Wingman

CRJ-550 Familiarization

Introductions

Names

Discuss Previous Experience

Exchange Telephone Numbers and/or Emails

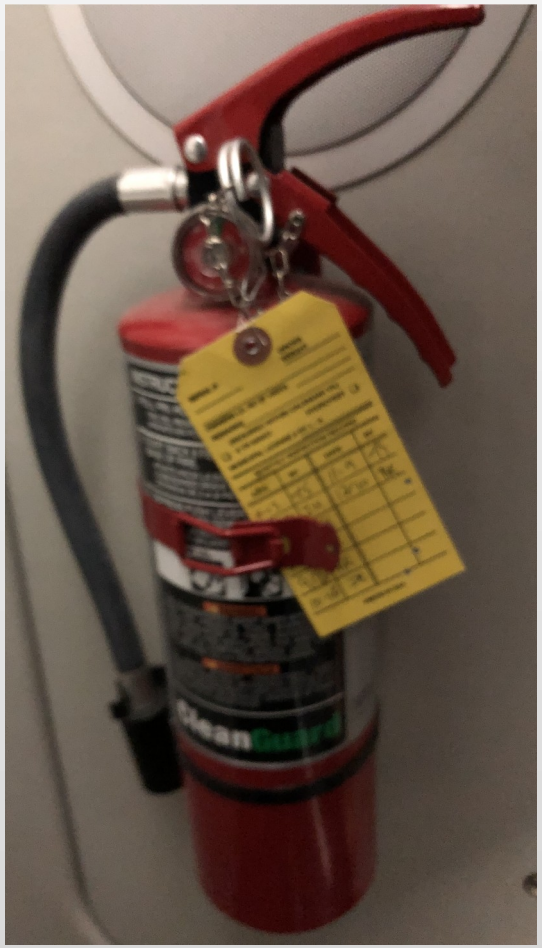
Briefing Items

- Simulator Safety Features
- CRJ Familiarization
  - Seat Controls and Panel Introduction
  - Trim, Spoilers, Flaps and Gear
  - What are V-Speeds?
  - AFCS (Automatic Flight Control System)
- Lufthansa Integrated Dispatch Operation (LIDO) Charts
- Familiarization Flight
  - Normal Takeoff
  - Maneuvers
    - Straight and Level Flight
    - Turns
    - Climbs and Descents
    - Turning Climbs and Descents
  - Vectors to an ILS
  - Normal Landing

Simulator Safety

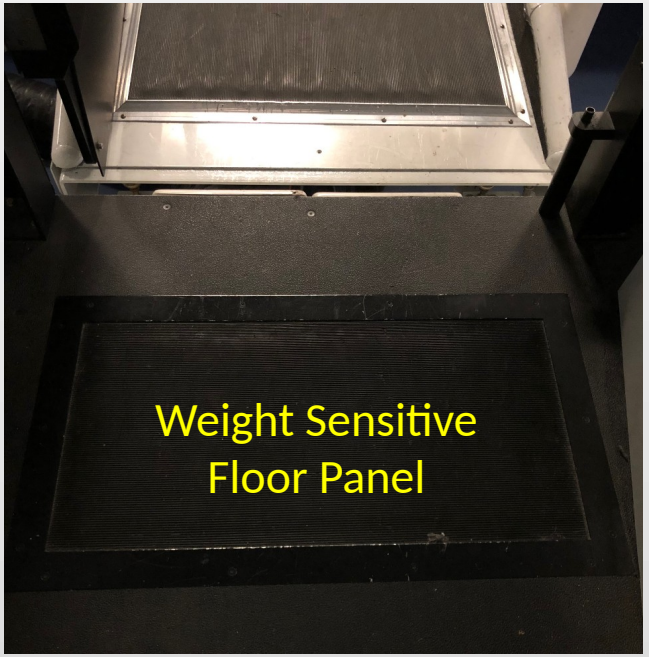
Escape Rope

Simulator Safety Features
Smoke Alarm & Fire Extinguisher



WARNING: The fire extinguisher to the left (facing out of the sim) of the entry/exit door is real, the one behind the co-pilot seat is not.

