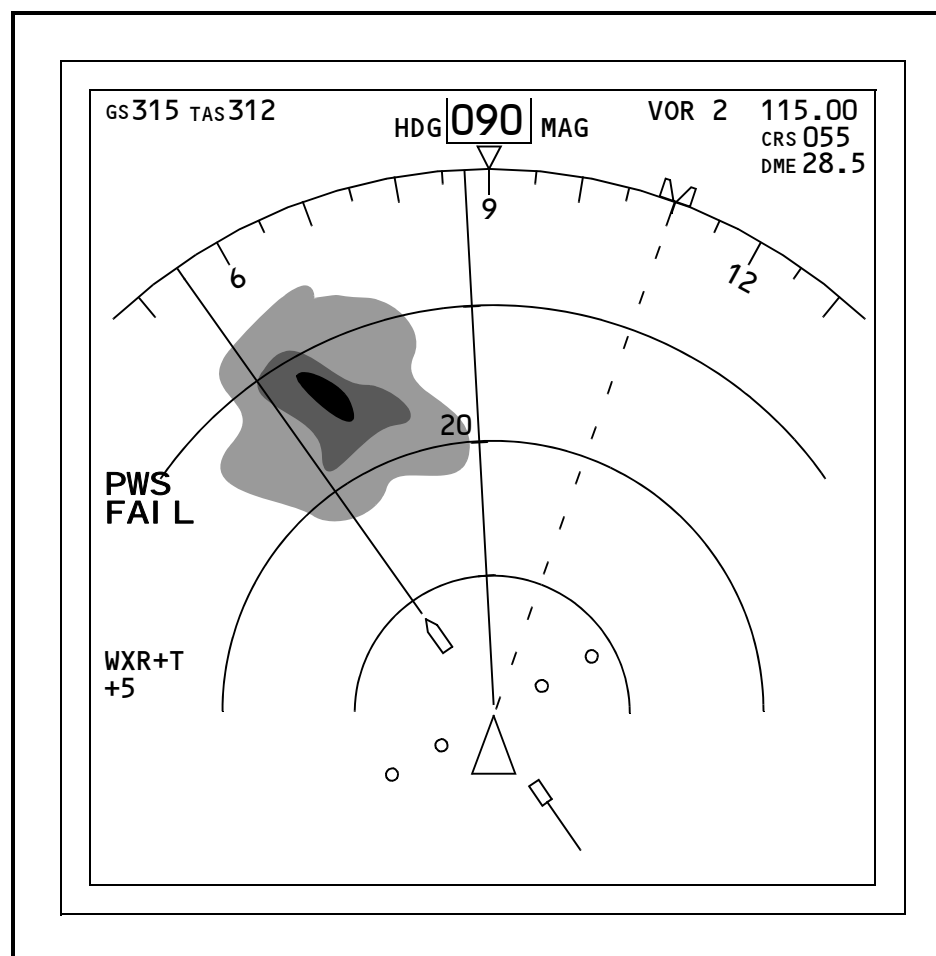


# B737 NG

## AVIONICS FLAGS / FAULT MESSAGE GUIDE



FOR TRAINING USE ONLY  
PREPARED BY MAINTENANCE TRAINING

January 2012

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### Flight Director (FD) Flag

The Amber Flight Director (FD) Flag shows when the on-side flight director function of the Flight Control Computer (FCC) has Failed.

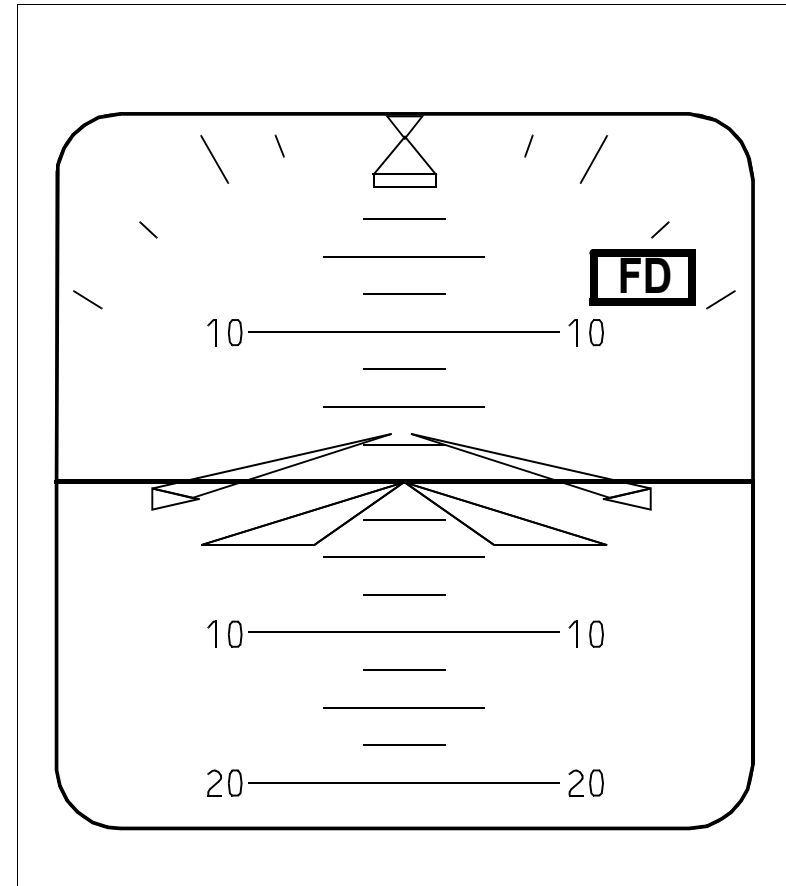
Both the Captains and First Officers FD flag will show when the loadable software between FCC A and B do not match.

The FD flag will also show when the FCCs are in BITE.

### Flight Director Flag Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

- Flight Control Computer (FCC)



## Selected Speed (SEL SPD) Flag

When the MCP selected target airspeed is invalid, an amber SEL SPD message shows above the Mach Airspeed Indicator MASI.

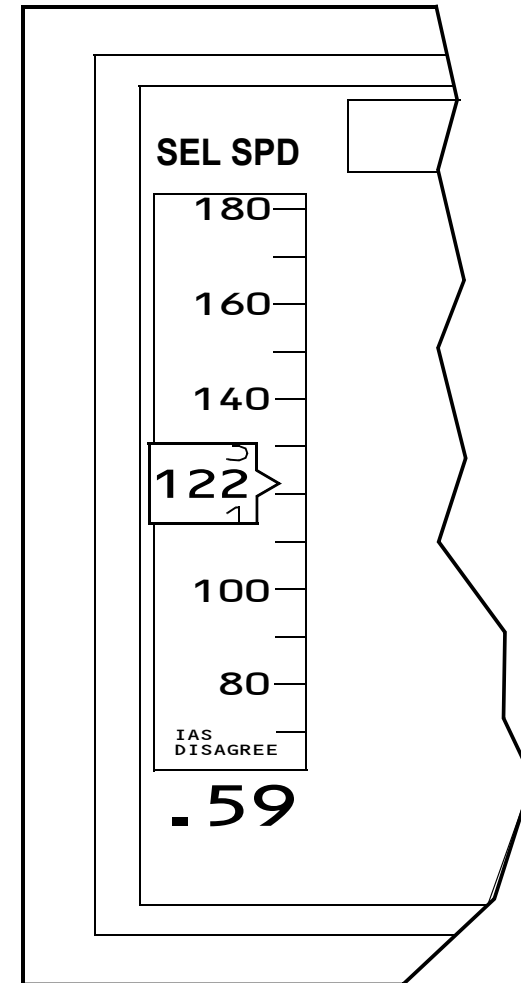
## SEL SPD Flag Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

- Flight Control Computer (FCC)
- Mode Control Panel (MCP)
- Wiring

If the SEL SPD flag shows on one side only, replace the on-side FCC.

Replace the MCP if the SEL SPD flag appears on both the Captain and F/O airspeed indicator.



737 NG - SELECTED SPEED - FLAG

## Single Channel Speed Trim Fail Light

If a single channel failure occurred, there is no annunciation until you push the System Status Annunciator panel assembly (recall). When you push the annunciator panel, these annunciations show:

- SPEED TRIM light on
- FLT CONT light on the System Status Annunciator (six pack)
- Left and right Master Caution lights

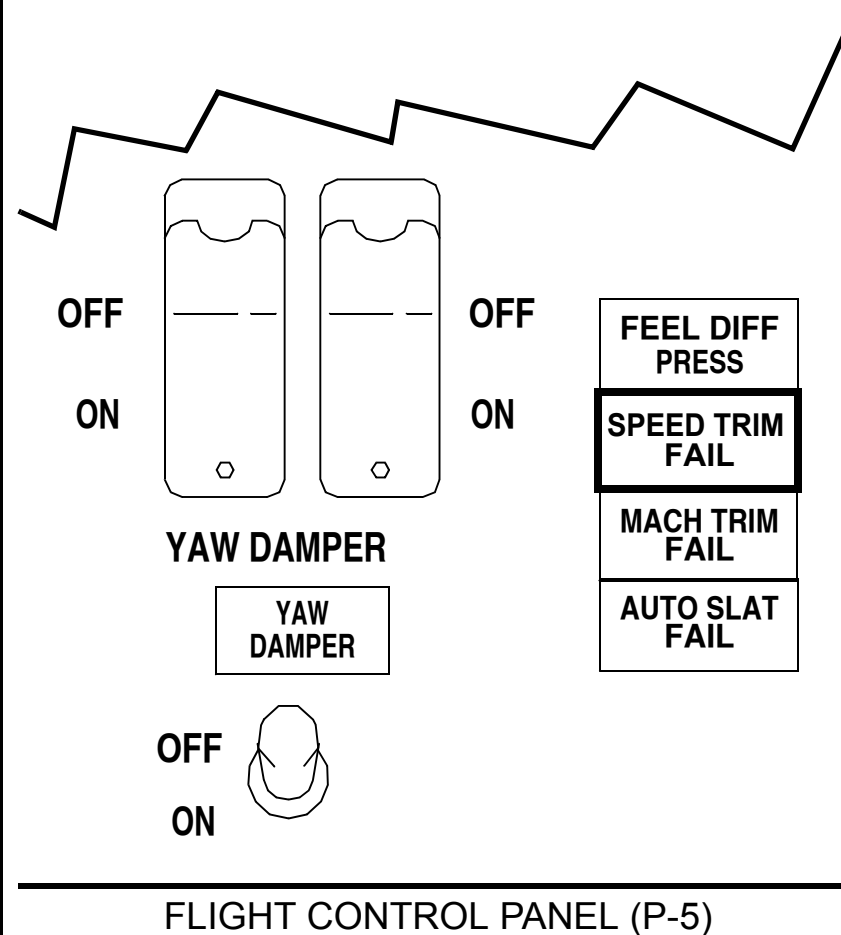
When you release the annunciator panel assembly, the SPEED TRIM light goes out but the FLT CONT light and Master Caution lights stay on. Push either the left or right Master Caution light (reset) to reset all the annunciations.

## Dual Channel Speed Trim Fail Light

If dual channel failure occurred, these annunciations show:

- SPEED TRIM light on
- FLT CONT light on the System Status Annunciator
- Left and right Master Caution lights

When you push and release either the left or right Master Caution light, the FLT CONT light and Master Caution lights go out but the SPEED TRIM light stays on.



