FLIGHT MODE ANNUNCIATOR (FMA)

FMA GENERAL

FMA – COLUMNS & ROWS

Three Rows

Five Columns

FMA – ROWS

Row No. 1 : Engaged Modes

Row No. 2 : Armed Modes

Row No. 3 : Reminders/Msgs

FMA – COLUMNS

Auto Thrust Operation

AP/FD Vertical Mode

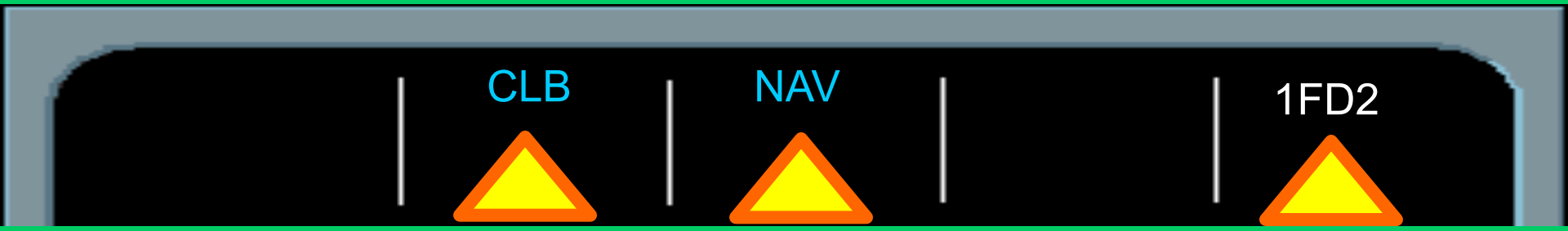
AP/FD Lateral Mode

App Capab DH / MDA

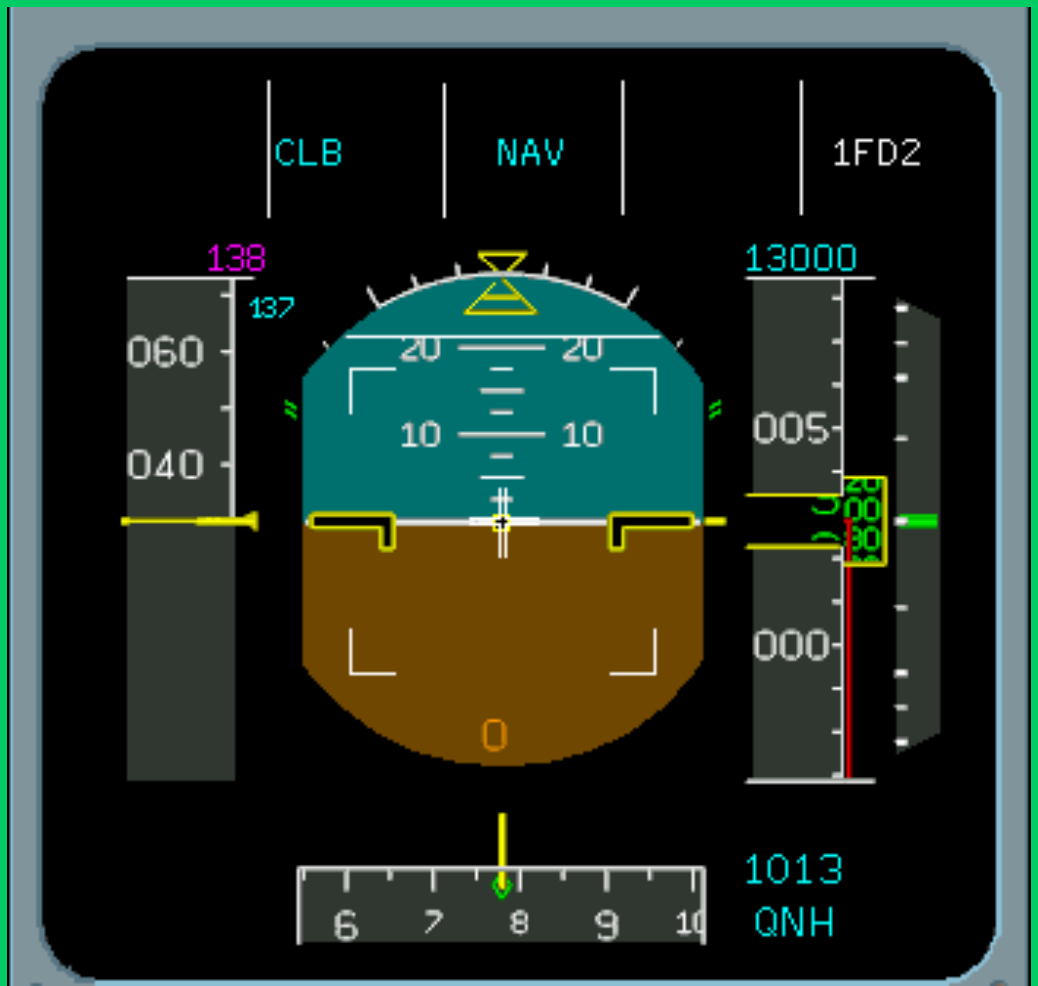
A/P, FD & A/THR Eng Status

FMA BEFORE TAXI OUT

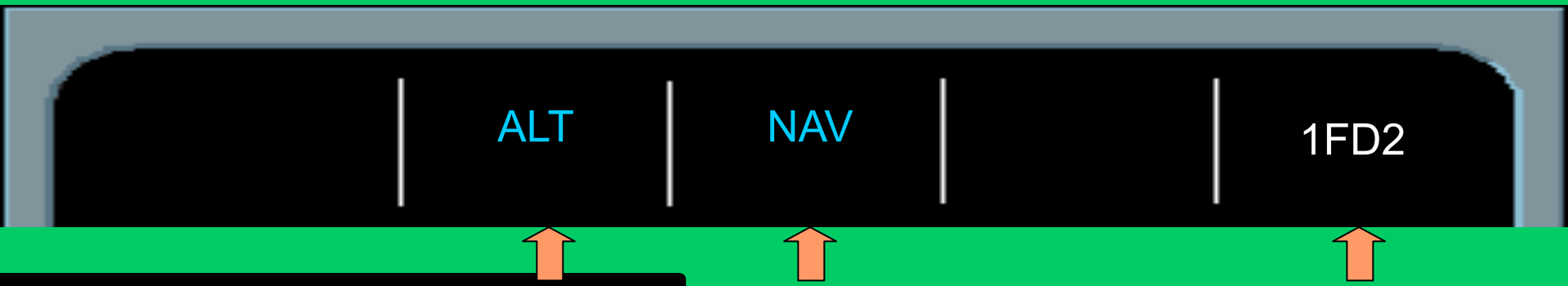
BEFORE : TAXI OUT



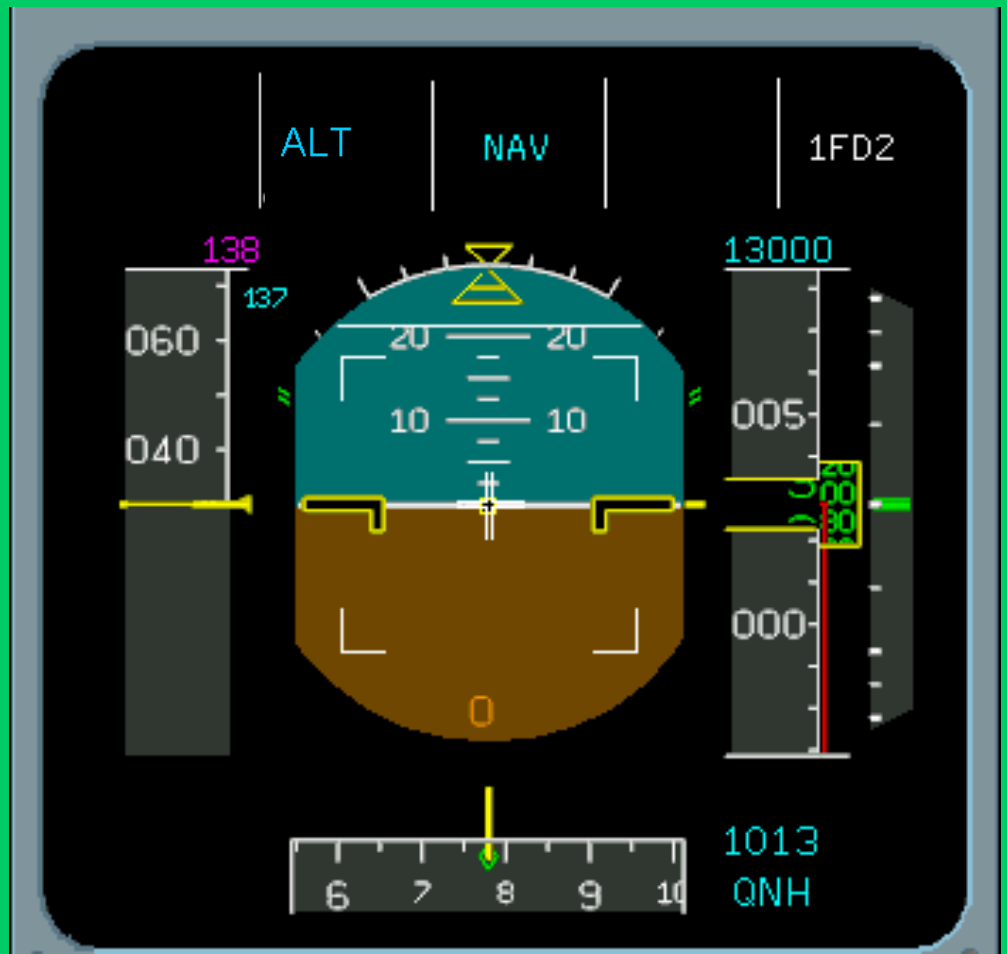
After cockpit preparation and during Taxi Out, FMA reads CLB in Blue, NAV in blue and 1FD2 in White.



BEFORE : TAXI OUT

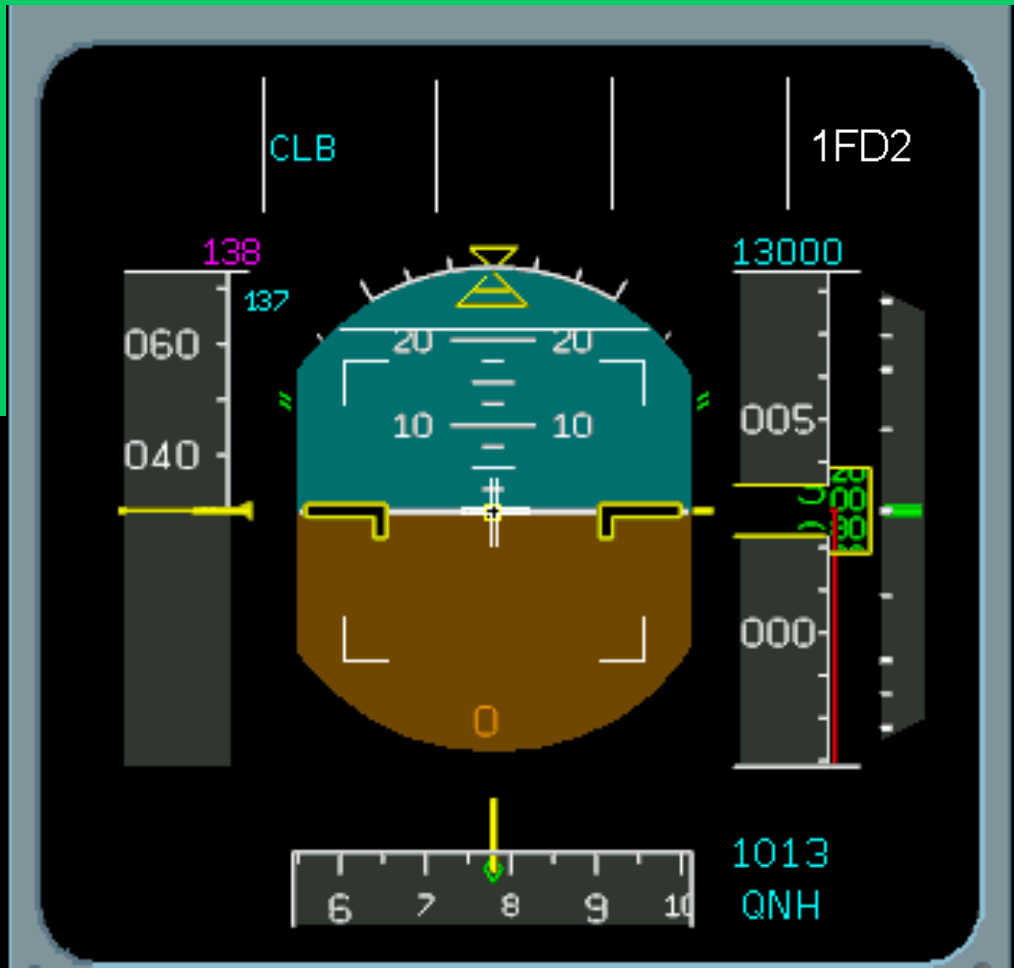


If FMA reads ALT in Blue instead of CLB, the FCU altitude is set at or below Acceleration Altitude set in the PERF Page of the FMGC. Alternatively the Acceleration Altitude set in FMGC is above the FCU Altitude. NAV in blue and 1FD2 in White.



BEFORE : TAXI OUT

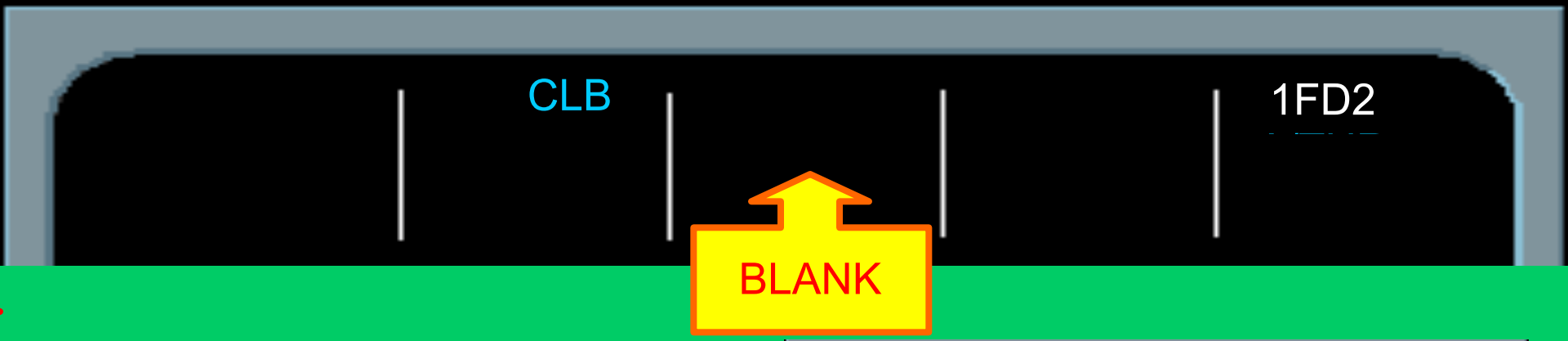
After cockpit preparation FMA shows CLB in Blue. If the Lateral Column is blank instead of showing NAV, it means HDG knob on the FCU is pulled. Push the HDG knob to get NAV in blue. 1FD2 in White means both FDs are ON.



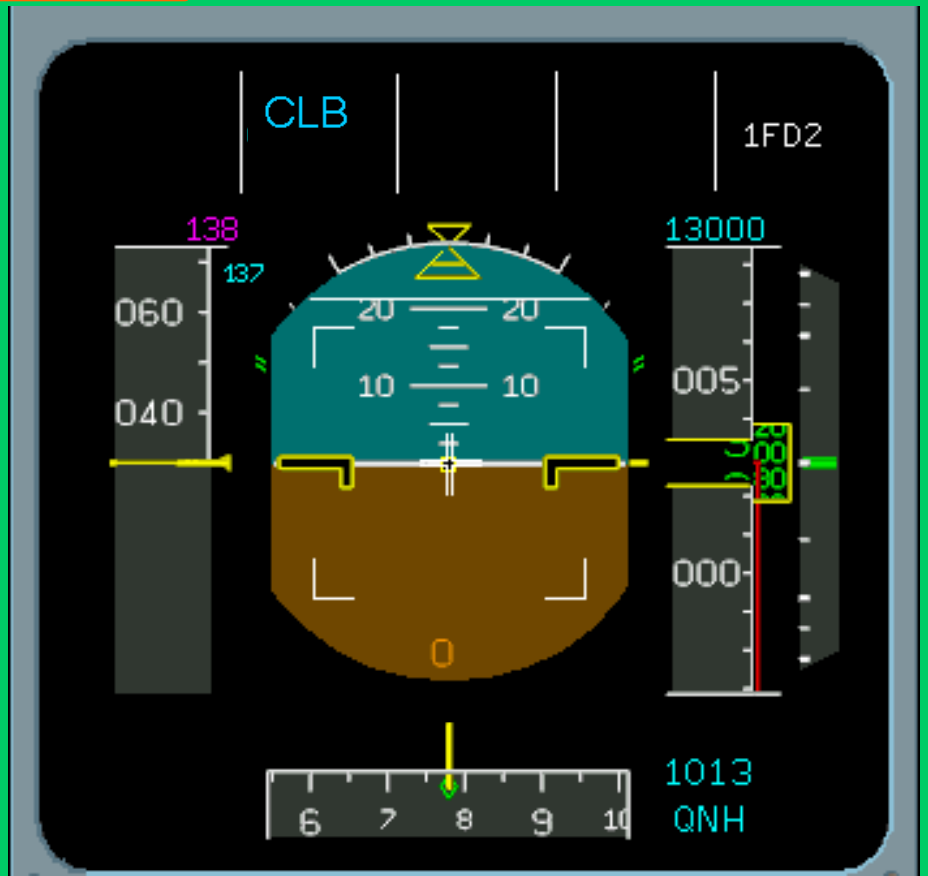
FMA BEFORE TAKE OFF

PRESELECTED HDG BEFORE TAKE OFF

DURING TAXING

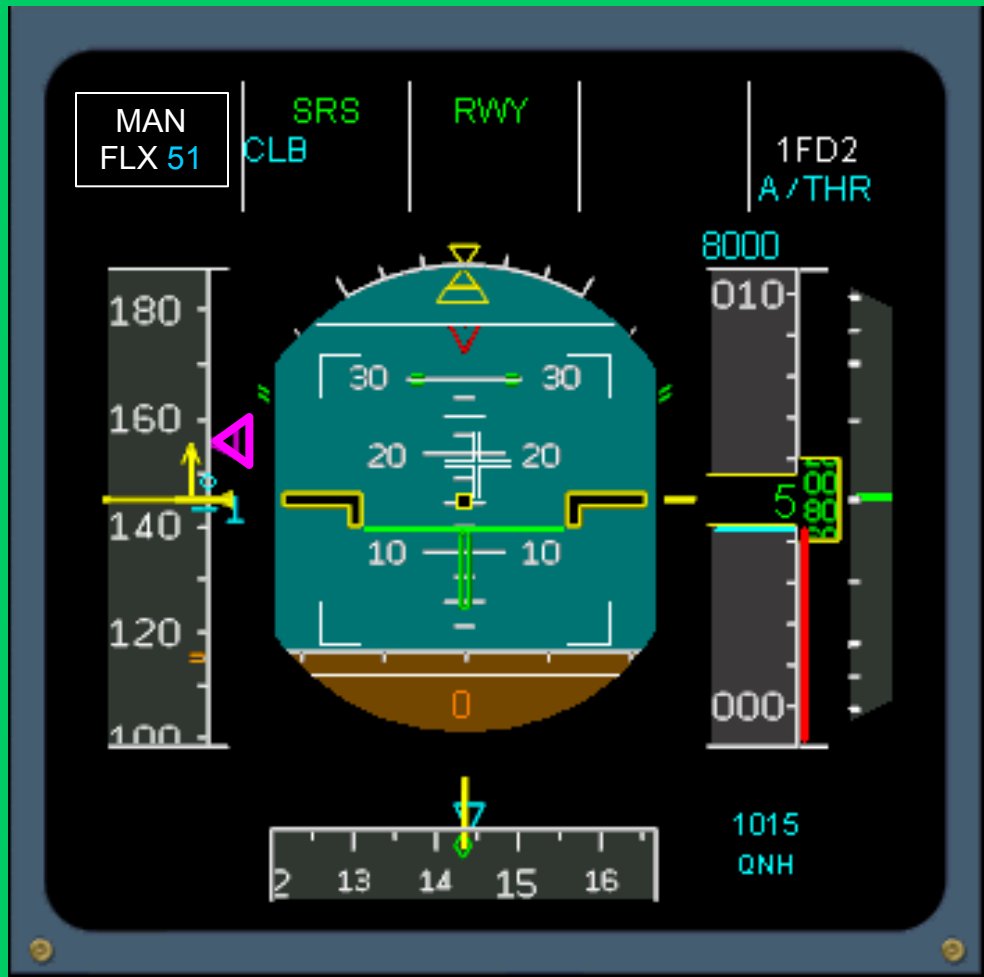


During taxing, if HDG is pre set (by only rotating rotating HDG knob Lateral Column becomes blank) NAV is disarmed. This happens if HDG 050º is set for BADIL 2C departure at KHI or ATC requires you to fly R/W heading or a specific heading after take off.

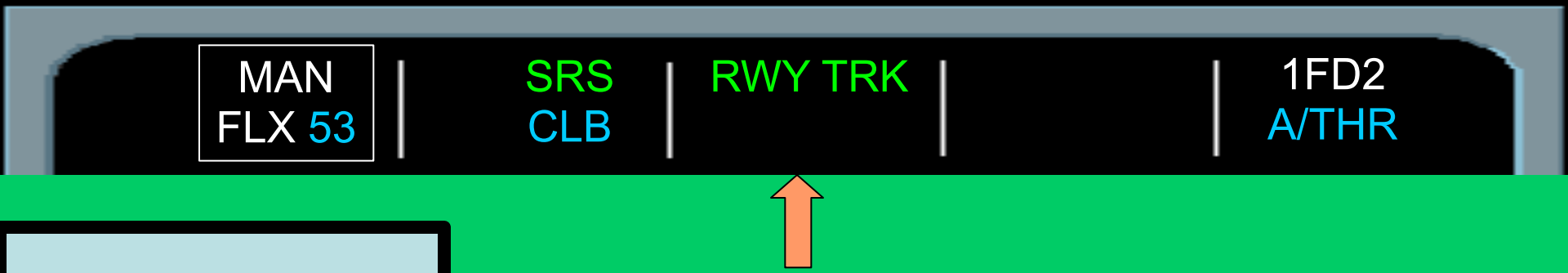


TAKE OFF ROLL

With HDG pre set say HDG 143º, Lateral Column which was blank, changes to RWY as thrust lever is set in FLEX/ TOGA detent. RWY engages only if Runway is ILS equipped and the ILS signal is valid.



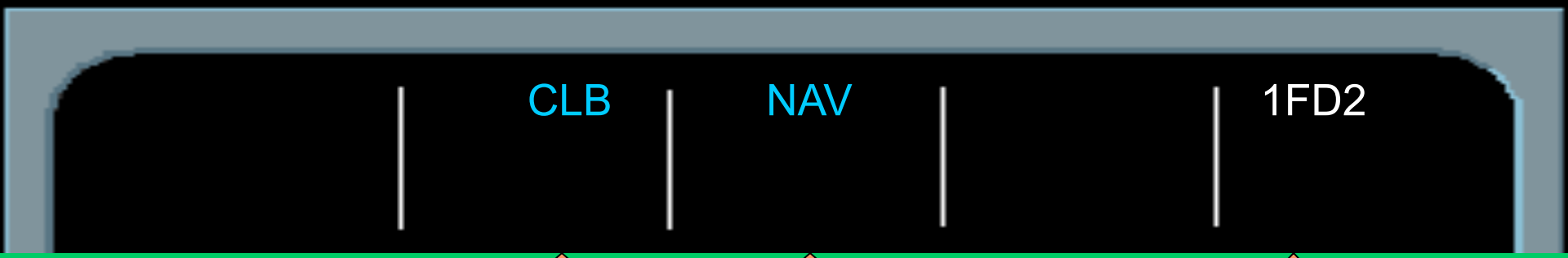
TAKE OFF : 30 Ft



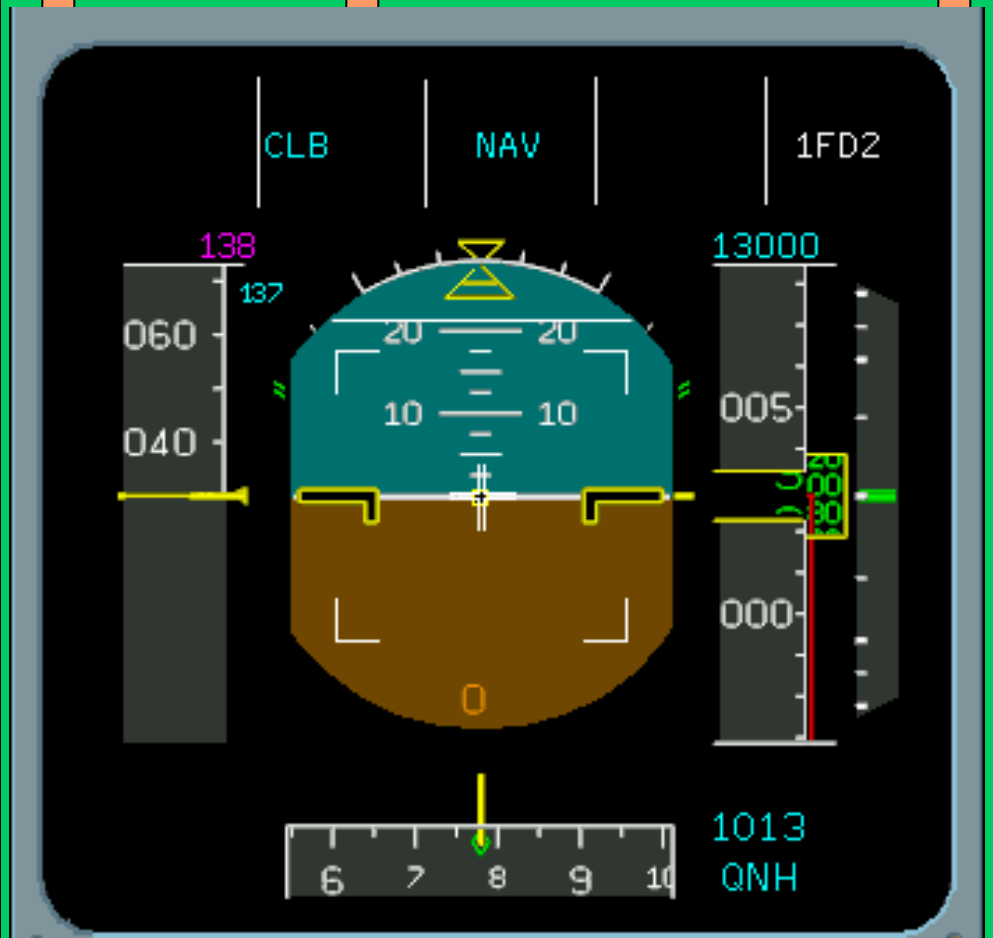
As HDG was Preset and NAV was not armed, RWY TRK engages at 30 feet after Take Off and remains engaged till crew selects another lateral mode.

FMGC SELECTED SPEED BEFORE TAKE OFF

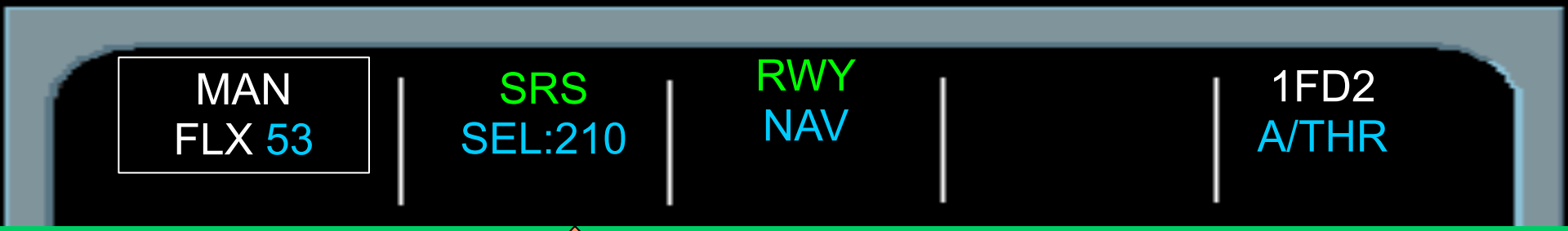
BEFORE TAXI OUT



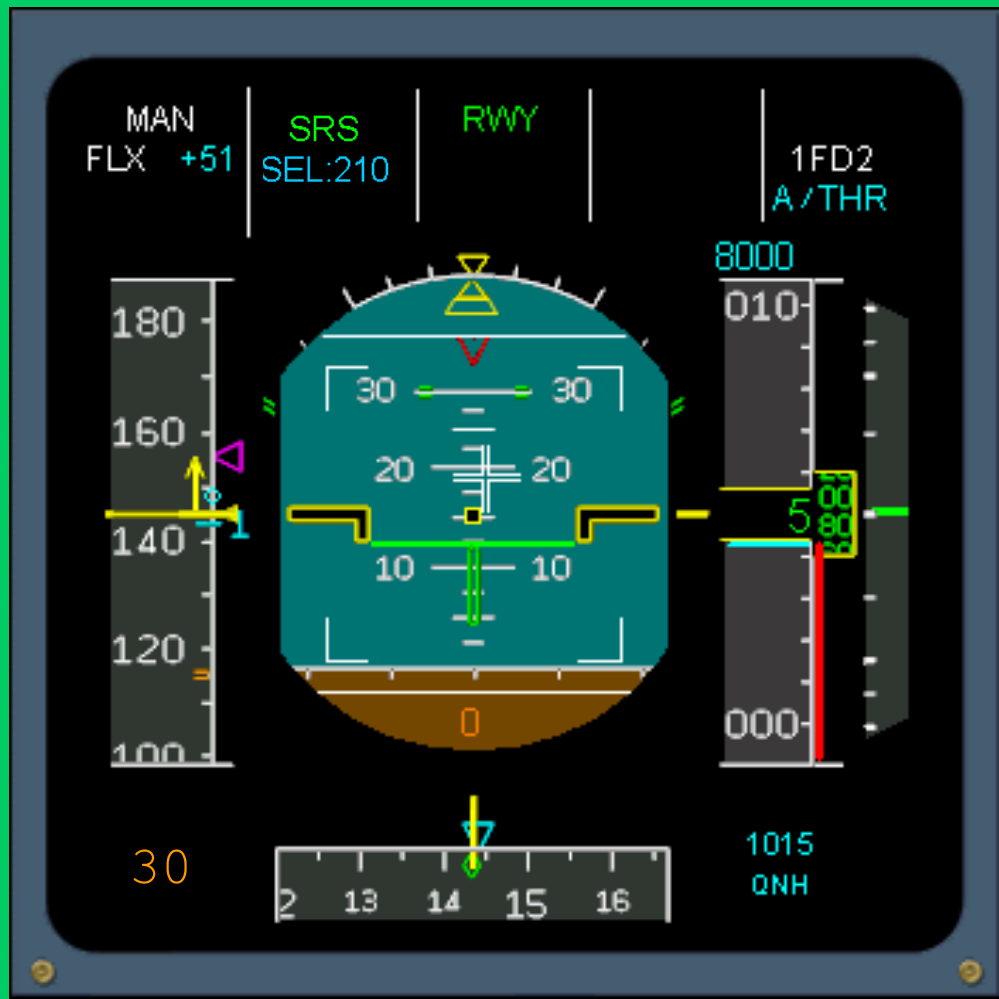
In case a specific speed is desired during initial climb out after T/O, set this speed in the FMGC, PERF Climb page. There is no change in the FMA, till Take Off i.e. NAV in blue. 1FD2 in White. When Thrust Lever is set in Flex/TOGA.