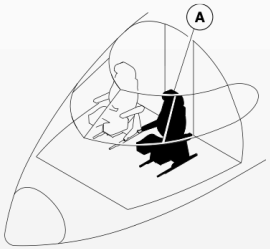
Simulator Safety
Hydraulic Shut Off / Off Motion

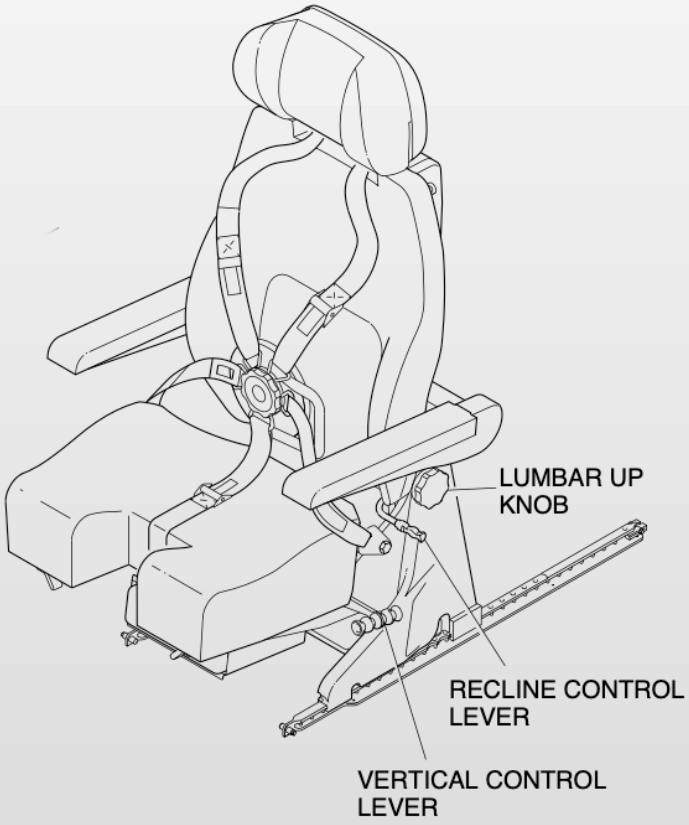


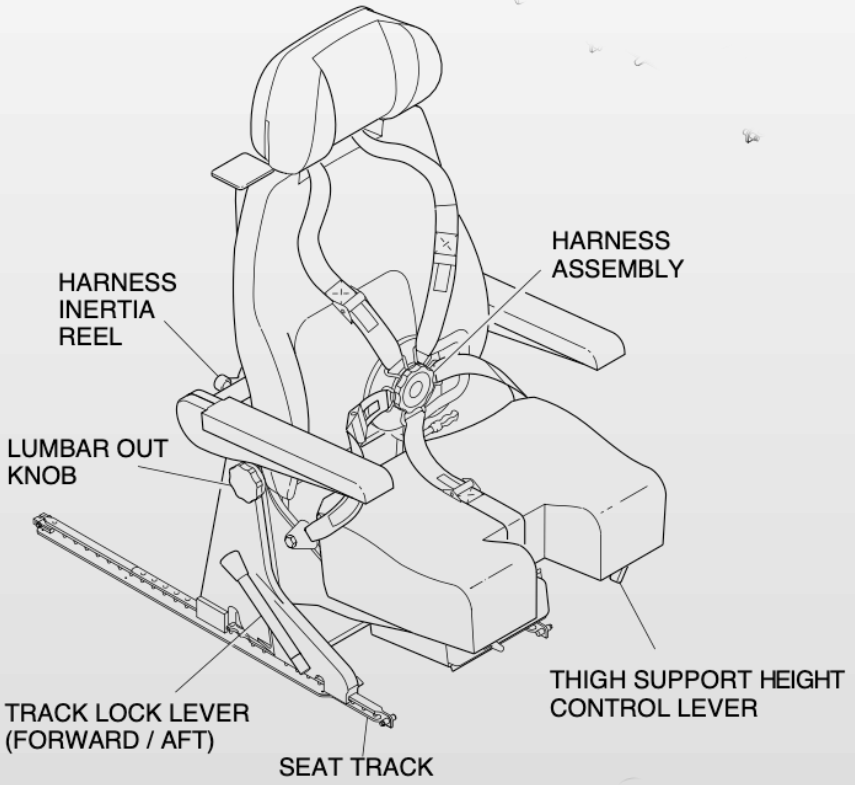
Simulator Safety
Telephone Support

- A simulator technician is available by dialing 452.
- Simulators can also get outside calls as well
- If you hear a loud screeching sound during training, it may be that the phone has been jarred off the hook. Remove the Velcro fastener, reseat the phone and then refasten the Velcro fastener.

Seats: Get Comfortable!







After the seat is moved forward or aft, make sure that the lock pins are properly engaged in the lock pin holes. Failure to do so could result in a sudden movement of the seat in flight.

Rudder pedals can be adjusted forward and aft by a rotating crank below the flight displays.