737 NG - SPEED TRIM FAIL - LIGHT

22-11-speedlit.fm

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737 NG FLAG GUIDE

## (Single Channel) Speed Trim Fail Possible Causes

**NOTE:** Before replacing any components perform BITE if available.

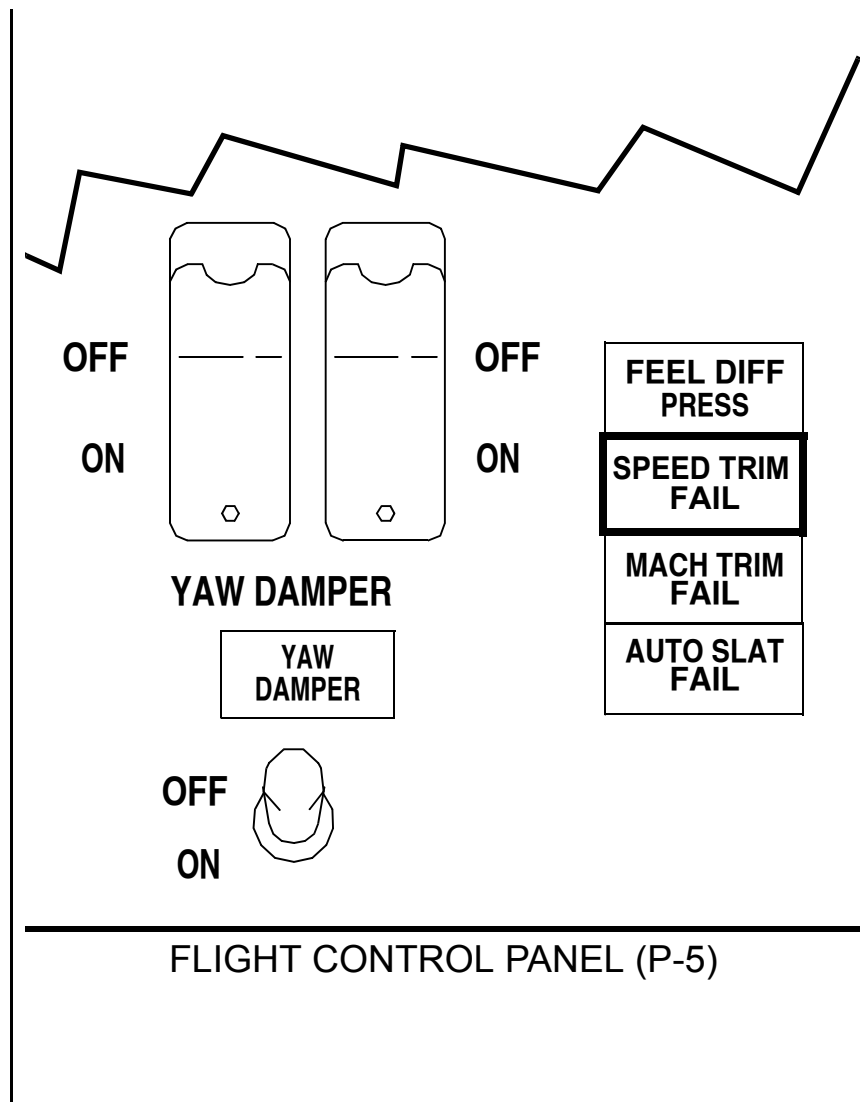
- Flight Control Computer (FCC)

**NOTE:** The single channel speed trim fault may reset and clear when DFCS Current Status Speed Trim BITE is run.

## (Dual Channel) Speed Trim Fail Possible Causes

**NOTE:** Before replacing any components perform BITE if available.

- Stab Trim Electric Motor
- Stab Trim Relay (R384)
- Column Switching Module
- A/P Trim Cutout Switch (S149)
- Flight Control Panel
- Wiring
- Flight Control Computer (FCC)



737 NG - SPEED TRIM FAIL - LIGHT

22-11

## Single Channel Mach Trim Fail Light

If a single channel failure occurred, there is no annunciation until you push the System Status Annunciator panel assembly (recall). When you push the annunciator panel, these annunciations show:

- MACH TRIM light on
- FLT CONT light on the System Status Annunciator
- Left and right Master Caution lights

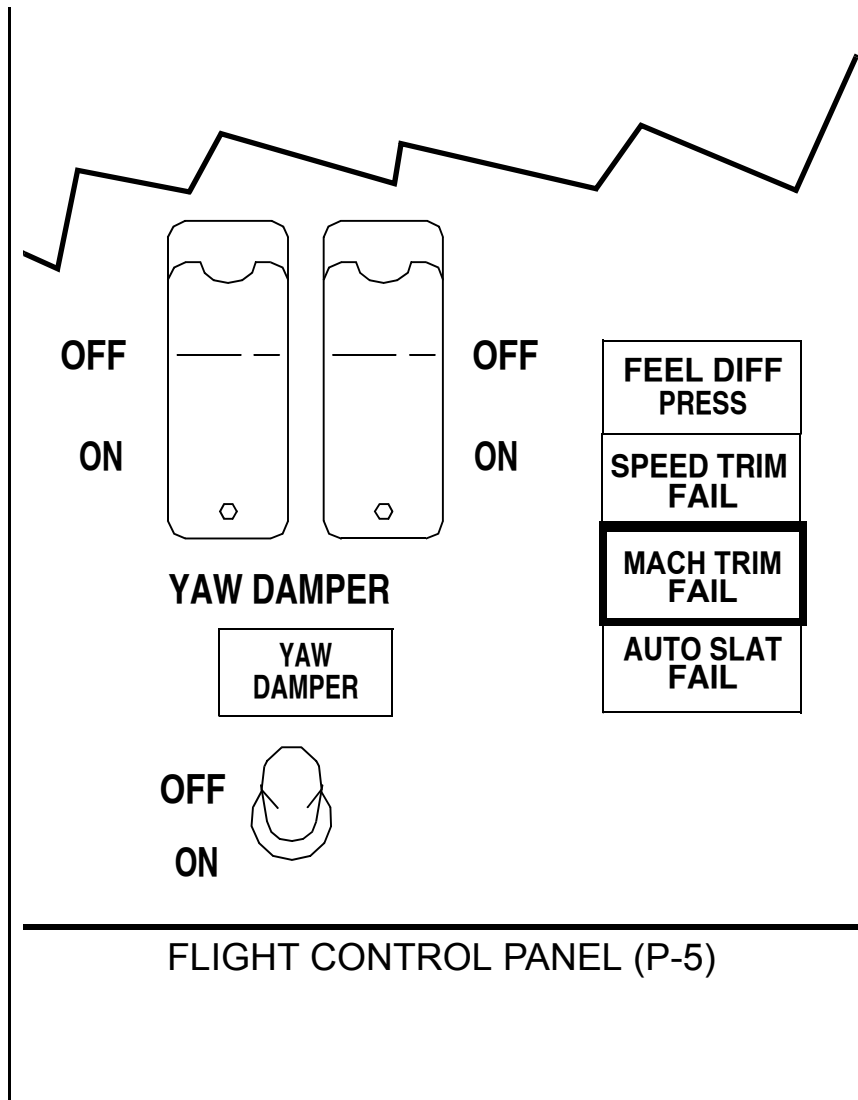
When you release the annunciator panel assembly, the MACH TRIM light goes out but the FLT CONT light and Master Caution lights stay on. Push either the left or right Master Caution light (reset) to reset all the annunciations.

## Dual Channel Mach Trim Fail Light

If dual channel failure occurred, these annunciations show:

- MACH TRIM light on
- FLT CONT light on the System Status Annunciator
- Left and right Master Caution lights

When you push and release either the left or right Master Caution light, the FLT CONT light and Master Caution lights go out but the MACH TRIM light stays on.



737 NG - MACH TRIM FAIL - LIGHT

22-11-mach2.fm

## (Single Channel) MACH Trim Fail Possible Causes

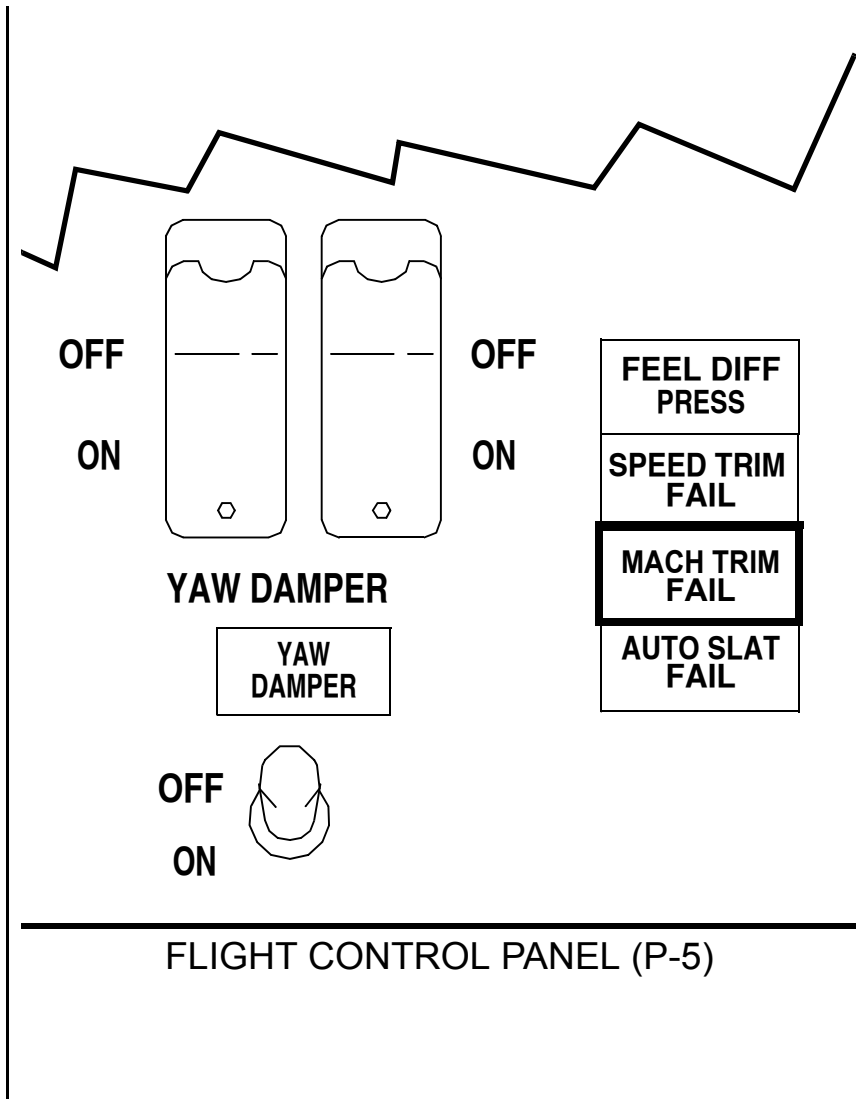
**NOTE:** Before replacing any components perform BITE if available.

- Flight Control Computer (FCC)
- Integrated Flight System Accessory Unit (IFSAU)

## (Dual Channel) MACH Trim Fail Possible Causes

**NOTE:** Before replacing any components perform BITE if available.

- Mach Trim Actuator
- Integrated Flight System Accessory Unit (IFSAU)
- Flight Control Panel
- Wiring
- Flight Control Computer (FCC)



737 NG - MACH TRIM FAIL - LIGHT

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## Mode Control Panel Selected Altitude Window Lock-up to 50,000 feet

Indications that the Digital Flight Control System is locked-up are as follows:

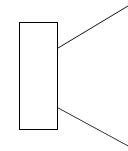
- Aural warning comes on for 2 seconds then off for 8 seconds and continues this sequence
- Altitude alert flashes
- The altitude that shows on the MCP altitude display is 50,000 feet

## 50,000 feet Lock-up Possible Causes

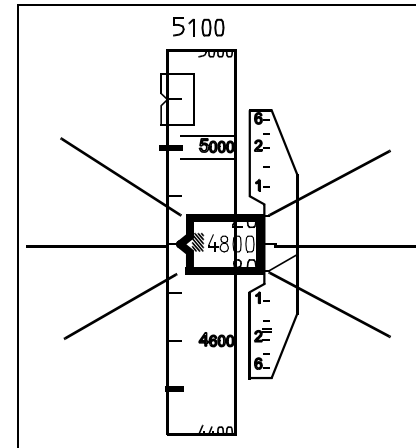
**NOTE:** Before replacing any component perform BITE if available.