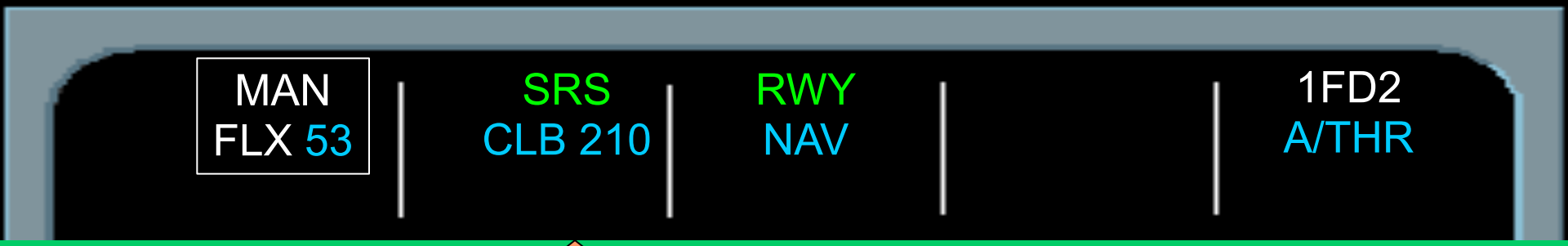
TAKE OFF ROLL



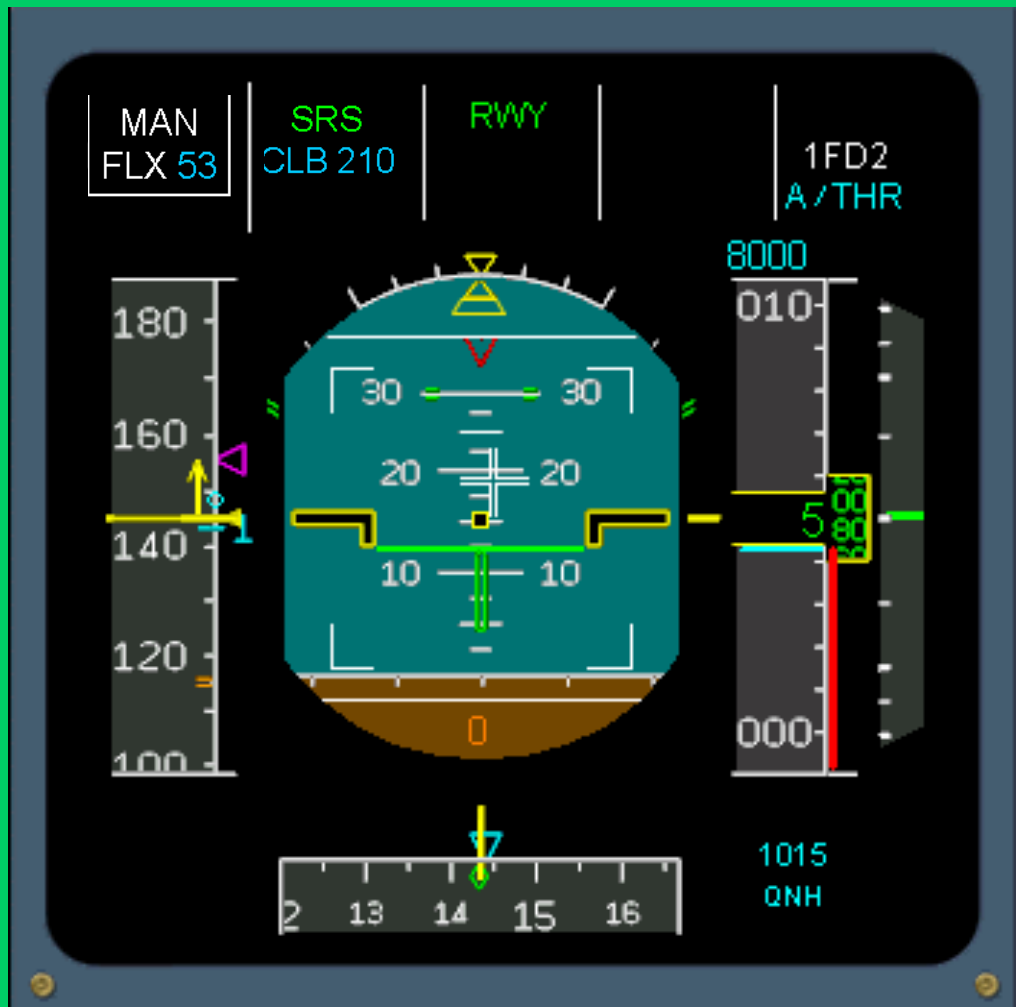
As soon as the thrust lever is set in FLEX/TOGA detent, Pre Selected Climb Speed 210 Kts becomes armed (in Blue) and SEL:210 is displayed on FMA. This Pre Selected Climb Speed 210 Kts was entered in the FMGC (PERF Climb Page). SRS is engaged in vertical mode.



TAKE OFF ROLL

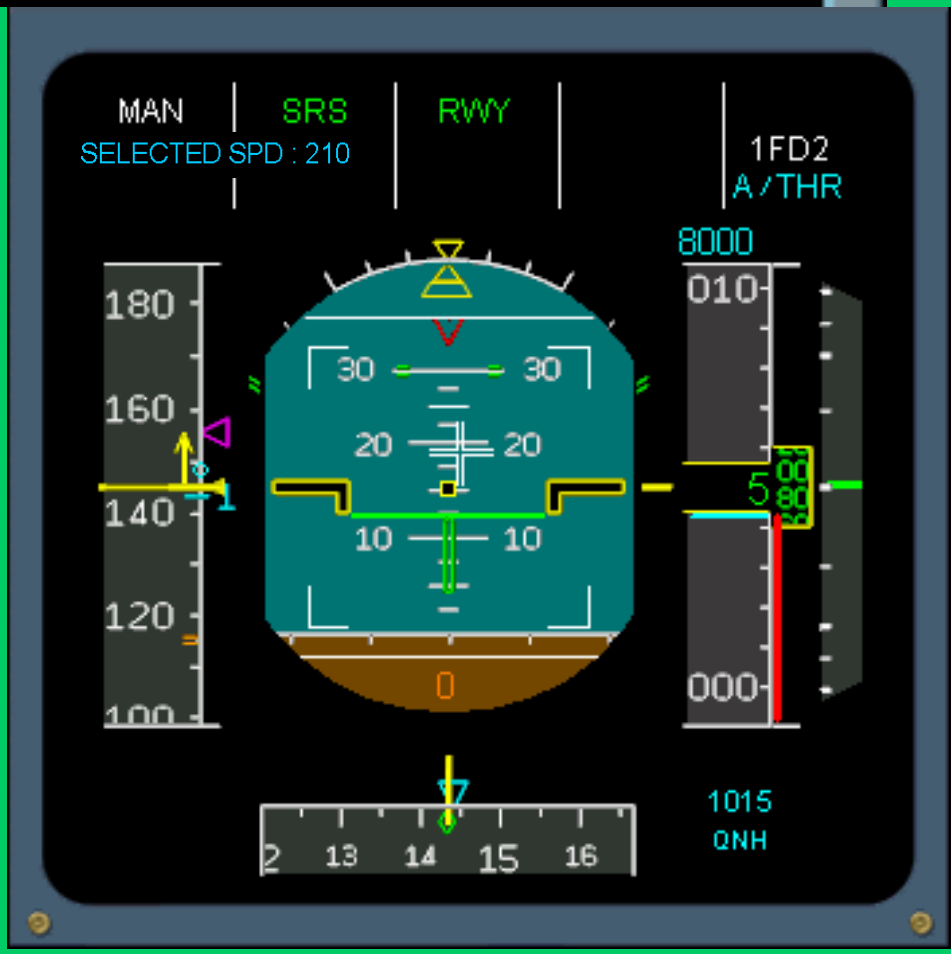


In some A/C (AP-BGU & BGV) when the thrust lever is set in FLEX/TOGA detent, Pre Selected Climb Speed 210 Kts becomes armed (in Blue) & CLB 210 is displayed on FMA. This Pre Selected Climb Speed 210 Kts was entered in the FMGC. SRS is engaged in vertical mode.



TAKE OFF ROLL

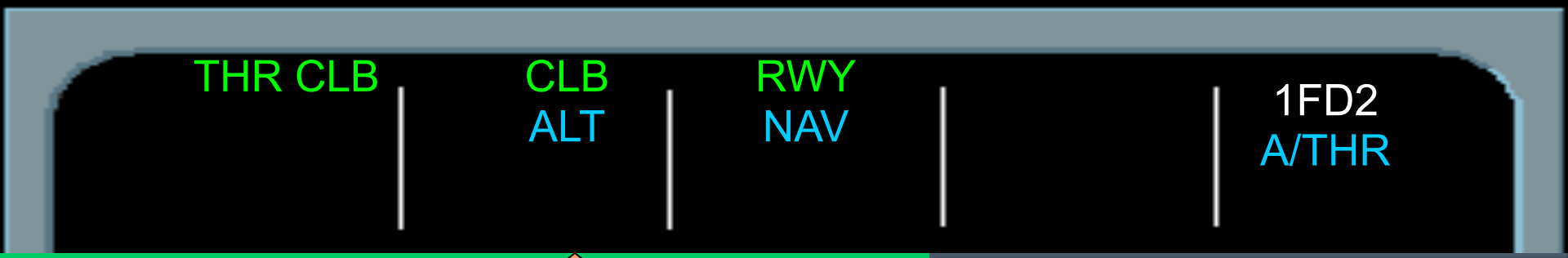
In some A/C (A-321 Regn AP-BRJ) when the thrust lever is set in FLEX/TOGA detent, Pre Selected Climb Speed 210 Kts becomes armed (in Blue) and SPD SEL:210 is displayed at the bottom of the first two lines on FMA. This is due to the difference in the FMGC type.



TAKE OFF ROLL

In some A/C (A-321 Regn AP-BJA & BJB) when the thrust lever is set in FLEX/ TOGA detent, Pre Selected Climb Speed 210 Kts becomes armed (in Blue) and SPD SEL:210 is displayed at the bottom of the first two lines on FMA. This is due to the difference in the FMGC type.

TAKE OFF



As SRS disengages (at Acceleration Altitude), on PFD speed target is 210 Kts shown as a selected blue ( ). CLB becomes the engaged mode and ALT becomes armed in Blue.

TAKE OFF *ROLL*

In case you want to revert to the Managed Speed, push the Speed knob on FCU. On PFD speed target goes to 250 Kts shown as a Managed Magenta ( ). CLB remains the engaged mode and ALT remains armed in Blue.

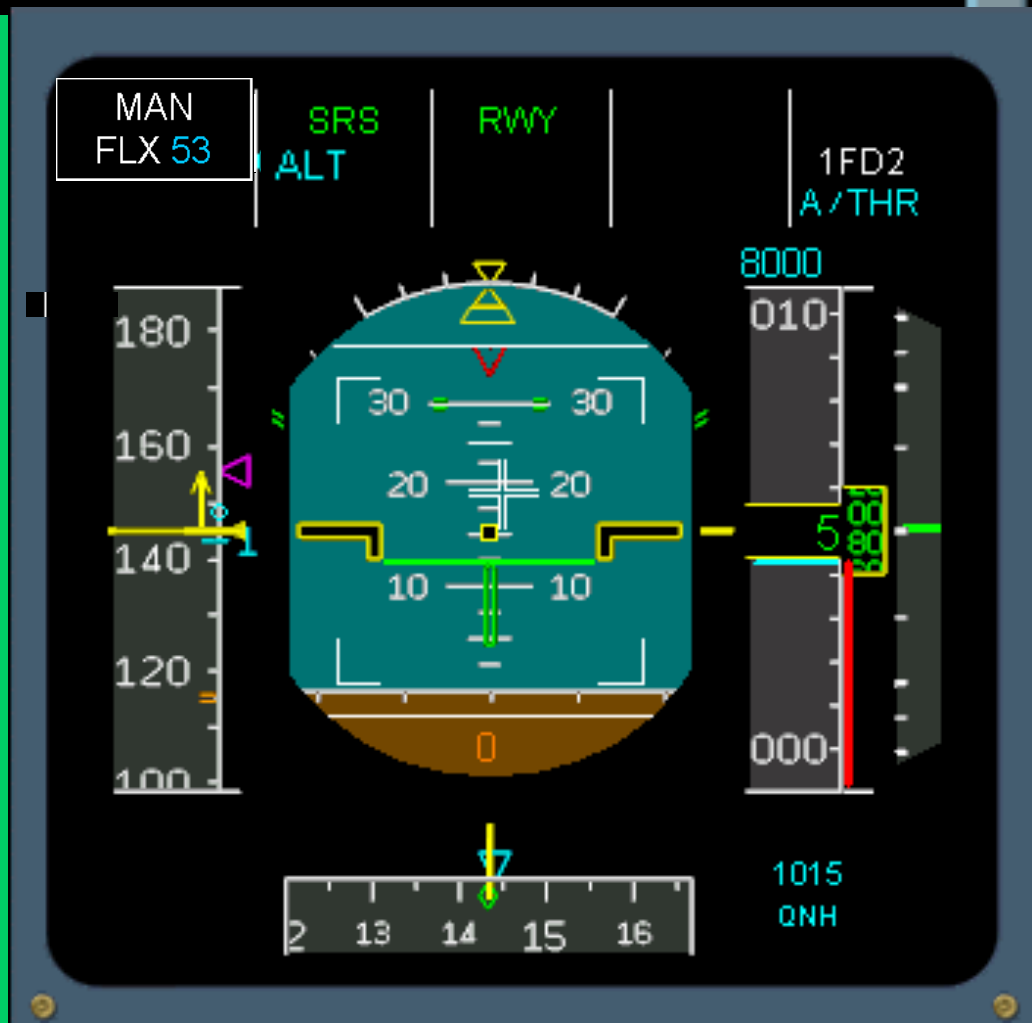
FMA
TAKE OFF

TAKE OFF ROLL

As soon as Thrust Lever is set in Flex/ TOGA detent, the FMA reads as shown above, when taking off from an ILS equipped R/W.

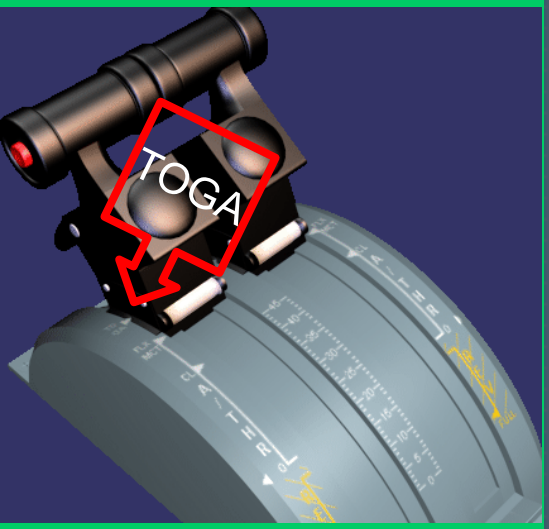
TAKE OFF ROLL

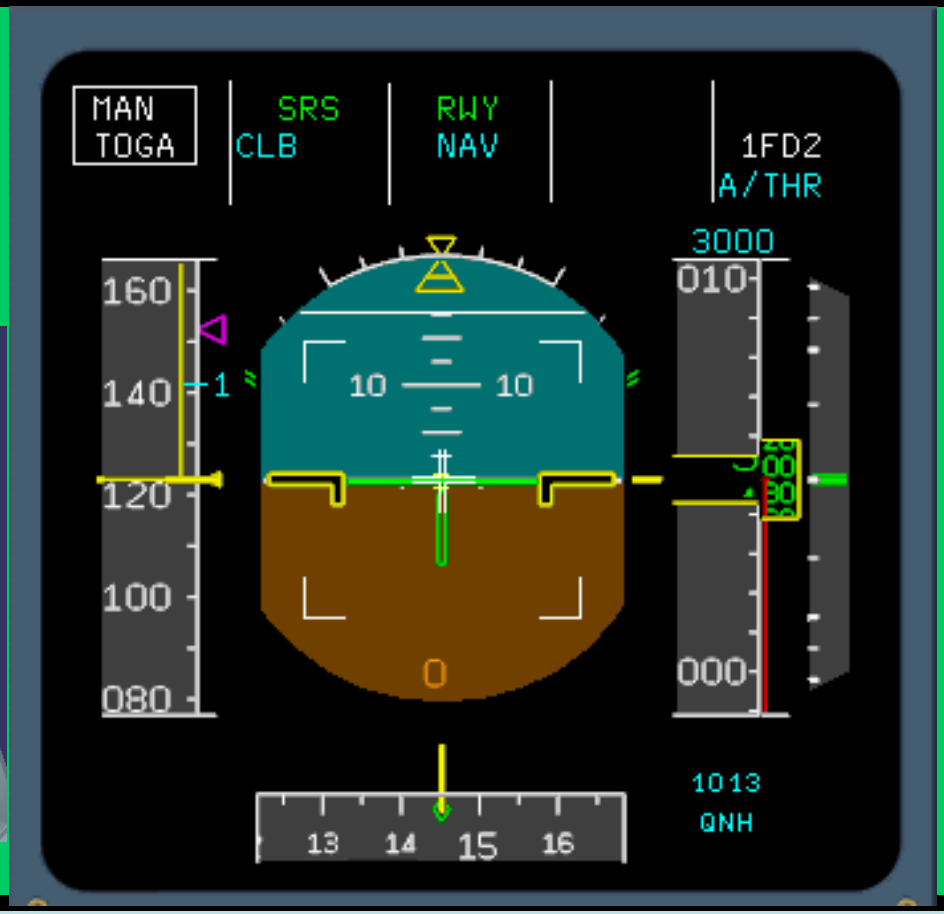
As soon as Thrust Lever is set in Flex or TOGA, SRS engages in vertical mode (V2 to V2+10 Kts). ALT (in Blue or Magenta) instead of CLB if FCU altitude or a constraint is set at or below acceleration altitude.



TAKE OFF ROLL

Manual
Flex or
Manual
TOGA



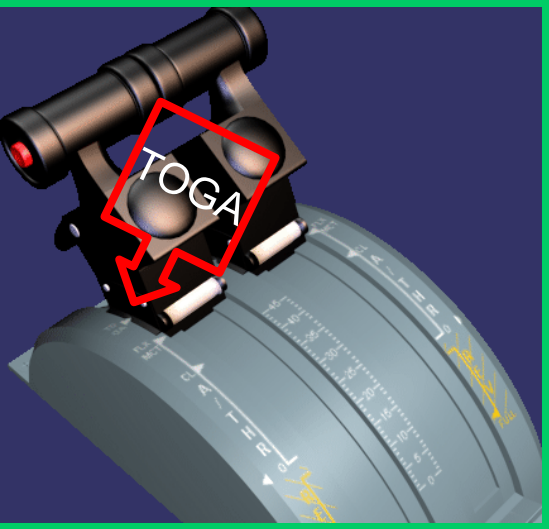


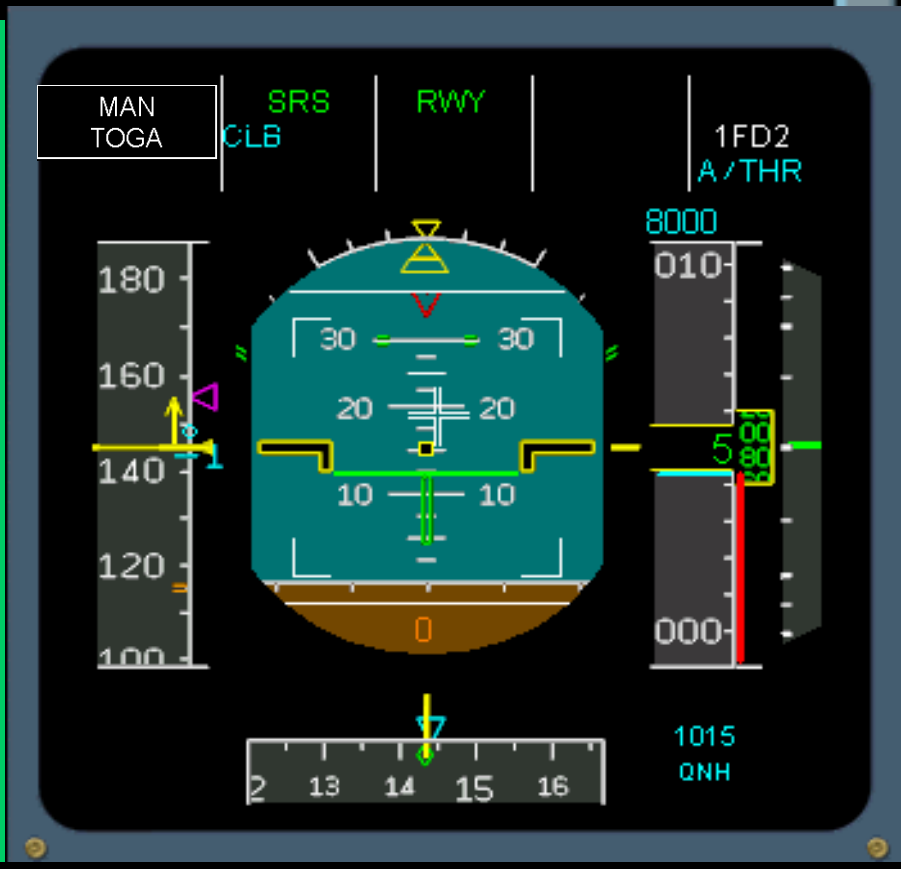
Auto Thrust in Blue

MAN FLEX or MAN TOGA engages when thrust lever is set in FLEX/TOGA detent. A/THR armed (In Blue)

TAKE OFF ROLL

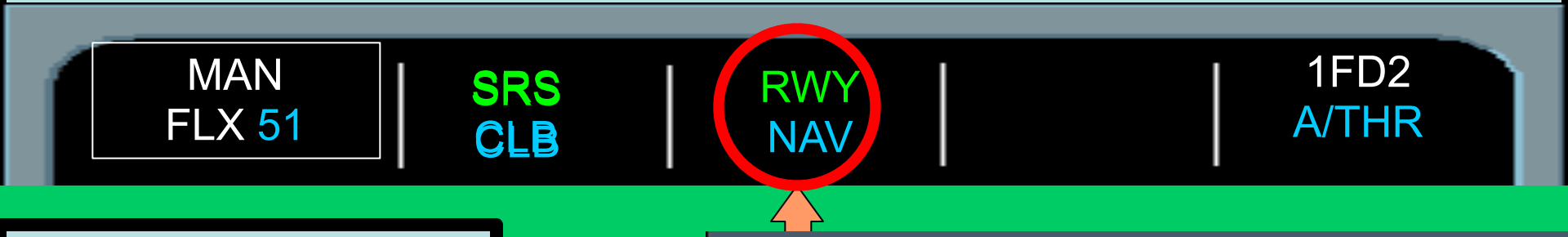
MAN TOGA | SRS CLB | RWY NAV | | 1FD2 A/THR



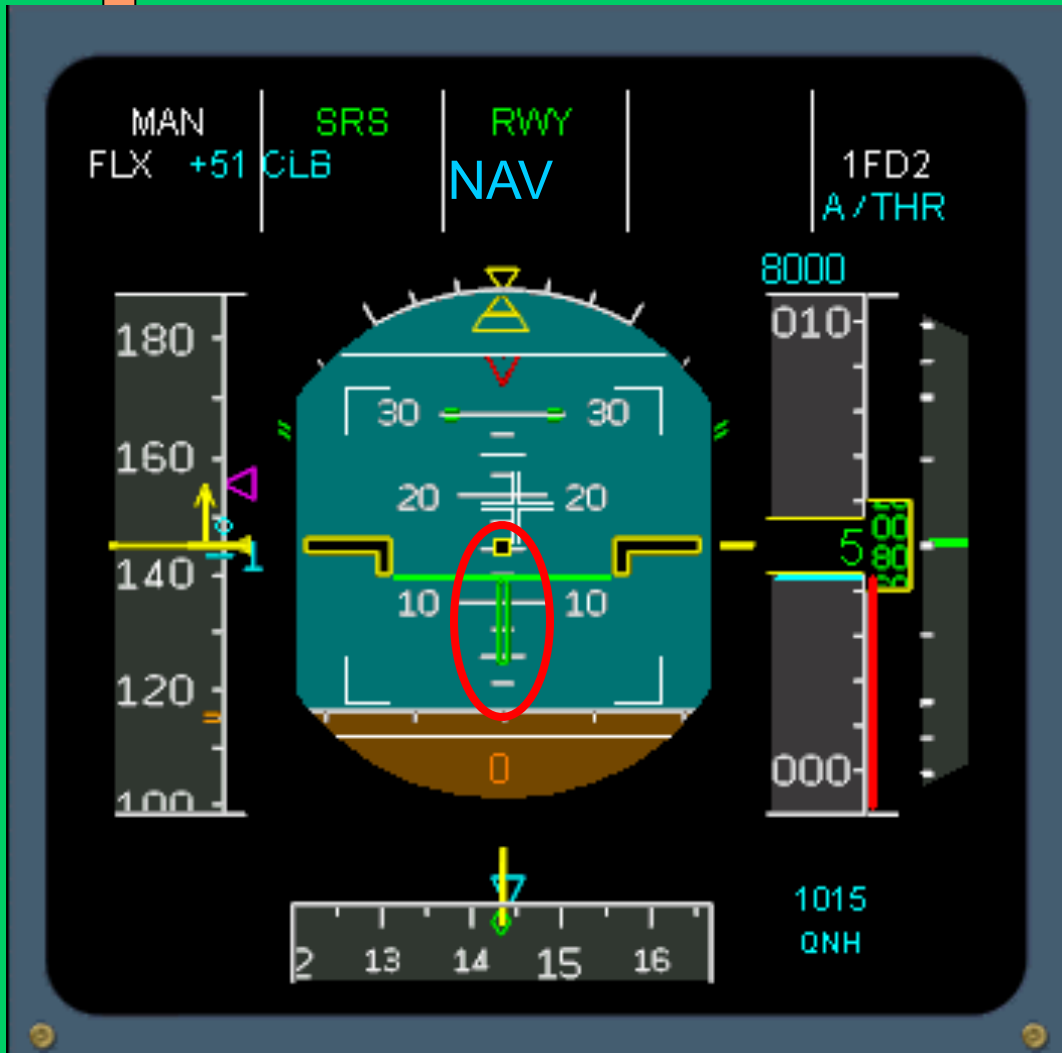


When thrust lever is set in FLEX/TOGA detent. SRS engages in pitch mode to give V2 to V2+10 Kts. Climb armed (in Blue). If V2 not entered in the FMGC (PERF Take Off Page), SRS does not engage.