Trim, Spoilers, Flaps and Gear

- Elevator Trim is on the left side for Captain and right side for First Officer on the control wheel
- Rudder and Aileron trim are towards the center rear of the center console
- Spoilers are on the left side of the center console
- Flaps are on the right side of the center console
- Gear handle is forward and right of center on the center console.

Flight Displays

PFD

MFD

What are V-Speeds?

- V_1 Take-off Decision Speed
- V_R Rotation Speed
- V_2 Take-off Safety Speed
- V_T Final Take-Off Speed
- Our configuration today will be:
  - 61,000 lbs (Fuel Frozen), CG %MAC 27.0
  - Stab Trim Setting of 6.0
  - Calm winds and Clear Skies, Temperature 20 C

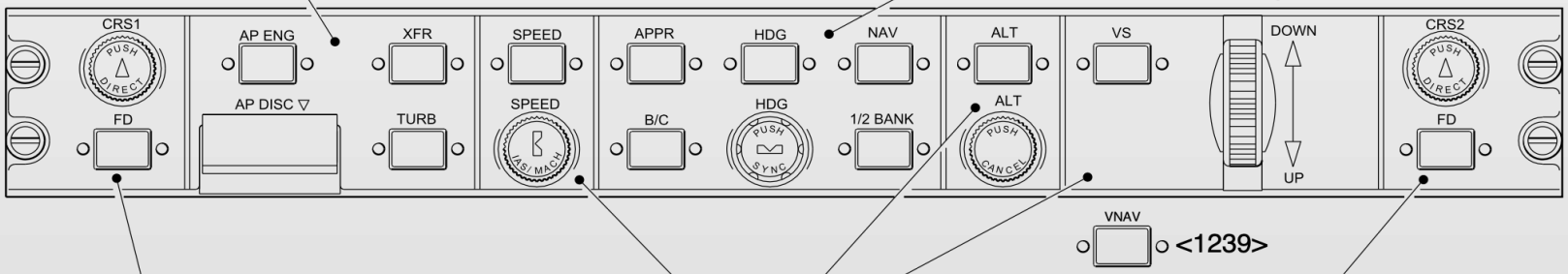
V-Speeds	Takeoff	Landing
V_1	118	80 (opt)
V_R	119	128
V_2	131	136
V_T	179	179

AFCS (Automatic Flight Control System)

Autopilot Panel
Contains switches to couple, uncouple, transfer control and reduce gains on the autopilot.

Flight Control Panel
Center Glareshield

Lateral Mode Panel
Contains switches for lateral modes.
- Heading select
- Bank angle
- Approach
- Back course approach
- Navigation (VOR/LOC)



Flight Director and Course Selector Panels
Contains switches to select basic pitch and roll modes (when not coupled) and set course on primary flight display.