- Mode Control Panel (MCP)
- Flight Control Computer (FCC)
- Air Data Inertial Reference Unit (ADIRU)
- Data bus communication breakdown between MCP and/or FCC's and/or ADIRU (try resetting the CBs for above LRUs)
- Both FCC's are powered off
- DFCS BITE test 62 (AP warning circuitry test) active
- FCC A and FCC B part number do not match

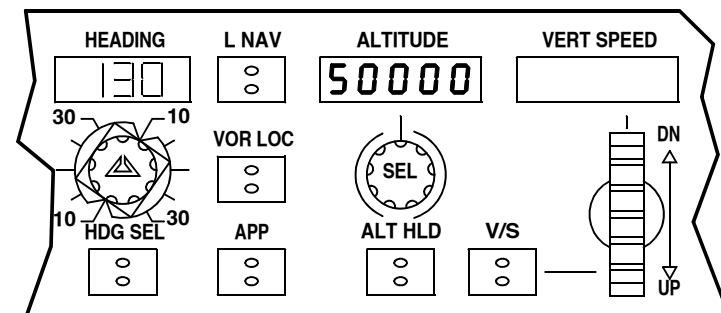
## 737 NG FLAG GUIDE



AURAL  
WARNING



ALTITUDE ALERT FLASHES



## 737 NG - MODE CONTROL PANEL LOCK-UP - 50,000 FT IN ALTITUDE WINDOW

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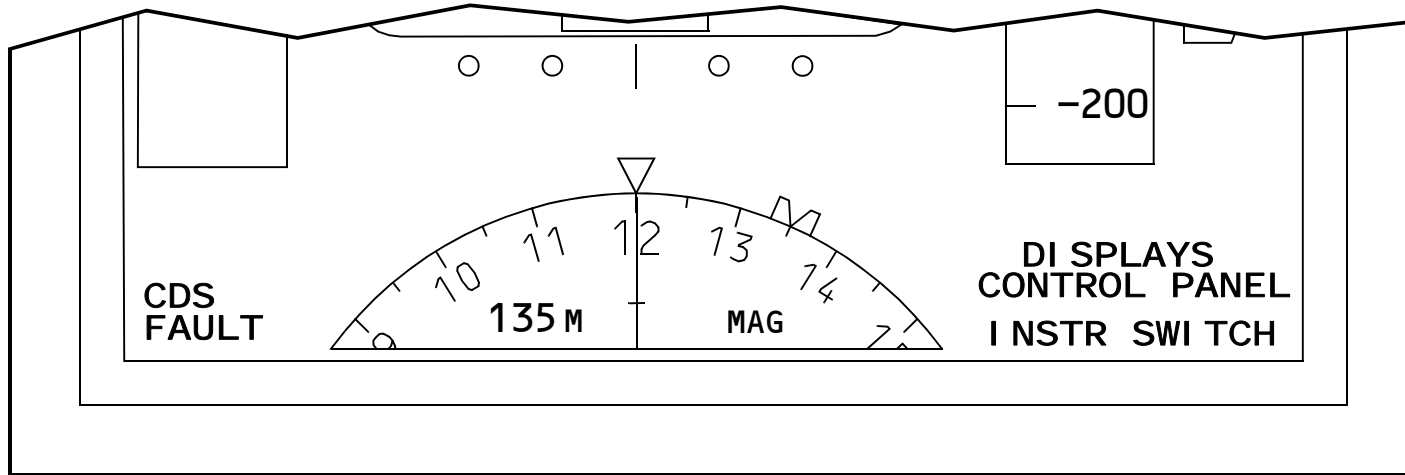
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22-11-mcp.fm

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PRIMARY FLIGHT DISPLAY

<b>INSTR SWITCH</b>	INERTIAL REFERENCE DATA FROM SAME SOURCE
<b>CDS MAINT</b>	PARTIAL DEU FAILURE (SHOWS ON THE GROUND WITH AT LEAST ONE ENGINE SHUT OFF)
<b>CDS FAULT</b>	DEU FAILURE OR BOTH DEU(S) HAVE A PARTIAL FAILURE. INCOMPATIBLE S/W OR H/W. MISCOMPARE OF CRITICAL DATA. HOT BATTERY BUS NOT AVAILABLE. DATA LOAD SWITCH IN DEU 1 OR DEU 2 POSITION. (SHOWS ON THE GROUND WITH AT LEAST ONE ENGINE SHUT OFF) FOR HOT BATTERY BUS OR DATA LOAD SWITCH, CDS FAULT IS REMOVED WHEN BOTH ENGINES START. HYD PRESSURE A MISSING = DEU1. HYD PRESSURE B MISSING = DEU2.
<b>DSPLY SOURCE</b>	SHOWS IN THE AIR FOR CDS FAULT OR CDS MAINT. ALSO, SHOWS WHEN ALL ON 1 (2) IS SELECTED.
<b>DISPLAYS CONTROL PANEL</b>	ON-SIDE EFIS CONTROL PANEL FAILURE. THE ALTIMETER INDICATOR ALSO FLAGS WITH AN <b>ALT</b> FLAG, BECAUSE THE ON-SIDE ADIRU LOSES BARO CORRECTION FROM THE EFIS CONTROL PANEL.

31-62-flag.fm

**737 NG - COMMON DISPLAY SYSTEM FAULTS**

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737 NG FLAG GUIDE

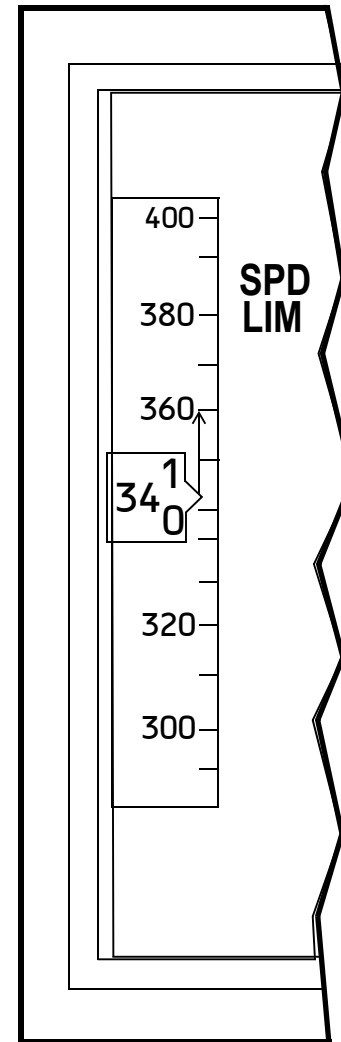
## Speed Limit (SPD LIM) Flag

The Amber SPD LIM Flag will appear next to the airspeed display if the maximum and minimum speed references cannot display.

## SPD LIM Flag Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

- Stall Management Yaw Damper Coupler (SYMD)
- Display Electronics Unit (DEU)
- Wiring



737 NG - SPEED LIMIT - FLAG

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27-32-spdlim.fm

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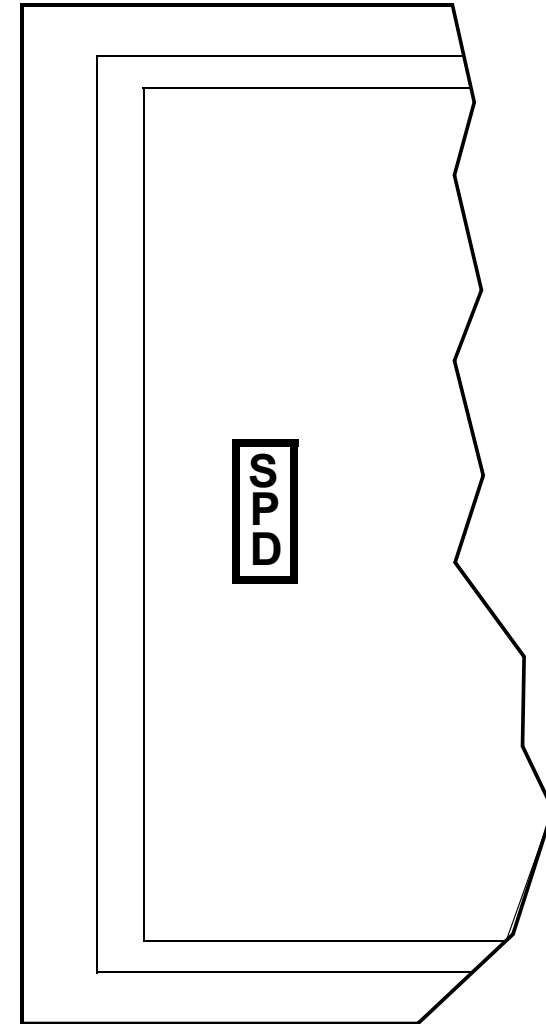
## Airspeed (SPD) Fail Flag

The Amber SPD flag replaces the airspeed indication.

## SPD Flag Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

- ADIRU
- DEU
- Pitot Air Data Module (ADM)
- Wiring from ADM to ADIRU
- Wiring from the ADIRU to the DEUs



34-21-ASflag.fm

737 NG - AIRSPEED - FLAG

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## Indicated Airspeed (IAS) DISAGREE Flag

The Amber IAS DISAGREE Flag will appear below the airspeed display if airspeed differs by more than 5 knots between the Captain and First Officer for more than 5 seconds.

## IAS DISAGREE Flag Possible Causes

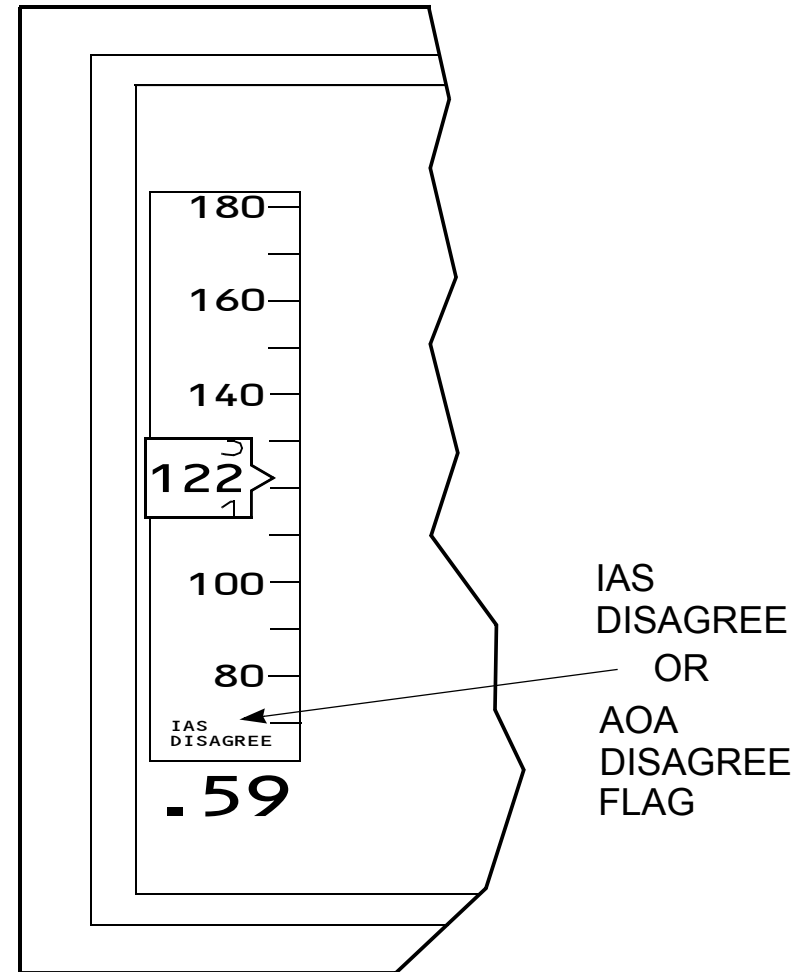
**NOTE:** Before replacing any component perform BITE if available.

- Pitot source problem (pitot probe / lines leaking)
- Static source problem (static port / lines leaking)

## AOA DISAGREE Flag Possible Causes

AOA sensors position mismatch. Move AOA sensors.

Bad AOA Sensor. Use SMYD BITE.



## 737 NG - INDICATED AIRSPEED DISAGREE - FLAG

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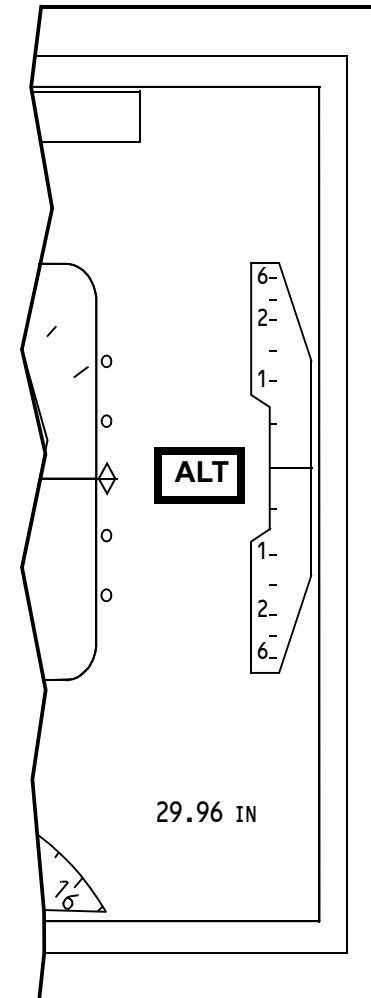
## ALTIMETER (ALT) Fail Flags

The Amber ALT flag replaces the altitude indication. However, baro-correction remains in view.

