speed** 1000 fpm max
- **Thrust N1** Stable for descent rate

If Visual App

- **Lateral –** Stable within the extended runway edge lines
- **Glide Path –** Between Slightly High and Slightly Low PAPI or VASI

If Inst App

- **Lateral and Vertical** < 1 dot deviation

Approach Criteria (The "Limits")

- **Limit** (latest decision point) is 200 feet above field elevation. Any approach parameter that is not stable by 200 ft, **Go Around.**

NOTE: Continue below 500 feet only if in the judgment of the crew stability will be achieved by 200 feet.

NOTE: Call to 'Continue' does not mean Safe to Land. Landing is always contingent on the pilot's continuous assessment that: 1) Runway is Clear, and 2) TPL is Visually Identified (if visibility allows).

Stable Landing Criteria (The "Goals")

- "**Green**" Touchdown Zone
  500 – 1500 feet down the runway
  Laterally, centerline between main gear

Landing Criteria (The "Limits")

- **Down-the-runway touchdown point limit (TPL)** is the maximum air distance (normal flare + float) from the threshold to touch down. If not down before the TPL, **Go Around** or a runway excursion is likely.
- **Lateral Touchdown Point Limit (LTPL):**
  Go Around if: Left Drift: Centerline of runway on center post of windscreen. **Right Drift:** Centerline of runway on glareshield tangent in lower left of windscreen. Consider also rate of drift prior to LTPL.

V2.0

SAFE-TO-LAND Cue Card

Approach/Landing Gates	Gate Callout	Status Call If Stable	Status Call If Unstable
			Repeat Offending Item ▼
1000 ft Configuration Gate	"1000"	"CONFIGURED"	"GEAR, GEAR…" or "FLAPS, FLAPS…"
500 ft Stable Gate	"500"	"STABLE"	"AIRSPEED…200" or "CENTERLINE…200" or "GLIDE PATH…200" or "THRUST…200" or "BANK ANGLE…200" or "VERTICAL SPEED…200"
IFR Minimums Gate	"MINIMUMS"	"GOING VISUAL" or "GOING AROUND"	▼ ▼
200 ft Go-Around Gate	"200"	"CONTINUE"	(If offending parameter still not corrected) "LIMIT, GO AROUND"
Touchdown Zone Gates		**Call if Outside Green Zone**	**Call if At or Past TPL**
Down-the-Runway TPL		"FLOATING, FLOATING…"	"LIMIT, GO AROUND…"
Lateral TPL		"DRIFTING, DRIFTING…"	"LIMIT, GO AROUND…"

NOTES:
- **10 knots excess speed at threshold** increases landing distance required by **20+%.**
- **High at threshold** adds **200 ft** for each **10 feet high.**
- **Floating** takes up **180 feet per second.**
- **Delayed braking** uses up **180 feet per second.**
- **TPL = LDA – Factored Distance Required +1000 ft.; with a Maximum of 3500 ft.**
  - **LDA = Landing Distance Available** (found in A/FD Chart Supplement).
  - **Factored Distance Required** = **Computed AFM distance** for conditions x **1.67 or x 1.25.**
    - Can use **1.25** if vertical guidance available and CJP SOP experience/ proficiency requirements met, **1.67** otherwise.

GOAL
CAUTION ZONE
LIMIT

 V2.0