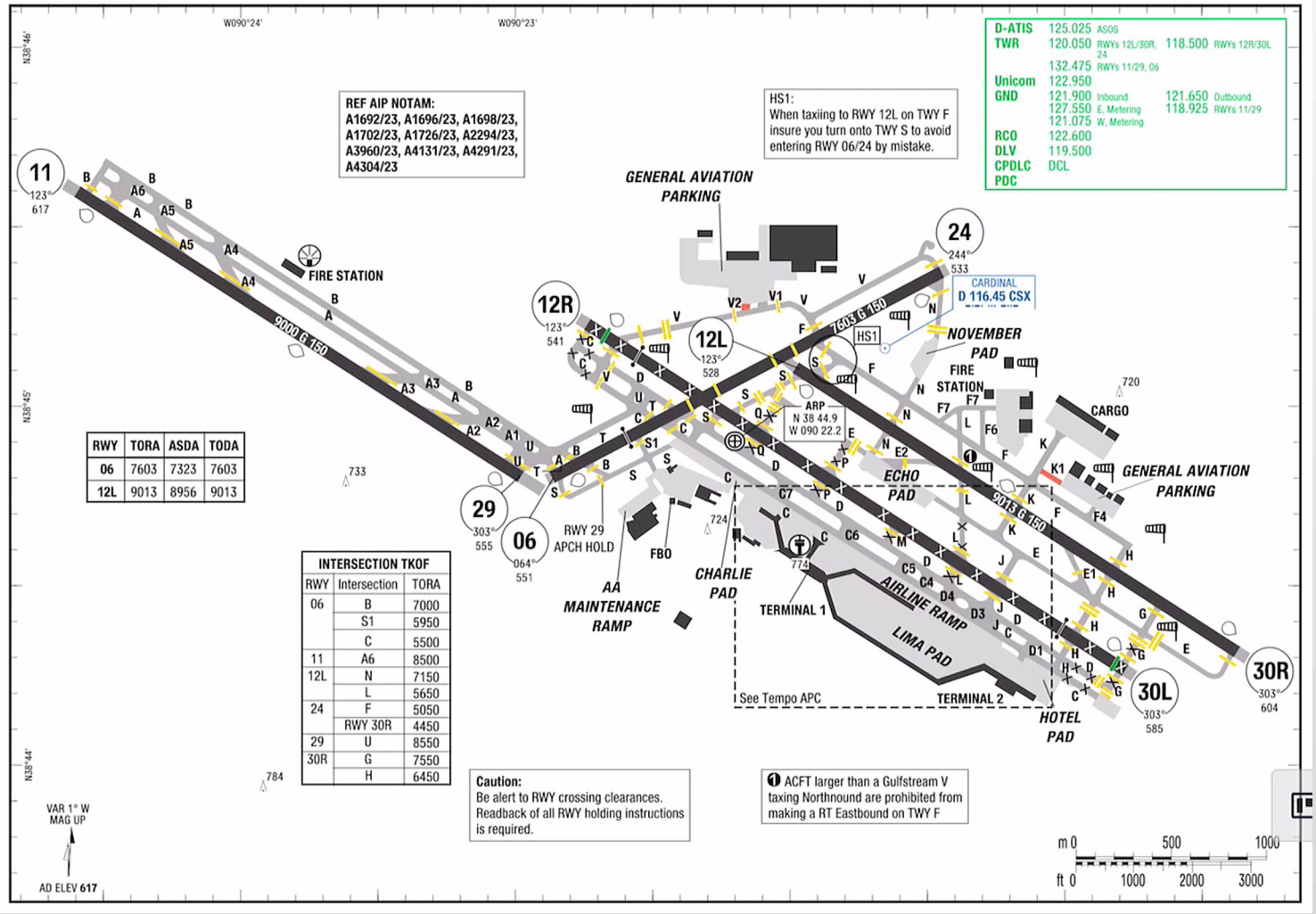
Vertical Mode Panels
Contains switches for vertical modes.
- Speed
- Vertical speed
- Altitude
- IAS/Mach

Mode Indicators
When a mode switch is pressed, a mode request is sent to the on–side flight control computer. If conditions are within limits, the computer acknowledges by illuminating the green lights adjacent to the mode switch. The primary flight display indicates the selected mode.

Green, White, Blue, Yellow Needles?

- Controlled using the NAV SOURCE knob on each pilot's Display Control Panel
- FMS information is displayed using White Needles
  - When in white needles, Blue "ghost" needles appear when a ILS is programmed into the FMS, selected in the RTU (Radio Tuning Unit) and adequate signal strength is being received.
- Green Needles are used for VHF navigation
  - Yellow needles show cross side data (not normally used)

Lufthansa Integrated Dispatch Operation “LIDO” Charts – STL Ground “Taxi” Chart



Familiarization Flight
Takeoff STL 11

- Weather is
- Bug Takeoff Speeds
  (V_1 118, V_R 119, V_2 132, V_T 179)
- Program FMS with Departure Runway (STL 11)
- Radio frequencies
  (ATIS 125.025, TWR 132.475, DEP 128.100)
- Clearance
  Lindberg 4500 is cleared to KSTL via Radar Vectors, maintain 3000, squawk 4500

Familiarization Flight
Normal Takeoff STL 29 (Instructor Led)

- PF: Smoothly advance the thrust levers to the 2nd notch. PF: "Set Thrust", PM checks thrust, states: "Thrust Set"
- PM: "80 Knots" call delineates the low speed abort and high speed abort ranges.
- PM: "V_1" and at V_R "Rotate" the PF smoothly applies back pressure and follows the flight director.
- PM: "Positive Rate", PF: "Gear Up" the PM will raise the gear.
- At V_2 + 10 to 15 KIAS, PF: "Speed Mode", PM selects
- At 400 feet AGL, PF commands "Heading Mode"
- At 600 feet AGL, PF commands "Autopilot On"
- At acceleration altitude (usually 1000' AGL), the PF rotates the speed knob to 200 KIAS, and calls for Flaps 1 (V_2+12) and then Flaps 0 (V_T – 15).
- At Flaps 0, reduce thrust to the climb detent (back one notch)
- PF: "Climb Check"