## ALT Flag Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

- ADIRU
- DEU
- Static Air Data Module (ADM)
- Wiring from ADM to ADIRU
- Wiring from the ADIRU to the DEUs



737 NG - ALTIMETER - FLAG

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## ALT and DISPLAYS CONTROL PANEL Flag

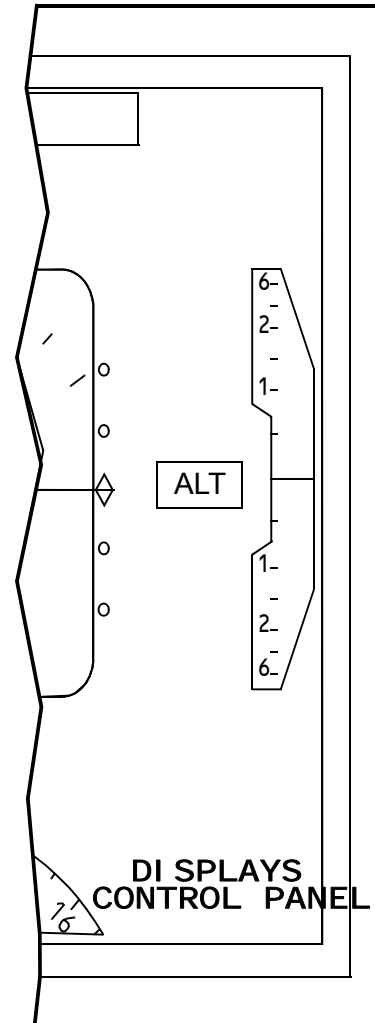
The Amber ALT flag replaces the altitude indication, and DISPLAYS CONTROL PANEL is displayed.

## ALT and DISPLAYS CONTROL PANEL Flag Possible Causes.

**NOTE:** Before replacing any component perform BITE if available.

- EFIS Control Panel
- DEU
- Wiring from EFIS Control Panel to DEUs

## 737 NG FLAG GUIDE



## 737 NG - ALTIMETER AND DISPLAYS CONTROL PANEL- FLAG

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34-21-CDflag.fm

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## ALT DISAGREE Message

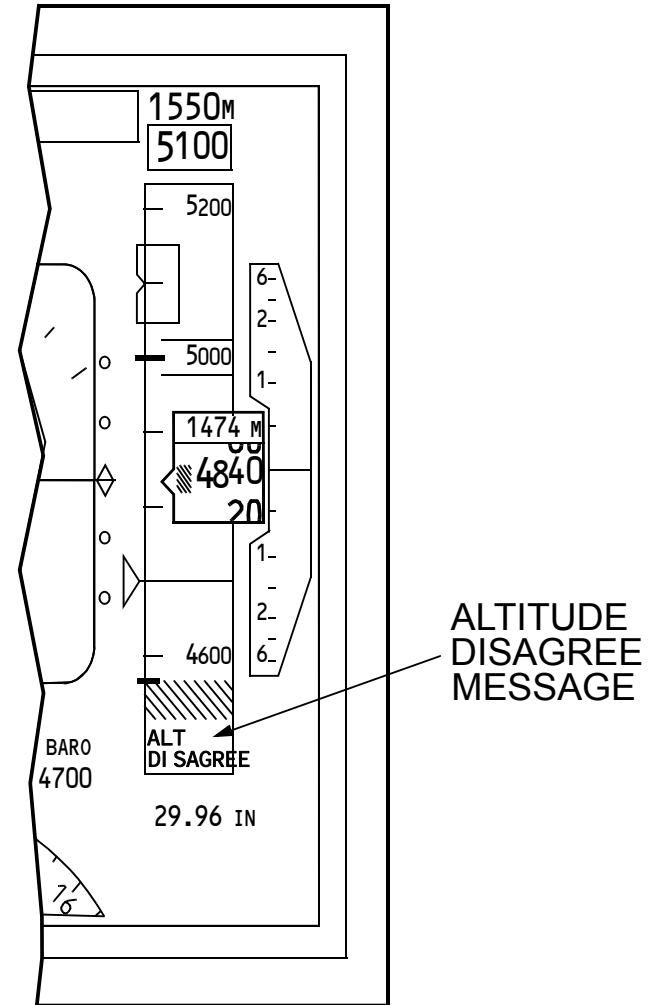
ALT DISAGREE shows when ADIRU left and right altitude disagrees by more than 200 feet for more than five seconds.

## ALT DISAGREE Message Possible Causes.

Make sure the barometric setting on the Captain and F/O EFIS control panels is the same.

**NOTE:** Before replacing any component perform BITE if available.

- AOA Sensor
- Pitot leak or blockage
- Static leak or blockage
- Water in pitot or static tubing
- ADIRU
- Pitot or Static ADMs
- EFIS Control Panel
- DEU



737 NG - ALTITUDE DISAGREE

34-21-DAflag.fm

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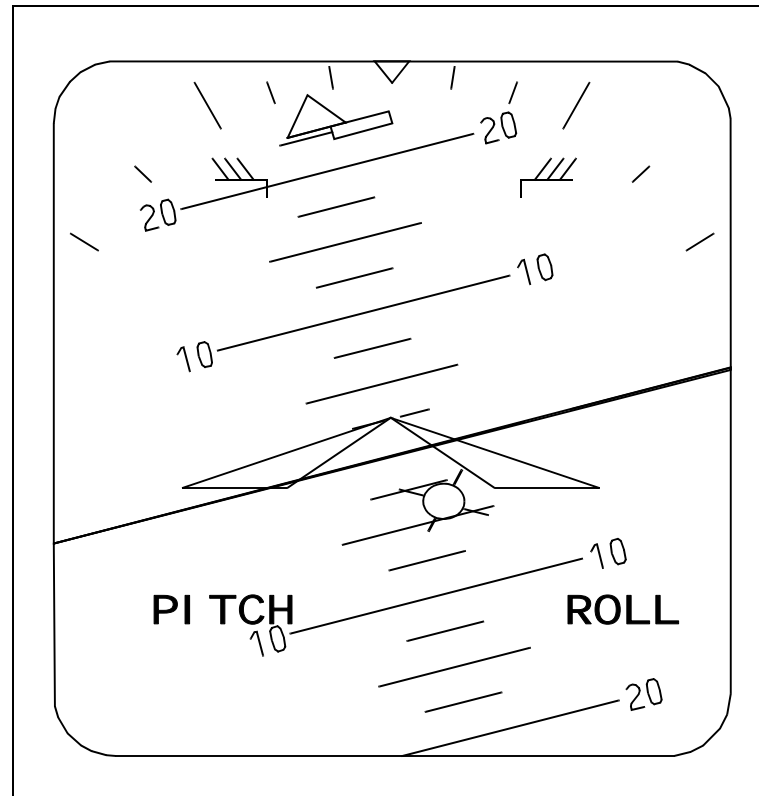
### Pitch and Roll Comparator Annunciations

The comparator function annunciations are PITCH and ROLL. These annunciations show if the CDS calculates a difference of more than five degrees between the Captain and F/O pitch or roll display.

### Pitch and Roll Comparator Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

- ADIRU
- DEU



34-21-ADIPR.fm

### 737 NG - PITCH & ROLL COMPARATOR ANNUNCIATIONS

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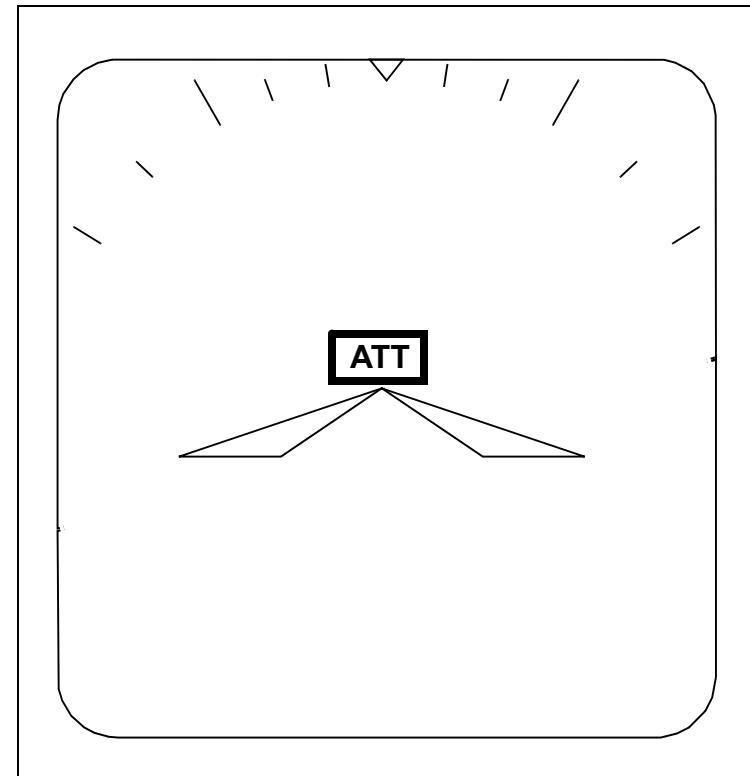
### Attitude (ATT) Fail Flag

The Amber ATT flag replaces the attitude indication.

### ATT Flag Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

- ADIRU
- DEU
- Wiring from the ADIRU to the DEUs



737 NG - ATTITUDE - FLAG

## Heading (HDG) Fail Flag

On the Horizontal Situation display the amber HDG flag is displayed. The compass rose, drift angle, and course bug are removed.

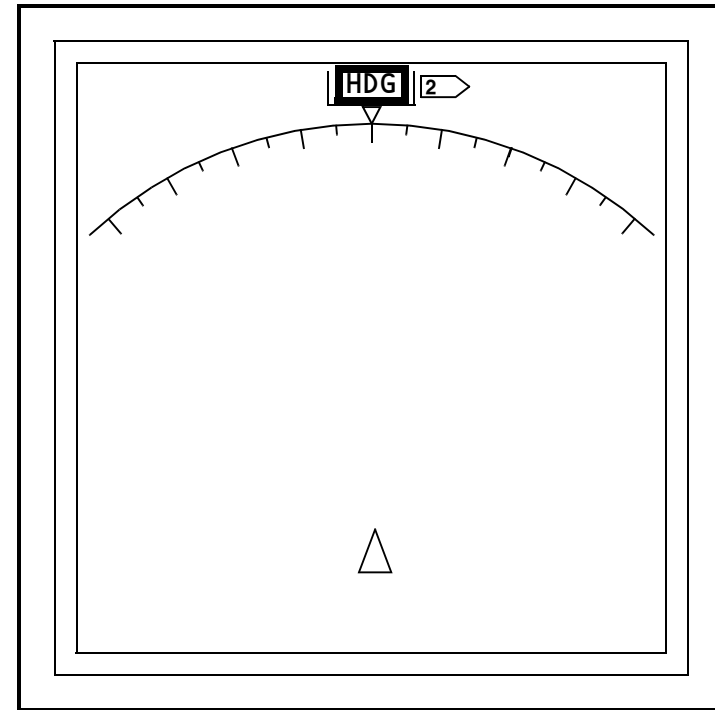
On the Nav Data Display (ND) the amber HDG flag is displayed. The compass rose, heading, and track line are removed.

