



Wingman Familiarization

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Overview

The Collegiate Wingman Internship Program is a semester-long program geared towards aspiring commercial airline pilots who are currently enrolled in a professional pilot training program. The Program aims to bridge the gap between student flight training and the 121 training environment by exposing students to all elements of the commercial airline world.

Program Candidates are be flown to St. Louis for a day to:

- Meet the management team
- Talk with students who are actually in systems training, sit in on class and get a feel for what training will be like
- **Visit Flight Safety's training center to fly in an actual SIM**
- Tour our hanger to see the Bombardier CRJ-550
- Visit Systems Operations Control for a first-hand look at our operations center, including Dispatch, Maintenance, and Crew Scheduling
- Hotel and flight expenses are covered

This handout is to assist with providing the CRJ-550 Simulator Familiarization Flight.

Forms

None required.

Tasks and Time Management

Depends on the number of pilots. At a minimum, each pilot should be provided the opportunity to perform a normal takeoff and receive vectors to a full stop ILS approach.

Training Aids

A short presentation is provided to acquaint the pilot with CRJ flight controls. The "Phrase Translations" and "Simulator Configurations for the CRJ 550" handouts are provided in the appendices. You can print at FSI using the "Baggage Tag" computers in the lounge area.

Wingman Simulator Session 1

Lindbergh 4501

Location: KSTL Runway 29, engines running
Weather: CALM 10SM CLEAR 20/10 A2992
Flight Plan: KSTL DEP 29 RV ILS 29 KSTL
Aircraft: TOW 61,000 LBS, FUEL 8,000 LBS (Frozen), MIN 8,000 LBS, RSV 2,297 LBS, TRIM 6.0
Clearance: NA

Briefing

- Simulator Safety Features
- CRJ Fundamentals
- Seat Controls
- PFD and MFD
- Trim, Spoilers, Flaps and Gear
- V-Speeds
- Basic AFCS operation
- LIDO Charts
- Airwork and maneuvers
- ILS approach and briefing
- Normal Landing

Maneuvers

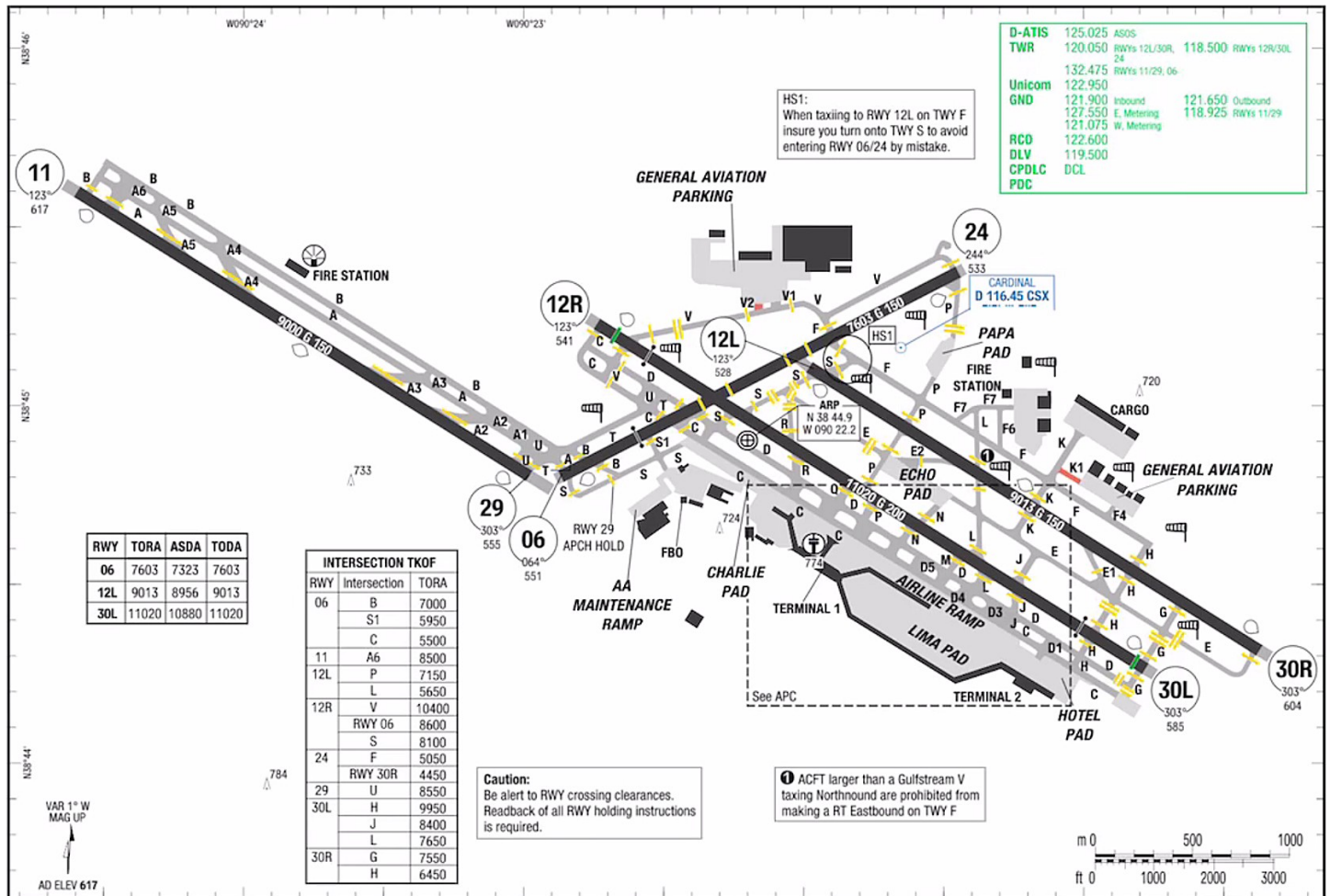
- Welcome to the CRJ-550! (Seat positioning and adjustment)
- T/O point STL Runway 29
- Before T/O check
- Normal Takeoff
- Maneuvers
- Set up for Approach
- Instrument Arrival and Approach
- Normal Landing
- Taxi or reposition to takeoff point

