

## Learjet 45 Durst JAD rev1 - Summary of Modifications

Jon Dyer 20 September 2020

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### Summary of changes and additions made to David Durst's Learjet 45 Panel.

- **Panel Background Colour.** Changed to a more authentic lighter and bluer colour.
- **Knobs.** Modified all knobs to have (my preferred) left/right mouse clicks to adjust values.
- **Autopilot and Display Controller.** Improved autopilot functionality.  
Changed the switch lights to the correct green indicators.  
Added Course, Heading, Altitude and IAS Sync, and IAS/M toggle, using middle mouse clicks.  
Swapped left and right bearing pointer switches to their correct NAV sources.  
Moved switches to correct locations, and changed captions to correct text.  
Added XFR button and arrow.  
Modified NAV/GPS switching. Now FMS alone is NAV/GPS switch.  
ALT now Altitude Hold, FLC now Flight Level Change.  
Moved the VS adjust function from the Altitude Select knob to the IAS knob as in real Learjet 45.  
Modified so that NAV2 radio as well as NAV1 radio can drive the HSI and couple to the autopilot.
- **PFD.** Added Autopilot Mode Annunciator.  
Added HSI TO/FROM pointer, added Mach readout, corrected wind vector.  
DH now in feet, changeable in increments of 3 feet. Added audible "Minimums" alert.  
Added heading digital readout. Moved RA and DH to correct location.  
Added digital VS and VS Set readouts.  
Added dynamic flap dependent red caution lines and V-Speeds to ASI tape.  
Added MDA BARO and added MDA bug to altitude tape. STD now correctly sets to 1013 hPa.
- **EICAS.** Added throttle position (detent) indication: MCR, MCT, T/O and APR.  
Fuel and fuel flow now selectable in lbs or kg.  
Many improvements and additions to CAS advisories.  
Correctly shows ITT (not EGT). Corrected labelling.  
Added HYD screen, improved FLT and ELEC screens.
- **MFD.** Numerous modifications to map. Added selectable terrain (OFF, SEA only, FULL)  
Added borders and airspace.
- **Radios** (Honeywell RM-855B RMUs). Radios selectable (yellow box) with line-select keys, and radios, transponder, and TCAS range correctly tuned/set with tune knobs. Added ADF2.
- **TCAS.** Improved TCAS, added NORMAL, ABOVE and BELOW functionality rather than ALL.
- **Standby ASI.** Added new Standby ASI. Mach subscale now functional.
- **Standby AI.** Changed colours.
- **Throttle Quadrant.** Improved Throttle Quadrant and Gear Lever/lights.
- **Annunciator Crew Warning Panel (CWP).** Added CWP, with press to test facility.
- **Master Caution/Warning.** New and improved.
- **Audible Warnings.** Many audible warnings added\*.
- **Night lighting.** Improved.
- **Electrics.** Changed from 12V to 24V.
- **FSX.** Modified to work in FSX (with some caveats) as well as FS2004.

### Extra Additions Revision 1

- **Autopilot** Improved functionality. Added "True" Vertical Speed (VS) mode, Added Go-Around mode.
- **PFD.** Corrected error with TO/FROM flag in on FMS mode in HSI.
- **EICAS.** Added START and NAC (Nacelle Anti-Ice) displays.
- **Master Caution/Warning.** Can now be reset.
- **Clock.** Davtron M850 revised with greater functionality.
- **De-Ice.** Wing/structural/airframe de-ice added. Ice detector and indicator added.

### Reference Material

- Learjet 45 Airplane Flight Manual.
- Learjet 45 Pilot Training Manual.