TAKE OFF ROLL



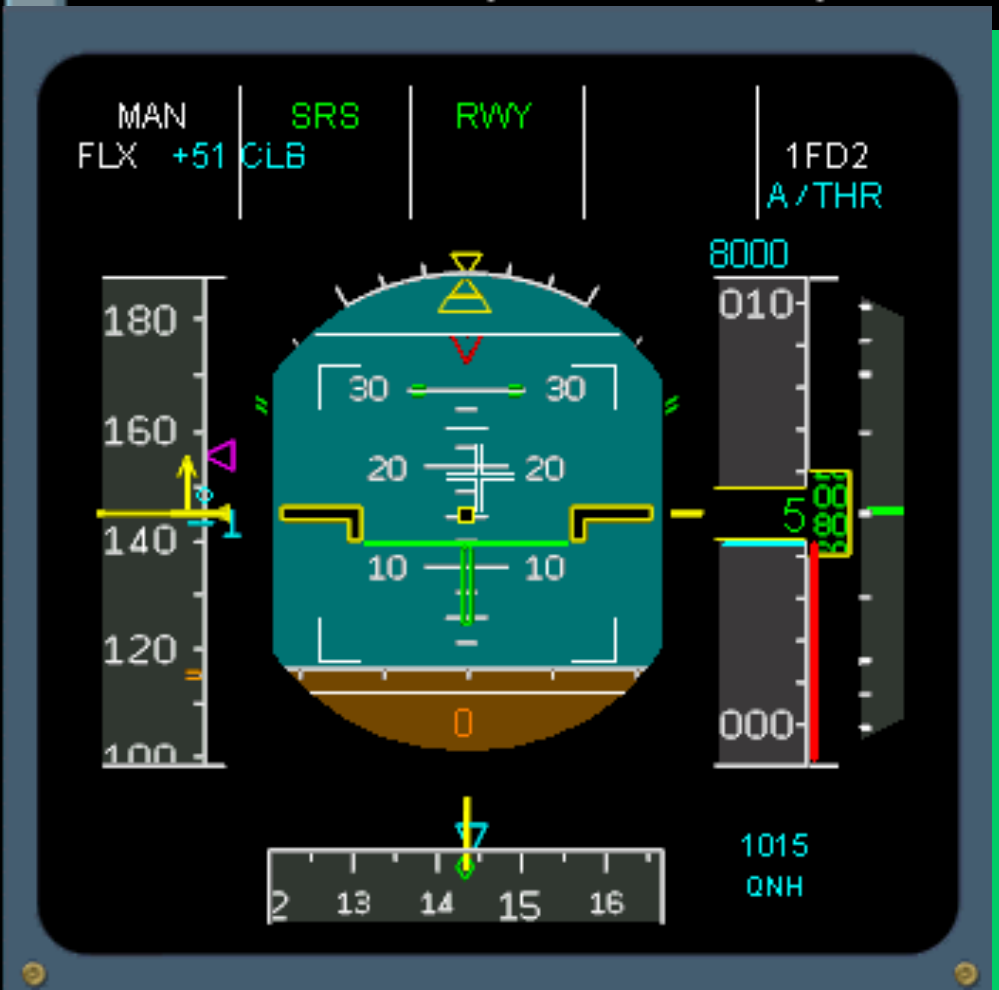
When thrust lever is set in FLEX/TOGA detent, RWY in Green (if ILS equipped Runway) & ILS signal valid. Navigation Armed (In Blue)



TAKE OFF ROLL

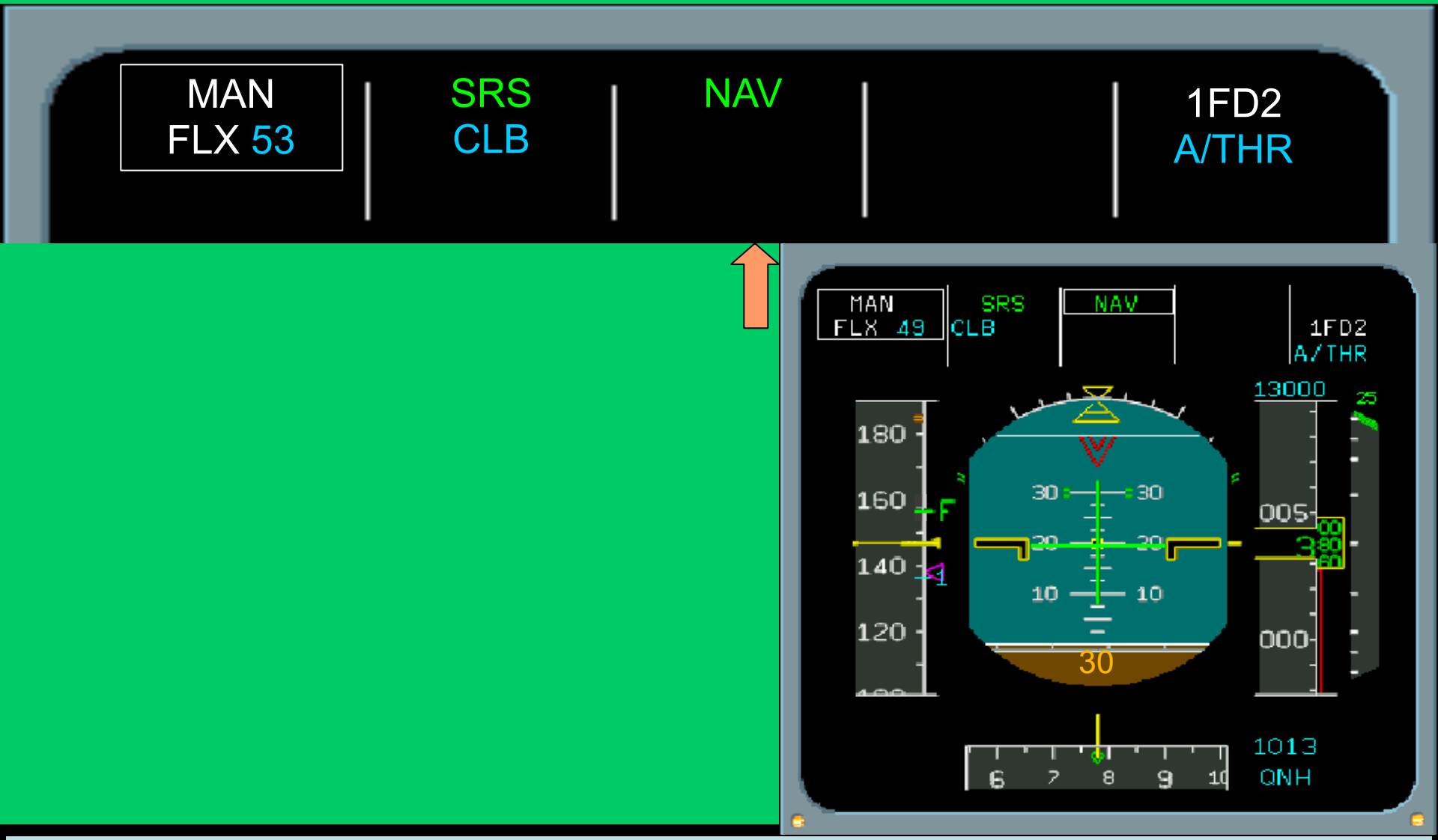
When thrust lever is set in FLEX/TOGA detent, RWY not displayed, if no ILS on that Runway or ILS signal Not Available. Navigation armed (In Blue)

TAKE OFF ROLL



Both Flight Directors are ON.
A/THR is armed (Blue)

TAKE OFF : 30 Ft



If NAV is armed, engages automatically at 30 Feet RA.

TAKE OFF : 100 Ft

Auto Pilot 1 or 2 is engaged. FMGS prevent Auto Pilot engagement, till 5 seconds after Take Off.

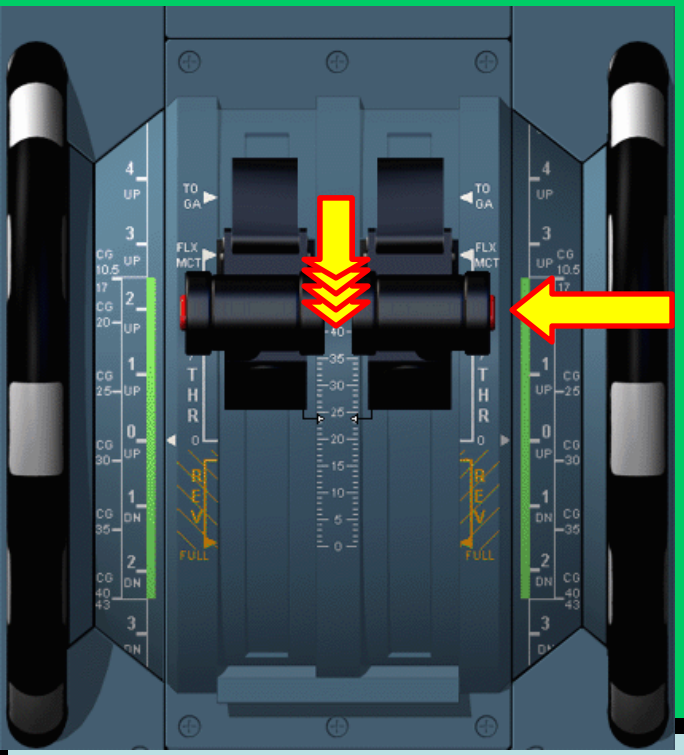
TAKE OFF : THR RED ALT

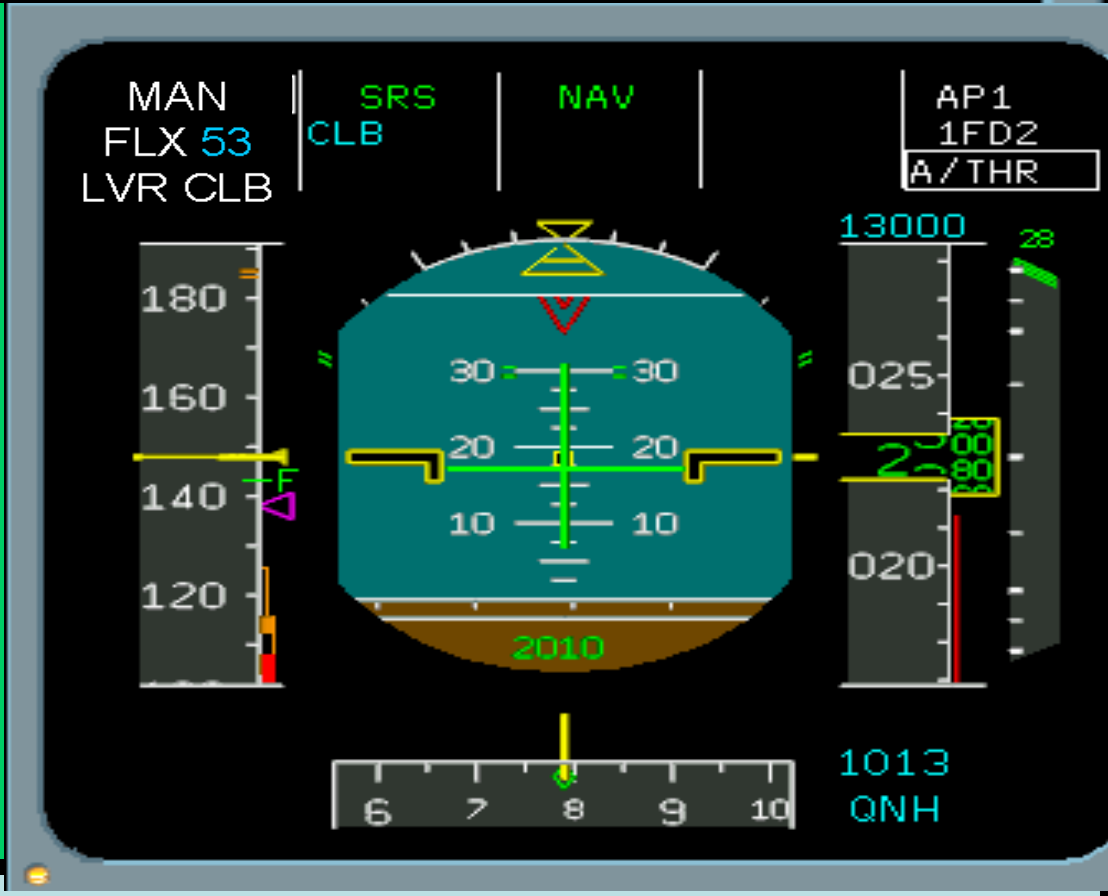
MAN
FLX 53
LVR CLB

SRS
CLB

NAV

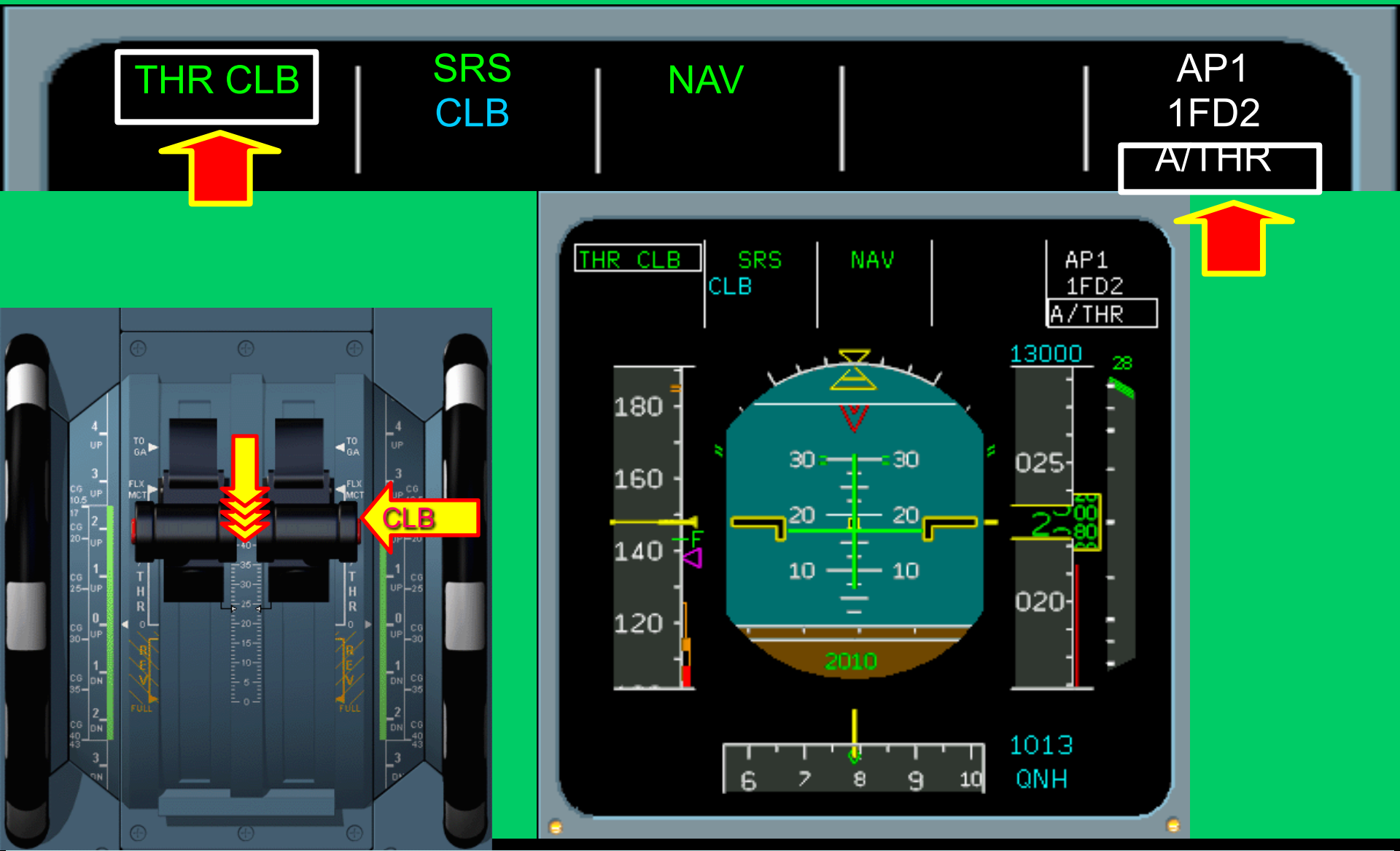
AP1
1FD2
A/THR





At Thrust Reduction Altitude “LVR CLB” Flashes.
Advising Pilot to Set Thrust Lever to Climb Detent

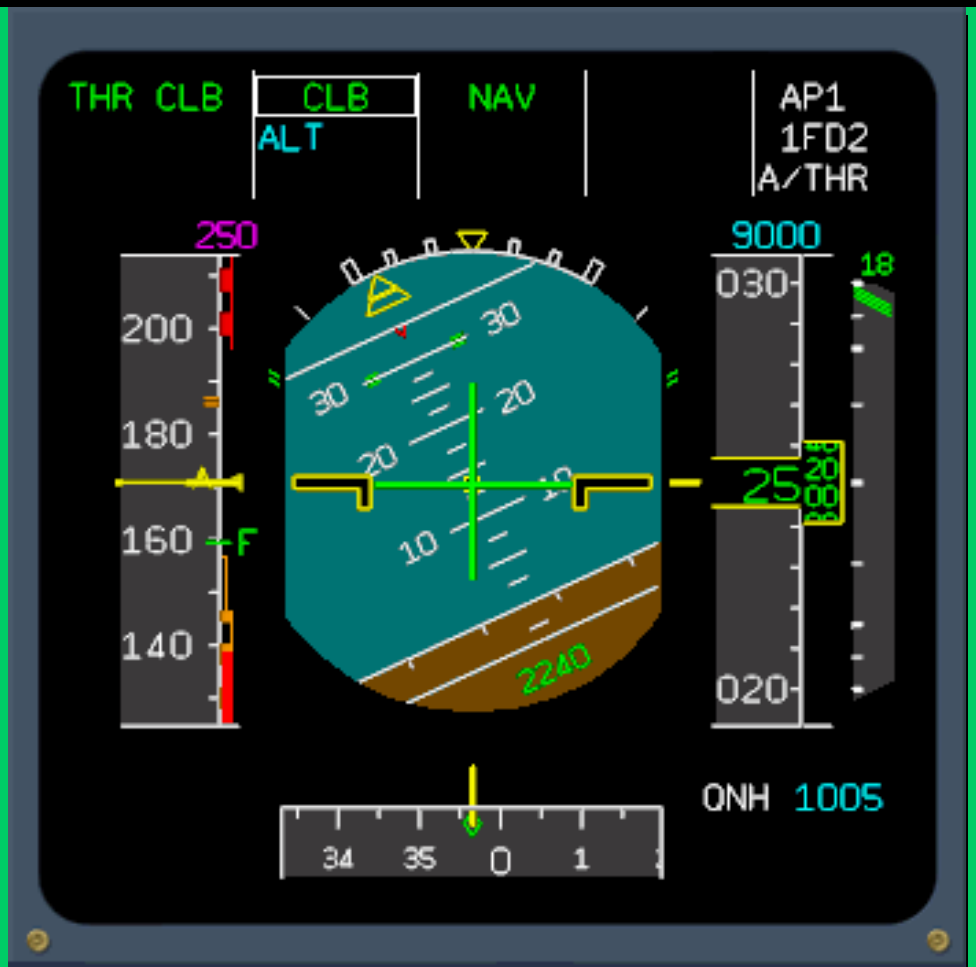
TAKE OFF : THR RED ALT



When Thrust Lever is set to Climb Detent, THR CLB in Green, and Auto Thrust in White. (Both in Engaged Mode)

TAKE OFF : ACCEL ALT

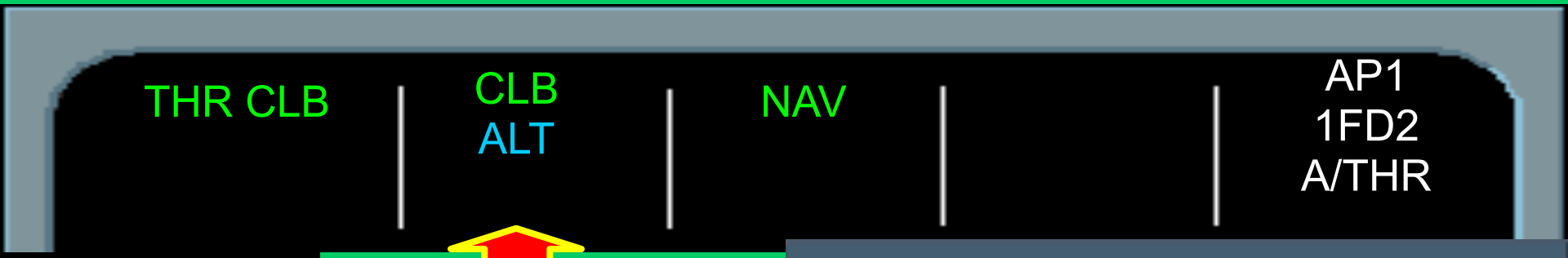
At Acceleration Altitude, SRS changes to Climb. If Altitude selected on the FCU is above, ALT in Blue.



FMA

CLIMB

CLIMB

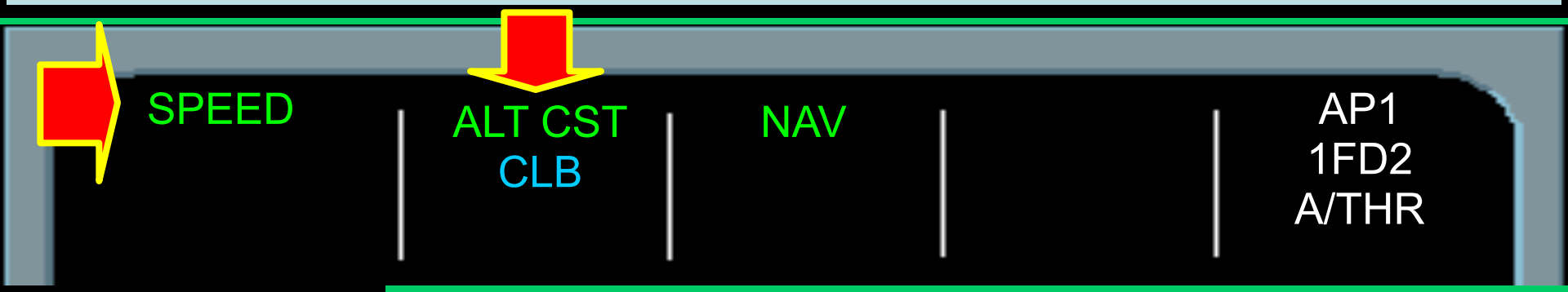


FCU Selected Altitude, say FL-130, (ALT in Blue) is below any constraints in the Flight Plan else Magenta

CLIMB : ALT CST

There is an Altitude Constraint at, say FL 070. ALT (in magenta) is the FMGC constraint. FCU ALT set at FL-290.

CLIMB : ALT CST



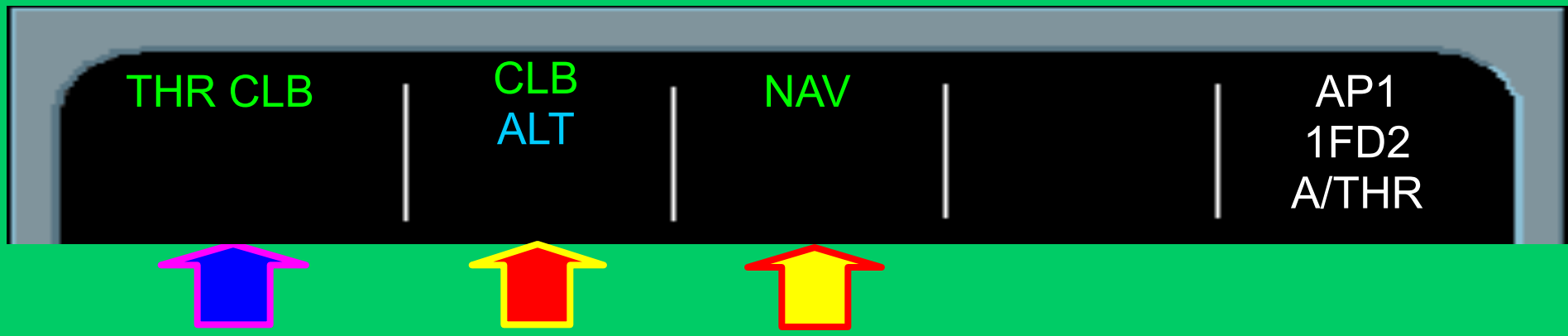
As Aircraft reaches FL 070, it levels off (itself). Thrust comes back to maintain the speed.
ALT CST (in green) is the engaged mode and CLB armed as FCU ALT is set at FL-290.

CLIMB
(ALT CST CROSSED)

As the constraint is passed (we are in Managed Mode), Thrust goes to Climb Thrust (itself) and the aircraft resumes climb (itself). CLB becomes engaged mode and ALT armed, as FCU ALT is set at FL-290.

EFFECT OF FCU KNOBS ON CLIMB

MANAGED CLIMB

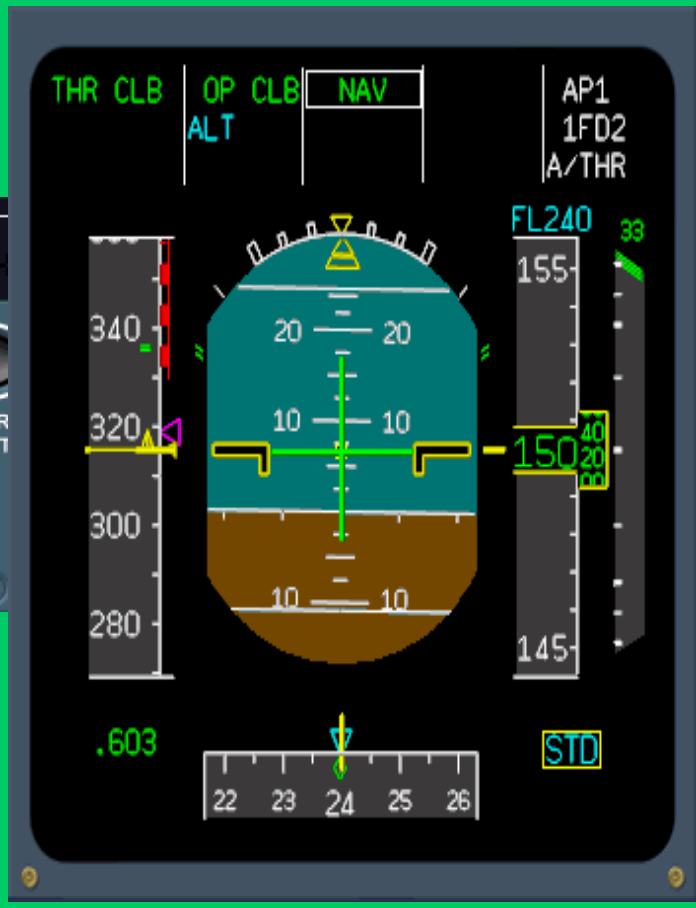


Normal Managed Climb.
FMA reading THR CLB | CLB | NAV.
FCU ALT is set at FL-330.

MANAGED CLIMB (ALT KNOB PULLED)

When you pull ALT knob, CLB becomes OP CLB, DOT on FCU vanishes. NAV no change. No change to THR CLB

Note: ALT dot on FCU goes OFF. Pushing the ALT knob reverts back to CLB from OP CLB.



OPEN CLIMB
(ALT KNOB PUSHED)

When you push ALT knob, OP CLB becomes CLB, DOT on FCU comes ON. NAV no change. No change to THR CLB

MANAGED CLIMB
(HDG KNOB PULLED)

NAV changes to HDG. CLB reverts to OP CLB & constraints disregarded. No change to THR CLB

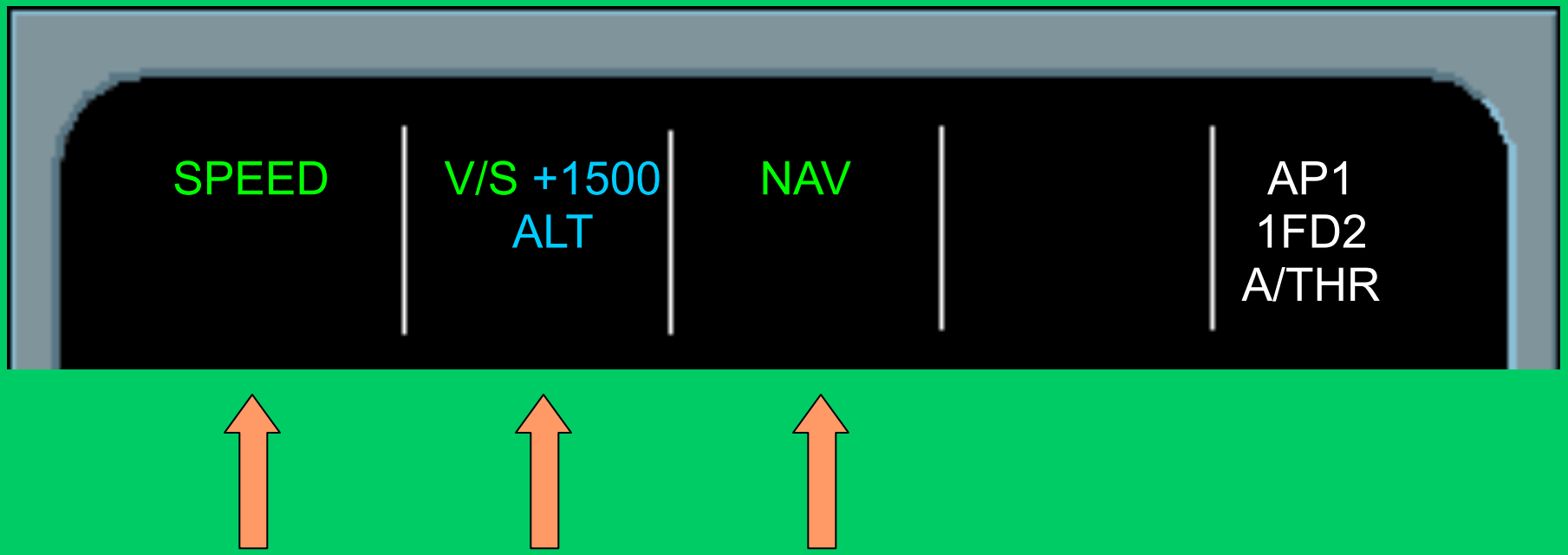
Note: ALT dot on FCU goes OFF. ALT knob push/pull has no effect. Push HDG knob then ALT knob to get CLB/NAV

BACK TO MANAGED CLIMB (FROM HDG)

To get back to Managed Climb, first push the HDG knob to get NAV. Then push ALT knob to get rid of OP CLB . No change to THR CLB

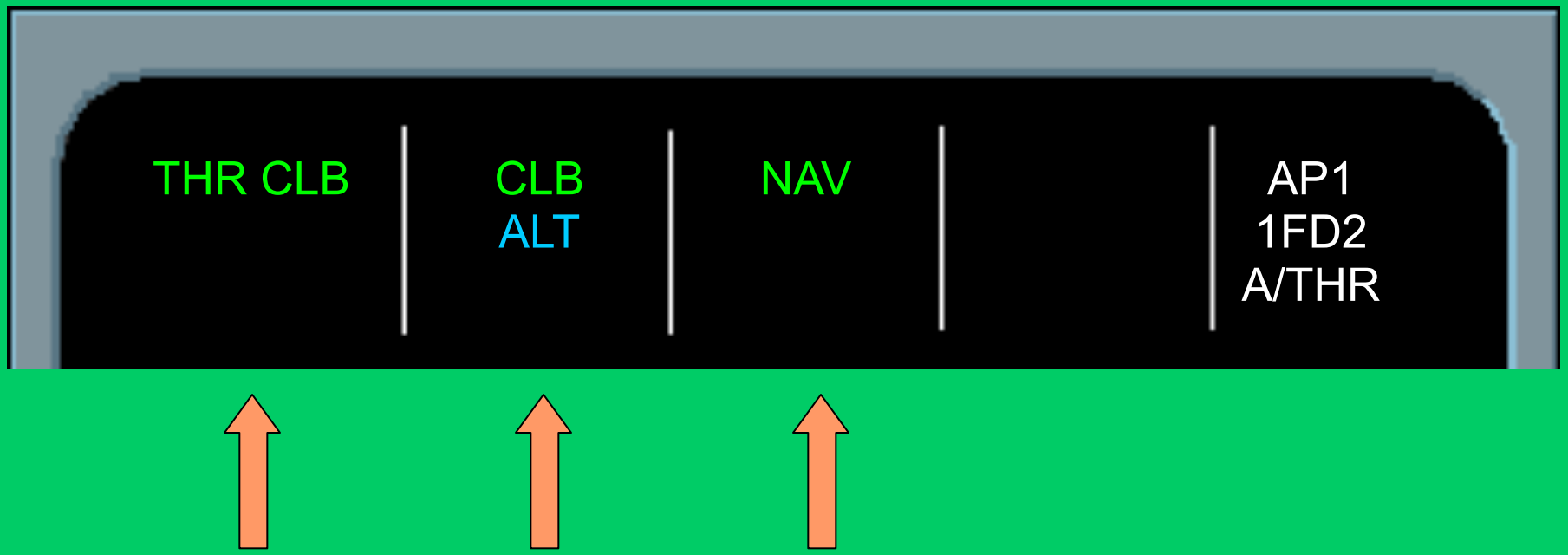
Note: Pushing/Pulling ALT knob first has no effect. Push HDG knob, then the ALT knob to get CLB/NAV

CLIMB : V/S PULLED



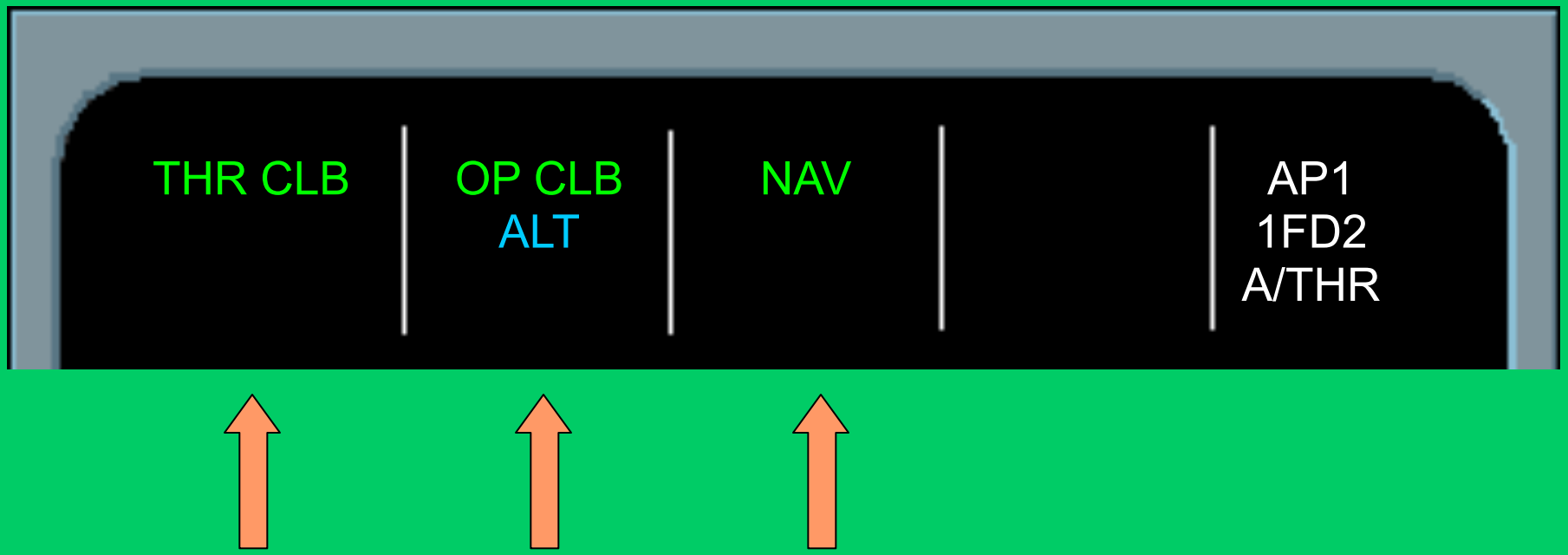
THR CLB changes to SPEED, CLB becomes the current V/S. Thrust may reduce to maintain the current V/S (priority) & then the desired speed. NAV remains as it is.