Debrief

- Questions, Feedback, Review

Appendix A - LIDO Charts

STL AGC (Taxi Chart)

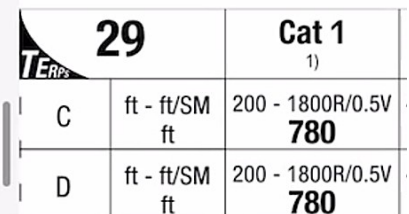


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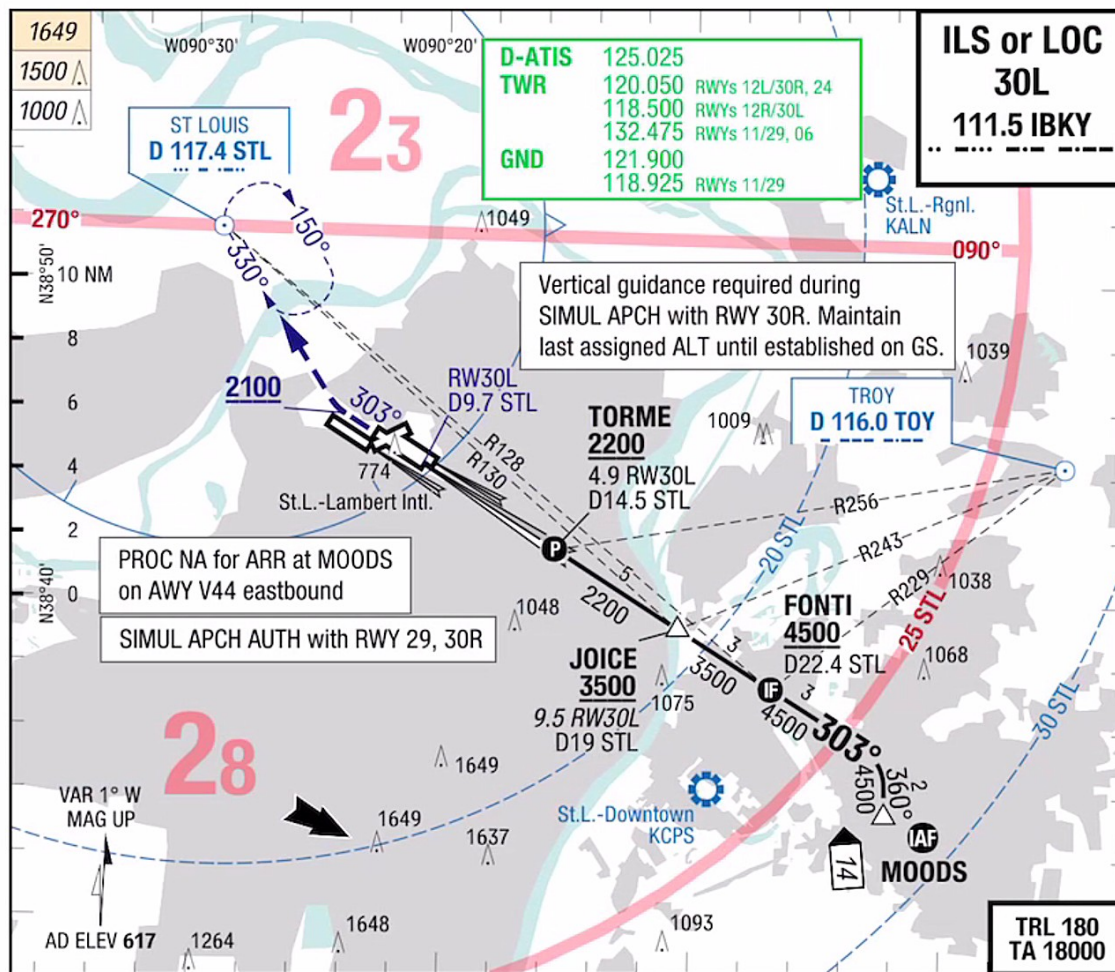
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STL ILS 30L