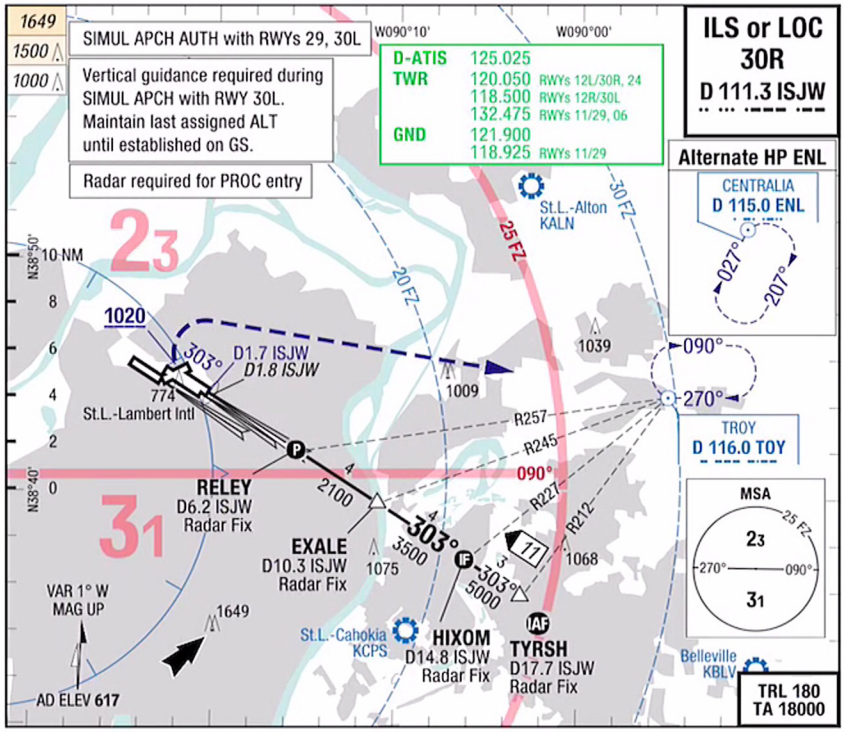
Familiarization Flight
Maneuvers

- Time Permitting
  - Auto Pilot
  - Flight Director
  - “Raw” Data
- Maneuvers
  - Straight and Level Flight
  - Turns
  - Climbs and Descents
  - Turning Climbs and Descents

Familiarization Flight
Setting up for Landing STL ILS 30R

- Bug Landing Speeds and MDA
  V_R 128, V_2 136, V_T 179, Cat 1 MDA 810 ft.
- Program FMS for arrival and approach
- Radio frequencies
  Twr 120.050, Gnd 121.900
- Brief Approach
- In-Range Check

STL ILS 30R



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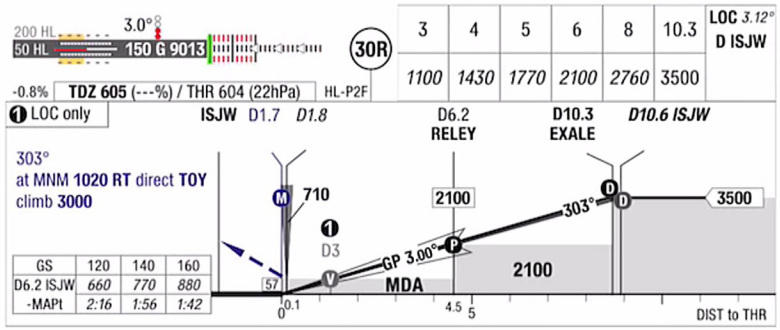

TERPS 30R		Cat 3b	Cat 2	Cat 1
C	ft - ft/SM ft	0 - 600R **Company**	100 - 1200R **116** RA	200 - 1800R/0.5V **810**
D	ft - ft/SM ft	0 - 600R **Company**	100 - 1200R **116** RA	200 - 1800R/0.5V **810**

Familiarization Flight
Approach and Landing

- “Green” Needles
- ILS to a full stop
- Autopilot or Flight Director
- General Flap and Gear Speeds
  - 230 > 200 KIAS Flaps 1 (Bug 190 KIAS)
  - 230 > 190 KIAS Flaps 8 (Bug 180 KIAS)
  - 230 > 180 KIAS Flaps 20 (Bug 170 KIAS)
  - At Glide Slope Capture: “Gear Down”
  - 185 > 170 KIAS Flaps 30 (Bug 160 KIAS)
  - 170 > V_{ref} KIAS Flaps 45 (Bug V_{ref} + wind factor KIAS)
- Before Landing Checklist

Debrief

- ✓ Student Feedback
- ✓ Q & A

Thank You!

- We really appreciate your interest in flying with us!
- Come Back Soon!