CLIMB
(TO GET RID OF V/S)



Push the ALT knob, SPEED changes into THR CLB, V/S into CLB and NAV remains as it is.

CLIMB
(TO GET RID OF V/S)



Pull the ALT knob, SPEED changes into THR CLB, V/S into OP CLB and no change in NAV.

EXEP CLIMB

CLIMB
(EXPED ON FCU PUSHED)

When EXPED P/B on FCU is pushed, EXP CLB in Green. Target speed GREEN DOT.

Note: When in Exped Mode, SPD CSTR, ALT CSTR and SPD LIM are disregarded. No visible benefit above FL 250

GET OUT OF EXEP CLIMB : 03 WAYS

OUT OF EXP CLIMB-1

To revert to normal climb, Push the ALT knob on FCU, CLIMB mode will engage.

Note: Pulling ALT or V/S or SPD/MACH knob also disengages EXP CLB. Pushing EXP button does not

OUT OF EXP CLIMB-1

To revert to Open Climb, Pull the ALT selector knob on FCU, OPEN CLIMB mode will engage.

Note: Pushing ALT or pulling V/S or SPD/MACH knob also disengages EXP CLB. Pushing EXP button does not

OUT OF EXP CLIMB-2

Pull the V/S knob on the FCU. We revert to SPEED and current V/S. NAV remains engaged.

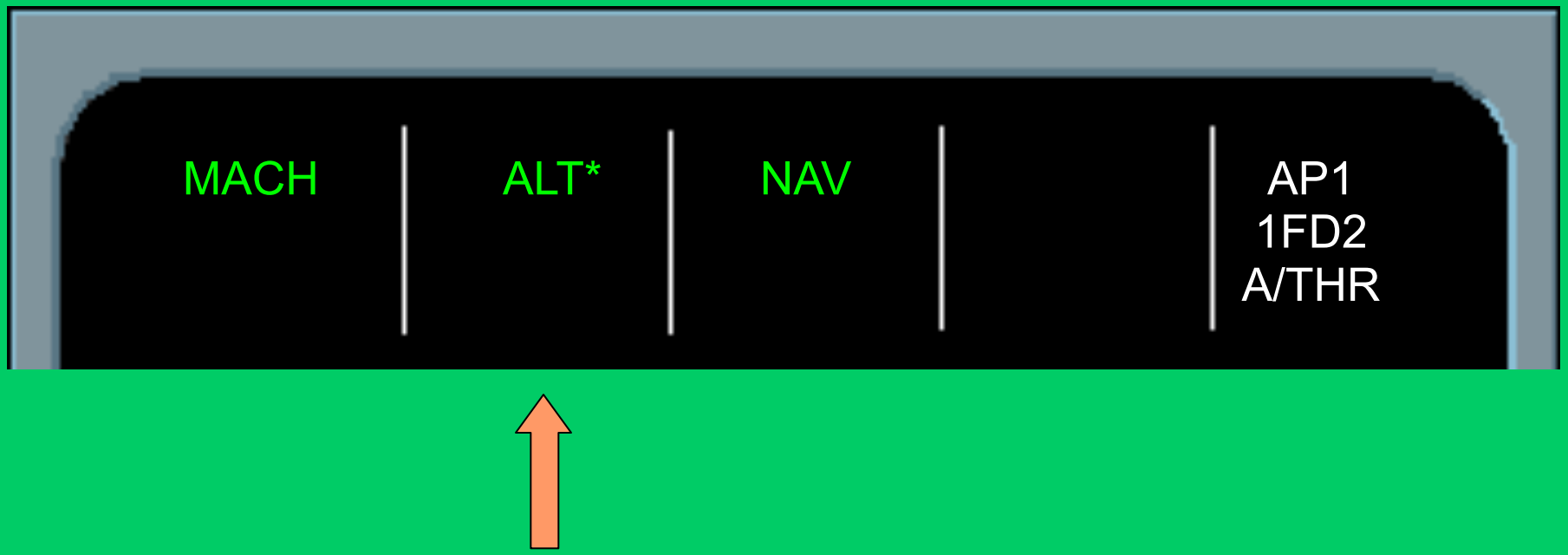
Note: To get rid of V/S, you can push or pull the ALT knob also, to go into CLB or OP CLB

OUT OF EXP CLIMB-3

Pull the SPD/MACH knob on the FCU, & select a SPEED. OP CLB is displayed in 2nd Col.

Note: To get rid of SPEED, you can push the SPD/MACH knob and push the ALT knob to go into CLB.

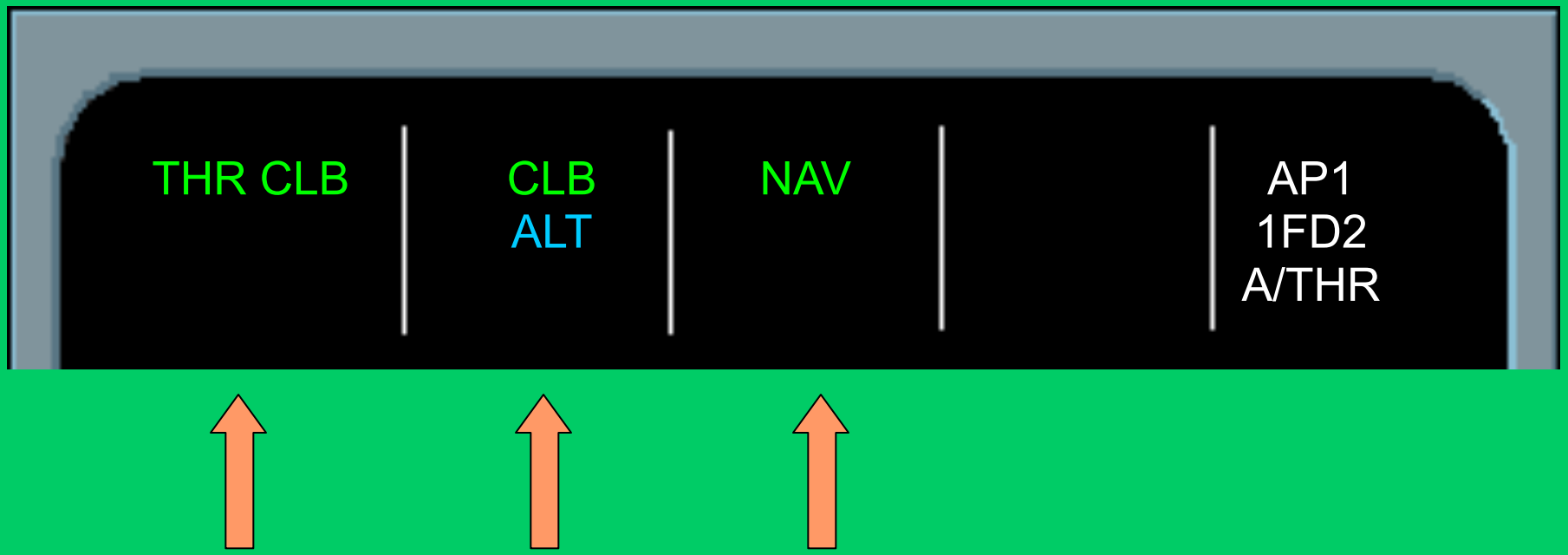
EXPED CLIMB (AT ALT*)



At ALT* engagement, EXEP CLB automatically disengages.

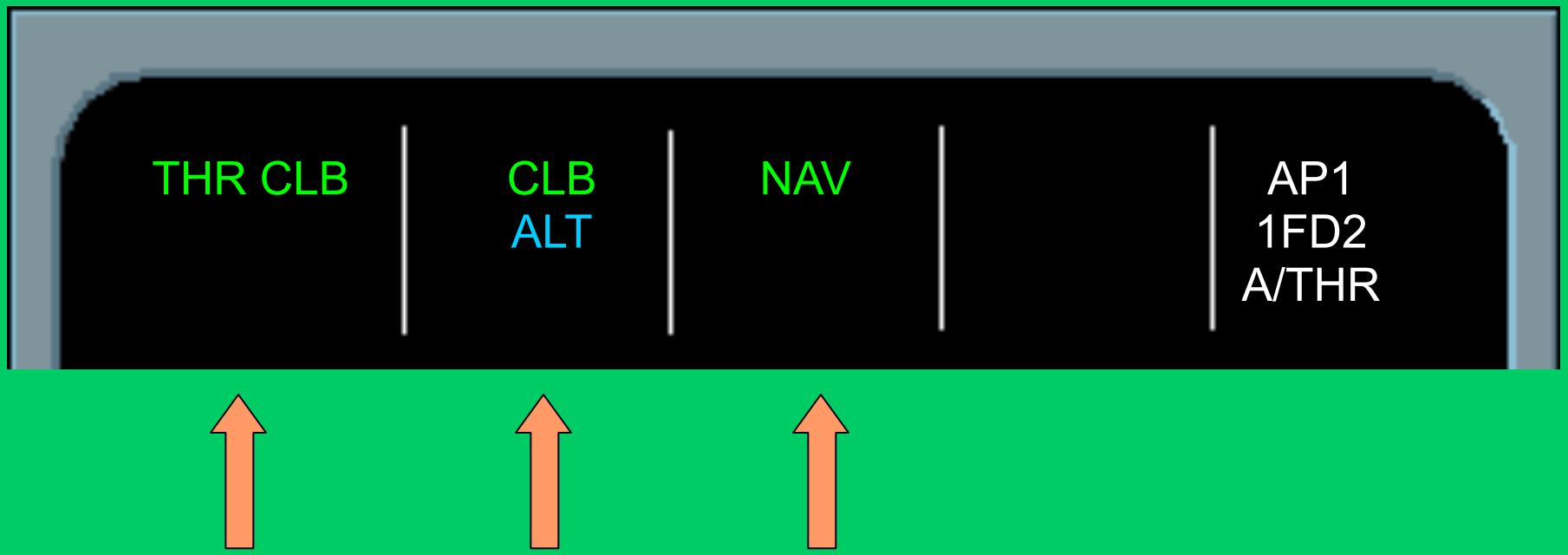
FLT PLAN DISCONTINUITY DURING CLIMB

CLIMB : DISCONT AHEAD



During normal Managed Climb, FCU Selected Altitude say FL-290. THR CLB | CLB | NAV. ALT is in Blue.

CLIMB : DISCONT AHEAD



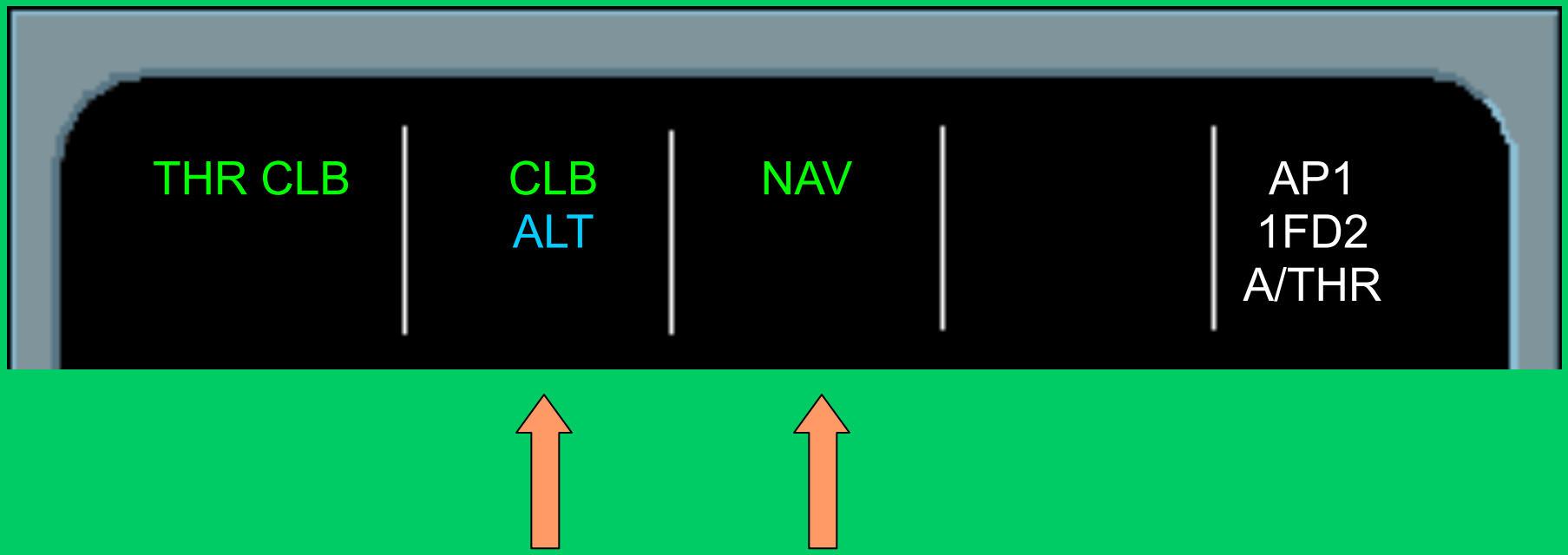
Thirty Seconds (30 secs) before reaching the actual Discontinuity in the Flight Plan, an Amber message "DISCONT AHEAD" comes on both the FMGC.

CLIMB : DISCONT AHEAD

As you hit the discontinuity, NAV reverts to HDG, CLB to OP CLB, no change to THR CLB. DIR TO the next point to get back to NAV.

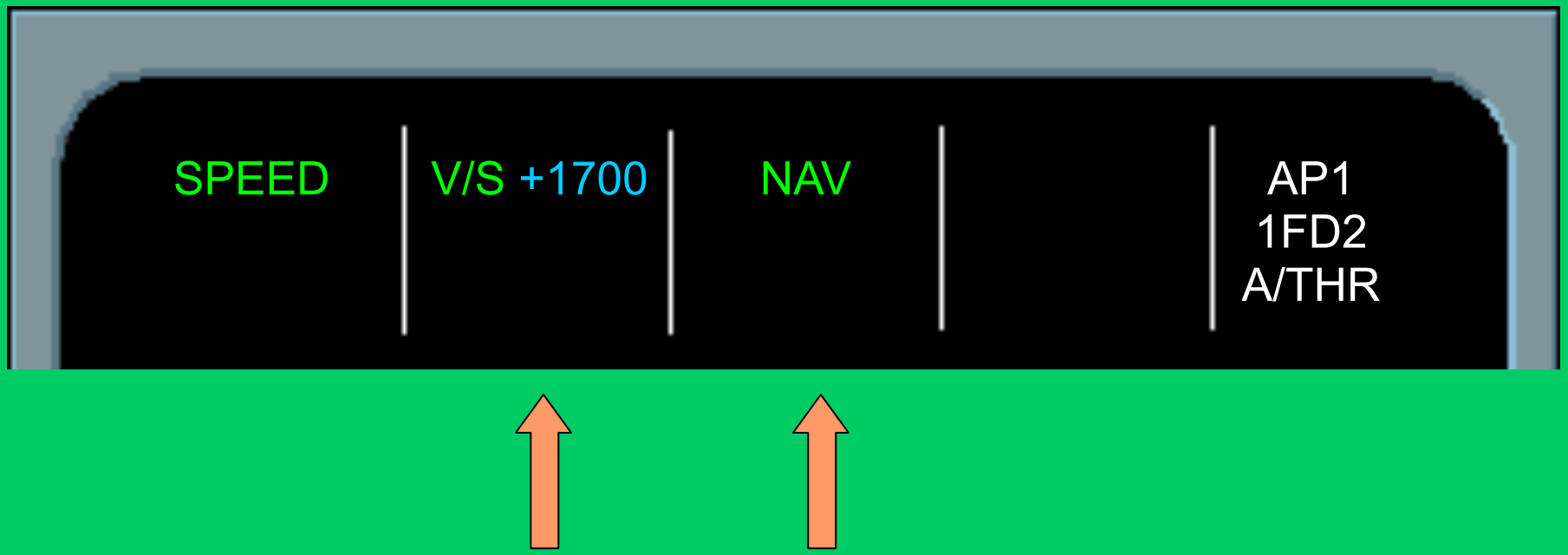
MODE REVERSION

CLIMBING TO FL-250



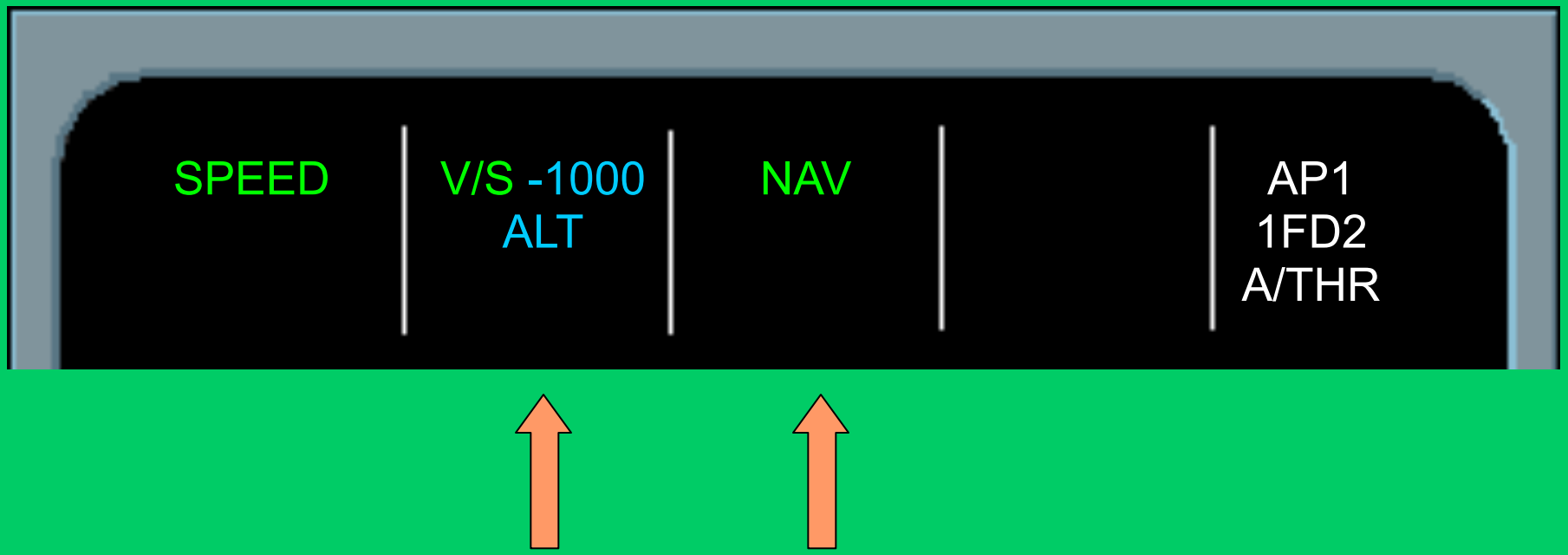
At FL-225, ATC tells you to level off FL-220. You select FL-220 on FCU……. See next slide.

RETURN TO FL-220



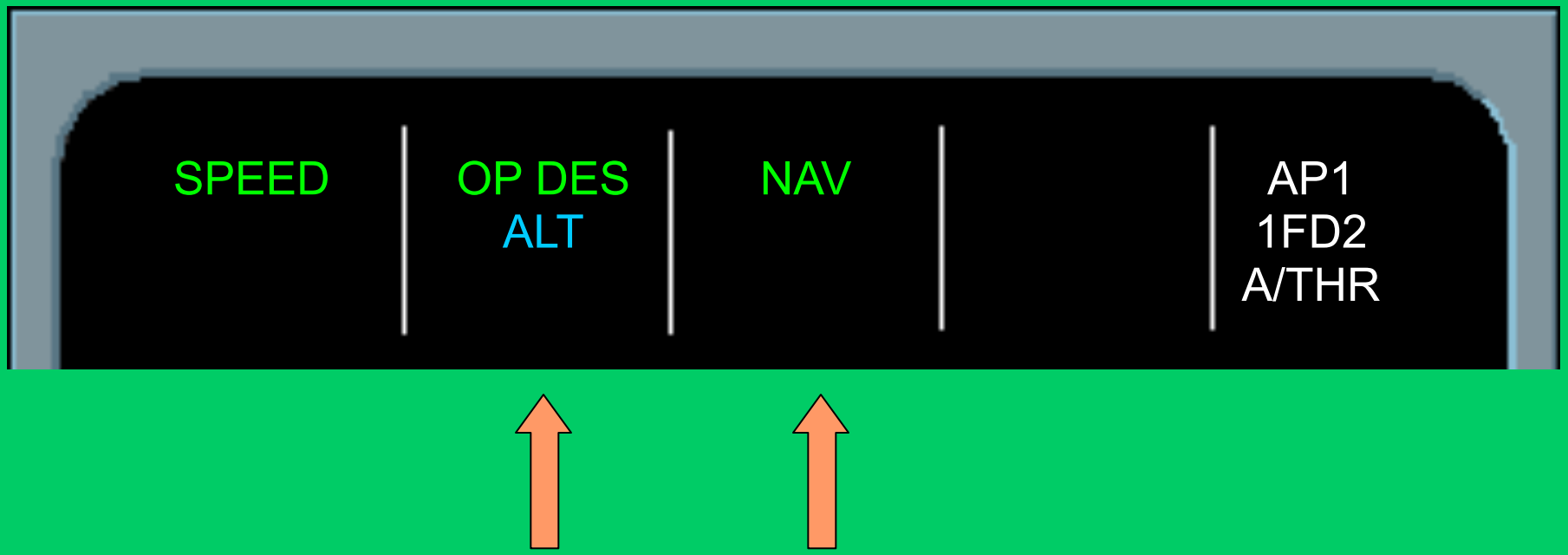
THR CLB becomes SPEED. Current V/S of 1700 shown. ALT (in blue) not there. You can…..

SELECT A V/S



Either select a vertical speed say 1000 ft/min, to go down to the selected altitude on FCU or…

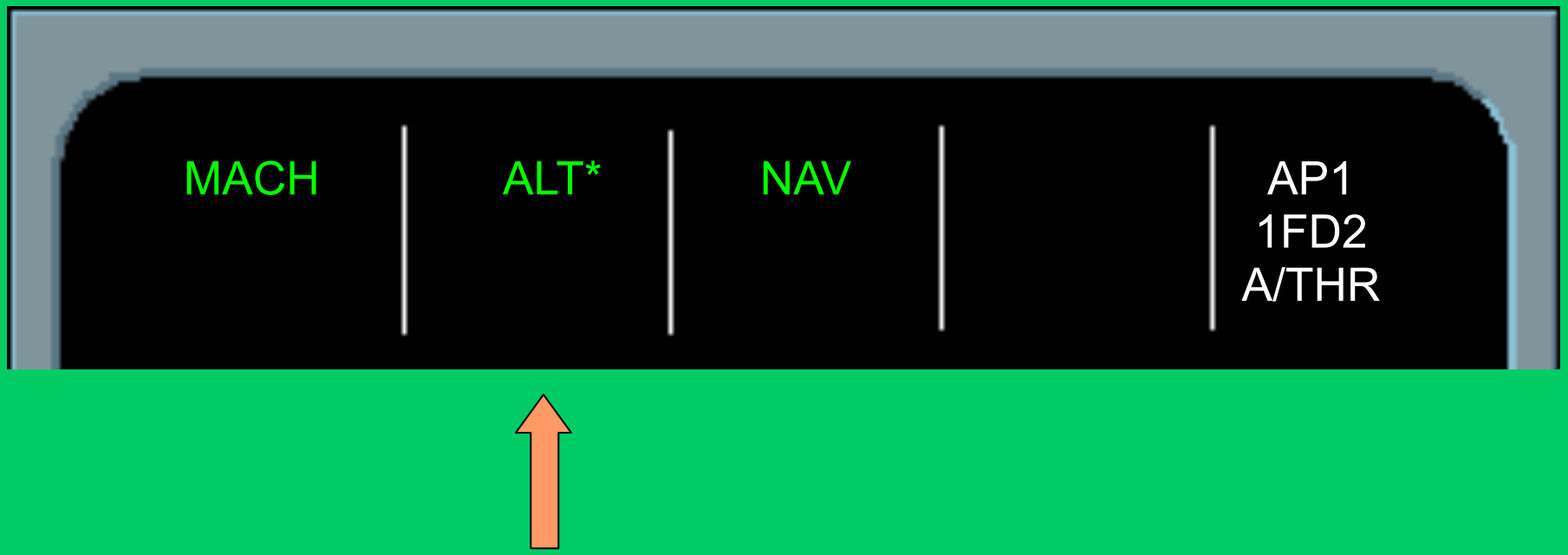
PULL THE ALT KNOB



Pull the ALT knob to engage OP DES and capture the FCU selected altitude.

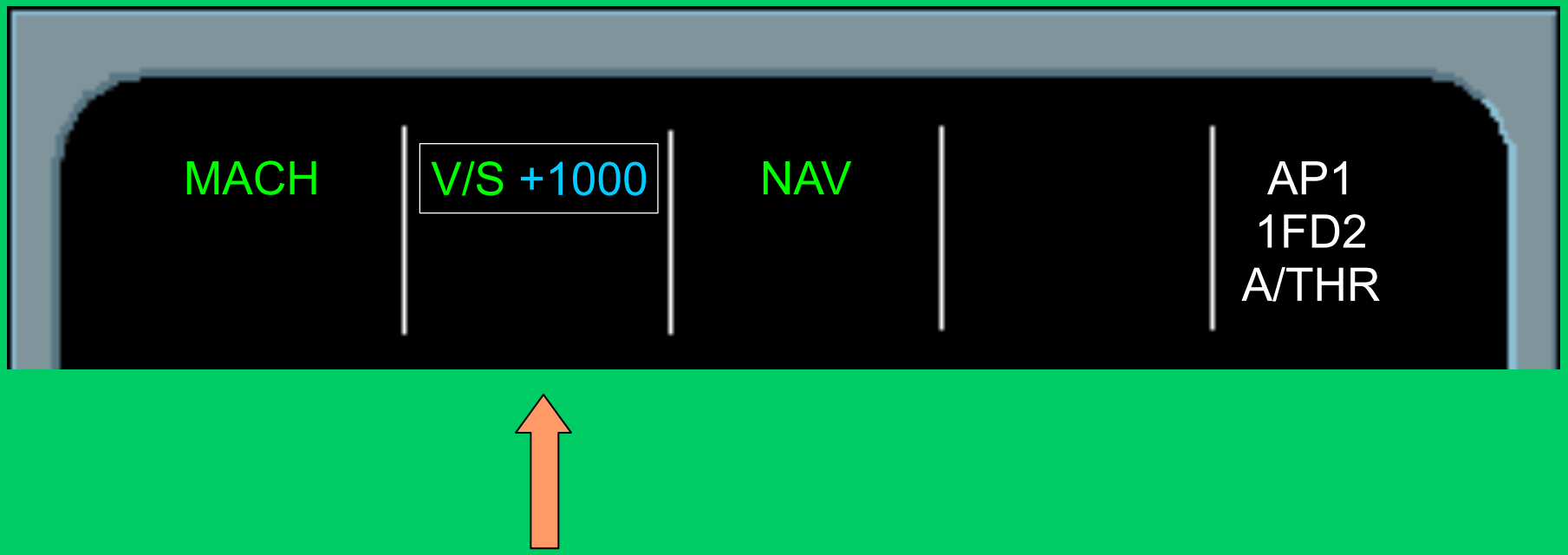
MODE REVERSION

CHANGE DURING ALT*



As you level off at FL-350, ATC clears you to FL-370. With ALT* you select FL-370 on FCU……. See next slide.