**NOTE:** If the Nav Data Display is in the MAP mode a TRK fail flag is shown in place of a HDG Flag.

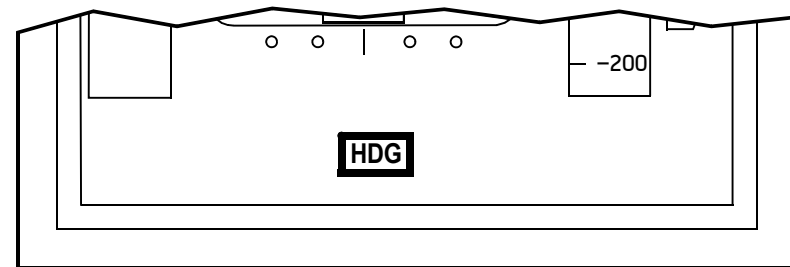
## HDG Flag Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

- ADIRU
- DEU
- Wiring from the ADIRU to the DEUs



2 → MAP MODE **TRK**



737 NG - HEADING - FLAG

34-21-HDGflag.fm

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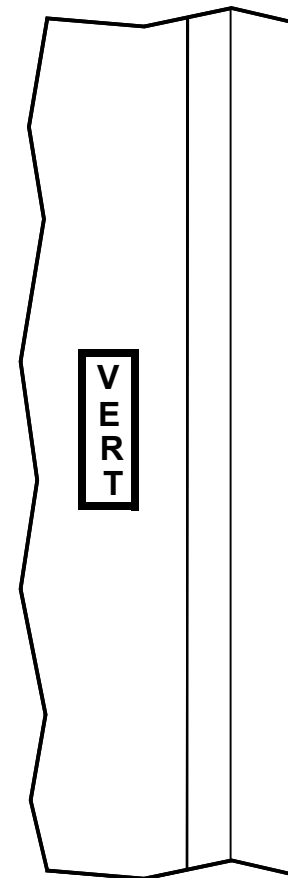
### Vertical Speed Indication (VSI) Fail Flag

The vertical speed is removed and the VERT flag is displayed

### ALT Flag Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

- ADIRU
- DEU
- Wiring from the ADIRU to the DEUs
- Wiring (external) from the Air Data side of the ADIRU to the Inertial Reference side



737 NG - VERTICAL SPEED - FLAG



## Total Air Temperature (TAT) Missing

Total air temperature (TAT) from the ADIRUs shows on the top of the engine display. The TAT value that shows is from the left ADIRU. When the left ADIRU TAT is invalid, the right ADIRU TAT value shows. TAT goes out of view when the data from both ADIRUs is invalid.

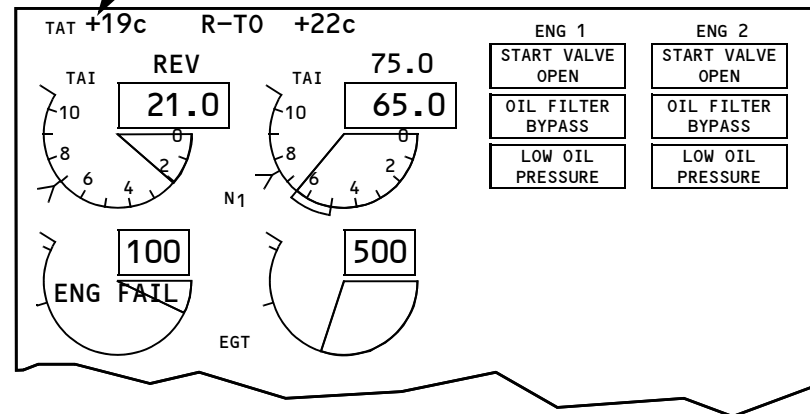
## TAT Missing Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

- TAT probe (both elements)
- ADIRU left and right

**NOTE:** If both elements of the TAT probe fail, and the N1 set knob on the P2 panel is in AUTO, the N1 bugs will dive to zero when the aircraft climbs above field elevation.

## TOTAL AIR TEMPERATURE INDICATION



## 737 NG - TOTAL AIR TEMPERATURE - MISSING

# 34-21

### Flight Path Vector (FPV) Fail Flag

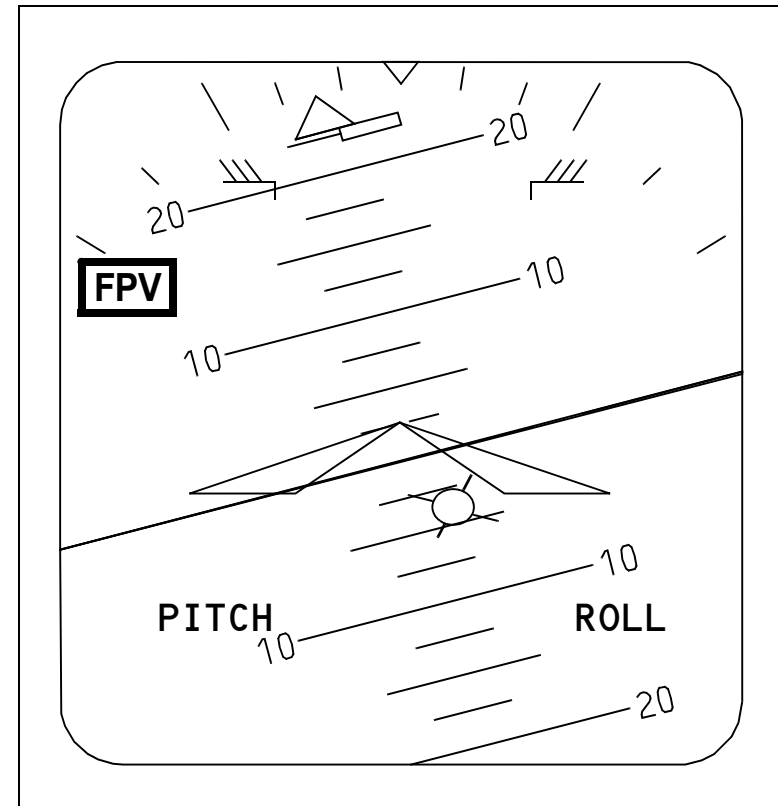
The amber FPV flag shows and the flight path vector symbol is removed.

The FPV flag and symbol will only show when the FPV mode is selected on the EFIS control panel.

### FPV Flag Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

- ADIRU
- DEU
- Wiring from the ADIRU to the DEUs



34-21-ADIFPV.fm

737 NG - FLIGHT PATH VECTOR - FLAG

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### Localizer and Glideslope Fail Flags

The amber LOC flag replaces the localizer deviation pointer and scale on the ADI, and Nav Data Display when the localizer receiver function has failed.

The amber G/S flag replaces the glideslope deviation pointer and scale on the ADI, and Nav Data Display when the glideslope receiver function has failed.

The ILS frequency is removed from the associated Nav Data Display when the LOC and/or G/S flags are in view.

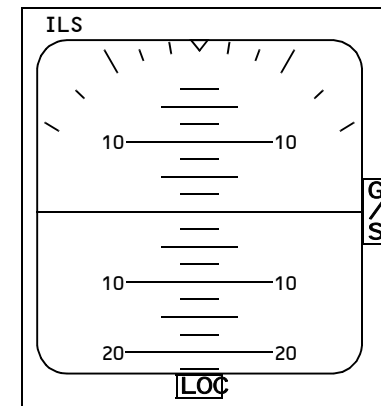
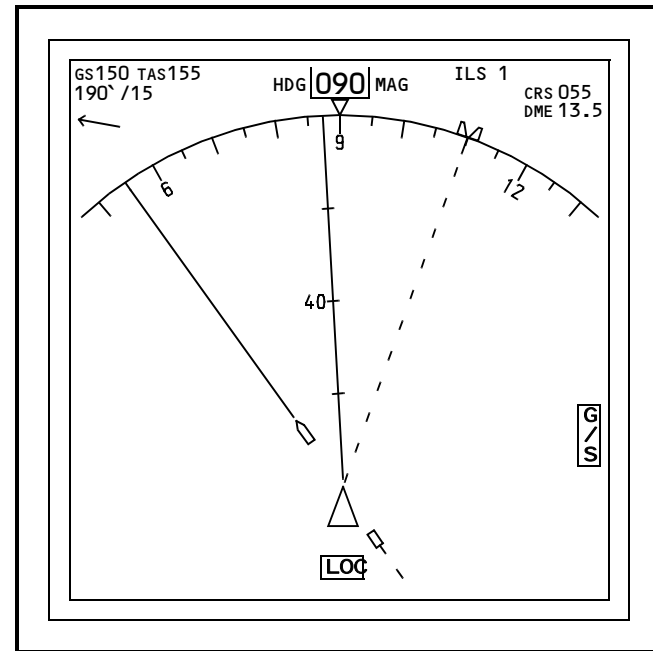
The LOC and G/S flags will not display if a VOR frequency is tuned on the associated Nav Control Panel.

The Nav Data Display must be set to APP for the LOC and G/S flags to display.

### LOC and/or G/S Flag Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

- MMR
- Wiring from the MMR to the DEUs



### 737 NG - ILS - GLIDESLOPE & LOCALIZER - FLAG

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## LOC and G/S No Computed Data (NCD)

The Localizer and Glideslope deviation pointers are removed. The scales remain in view on the ADI, and Nav Data Display. The ILS frequency on the associated Nav Data Display changes to dashes.

To display NCD for the Glideslope and Localizer an ILS frequency must be tuned on the associated Nav Control Panel, and the Nav Data Display must be set to APP.

## LOC and/or G/S NCD Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

- MMR
- NAV Control Panel
- Glideslope or Localizer Antenna
- Localizer Antenna Switching Relays (R315, R316)
- Wiring from NAV Control Panel to MMR
- Wiring from Antenna to MMR
- No signal/ground station out of range

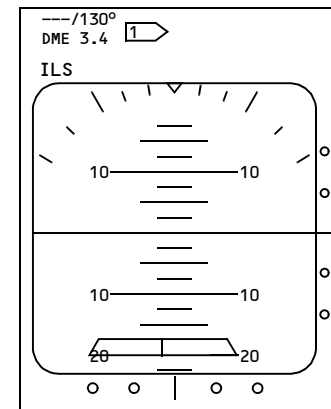
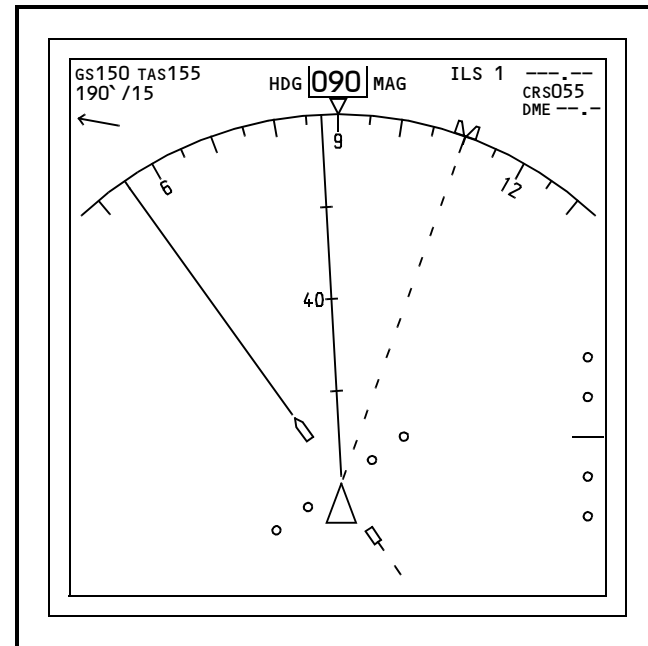
34-31-ncd.fm

## 737 NG - ILS - GLIDESLOPE & LOCALIZER - NO COMPUTED DATA

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## 737 NG FLAG GUIDE



### RADIO ALTIMETER (RA) Fail Flag

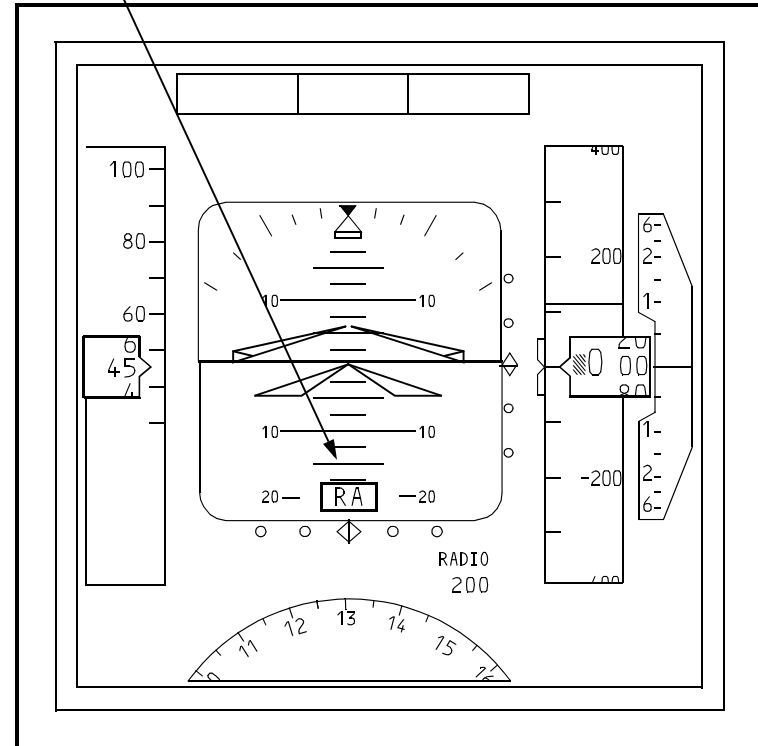
Invalid RA data causes an amber RA flag to show in the radio altitude position. Invalid RA also causes the rising runway symbol to be removed. The invalid data occurs when the RA Receiver/Transmitter finds a failure in the RA system.