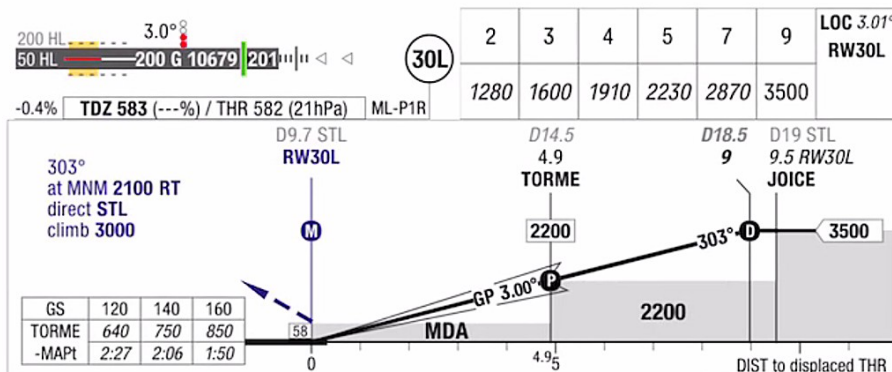
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 30L		Cat 1 1)	
C	ft - ft/SM ft	200 - 1800R/0.5V 790	5
D	ft - ft/SM ft	200 - 1800R/0.5V 790	5

1) FD or AP or HGS to DA required, else use f

Appendix B – “Phrase Translations”

When you hear...	It means...
“Vectors for ____ approach”	Build it, Bug it, Brief it Get ATIS, load approach, tune frequencies, set MDA and speed bugs, brief approach, in range check *Sequence approach, if appropriate*
“Cleared for approach”	Select APPR or NAV mode “Set next altitude” for Non precision
“ALTS CAP”	“Set next altitude” or “Set DDA” (not GPS) “Adjust Power”
“GPS APPROACH”	“Set DDA”
“Fly published missed approach”	White needles, NAV mode, calculate Flaps 0+30 S.A.F.E. prior to entering the hold
“Are you sure?”	You are wrong, stop and look at what you’re doing

When you see...	It means...
Wings level	Center heading bug
Base leg	Start to configure, Bug 170, Flaps 1, 8, 20
1 dot below GS	“Gear down, flaps 30” 2 ENG ILS “Gear down, bug ref and 5, before landing check” on SE ILS
FAF crosses 5 mile ring	“Gear down, flaps 30” on non-precision “Gear down, bug ref and 5, before landing check” on SE non-precision
Blue Needle Preview	Go to Green Needles, unless still using NAV mode
Single Engine, A/C not cooperating	It’s the stupid brick!
A/P on after a Go-Around	White needles, possibly NAV mode