CHANGE DURING ALT*

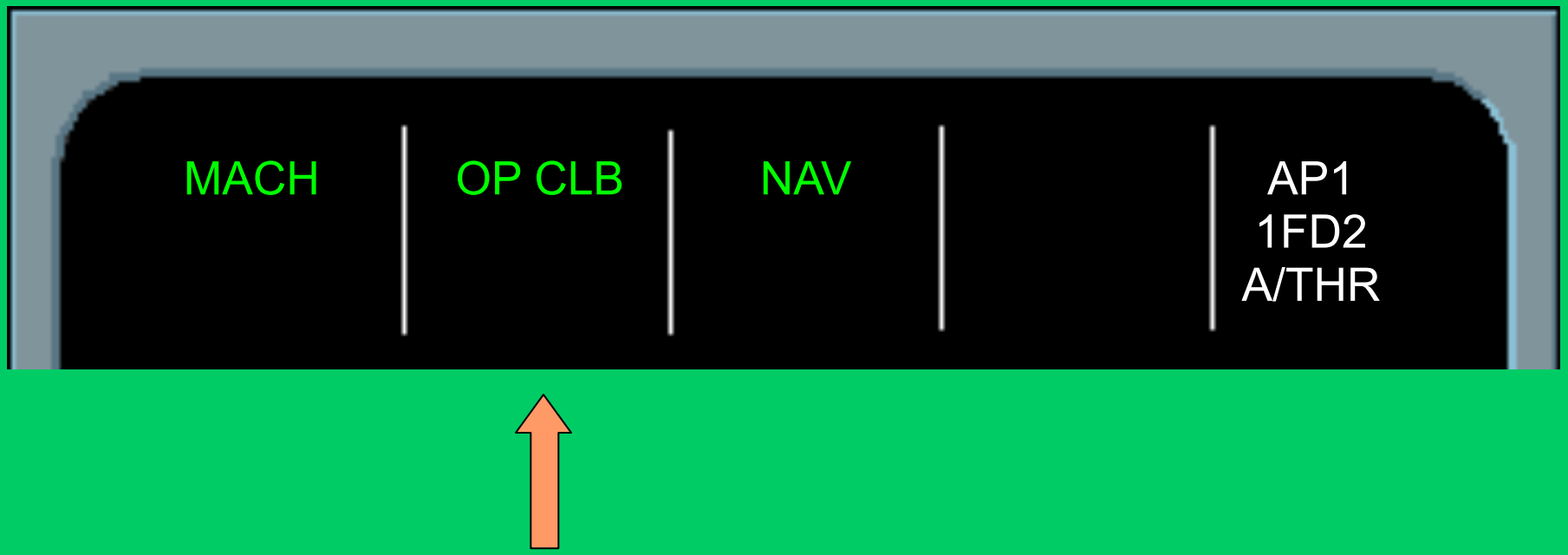


FD pitch bar flashes. ALT* changes to current V/S and is boxed. (If change of FCU Alt>250 feet) … See next slide.

PUSH THE ALT KNOB

Push the ALT knob on the FCU to engage climb or
….. … See next slide.

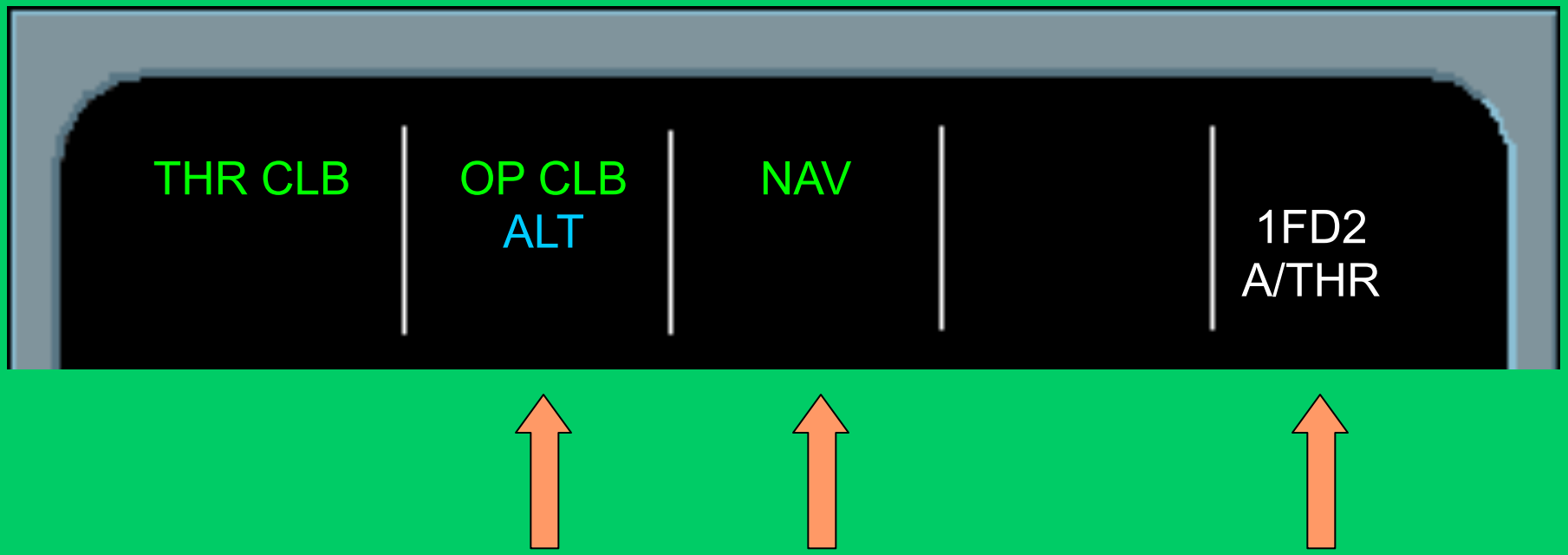
PULL THE ALT KNOB



Pull the ALT knob on the FCU to engage Open Climb. You can also adjust the V/S to reach the desired level.

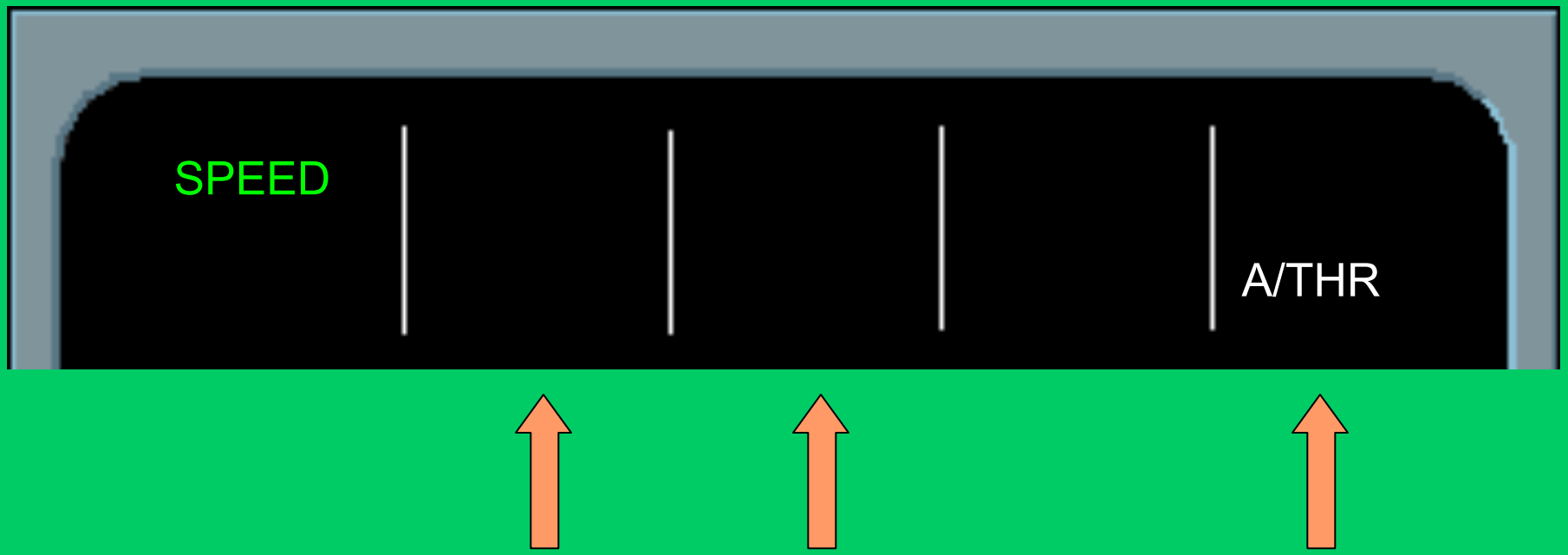
MODE REVERSION

REVERSION : CLIMB
DON'T FOLLOW FD BARS



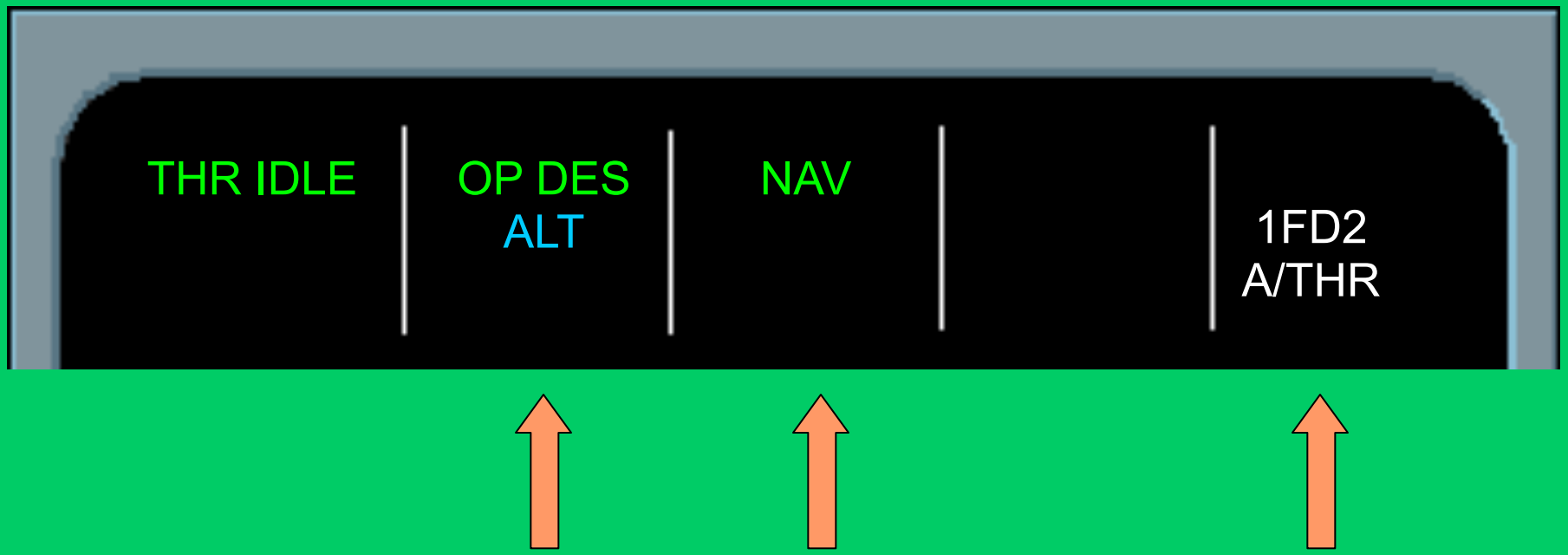
You don't follow FD commands & pitch A/C down.
Note: A/P is OFF and FDs are ON. Continue…….

REVERSION : CLIMB
DON'T FOLLOW FD BARS



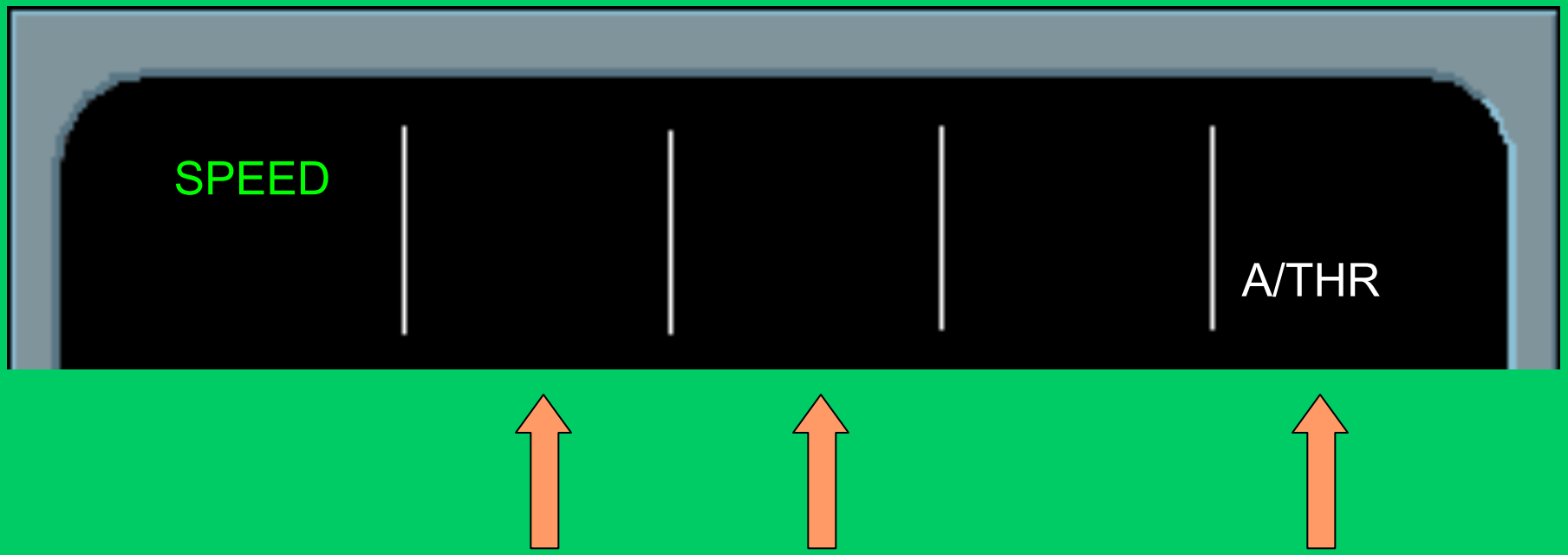
At V_{MAX} + 4 Kts, A/THR goes into SPEED mode and Thrust decreases to recover TGT Speed. FDs go OFF.

REVERSION : DESCENT DON'T FOLLOW FD BARS



You don't follow FD commands & pitch A/C Up.
Note: A/P is OFF and FDs are ON. Continue…….

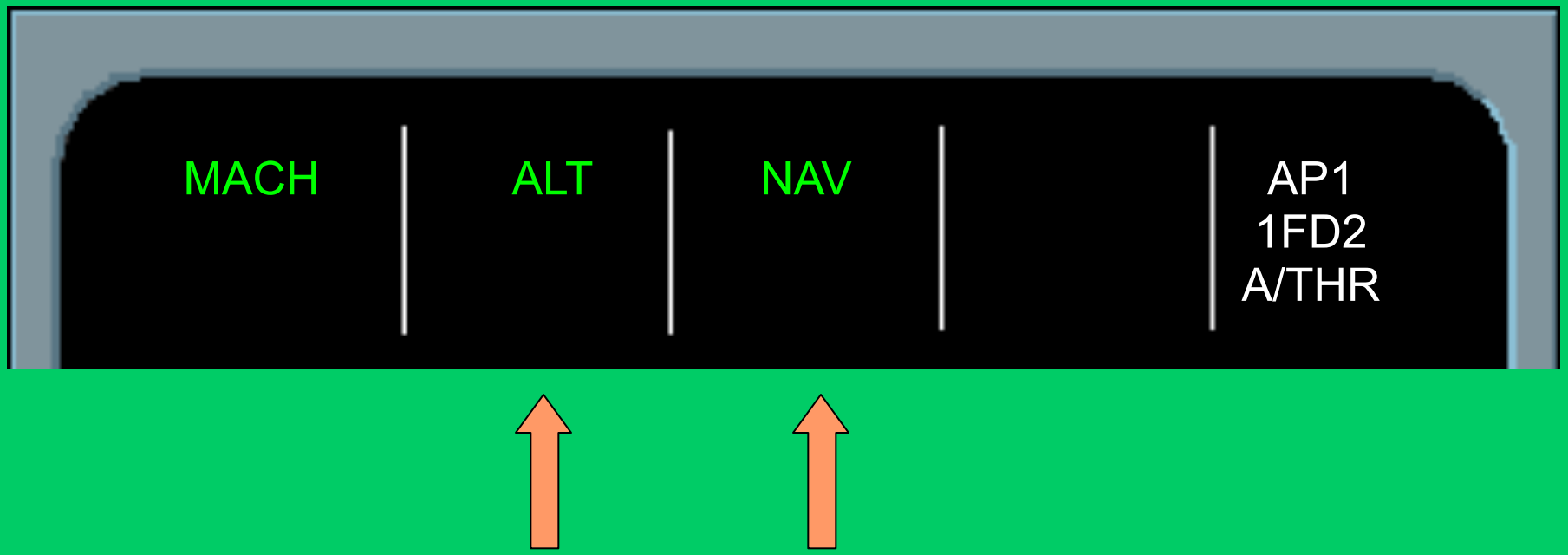
REVERSION : DESCENT DON'T FOLLOW FD BARS



At VLS -2 Kts, (VLS –19 Kts with S/B extended), A/THR goes into SPEED mode and Thrust increases to recover TGT Speed. FDs go OFF.

FMA
CRUISE

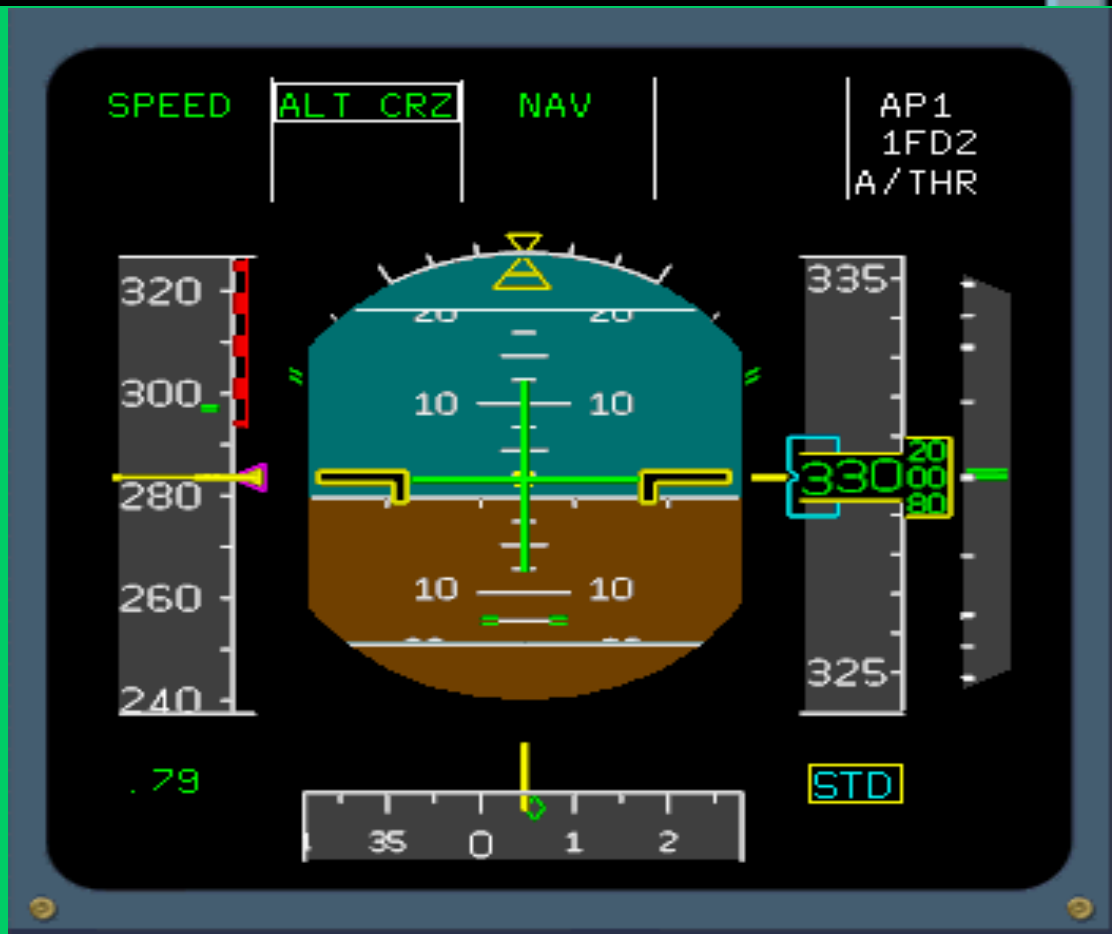
CRUISE



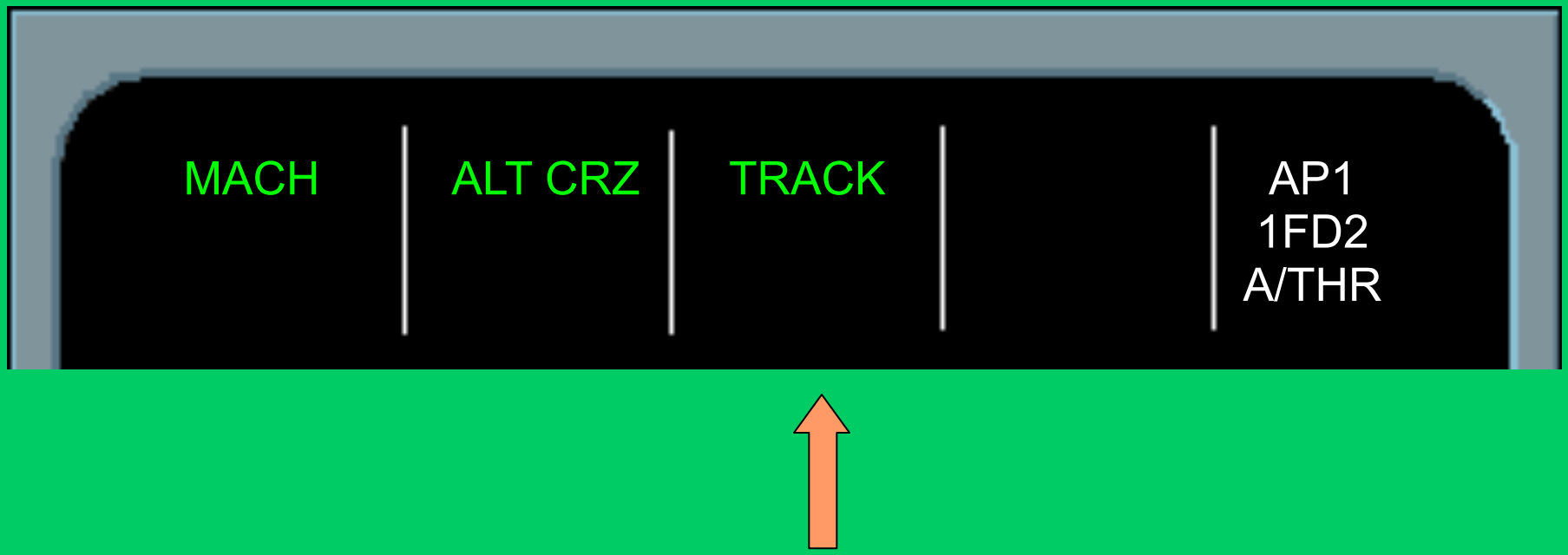
Above (ALT in Green) shows that the aircraft has leveled off at altitude below the FMGC entered altitude.

CRUISE

If this is the final level, correct the cruise level in the FMGC. Soft Mode available. ALT changes to ALT CRZ



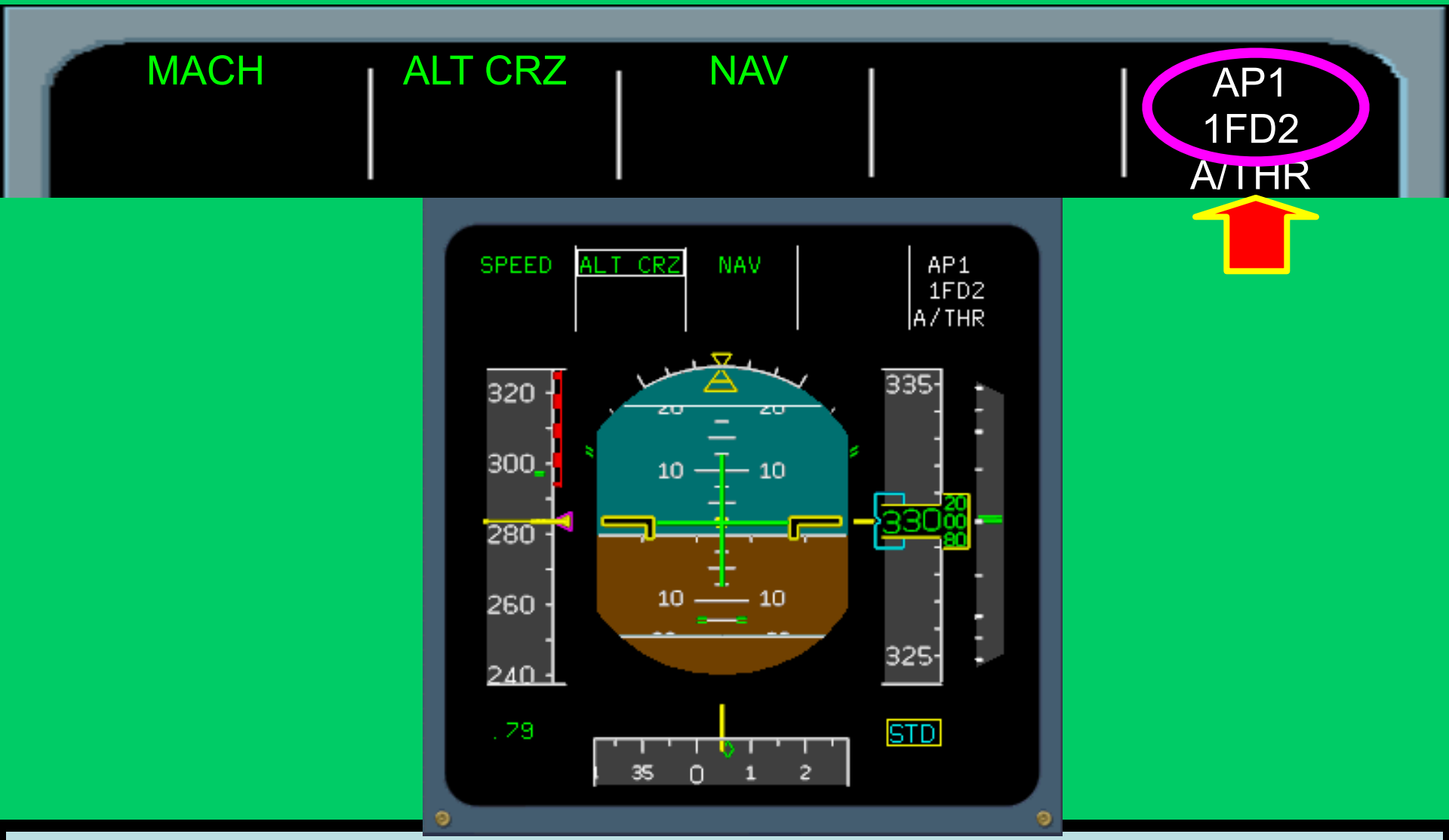
CRUISE



The TRACK mode is engaged. Bird ON.

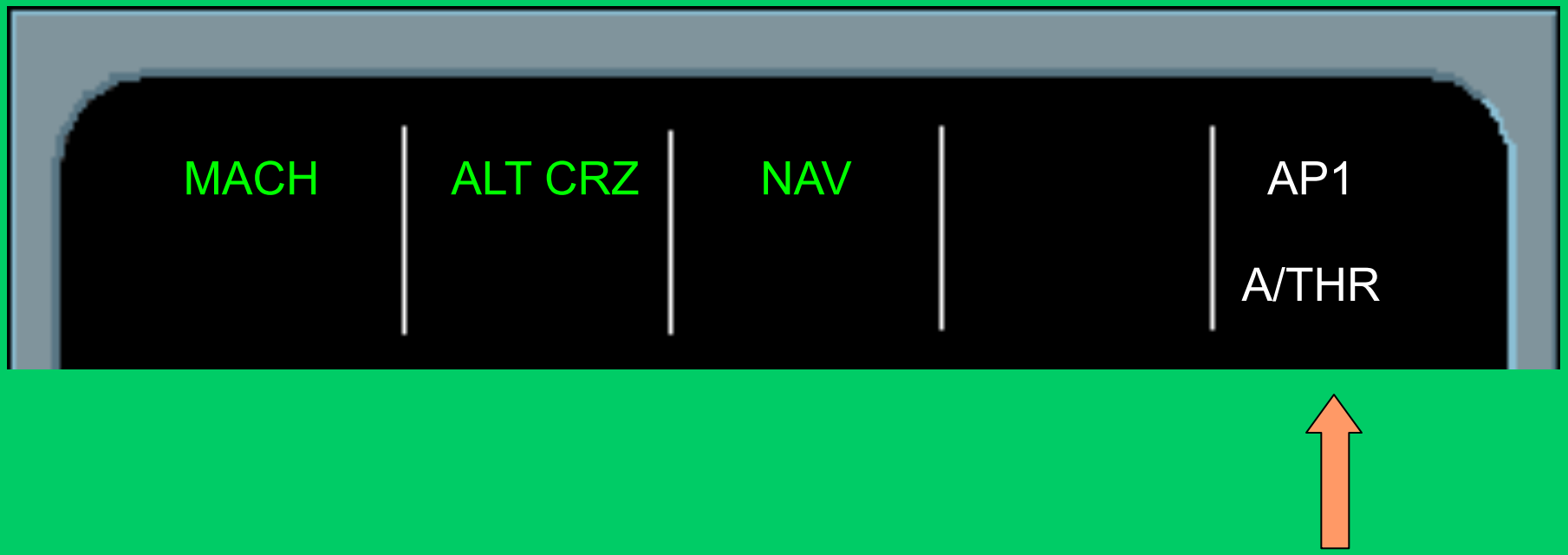
FDs ON / OFF DURING FLIGHT

BOTH FDs ON & AP ON



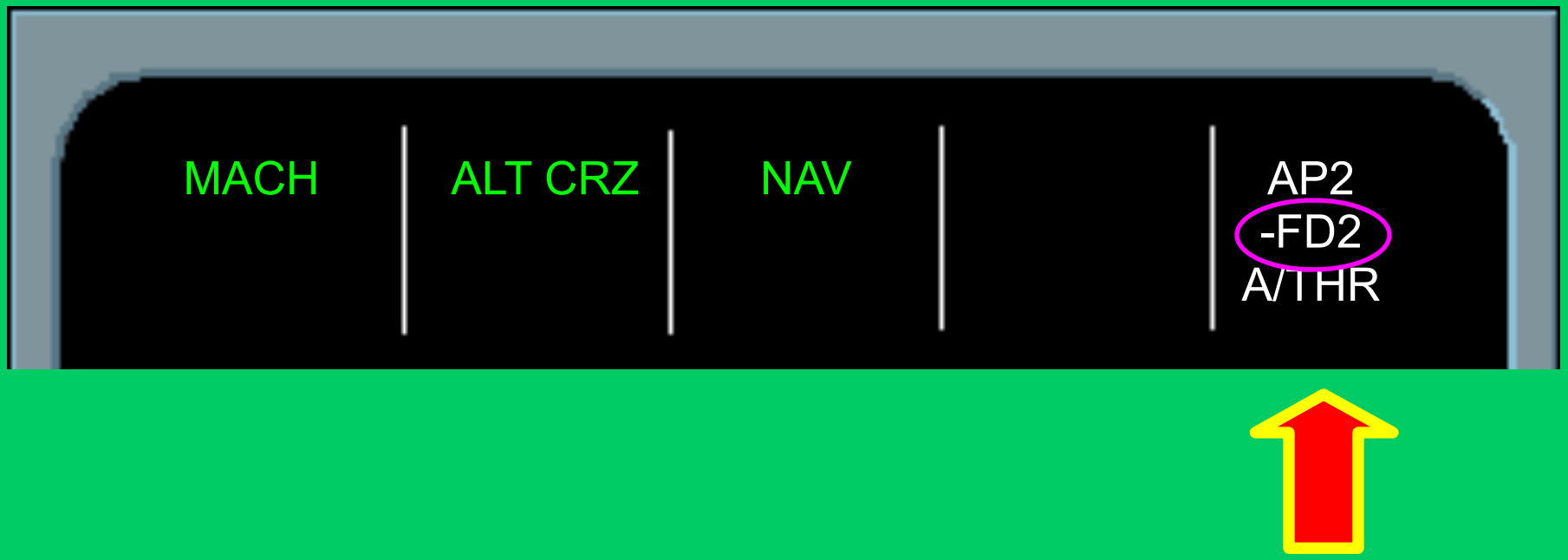
Normal Cruise conditions. Both FDs selected ON. Auto Pilot-1 is ON. The last Column reads AP1 & 1FD2.