### RA Flag Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

- RA Receiver/Transmitter
- Antenna
- Wiring from the RA Receiver/Transmitter to the DEUs

RISING RUNWAY  
OUT OF VIEW



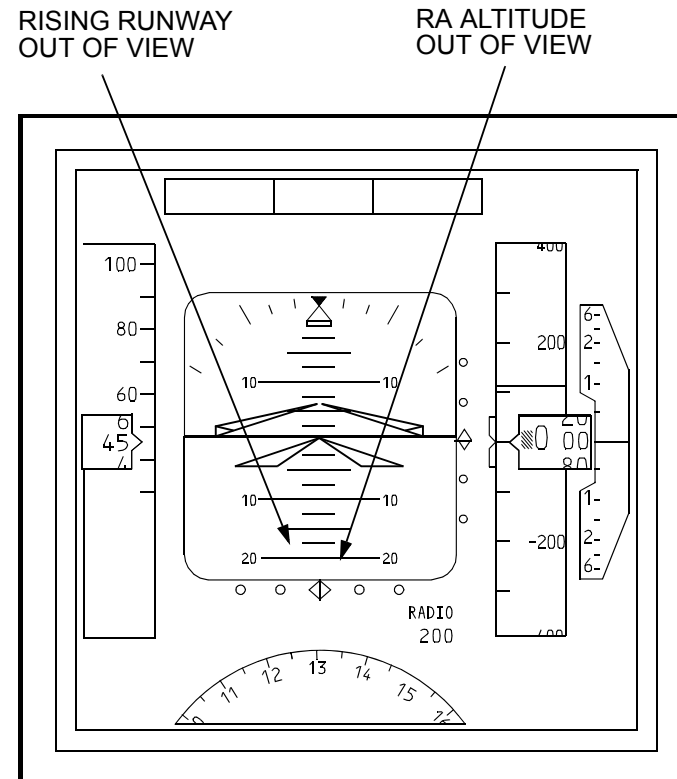
## Radio Altitude (RA) No Computed Data (NCD)

RA data NCD causes the RA display and rising runway symbol to be removed. The NCD occurs when the return RA signals are too weak or the radio altitude is more than 2500 feet. Also, the rising runway will not show when the ILS is not captured.

### RA NCD Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

- RA Receiver/Transmitter
- Receive Antenna
- Transmit Antenna
- Wiring from the Antennas to the RA Receiver/Transmitter
- Aircraft is 2500 feet or more above the ground



34-33-ncd.fm

## 737 NG - RADIO ALTITUDE - NO COMPUTER DATA

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### Marker Beacon (MB) Indication Will Not Display

If the Marker Beacon data fails or is no computed data (NCD), the display does not display on both the Captain and F/O AI display.

### MB Indication Will Not Display Possible Causes

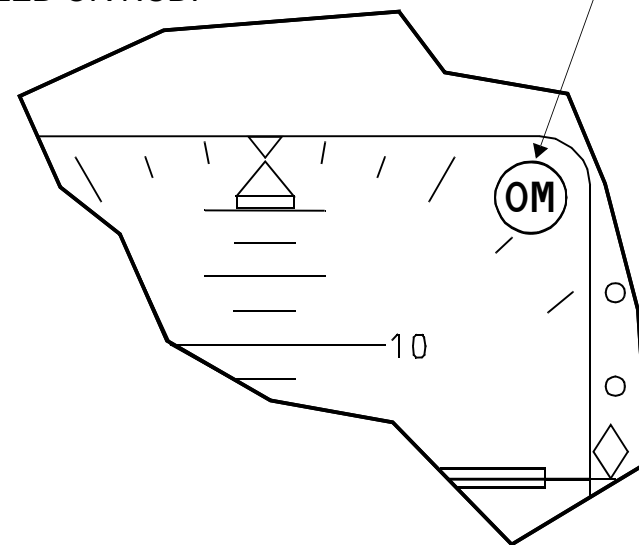
**NOTE:** Before replacing any component perform BITE if available.

- #1 VOR/MB Receiver
- DEU
- Wiring from the #1 VOR/MB Receiver to the DEUs

### No MB Audio Tone Possible Causes

- #1 VOR/MB Receiver
- Remote Electronics Unit (REU)
- Wiring

MARKER BEACON INDICATION IS REMOVED WHEN FAILED OR NCD.



737 NG - MARKER BEACON WILL NOT DISPLAY

# 34-32

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34-32-mb.fm

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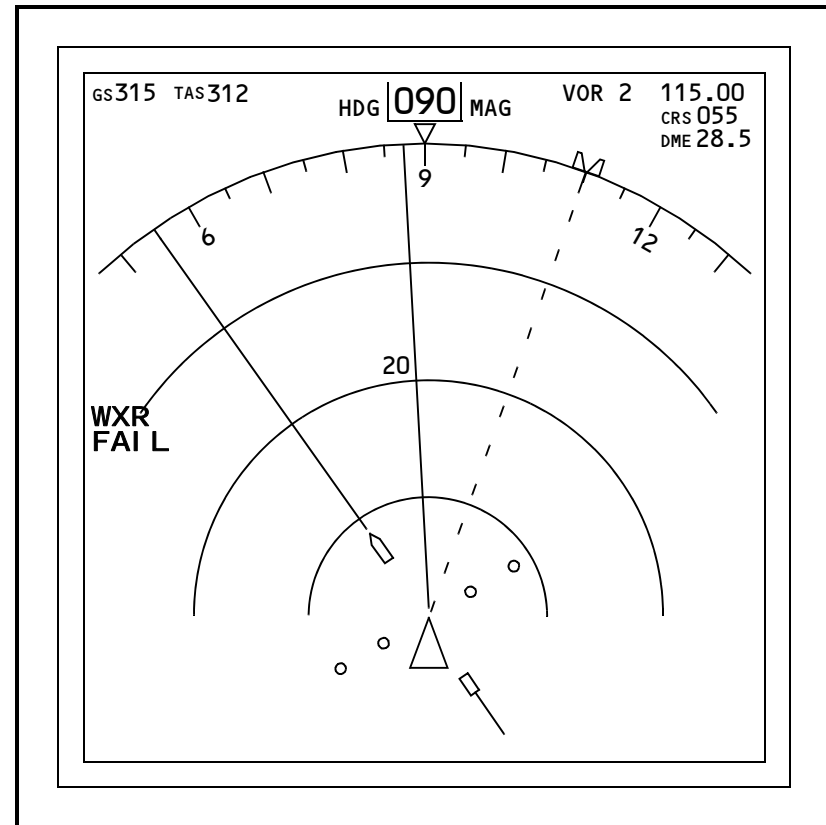
## Weather Radar Fail (WXR FAIL) Message

When the Weather Radar fails the amber WXR FAIL shows and all weather displays are removed from the Nav Data Display. WXR FAIL shows in all modes except PLAN.

## WXR FAIL Message Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

- WXR Receiver/Transmitter
- WXR Control Panel
- WXR Antenna
- Wiring



737 NG - WXR FAIL- MESSAGE

34-43-WXRinop.fm

January 2012

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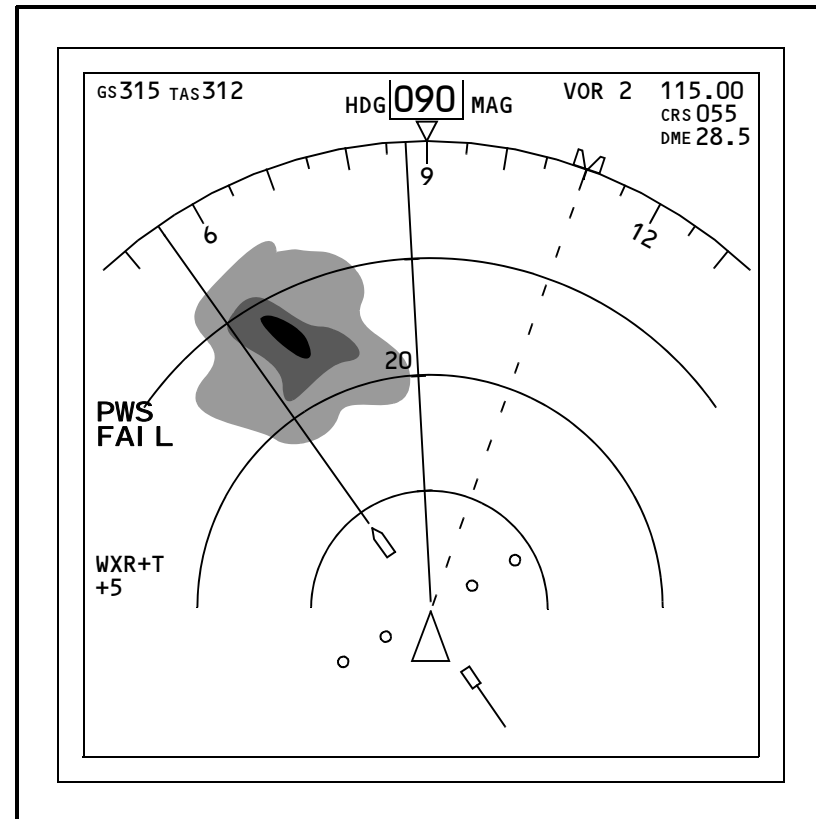
### Predictive Windshear Fail (PWS FAIL) Message

When the Weather Radar Predictive Windshear fails the amber PWS FAIL shows in all modes except PLAN. Normal Weather Radar may still operate.

### PWS FAIL Message Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

- WXR Receiver/Transmitter
- WXR Antenna
- ADIRU
- Wiring



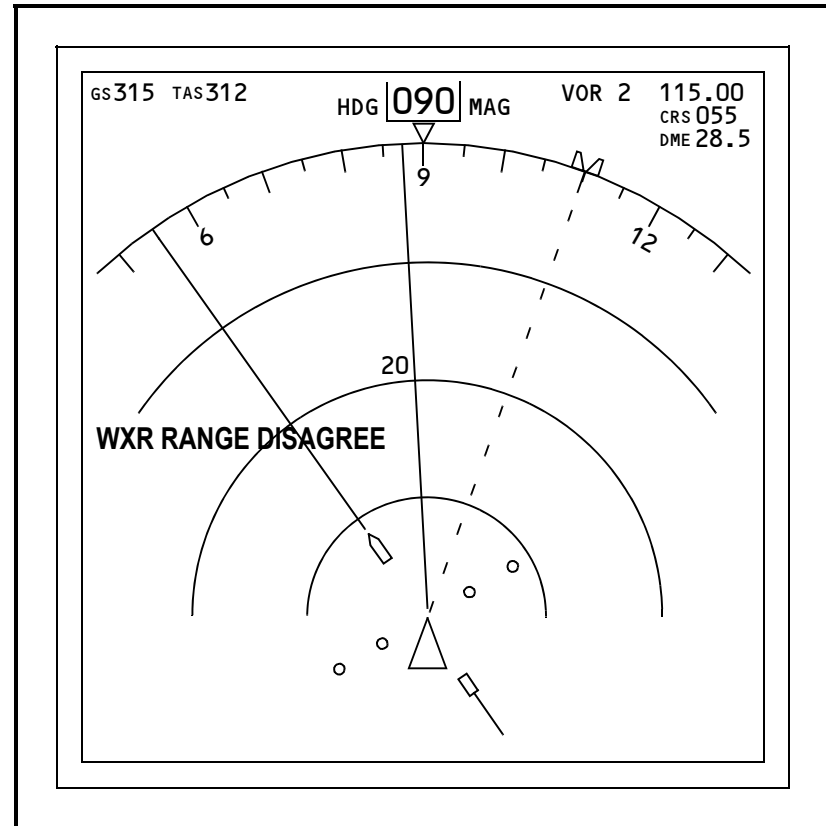
737 NG - PWS FAIL- MESSAGE

### WXR RANGE DISAGREE Message

The Amber WXR RANGE DISAGREE message shows when a new range has been selected on the EFIS control panel and does not match the WXR R/T range. The Weather display goes out of view. The Mode, Tilt and Gain in the upper right corner of the Nav Data Display stays in view.

