✈️ Airbus A320 to Boeing B737 Observations

By Steve Randall www.redwoodbusdriver.com

This comparison is not intended to be a "pro & con" analysis between these two excellent aircraft. It is simply an overview of some of the similarities and differences that I have observed during my transition from the A320 to the B737 fleet after flying the A320 for twelve years. The document contains my personal observations and will not be complete or cover all differences. I have tried to eliminate any items specific to my own airline options, operations and procedures. However, any inaccuracies found should always be checked and referenced to your own company flight manuals. I hope this proves to be useful.

- Think of flying the Boeing similar to flying an Airbus in Alternate Law (limited protection envelope).
- For basic size comparison, think of the B737-700 as an A319, the -800 as an A320 and the -900 as an A321.
- Max altitude on the 737 is 41,000ft compared to 39,000ft on the A320.

A few different words:

A320	**B737**
Auto-thrust	Auto-throttles
Spoilers	Speedbrakes
AP1(2)	Command A(B)
HYD Green, Yellow, Blue	HYD A, B, Stby
AC Bus 1(2)	Transfer Bus 1(2)

PFD Similarities

- FPV (the Bird) is available on the 737.
- Pitch & bank scales, and flight director indications are similar.

PFD Differences

- No Groundspeed Mini function. Headwind component speed adjustments must be calculated manually.
- Selected altitude (even for a descent) is always on the top right of the PFD.
- HSI on the PFD is a quarter circle presentation instead of a tape.
- FMA columns – A320: Thrust, Vertical, Lateral - B737: Thrust Lateral, Vertical.
- Armed FMA items are white instead of blue.

ND Similarities

- Similar Rose APP (LS), VOR, PLAN mode views.
- Similar groundspeed, wind and next waypoint displays.

ND Differences

- A320: Heading Up - B737: Track Up (Mag).
- Nav route line is magenta instead of green.
- The 737 has a plan view profile display selectable on the lower portion of the ND. It's called the VSD. It shows constraints, waypoints, and terrain.

FMC Similarities

- FMC is the Boeing equivalent to MCDU/FMGC.
- FMC functions are generally similar to the Airbus.
- Abeam points are similar (except in some -800's - create abeams in the fix page, similar to the A320.)
- Cruise winds are uploaded or entered similar to the A320, but only for one specific altitude in the B737.

FMC Differences

- No auto-tune. Frequencies and courses must be manually set.
- No Direct To key. Select the waypoint into the scratchpad and enter into L1 to go direct.
- Directs and most changes must be EXECuted before they are active.
- There is no secondary flight plan key, instead you can build a RTE 2 if desired.
- VNAV FMC descent speed can be changed even after descent phase is entered.

Autopilot Similarities

- LVL CHG is similar to OP CLB/DES.
- LNAV/VNAV is similar to flying in managed mode. SPD INTV takes speed to equivalent selected mode. ALT INTV will begin an early 1000FPM descent.

Autopilot Differences

- 3 axis autopilot A320, 2 axis autopilot B737 (no rudder control on AP).
- Autopilot capture of hard altitudes begins much closer to the altitude.
- Automatic climb and descent will be initiated if a higher or lower altitude is set on the FCP and the climb/TOD point is reached.

ECAM & Systems Similarities

- Basic systems structures (Elec, Hyd, Pneu, Aircon, Gear, Brakes etc..) are similar to the A320.
- Basically, the engines on the 737 are the same as the A320. A variation of the Neo engine is on the 737Max.
- Similar 'Lights Out" concept on the overhead panel.
- Speedbrake (B737) and Flight Spoiler (A320) operation is similar.

ECAM & Systems Differences

- Cautions are not inhibited during the takeoff roll.
- No ECAM system. The 737 has a recall light panel on the glare shield that directs you to a system panel malfunction light.
- There are no systems pages. Upper display shows basic engine parameters, and lower shows hydraulic quantity and pressure.
- Air conditioning/pneumatic system is controlled with switches & valves and monitored on dials. It can be confusing at first.
- Main AC busses are called Transfer busses. Figuring out the power source can be confusing at first.
- There is no auto cruise altitude or landing altitude pressurization feed from the FMC. This is manually set and must be changed in flight if deviations are made.
- There is no FADEC for engine start.
- The 737 has 2 IRS units instead of 3.
- The 737 has forward extending flaps on the inner leading edge.
- There is a stick shaker but no pusher in the B737.
- There is no indication of armed slides. This is a cabin crew function using girt bars on the doors.

Basically - FLAPS:

A320	**B737**
Flap 1	Flap 1 - 5
Flap 2	Flap 15
Flap 3	Flap 25
Flap Full	Flap 30 & 40

Basically - AUTOBRAKE:

A320	**B737**
LOW	1 - 2
MED	3
MAX	MAX

Flying General

- The 737 sits lower to the ground than the A320. The correct flare sight picture on landing is much lower than in the Airbus.
- The 737 cockpit is much smaller and generally noisier than the A320.
- Pilot seats are manually adjusted and the back must be fully upright to allow full travel for entry and exit.
- Taxi tiller is only on the Captain side. Taxi feel is similar to the A320.
- The 737 is stable and harmonized when hand flying. You feel more connected to the control surfaces than the A320.
- Typical takeoff flap is 5 (short field up to 25 with SFP option).
- A considerably greater movement of the control column is required to achieve the same result as the equivalent movement on the sidestick in the A320.
- Manual electric trim is used when hand flying. An automatic speed trim system helps to make small pitch changes towards the speed selected when hand flying, generally on takeoff climb.
- Undercarriage has an additional OFF selection (except the 737Max).
- Rudder trim adjustments are required during cruise to maintain balanced flight.
- Single engine handling is good, but rudder trim is needed with the autopilot on (2 axis AP).
- The 737 has a good QRH for malfunctions.
- Typical landing flap is 30 (short field option 40).
- Crosswind limits are similar to the A320. Crosswind performance and landing is similar.
- Except for autolands, the auto throttles will generally be off when the AP is off for each approach and landing.
- The speedbrake lever must be armed for landing and will move rapidly backwards on touchdown.