BOTH FDs OFF & AP ON



Normal Cruise conditions. Both FDs selected OFF.
AP-1 is ON. No change in other FMA columns.
The last Column reads AP1. FD indications blank.

ONE FD OFF



Normal Cruise conditions. One FD selected OFF.
FD bars on the affected PFD disappear.
The last Column reads -FD2.

BOTH FDs OFF & AP OFF

Normal Cruise conditions. Both FDs OFF. A/P is OFF. A/THR goes in SPEED mode. Lateral & Vertical column become blank. AP & FD indications go OFF.

ONE FD FAILS

One FD fails or One FMGC fails or is not valid.
AP2 is connected. Both FMAs show 2FD2.
Both FDs are ON. FD lights on the FMA are ON.

THRUST LEVER OUT OF CLIMB DETENT

- During Cruise the Thrust Levers are lying in the Climb Detent and Auto Thrust is active.

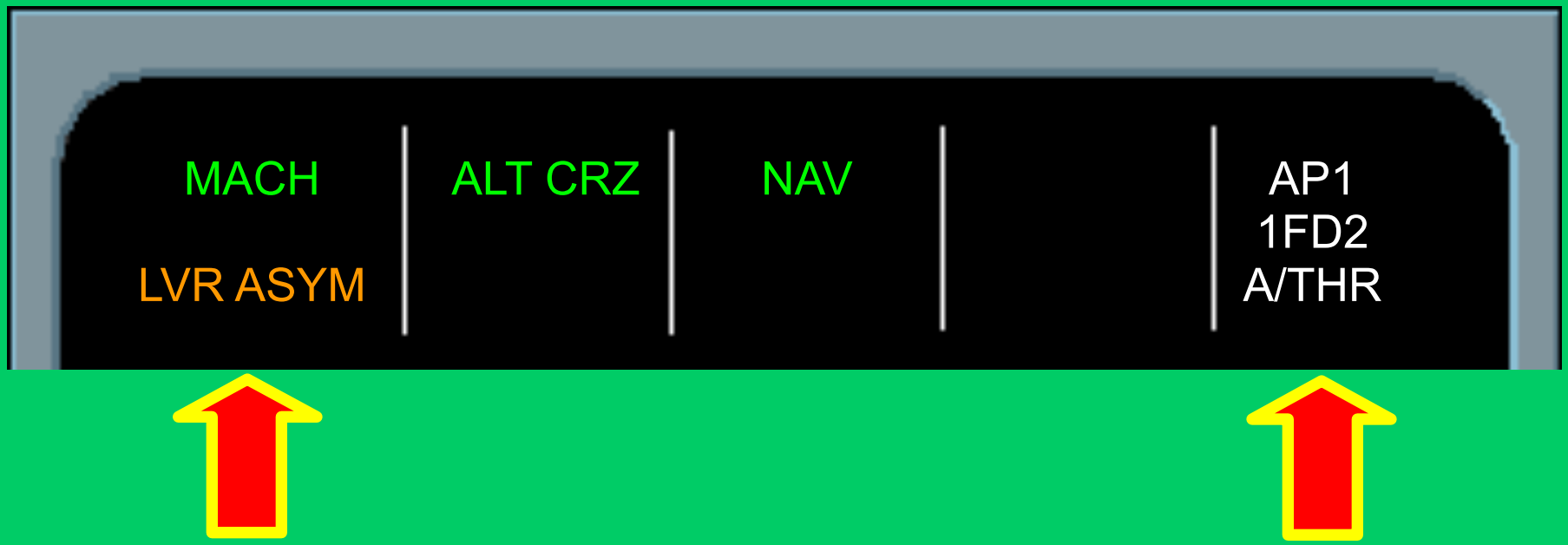
- With A/THR active, if one or both the Thrust Levers are moved out of Climb Detent, the effect on FMA is shown in the slides to come.

- Some of the indications shown on FMA may vary depending on the type of FMGC.

NORMAL CRUISE

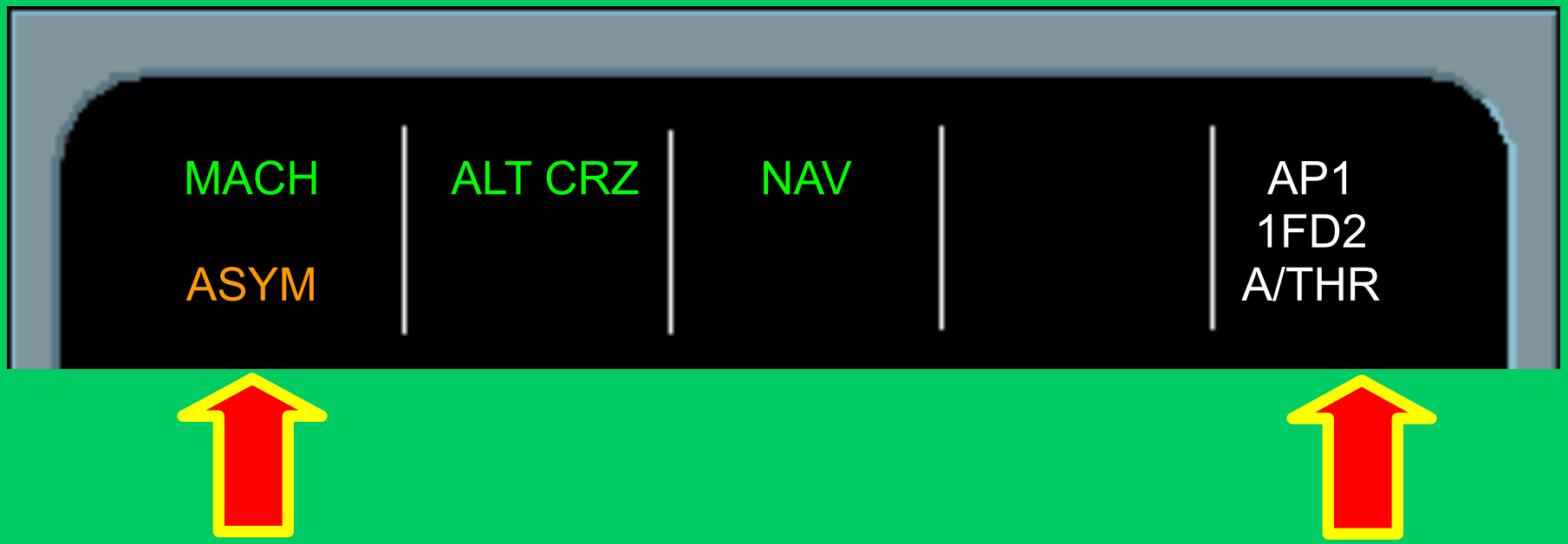
In a Normal Cruise, the FMA is as shown above. Both Thrust Levers are in Climb Detent. A/THR is Active (white).

ONE LEVER BACK



In a Normal Cruise (AP-BRJ) if one Thrust Lever is moved below the Climb Detent LVR ASYM in steady amber. Set the Thrust Lever in climb detent.
A/THR is Active (White).

ONE LEVER BACK



In some aircraft (AP-BGU & AP-BGV) if one Thrust Lever is moved below the Climb Detent ASYM in steady amber. Set the Thrust Lever in climb detent.
A/THR remains Active (White).

ONE LEVER FWD

If one Thrust Lever (AP-BRJ) is moved ahead of the Climb Detent, THR LVR in Green with a white box.
“LVR CLB” flashes in white. Set the Thrust Lever in climb detent. A/THR remains Active (White).

ONE LEVER FWD

If one Thrust Lever (AP-BGV & BGU) is moved ahead of the Climb Detent, MACH in Green. “CLB” in Amber flashing. ASYM in Amber steady. Set the Thrust Lever in climb detent. A/THR remains Active (White).

BOTH THRUST LEVER BELOW CLIMB DETENT

ECAM : AUTO FLT A/THR Limited

If during Cruise, (AP-BRJ) both thrust levers are moved below Climb Detent, THR LVR in Green with a white box. “LVR CLB” Flashes in white, advising Pilot to Set Thrust Lever to Climb Detent. A/THR remains Active (White).
Also M/Caution with ECAM : AUTO FLT A/THR Limited

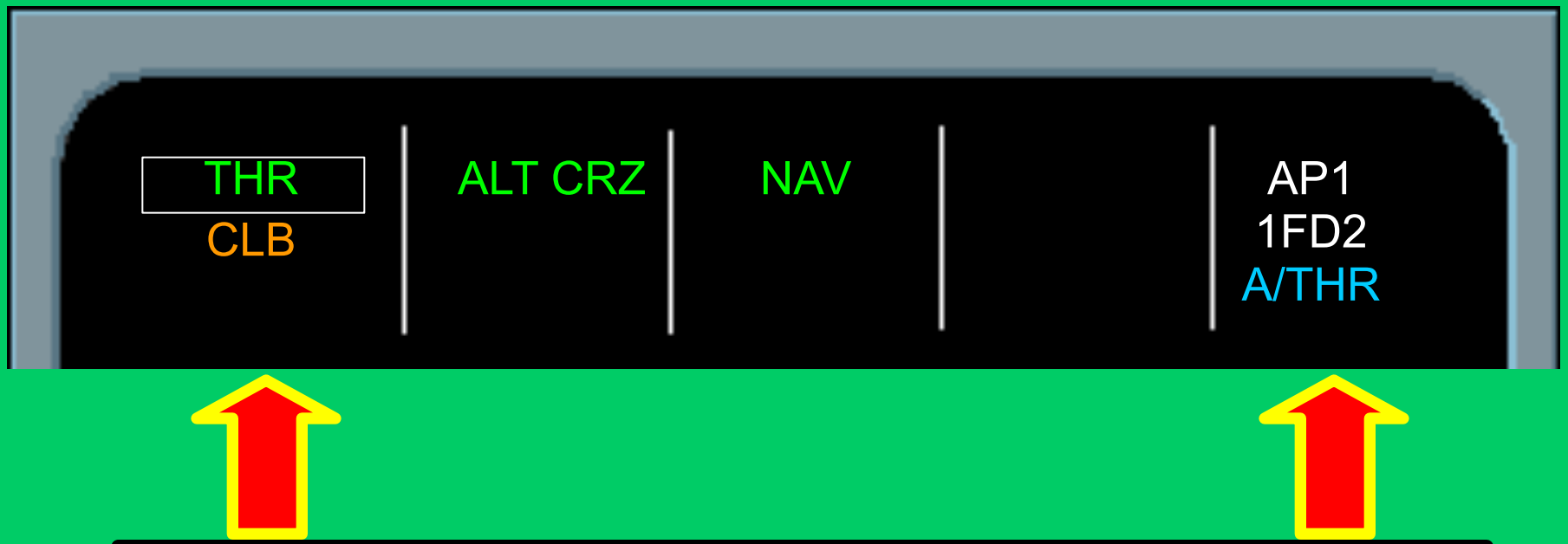
BOTH THRUST LEVER BELOW CLIMB DETENT

In some aircraft (AP-BGU & BGV), when both thrust levers are moved below Climb Detent, “CLB” in Amber Flashes. Advising Pilot to Set Thrust Lever to Climb Detent.
A/THR no change. No M/Caution or ECAM Warning.

BOTH THRUST LEVER ABOVE CLIMB DETENT

When both thrust levers (AP-BRJ) are moved ahead of Climb Detent, “MAN THR” in steady white with Amber box, and “LVR CLB” flashing. Advising Pilot to Set Thrust Lever to Climb Detent. A/THR becomes BLUE i.e. armed.

BOTH THRUST LEVER ABOVE CLIMB DETENT

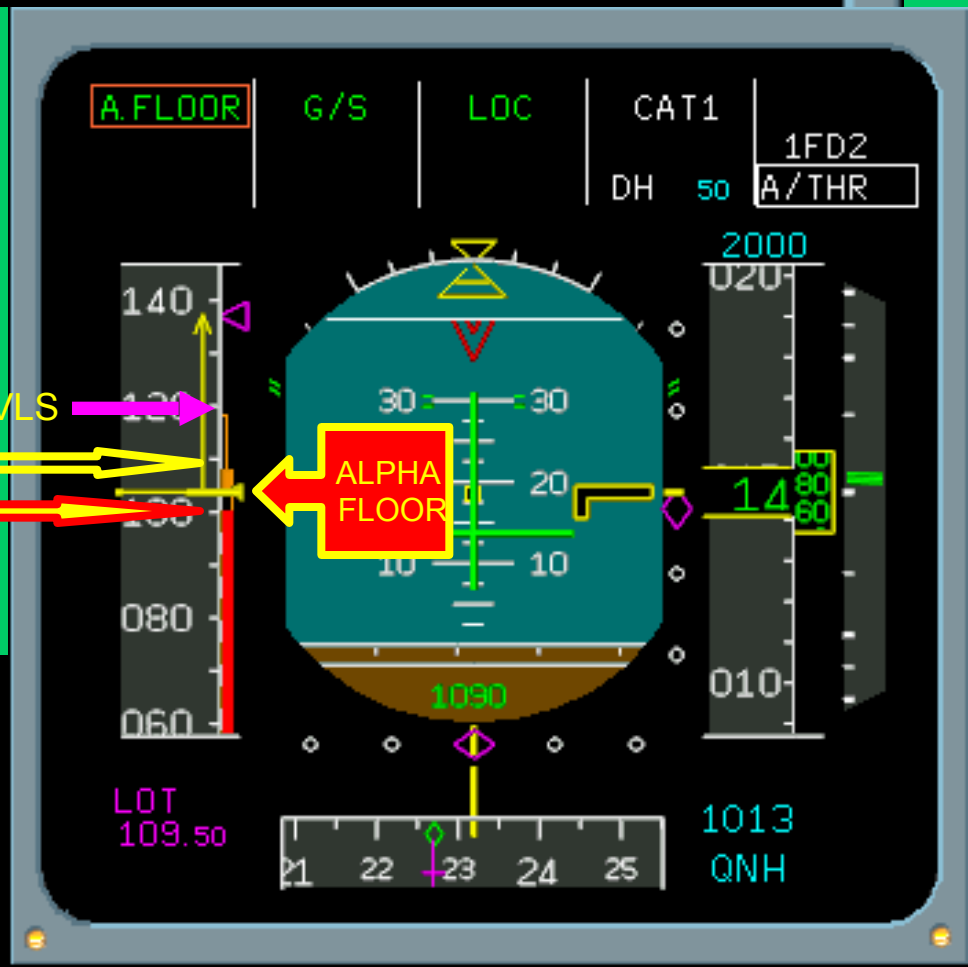


In some aircraft, (AP-BGU & BGV) both thrust levers are moved ahead of Climb Detent, “THR” in Green steady with a white box, with “CLB” in amber flashing. Advising Pilot to Set Thrust Lever to Climb Detent.
A/THR becomes BLUE i.e. armed.

ALPHA FLOOR

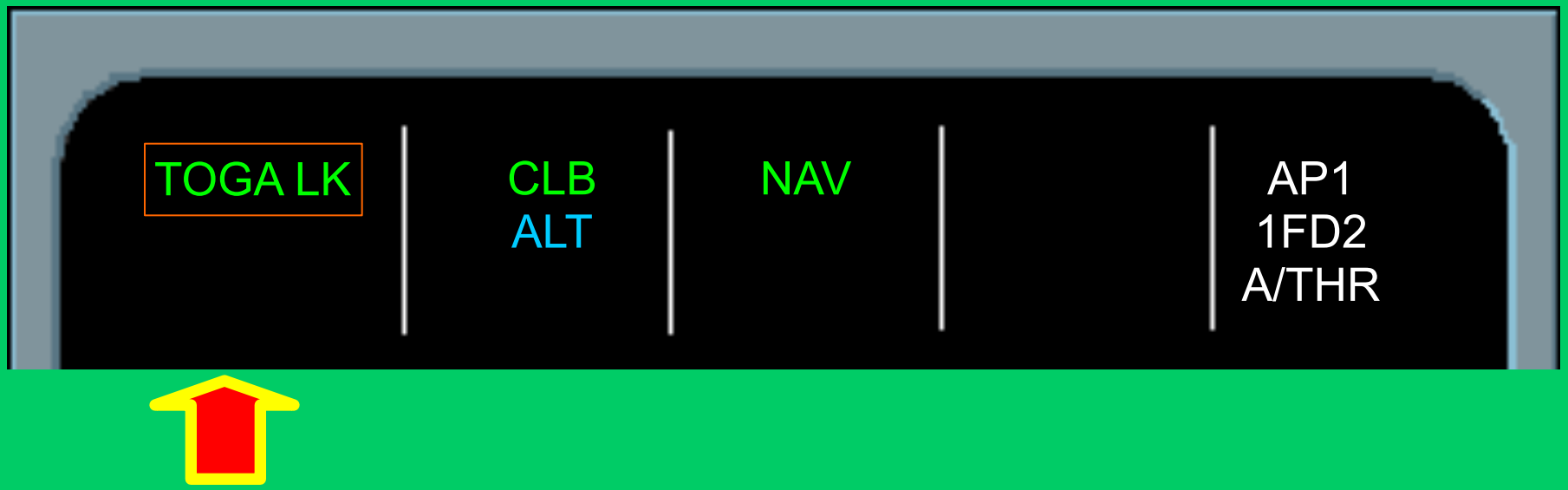
- ALPHA FLOOR is a protection that commands TOGA thrust.
- It happens regardless of thrust lever position.
- Available even if A/THR is OFF.
- Protection available from lift off to 100 feet RA on Approach.
- When out of ALPHA FLOOR, thrust is frozen in TOGA.
- To cancel ALPHA FLOOR or TOGA LK, move thrust levers to TOGA disconnect A/THR move thrust levers back to CLB & engage A/THR.

ALPHA FLOOR FUNCTION



Auto Thrust becomes active and commands TOGA Thrust, while “Alpha Floor” conditions are met.

ALPHA FLOOR
TOGA LOCK



Auto Thrust active and TOGA Thrust is locked. “Alpha Floor” conditions are no more met. Pilot must disconnect A/THR.

DIFFERENCE BETWEEN A/FLOOR & A LOCK

- ALPHA FLOOR is a function of Thrust. TOGA Thrust is applied when aircraft's AOA reduces below Alpha Prot.
- ALPHA/SPEED LOCK is a function of Flight Controls.
- When AOA exceeds 8.6º or speed falls below 148 Kts, retraction of Slats from position 1 to zero is inhibited.
- When AOA reduces below 7.6º or speed increases above 154 Kts, inhibition is removed

♣ ALPHA FLOOR is displayed on the FMA. See appropriate slide in this Presentation.

♣ ALPHA/SPEED LOCK is displayed on the E/WD where the Flap positions are shown.

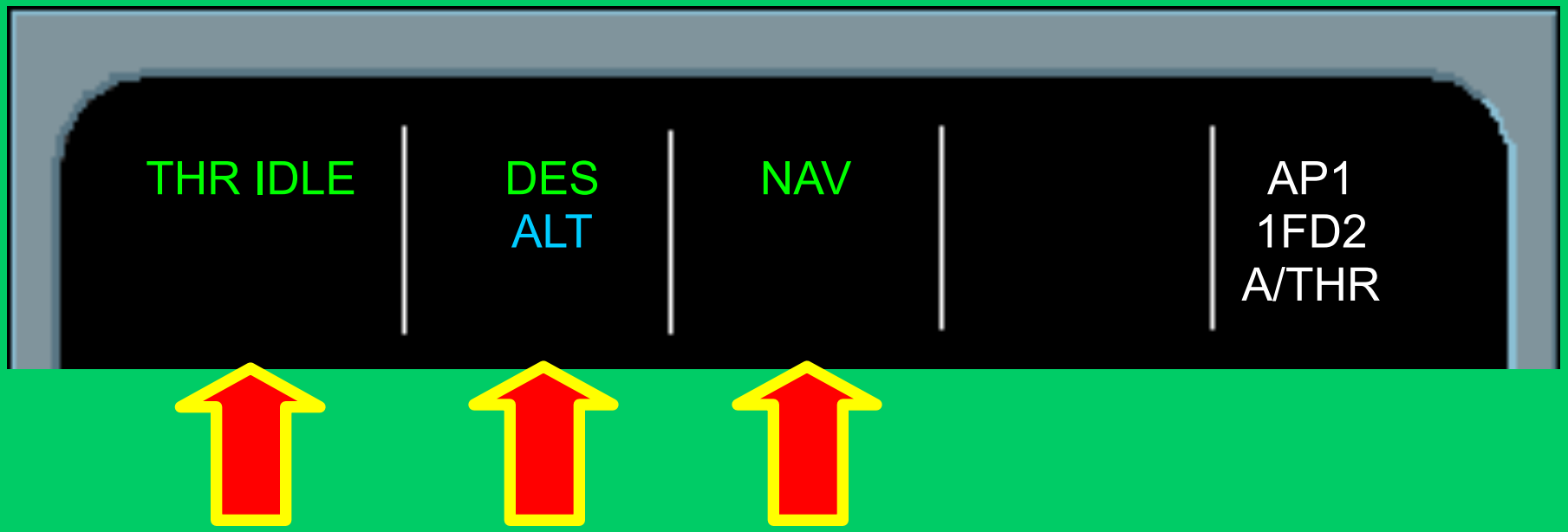
♣ A legend A-LOCK pulsing in cyan is shown where normally the word “FULL” is shown when full flaps are selected.

FMA
DESCENT

♣ If you change your FL and are more than 200 NMs from destination, Cruise Descent engages. The aircraft remains in Cruise Mode after Level Off.

♣ If you change your FL and are less than 200 NMs from destination, Descent Mode engages.

DESCENT : MANAGED



During Managed Descent, 2nd column DES means vertical constraints will be met. VDEV will be kept zero on PROG Page.
Thrust can be THR IDLE or MACH/SPEED.
NAV means lateral Flt Plan is being followed.

EXEP
DESCENT

DESCENT
(EXPED ON FCU PUSHED)

When EXPED P/B on FCU is pushed, EXP DES in Green. Target speed 340 Kts / 0.8 Mach.

Note: When in Expedite Mode, SPD CSTR, ALT CSTR and SPD LIM are disregarded.

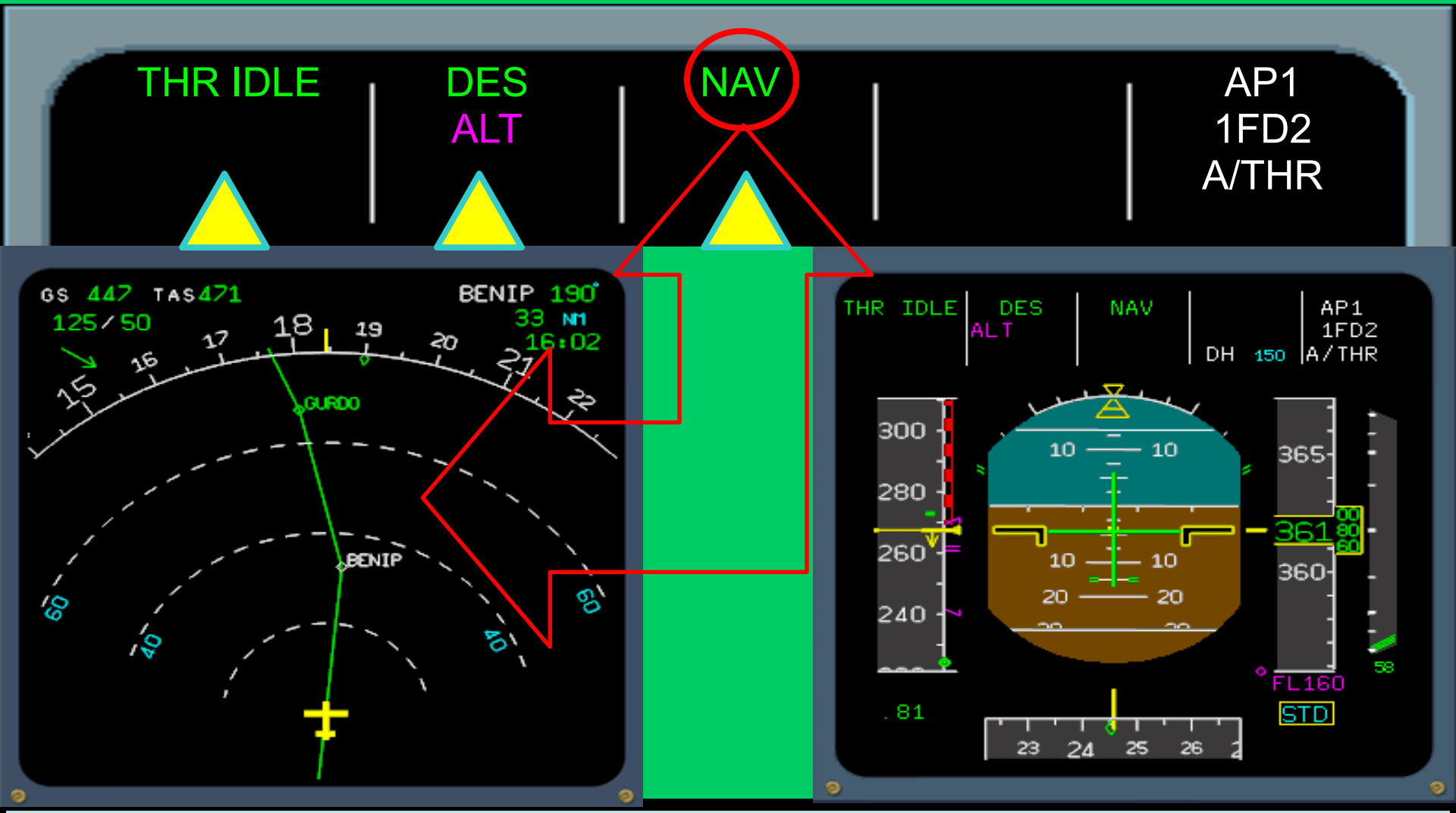
DESCENT
(EXPED ON FCU PUSHED)

THR IDLE | DES ALT | NAV | | AP1 1FD2 A/THR

To revert to normal descent, Push the ALT selector knob, DES mode will engage.

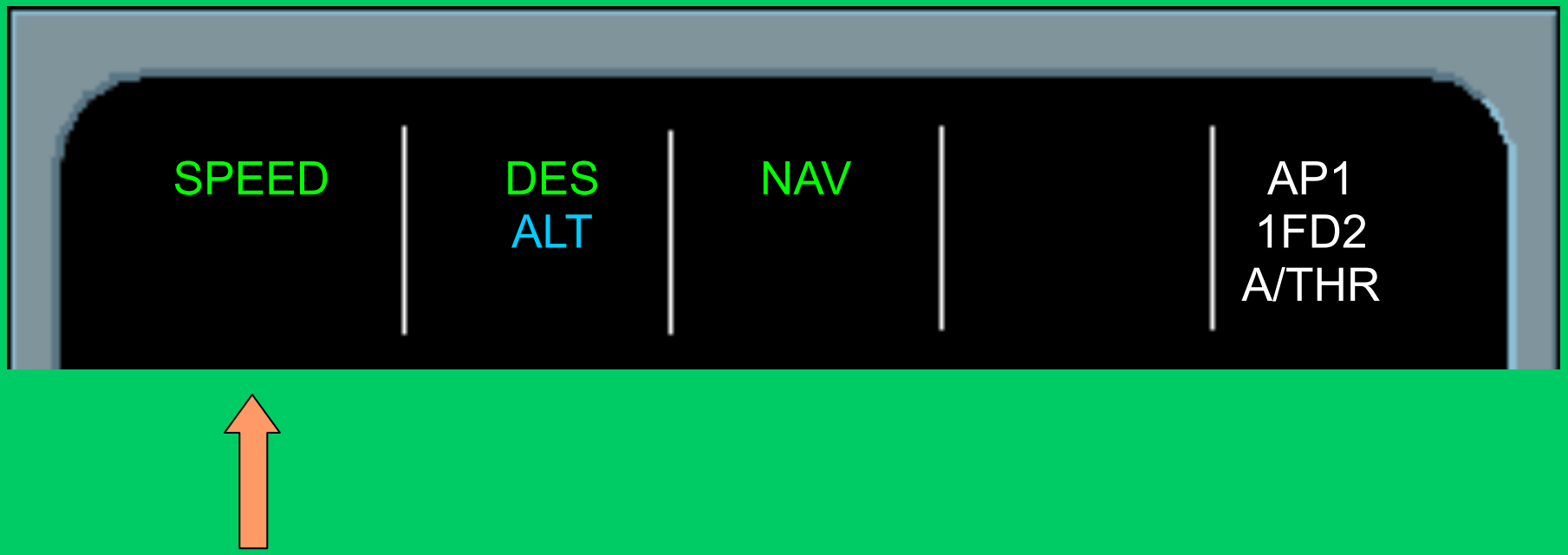
Note: Pulling ALT or V/S or SPD/MACH knob also disengages EXP DES. Pushing EXP button does not

DESCENT : MANAGED



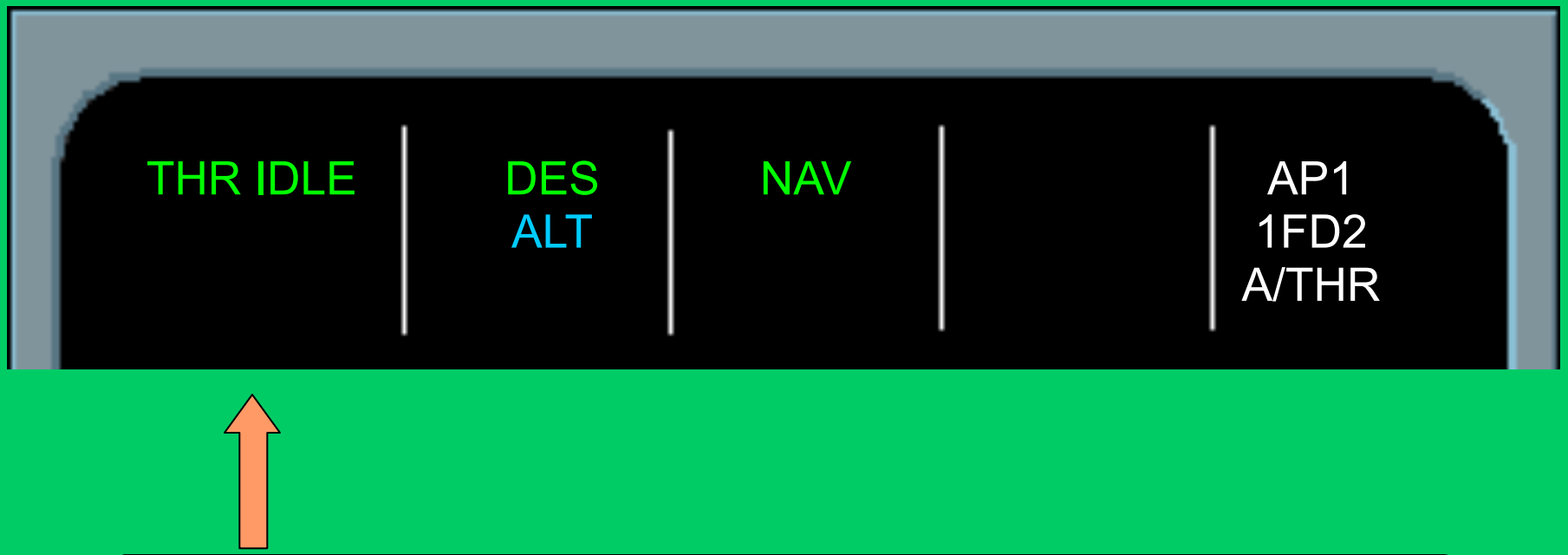
During Managed Descent, 2nd column DES means vertical constraints will be met. Thrust can be THR IDLE or MACH/SPEED. NAV means lateral Flt Plan is being followed.