### WXR RANGE DISAGREE Message Possible Causes

- EFIS Control Panel
- Weather Radar Transceiver
- DEU
- Wiring



34-43-RANGE.fm

737 NG - WXR RANGE DISAGREE - MESSAGE

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34-43-RANGE.fm

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**34-43**

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## TCAS FAIL Message

The amber TCAS FAIL message indicates a TCAS failure. The message shows in all NAV Data Display modes regardless of whether the TFC button on the EFIS Control Panel is pressed ON or OFF.

The TCAS FAIL message can show for faults that are external to the TCAS Computer as well as for faults that are internal to the TCAS Computer.

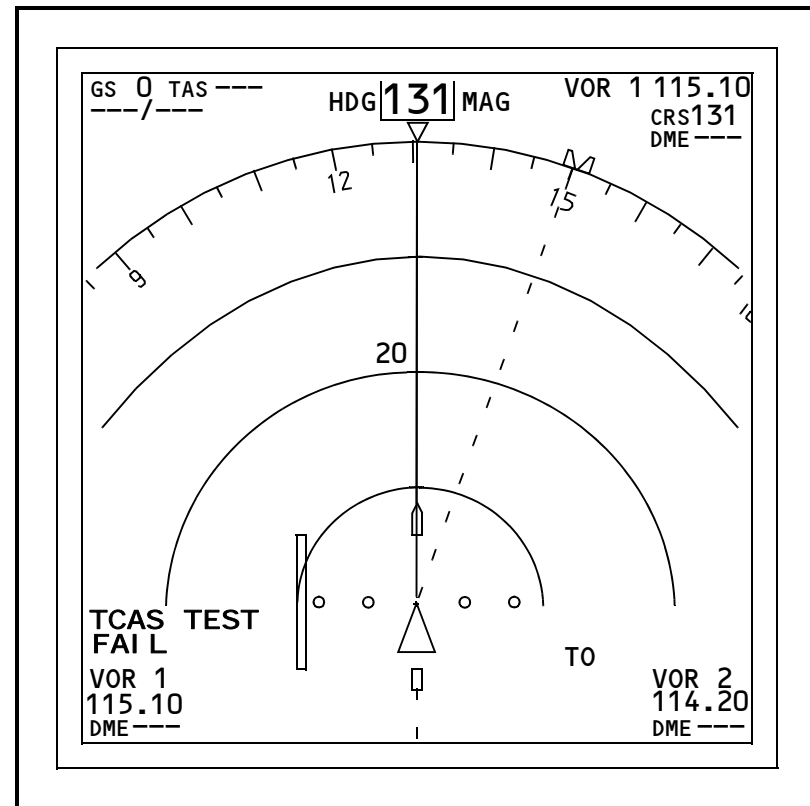
When the selected ATC Transponder has failed the TCAS will indicate failure until the alternate operational ATC Transponder is selected

## TCAS FAIL Message Possible Causes

**NOTE:** Before replacing any component perform BITE on the TCAS and ATC Transponders.

- TCAS Computer
- ATC Transponder
- Antenna
- Wiring

**NOTE:** An air/ground discrete short to ground, or an RA status discrete from the DEUs is grounded, can cause the TCAS FAIL message to show and will not cause a maintenance message on the TCAS Computer.



**737 NG - TCAS FAIL - MESSAGE**

34-45-tcas.fm

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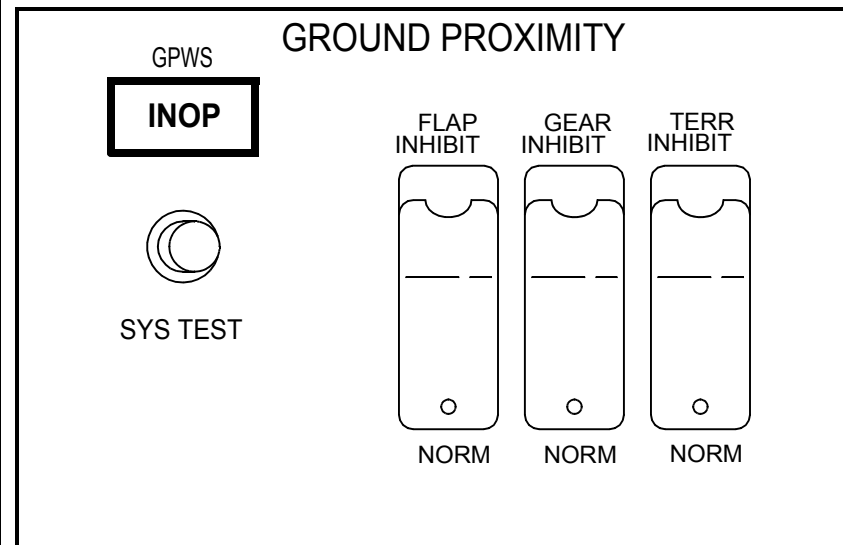
## Ground Proximity Warning System (GPWS) INOP Light

The amber GPWS INOP light comes on when the GPWS and/or GPWS Windshear is inoperative.

### GPWS INOP Light Possible Causes

**NOTE:** Before replacing the GPWS Computer perform BITE, and check for external faults.

- Ground Proximity Warning Computer
- Wiring



## EGPWS Terrain Fail (TERR FAIL) Message

The amber TERR FAIL message indicates a failure of the enhanced portion of the Ground Proximity Warning Computer.

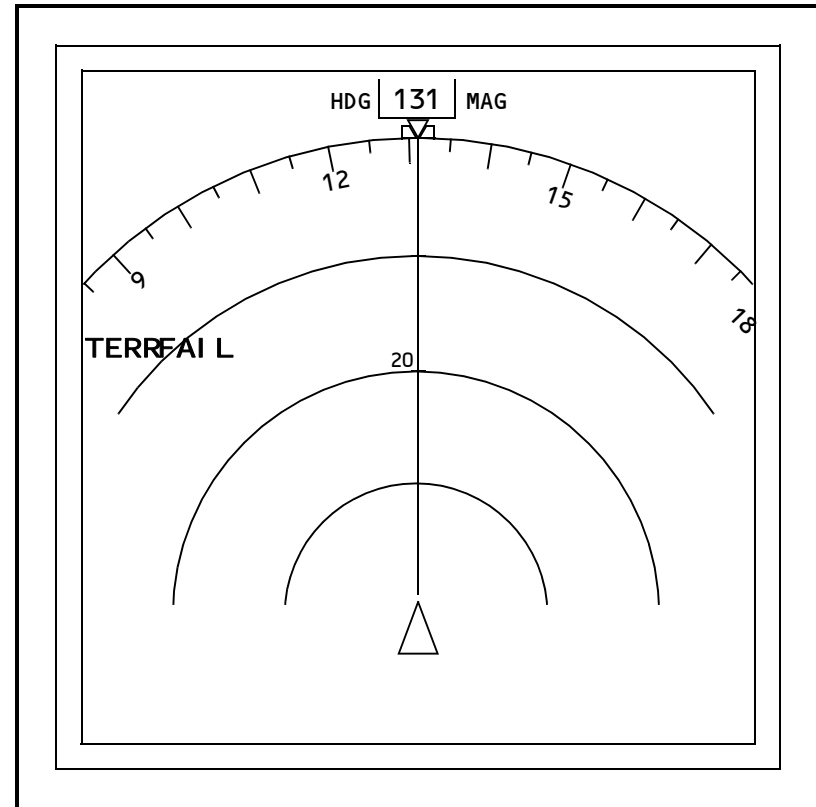
The TERR FAIL can temporarily occur in-flight if the aircraft flies into a GPS no-coverage area. (example: White Sands, New Mexico) Check with Dispatch for information concerning GPS no-coverage areas.

TERR FAIL will show if both GPS antennas are not receiving a signal. (example: aircraft in hangar)

## TERR FAIL Message Possible Causes

**NOTE:** Before replacing the GPWS Computer perform BITE, and check for external faults.

- Ground Proximity Warning Computer
- Wiring



## 737 NG - TERR FAIL - MESSAGE

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# 34-46

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## EGPWS Terrain Position (TERR POS) Message

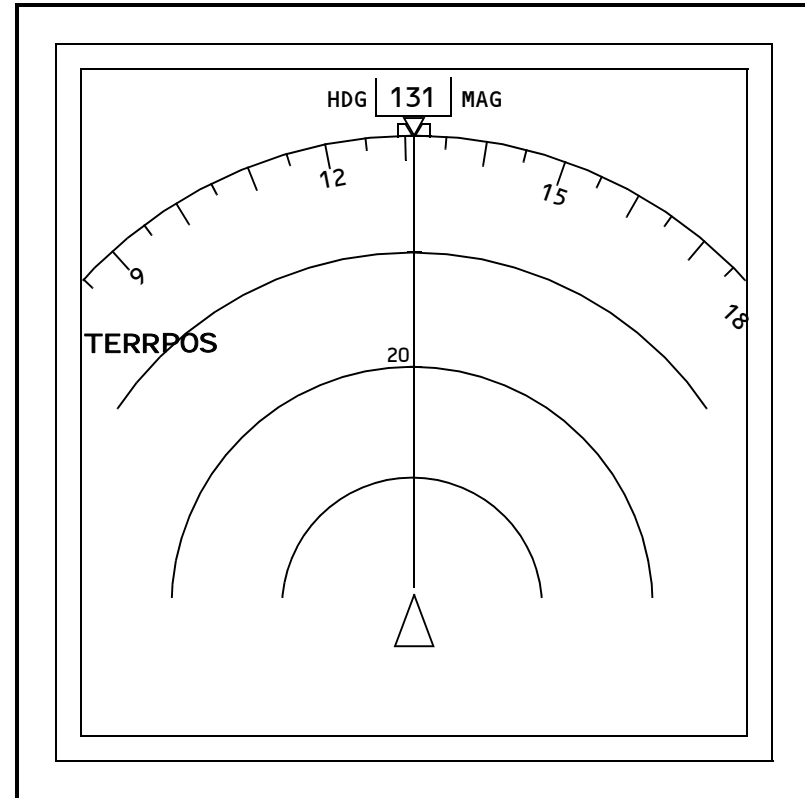
The amber TERR POS message indicates a horizontal position calculation failure of the enhanced portion of the Ground Proximity Warning Computer.