Appendix C - Simulator Configuration and Maintenance Forms

Sim Setup: C.G. - 27, Pitch Trim – 6.0

Speedcard – 61000 lb <1098> and <Imperial>

61000 lb TAKE-OFF																	
Add 1 knot to V ₁ & V _R for Wing & Cowl Anti-Ice ON																	
	Flaps 8									Flaps 20							
	OAT	Altitude X 1000 ft								OAT	Altitude X 1000 ft						
	°C	SL	2	4	6	8	10	°C		SL	2	4	6	8	10		
V ₁ 118	≤0	0	1	2	3	4	5	V ₁ 113	≤0	0	1	2	2	3	4		
	20	0	1	2	3	5	6		20	0	1	2	3	4	5		
	30	0	2	3	5	6	7		30	0	1	3	4	5	6		
	40	2	3	4	6	---	---		40	2	3	4	5	---	---		
	50	4	5	---	---	---	---		50	3	4	---	---	---	---		
V _R 119	≤0	0	1	2	2	3	4	V _R 113	≤0	0	1	2	2	3	4		
	20	0	1	2	3	4	5		20	0	1	2	3	4	5		
	30	0	1	2	4	5	6		30	1	2	3	4	5	6		
	40	1	2	3	5	---	---		40	2	3	4	5	---	---		
	50	3	4	---	---	---	---		50	3	4	---	---	---	---		
V ₂ 132	≤0	0	-1	-1	-1	-1	-1	V ₂ 125	≤0	0	0	-1	-1	-1	-1		
	20	-1	-1	-1	-2	-1	-1		20	0	0	-1	-1	-1	-1		
	30	-1	-1	-1	-2	-1	-1		30	0	-1	-1	-1	-1	-1		
	40	-1	-1	-2	-1	---	---		40	-1	-1	-1	-1	---	---		
	50	-2	-1	---	---	---	---		50	-1	-1	---	---	---	---		
V _{FTO} / V _{ENR}	FL		SL – 100		200		250		300		350		410				
	KIAS		179		181		190		196		203		213				
61000 lb LANDING																	
FLAPS	0°	1°		8°		20°		30°		V _{REF} 45°		V _{2GA} 8°					
V _{APPR}	168	152		146		140		136		128		136					

V-Speeds	Takeoff	Landing
V ₁	118	80
V _R	119	128
V ₂	131	136
V _T	179	179

Various Speeds per SOP and QRH for 61,000lbs.

Configuration	Speed	Guidance
Holding Speed	198kts	SOP (Flaps 0 + 30kts)
Single Engine Approach/Landing	140kts	QRH-2 (Vref 45 + 12kts)
Slats/Flaps Fail	152kts	QRH-2 (Flaps at Detent 1)

When Holding, the PF should verify S.A.F.E.

S: Speed, A: Altitude, F: Fuel, E: EFC

Baseline Pitch and Power Settings for Straight and Level Flight at 5,000ft / Clean

Speed	Approximate Pitch	Approximate Thrust
250	1 - 1 ½ degrees	59% N1
200	4 degrees	54% N1 (Land the Spaceship)

Aircraft Configuration for Airwork

	Steep Turns	Clean Stall	Takeoff Stall	Landing Stall
Approx. Thrust	64% N1	45% N1	45% N1	45% N1
Flaps	0	0	20	45
Gear	Up	Up	Down	Down
Autopilot	Off	Off	Off	On
Flight Director	Off	On	Off	On
Speed Brakes	Closed	Open	Closed	Closed
Bank Angle	45°	0	20° @ 150kts	0
Pink Bug	250	200	200	200
Blue Bugs	n/a	n/a	V2(ga) 136	V2ga 136
			VT 179	VT 179

Nuisance Messages, Allowable Maintenance Procedures SOP CH 5 / FMX 4-1.7 / FCOM Vol 2 Ch 10

Reference the aircraft model being flown. FCOM Vol. 2 Ch. 10.

Allowable procedures the flight crew may accomplish to provide MX whether the EICAS message is a nuisance. This procedure does required a MX write-up (FMX 4-1.7). Perform prior to calling maintenance control, must still notify them of the remark.

- | | |
|--------------------------------------|-------------------------------------|
| a. OVBD COOL - Caution | h. OB/IB FLT SPLRS - Caution |
| b. OVBD COOL FAIL - Status | i. SSCU 1/2 FAULT - Status |
| c. ADG FAIL - Status | j. XFLOW PUMP - Caution |
| d. TRU FAN FAIL - Status | k. ICE DET 1/2 FAIL - Status |
| e. RUD LIMIT FAULT - Status | l. STEERING INOP - Caution |
| f. PITCH FEEL FAULT - Status | m. L/R BLEED - Caution |
| g. OB/IB SPOILERONS - Caution | n. DUCT MON FAULT - Status |

See also Bombardier Nuisance Messages SOP 5-1 & 5-4 & FMX 4-1.7

Revisions

Draft	Comments
1	Initial Release