MANAGED DESCENT (BELOW PROFILE)



THR IDLE changes to SPEED (as you are below profile), thrust added to correct the profile. DES mode keeps the aircraft on the profile; VDEV zero on the PROG Page.

MANAGED DESCENT (ABOVE PROFILE)

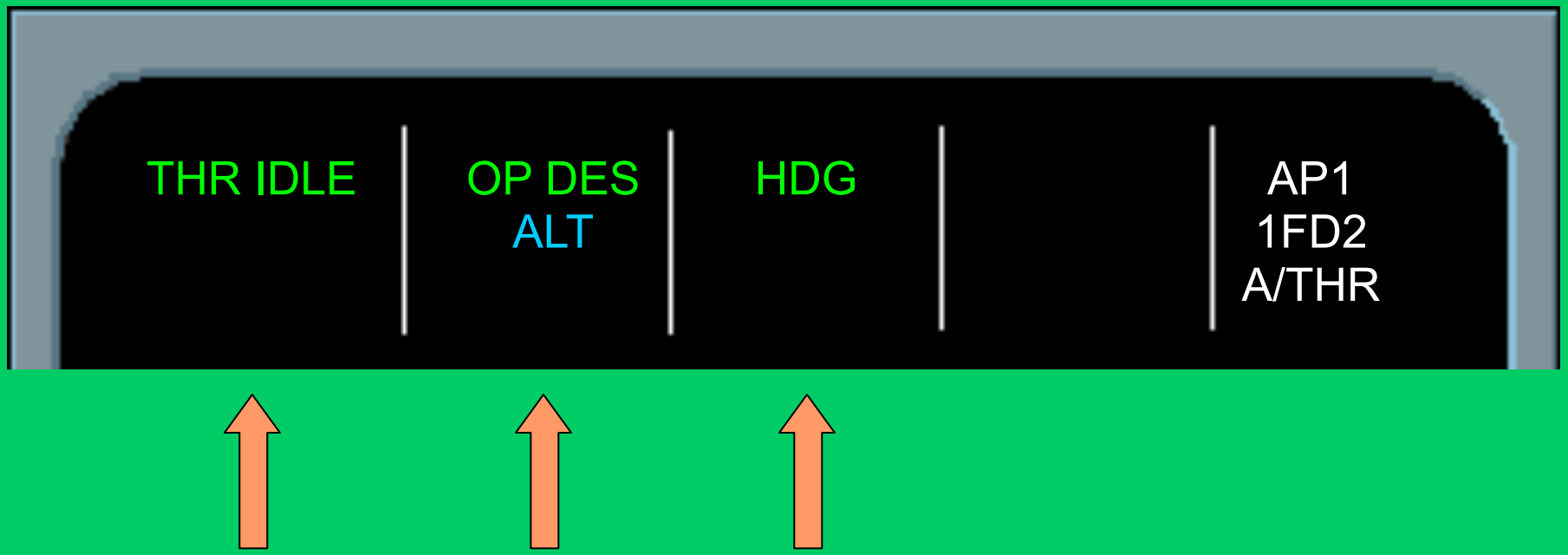


SPEED changes to THR IDLE (as you are above profile), you need to use S/B to increase ROD to get back on profile. As you reach the correct profile, S/B will flash in amber in Memo (E/WD on Upper ECAM). Retract S/B.

MANAGED DESCENT (HDG KNOB PULLED)

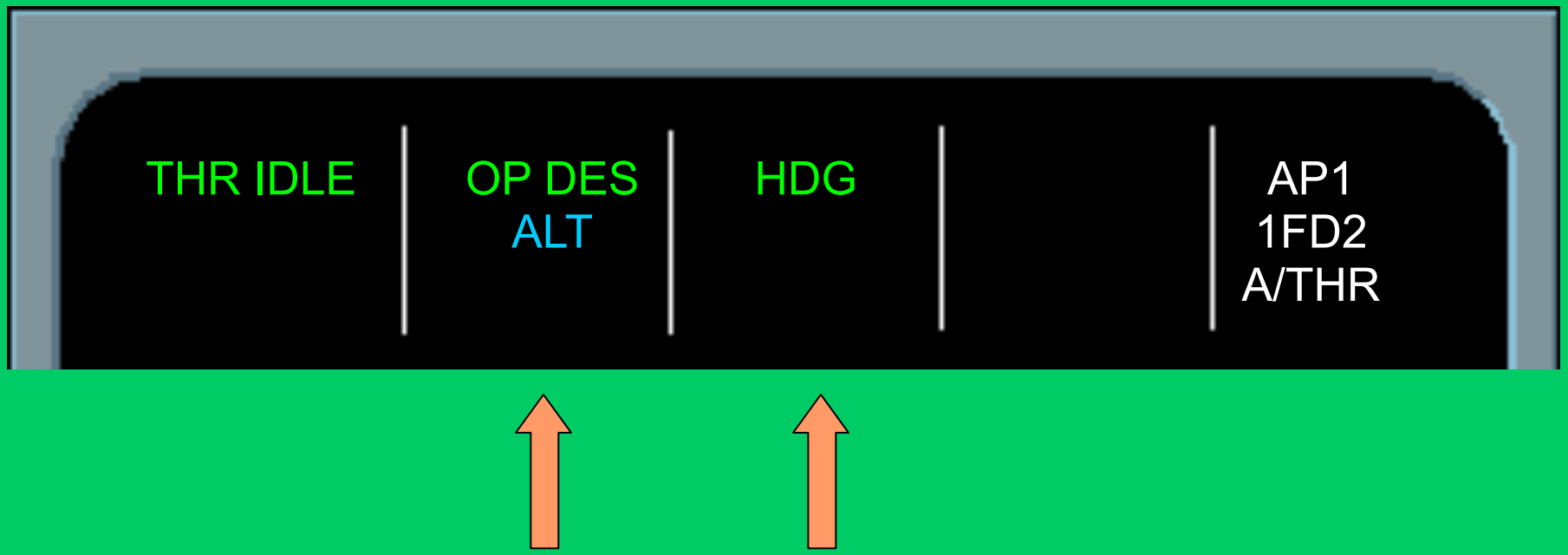
During Managed Descent, the HDG knob is pulled.
THR IDLE changes to SPEED, DES to V/S on current V/S.
NAV to HDG. Point to note, all three columns change.

TO GET RID OF V/S (PULL ALT KNOB)



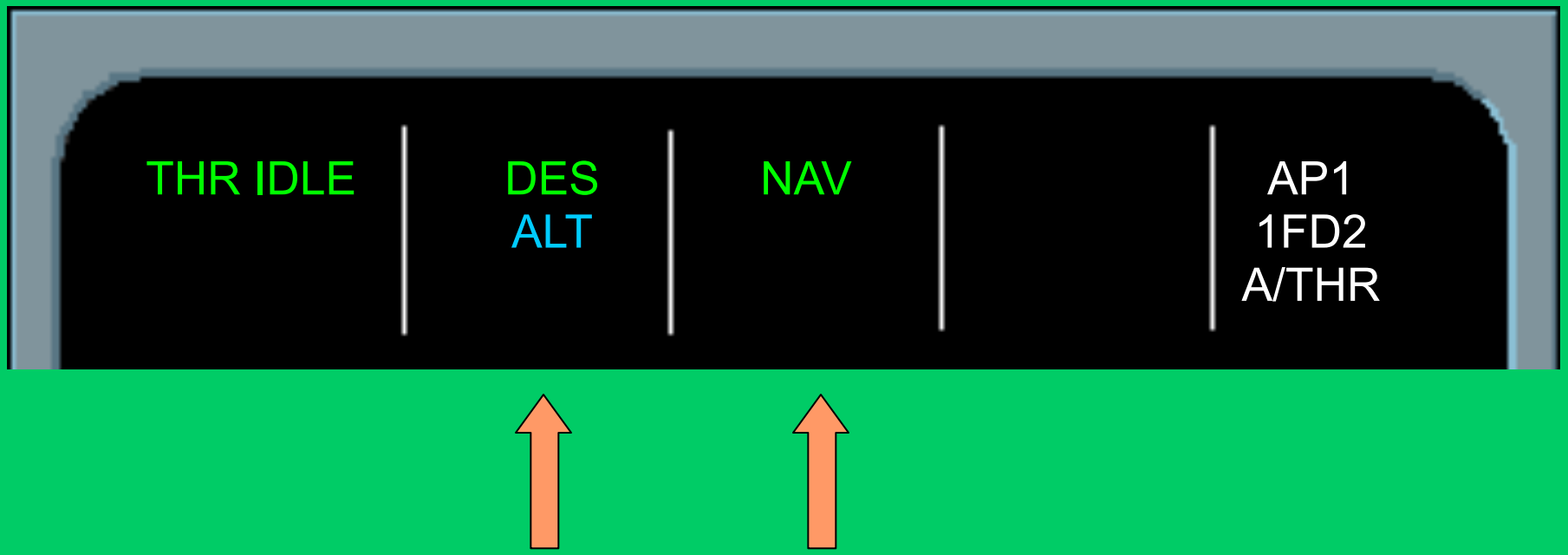
To get rid of the V/S, pull the ALT knob.
V/S will become OP DES.
First Column SPEED will change to THR IDLE.

DESCENT : HDG MODE



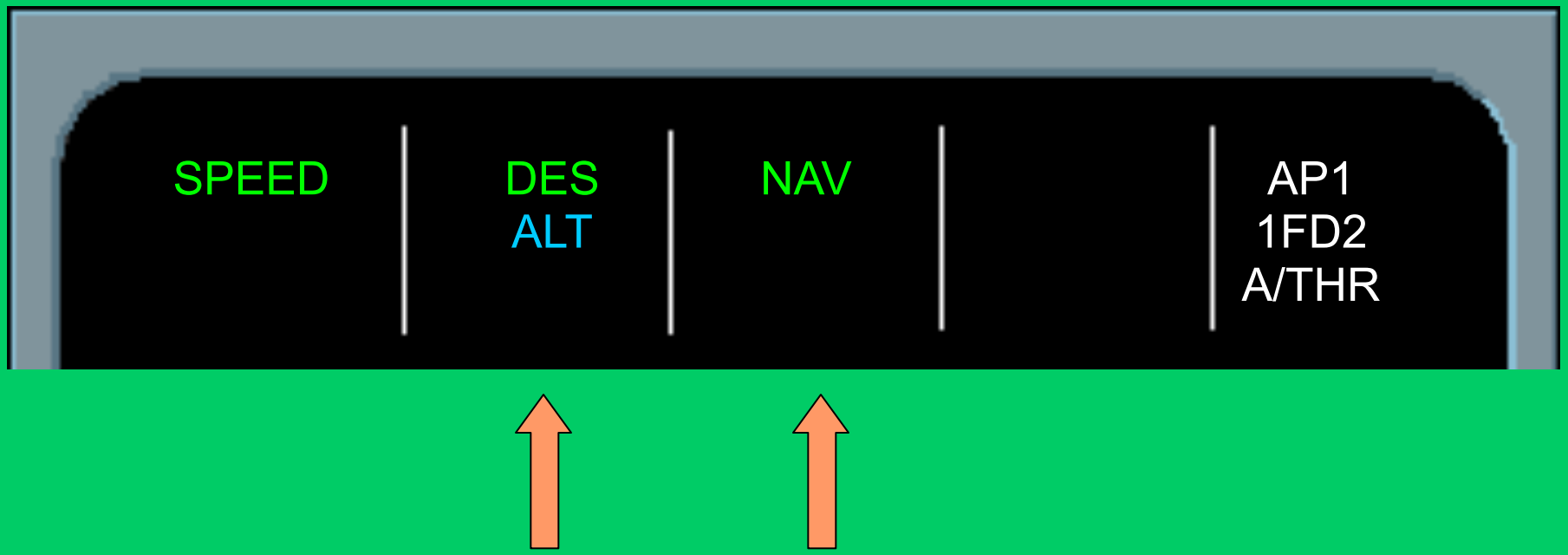
When descending in HDG mode, only OP DES is available. Altitude constraints are missed

TO GO INTO MANAGED DESCENT FROM HDG



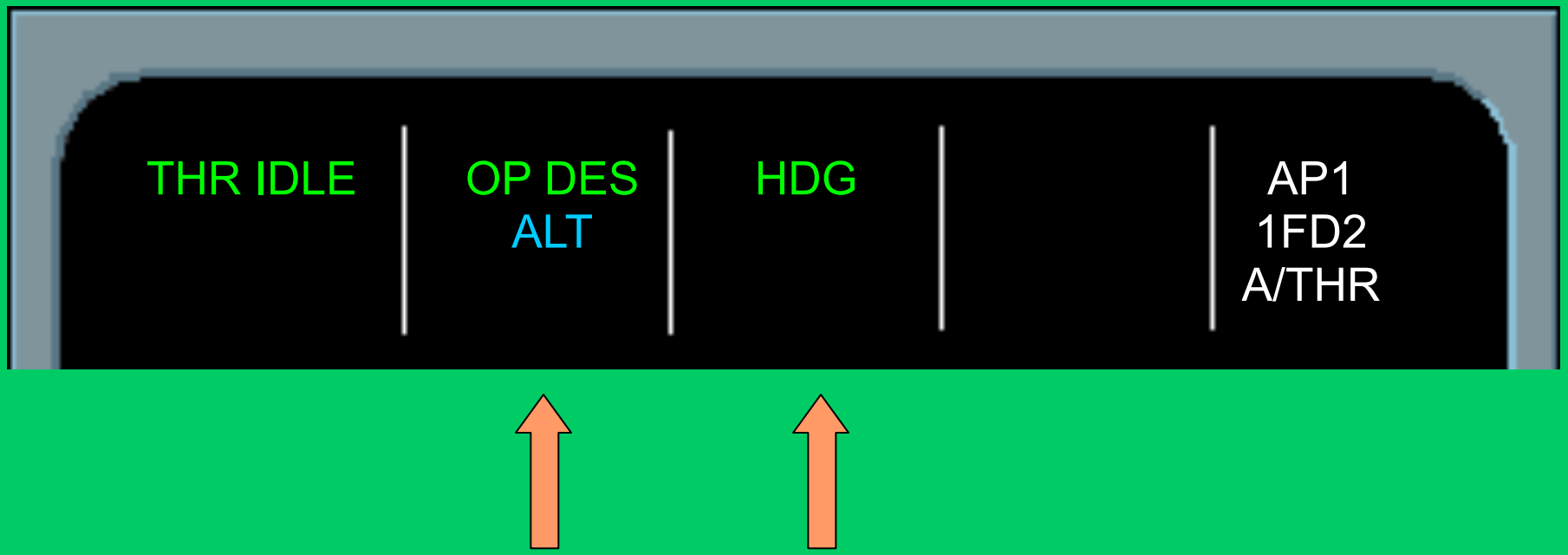
First push the HDG knob, and then push the ALT knob.
When HDG is pushed, HDG changes to NAV (limitations??).
When ALT knob is pushed, OP DES changes to DES.

DURING MANAGED DESCENT YOU SELECT A HIGH SPEED



THR IDLE changes to SPEED. Thrust is added to get the higher speed. As DES is engaged, the VDEV remains zero. The speed triangle on the speed tape is selected blue ( ).

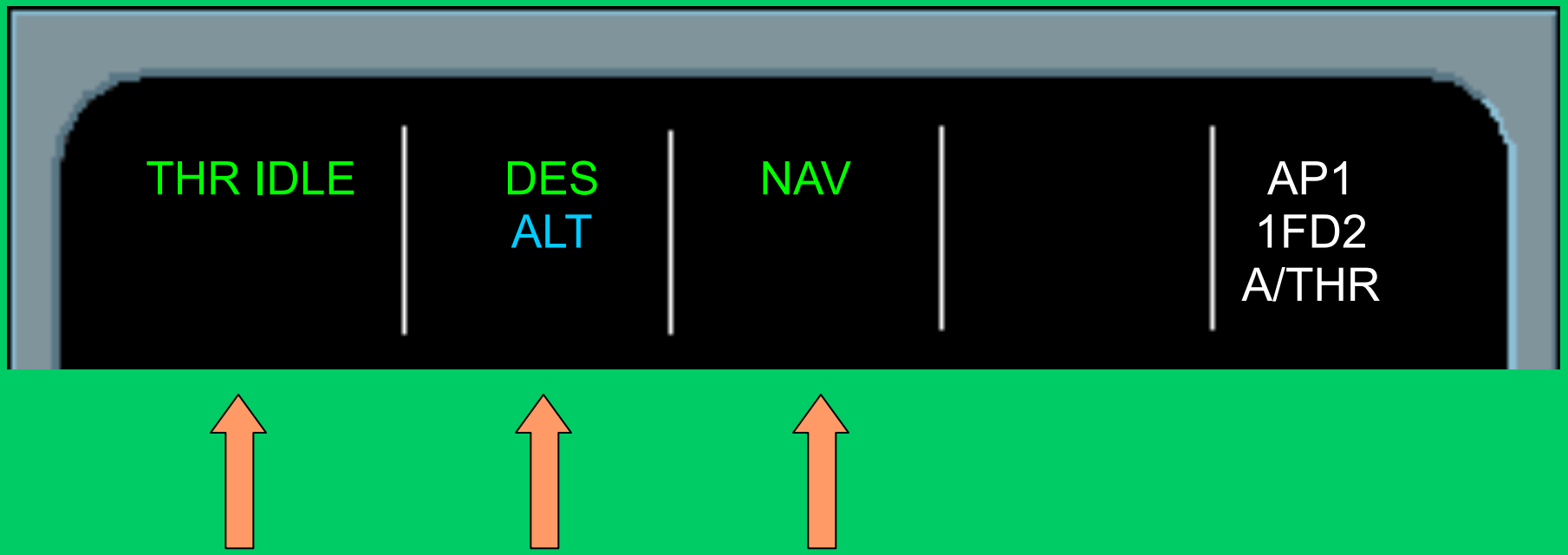
DURING OPEN DESCENT (THRU HDG OR ALT KNOB)



Thrust will be THR IDLE. The speed triangle on the speed tape is managed magenta ( ). However, during managed descent it is an open bracket with a speed range of ± 20 Kts.

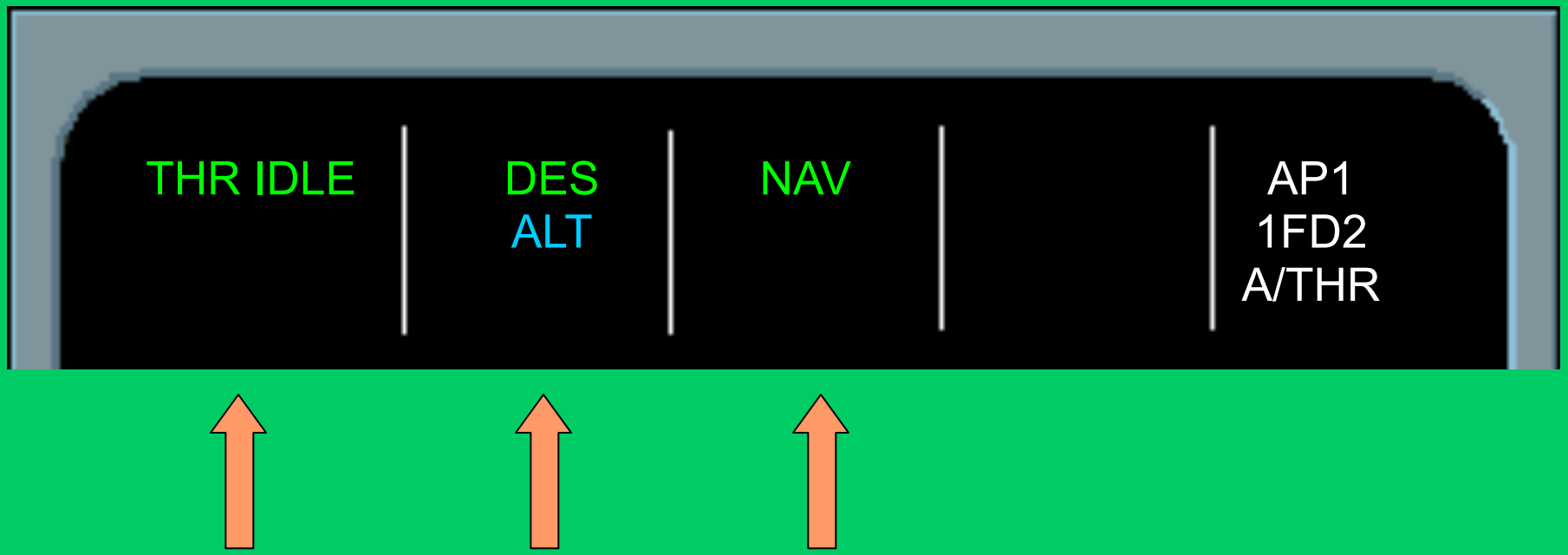
FLT PLAN DISCONTINUITY DURING DESCENT

DESCENT : DISCONT AHEAD



During normal Managed Descent, FCU Selected Alt say FL-200. THR IDLE | DES | NAV. ALT is in Blue.

DESCENT : DISCONT AHEAD



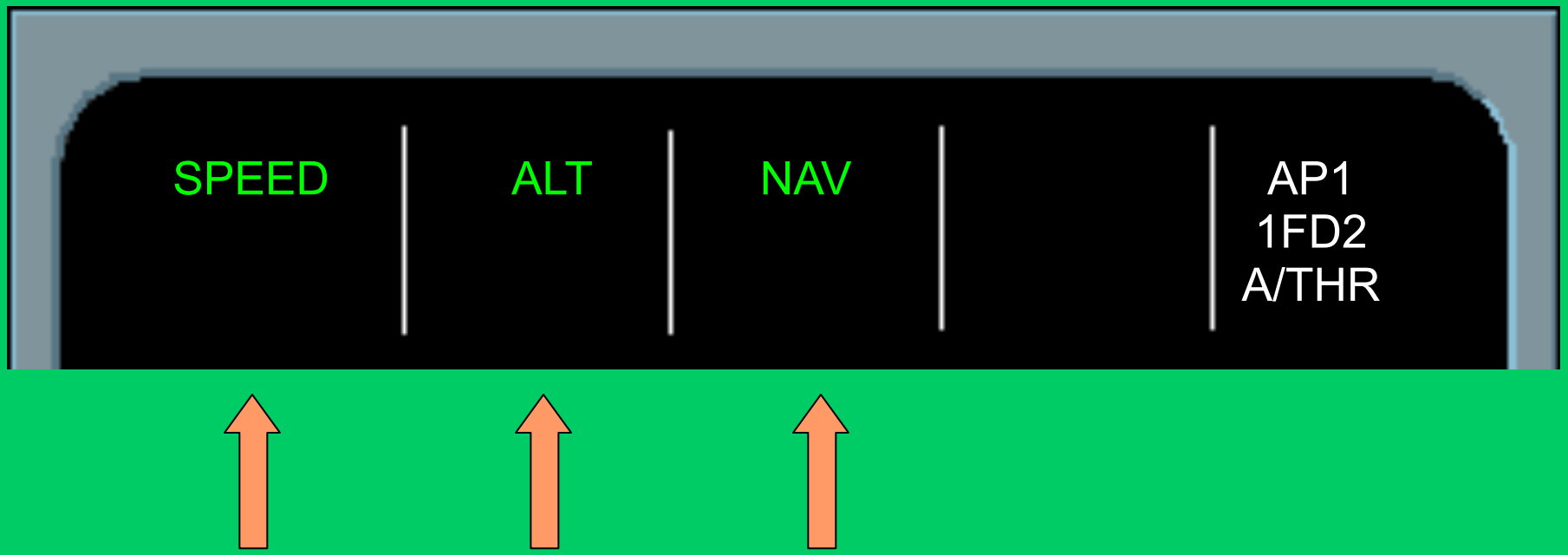
Thirty Seconds (30 secs) before reaching the actual Discontinuity in the Flight Plan, an Amber message "DISCONT AHEAD" comes on both the FMGC.

DESCENT : DISCONT AHEAD

As you hit the discontinuity, NAV reverts to HDG, DES to V/S (current V/S), THR IDLE to SPEED. FMA changes are identical to when you pull the HDG knob during Descent.

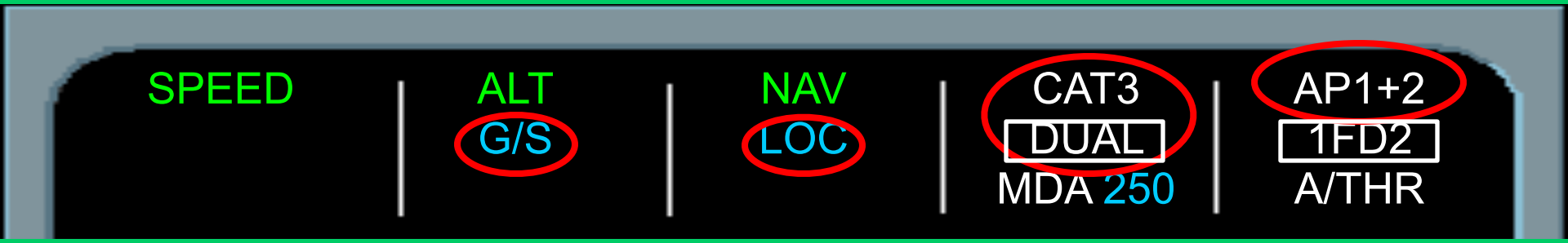
FMA
ILS APP

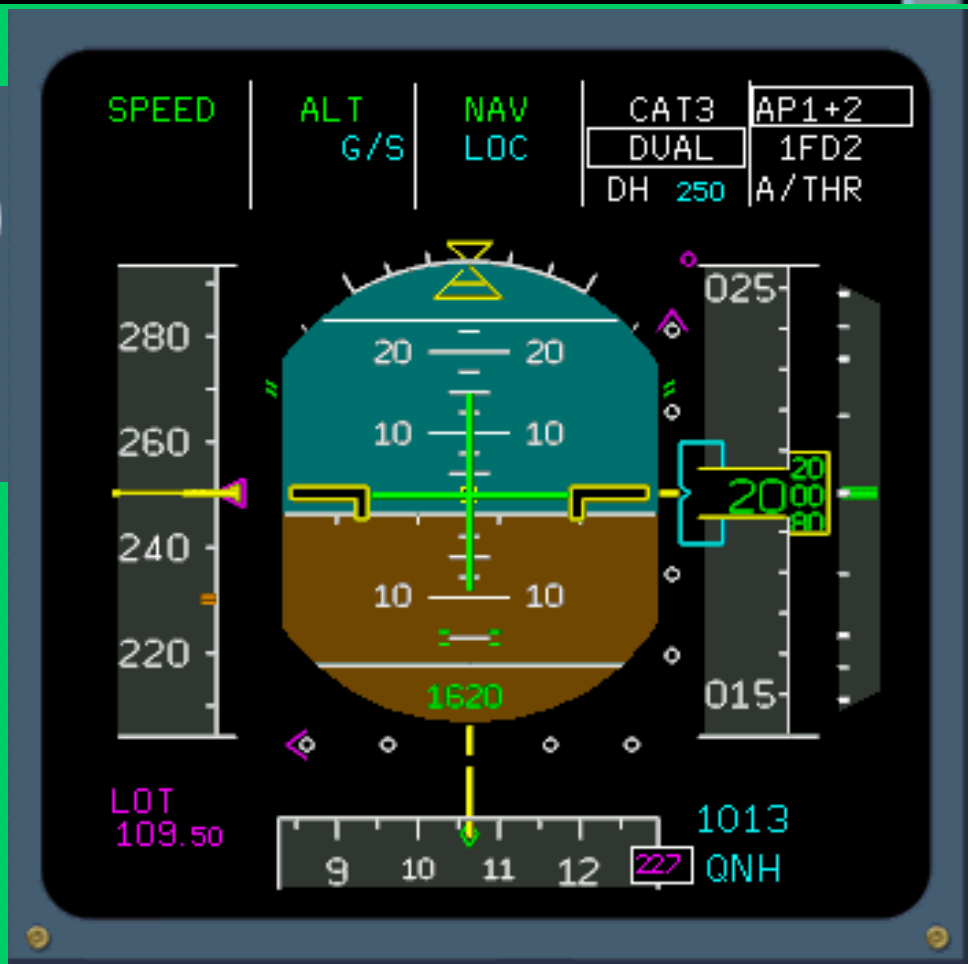
ILS APPROACH



Initial aircraft configuration. Managed mode for ILS (below the Glide Slope).

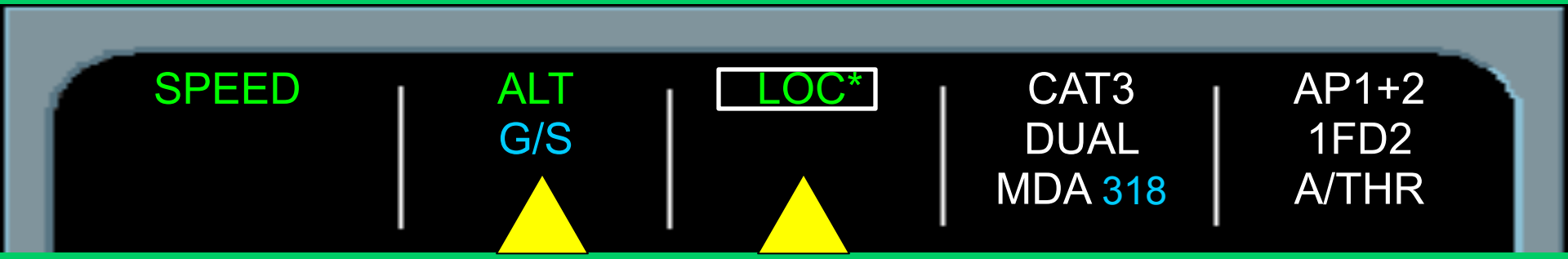
ILS APPROACH





When cleared for the Approach, APPR button pressed, G/S & LOC armed. 2nd A/P engaged.

ILS APPROACH

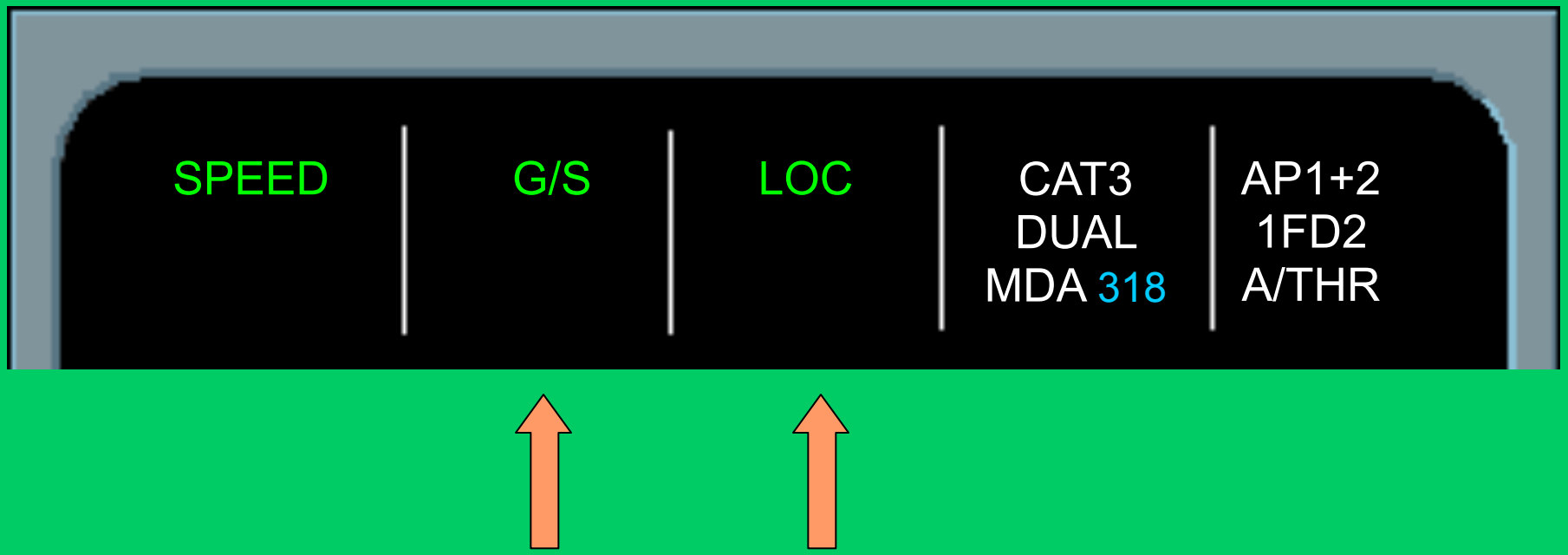


Localizer captured (LOC* Green).
G/S still in Blue (Armed).

ILS APPROACH

Glide Slope captured (G/S* Green). Localizer Tracked (LOC Green)

ILS APPROACH



Glide Slope Tracked (G/S Green).
Localizer Tracked (LOC Green).

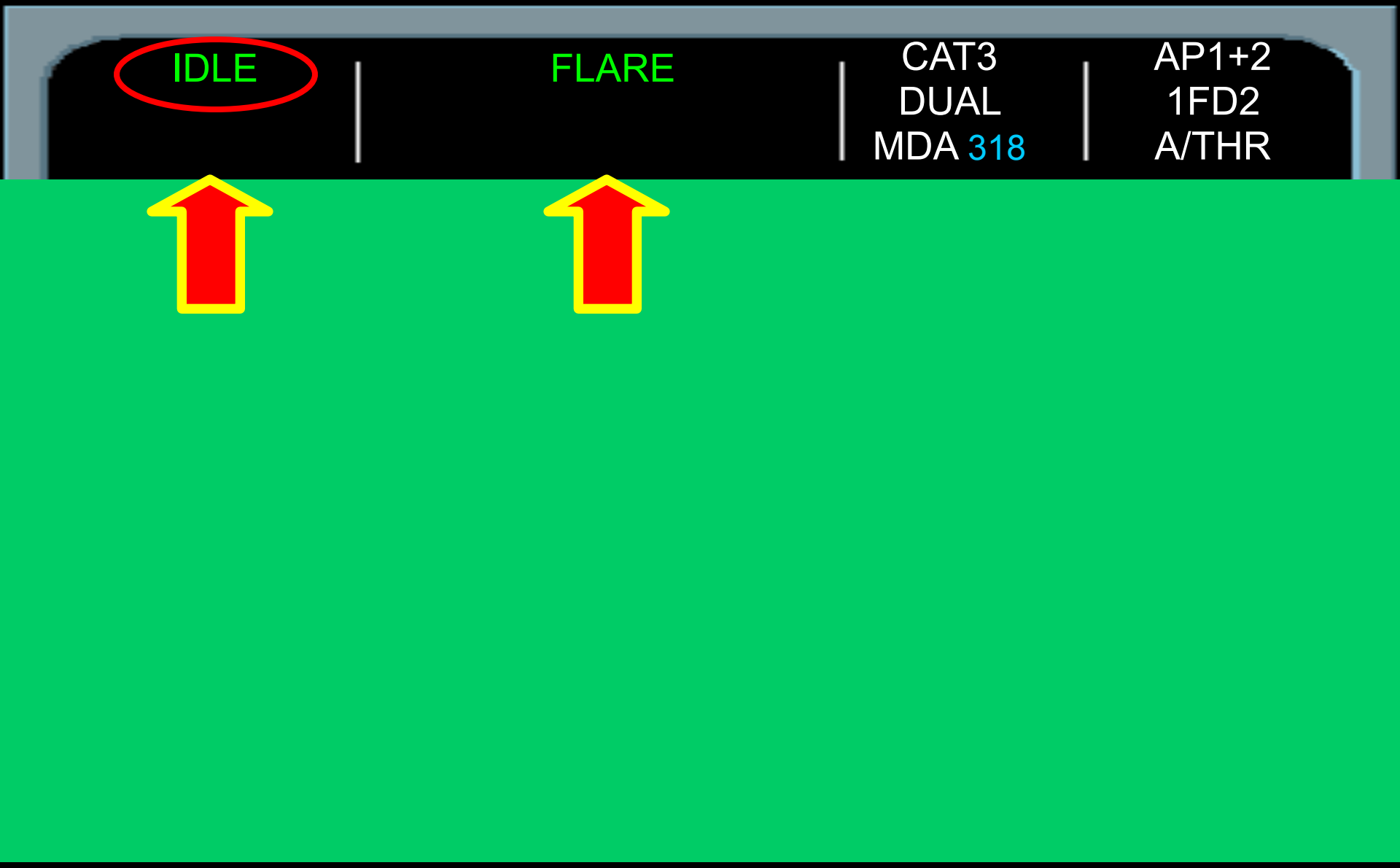
ILS APPROACH

At 400 feet RA, LAND Green

ILS APPROACH

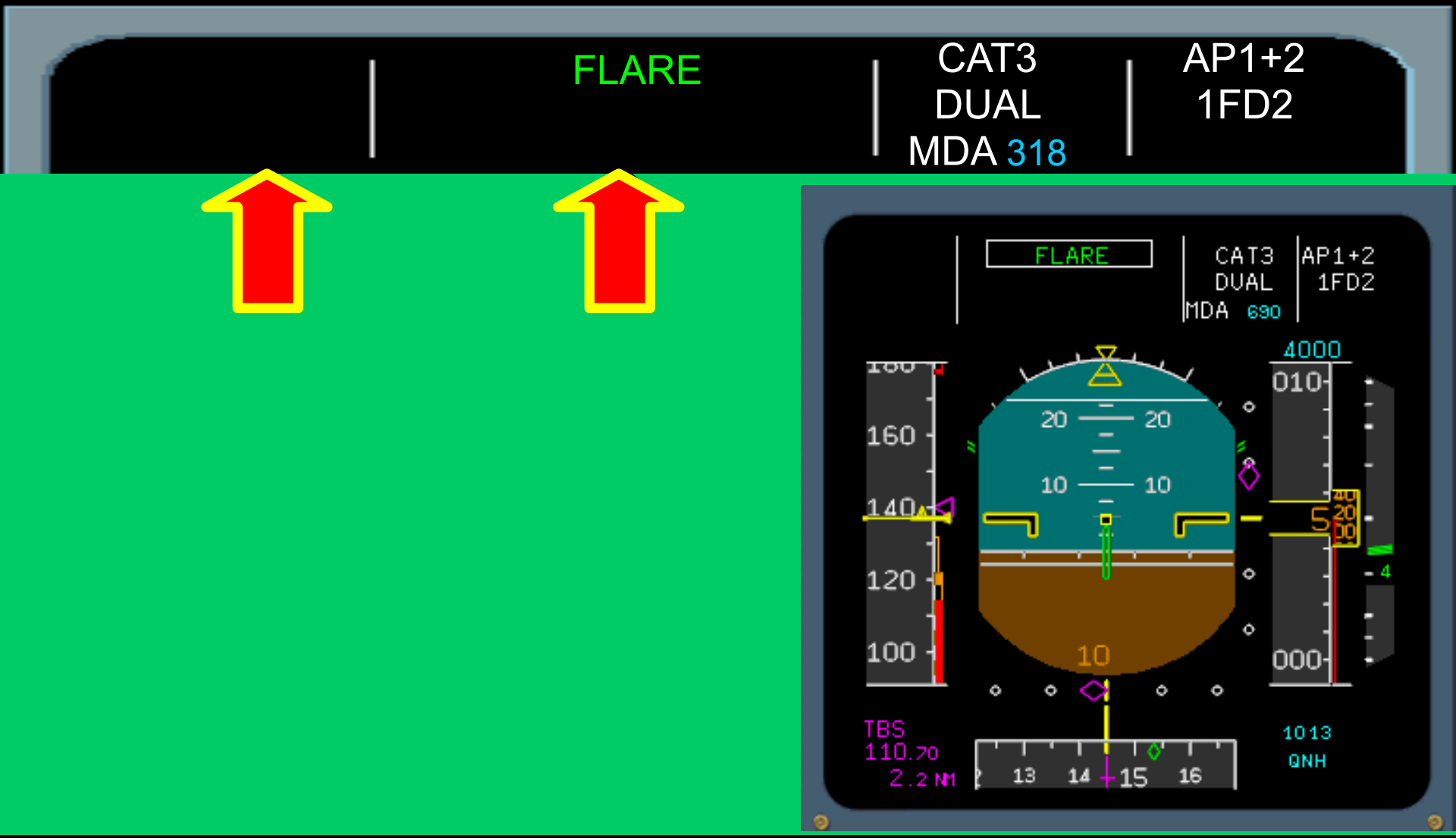
At 50/40 feet AGL FLARE Green.

ILS APPROACH



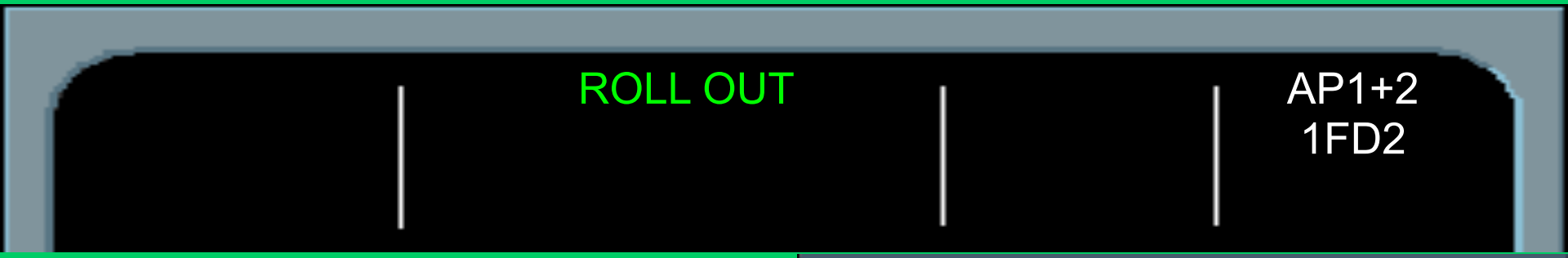
At 30 feet AGL FLARE remains Green.
IDLE on the Auto Thrust Column.

ILS APPROACH



At 20/10 feet Auto Call “RETARD”. Thrust Levers retarded to IDLE. A/THR disengages.

ILS APPROACH

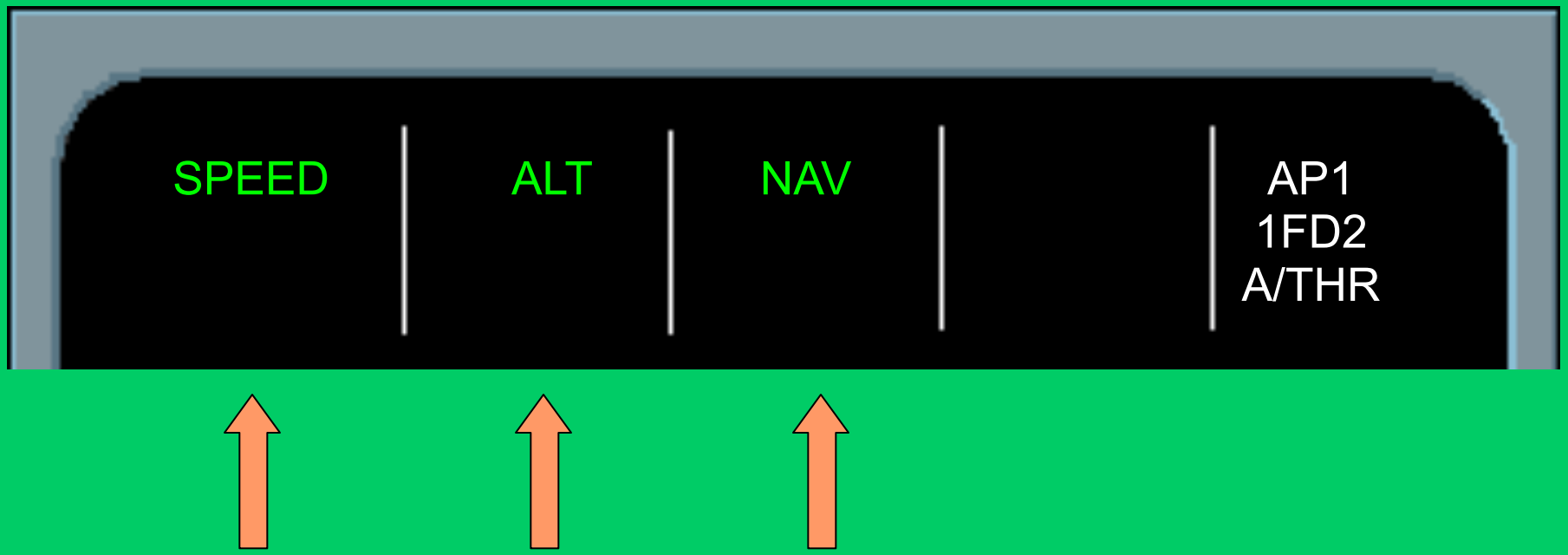


At Touch down ROLL OUT is displayed in column two and three.

VOR APP
(MANAGED)

VOR : MANAGED

(Lateral & Vertical)



Approaching for a Non Precision Approach (VOR) with Managed Guidance

VOR : MANAGED

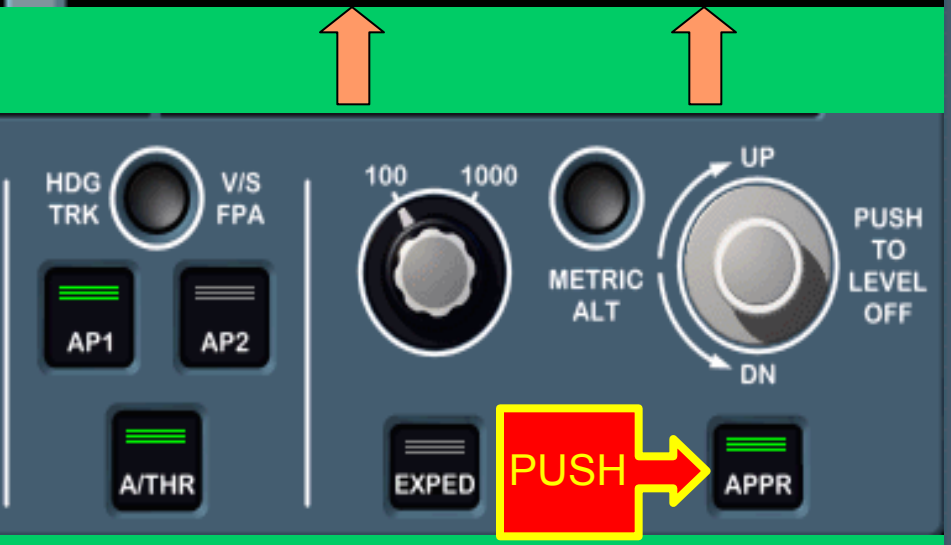
(Lateral & Vertical)

Approach Push Button on the FCU depressed.

VOR : MANAGED

(Lateral & Vertical)

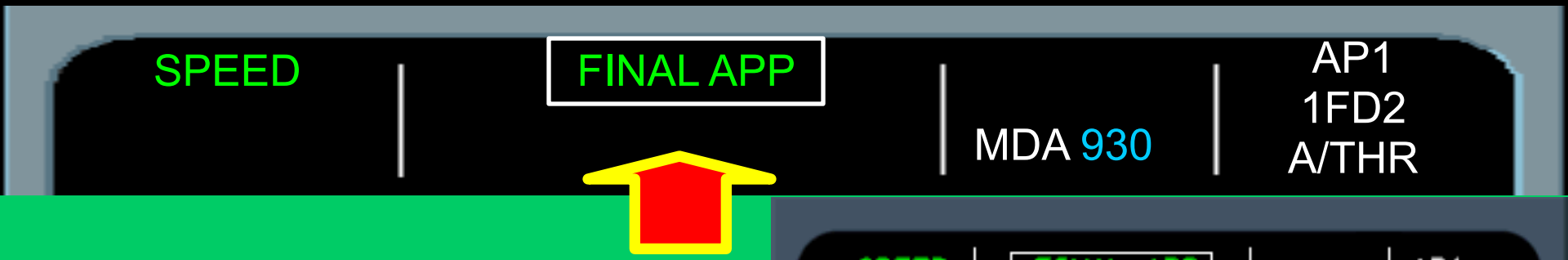
SPEED | ALT FINAL | APP NAV | • MDA 940 | AP1 1FD2 A/THR



APPR Push Button on the FCU depressed.
If NAV was engaged, APP NAV engages immediately.

VOR : MANAGED

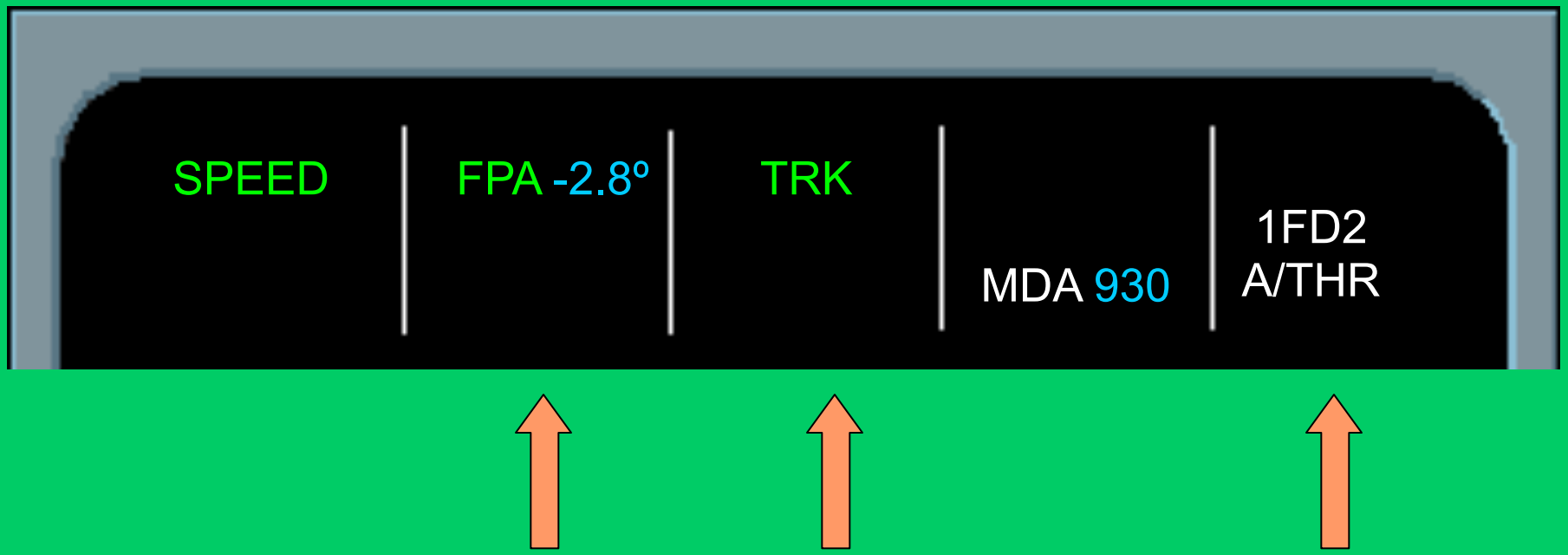
(Lateral & Vertical)



At FAF check FINAL APP in Green, when Aircraft intercepts the descent profile. Select Go Around Alt.

VOR : MANAGED

(Lateral & Vertical)



When A/P is disconnected or happens automatically at MDA -50 feet or at 400 ft if no MDA entered.
The FDs revert to basic modes (HDG-V/S or TRK-FPA)

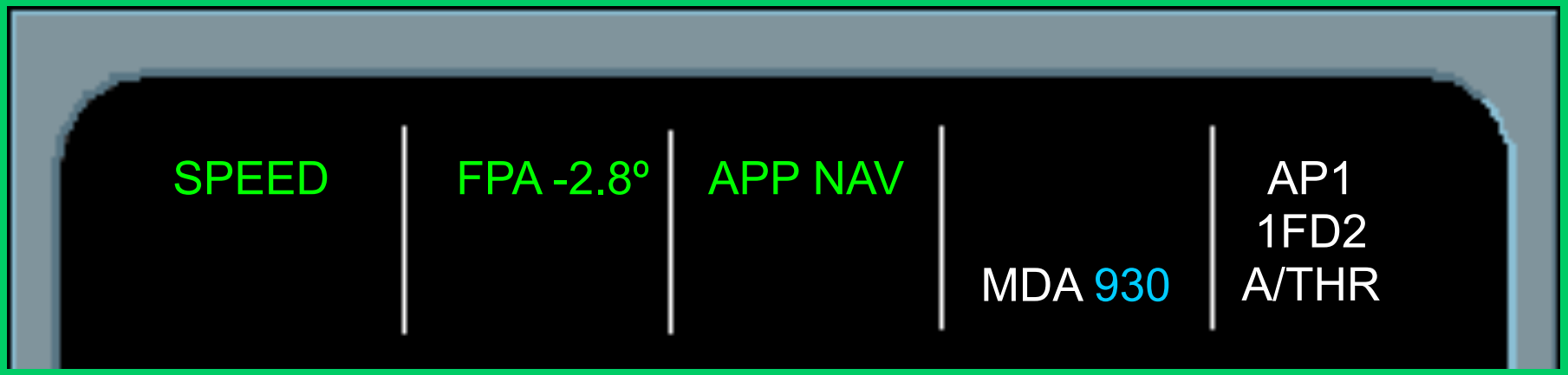
VOR APP

- MANAGED - LATERAL
- SELECTED - VERTICAL

VOR APPROACH
(Managed Lat & Selected Vert)

Approaching for a Non Precision Approach (VOR) with Managed Lateral & Selected Vertical Guidance.

VOR APPROACH
(Managed Lat & Selected Vert)



At FAF Selected Final Path Angle -2.8º.
Set Go Around Altitude on the FCU

VOR APP
(SELECTED)

VOR APPROACH
(Selected Guidance)

Approaching for a Non Precision Approach (VOR)
Selected Guidance (Lateral & Vertical)

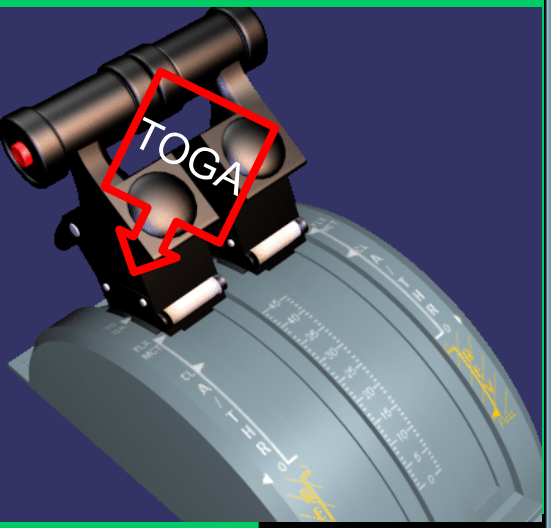
VOR APPROACH
(Selected Guidance)

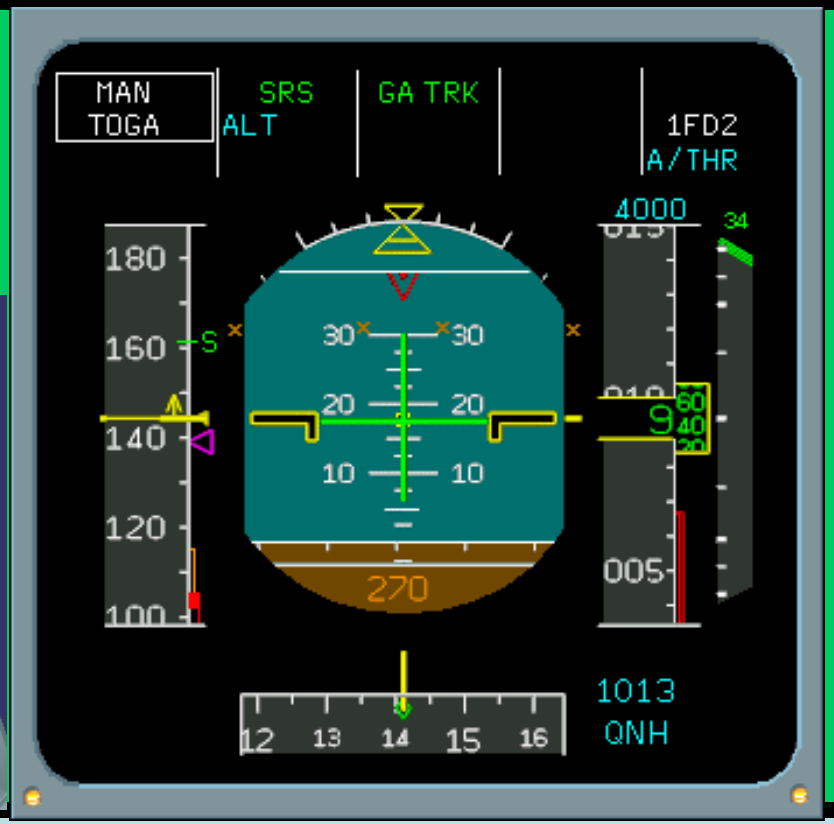
At FAF Select Final Track.
Selected Final Path Angle -2.8º.
Set Go Around Altitude on the FCU.

GO AROUND

GO AROUND

MAN TOGA | SRS ALT | GA TRK | AP1 1FD2 A/THR





Go Around SRS in pitch mode.
Alt armed (In Blue) to the GA Altitude

GO AROUND

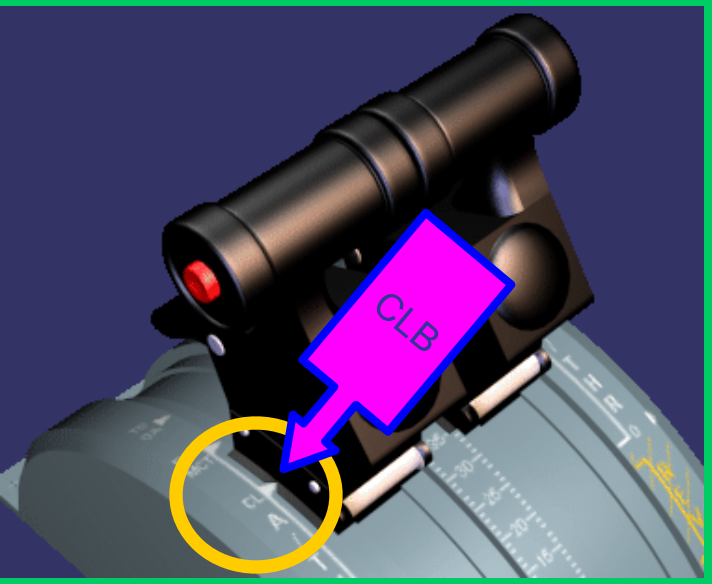
Engagement of NAV. HDG knob pushed to follow Missed Approach Procedure.
Alt armed (In Blue) to the GA Altitude

GO AROUND

At Thrust Reduction Altitude, LVR CLB flashes.
Alt armed (In Blue). Engagement of NAV means we are following Missed Approach Procedure.

GO AROUND

THR CLB | OP CLB ALT | HDG | | AP1 1FD2 A/THR



At GA Acceleration Altitude, Thrust Lever is in CLB detent.
Alt armed (In Blue). Engagement of HDG means we are under Radar HDG. OP CLB as we are in HDG.