### TERR FAIL Message Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

**NOTE:** This message will show if the airplane's GPS antennas do not have a clear view of the GPS satellites.

- Ground Proximity Warning Computer
- Wiring
- Dual MMR GPS function failure



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737 NG - TERR POS - MESSAGE

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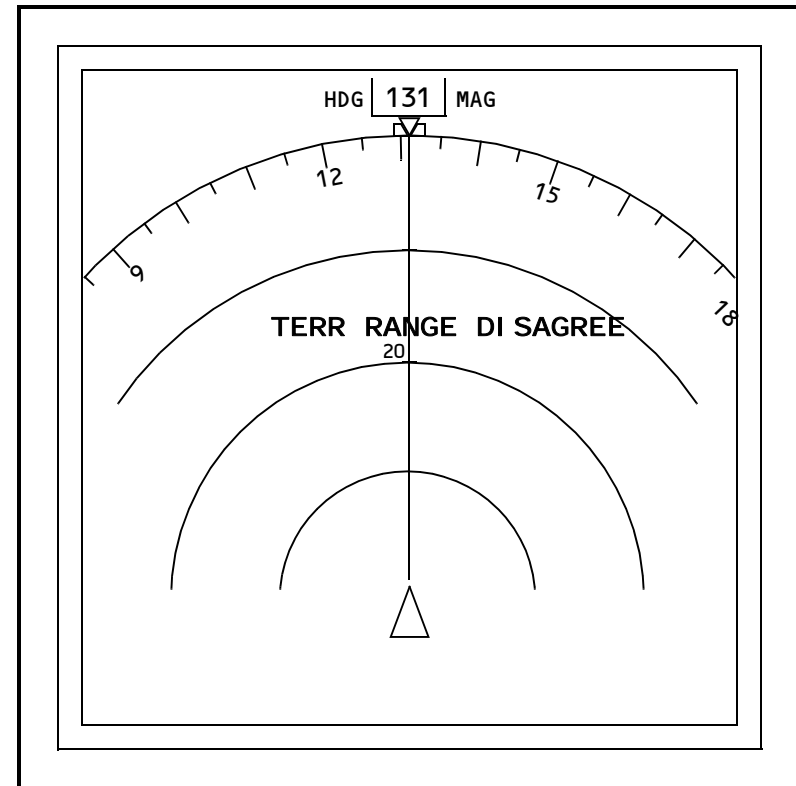
## TERRAIN RANGE DISAGREE Message

The amber TERR RANGE DISAGREE message shows when the GPWC range data to the DEU disagrees with the on-side EFIS Control Panel setting. This will only display when the DEU expects terrain data from the GPWC (when the EFIS TERR button is pressed).

## TERRAIN RANGE DISAGREE Message Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

- Ground Proximity Warning Computer (GPWC)
- EFIS Control Panel
- DEU
- Wiring



## 737 NG - TERR RANGE DISAGREE - MESSAGE

# 34-46

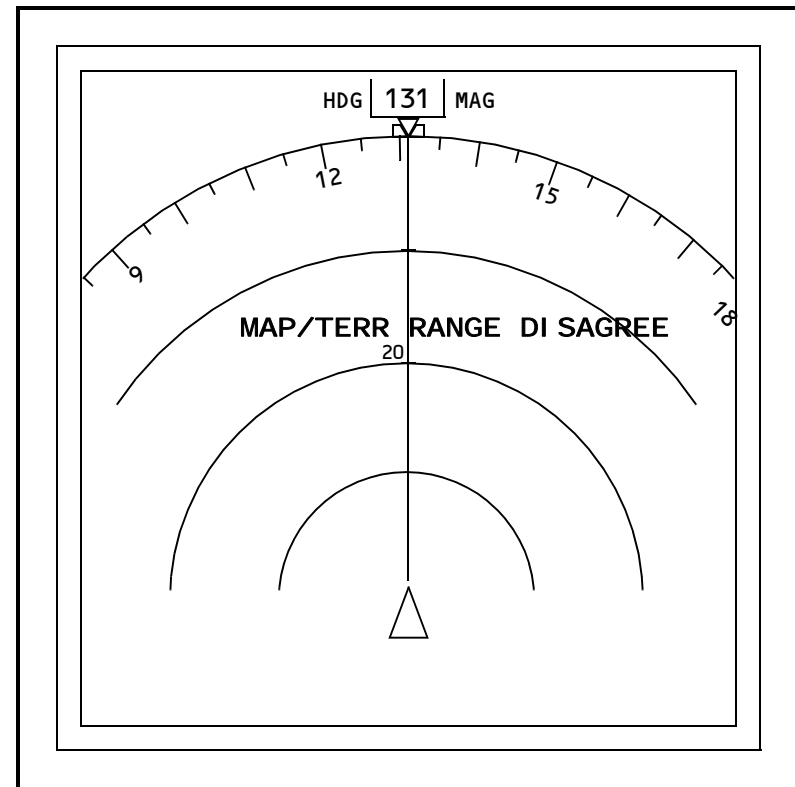
## MAP/TERR RANGE DISAGREE Message

The amber MAP/TERR RANGE DISAGREE message shows when the range data to the DEU disagree between the GPWC, the on-side EFIS control panel, and the FMC. This can only happen when the DEU expects terrain data from the GPWC (when the EFIS Control Panel TERR button is pressed).

## MAP/TERR RANGE DISAGREE Message Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

- Ground Proximity Warning Computer (GPWC)
- Flight Management Computer (FMC)
- EFIS Control Panel
- DEU
- Wiring



## 737 NG - MAP/TERR RANGE DISAGREE - MESSAGE

# 34-46

## VOR Fail Flags

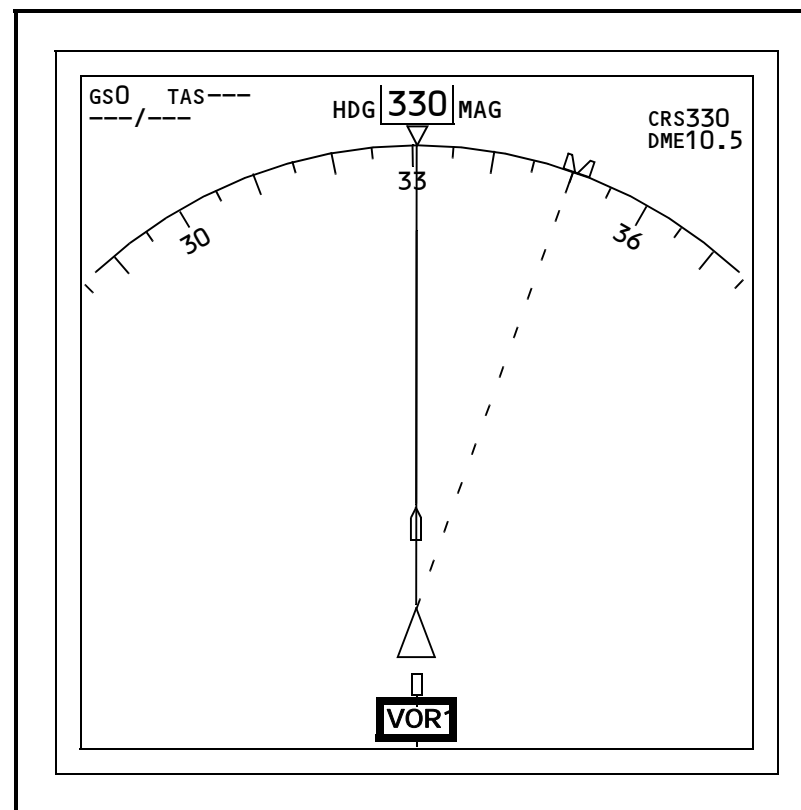
The Amber VOR flag replaces the VOR deviation pointer and scale on the Nav Data Display. Also, the TO/FROM indicator and VOR frequency is removed from the Nav Data Display. The Nav Data Display must be set to VOR for the VOR flag to display.

The VOR flag will not display if an ILS frequency is tuned on the associated Nav Control Panel.

## VOR Flag Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

- VOR Receiver
- Wiring from VOR receiver to the DEUs



737 NG - VOR - FLAG

34-51-flag.fm

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## VOR No Computed Data (NCD)

The VOR deviation pointers are removed. The scales remain in view on the Nav Data Display.

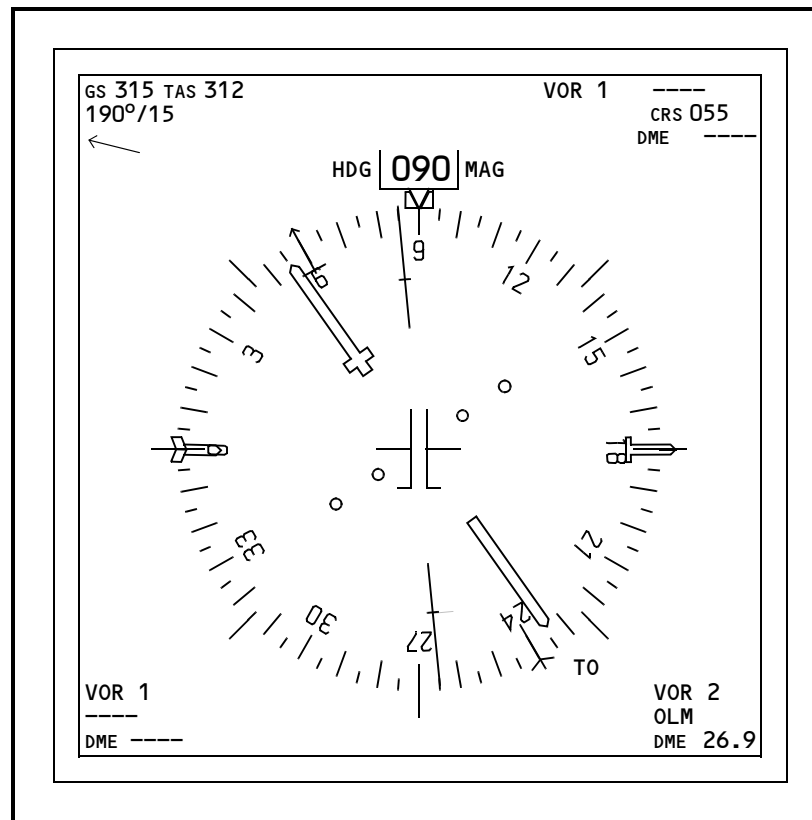
The TO/FROM pointer is removed from the Nav Data Display and the VOR frequency on the Nav Data Display is changed to dashes.

To display NCD a VOR frequency must be tuned on the Nav Control Panel, and the NAV Data Display must be set to VOR.

## VOR NCD Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

- VOR Receiver
- Nav Control Panel
- VOR Antenna
- Wiring from Nav Control Panel to VOR Receiver
- Wiring from Antenna to VOR Receiver
- No signal/ Ground station out-of-range



## 737 NG - VOR - NO COMPUTED DATA

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34-51 -ncd.fm

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## NAV Control Panel FAIL

The Nav control panel continuous bite monitors the control panel operation. The NAV control panel shows FAIL in the active and standby window when a failure is detected or the panel loses its 115V AC power.

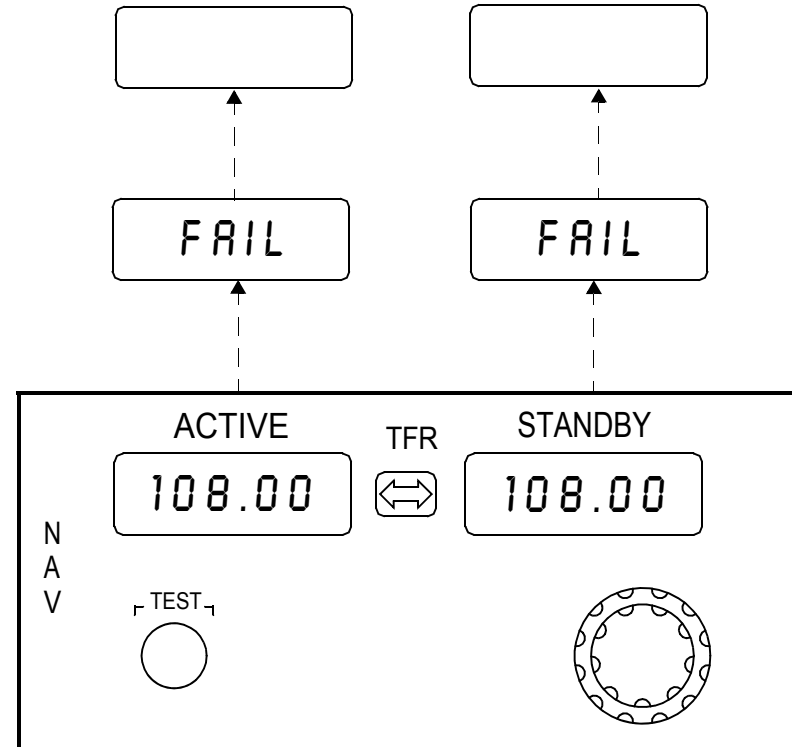
## Nav Control Panel 28V DC Fault Monitor Failure

An internal monitor in the NAV control panel monitors the 28V DC input. If the monitor does not see the 28V DC power both the active and standby frequency display windows will be blank

## NAV Control Panel Faults Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

- NAV Control Panel
- 115V AC power (C/B or wiring)
- 28V DC power. ( C/B or wiring)



## 737 NG NAVIGATION CONTROL PANEL FAILURE

34-51

### DME Fail Flags

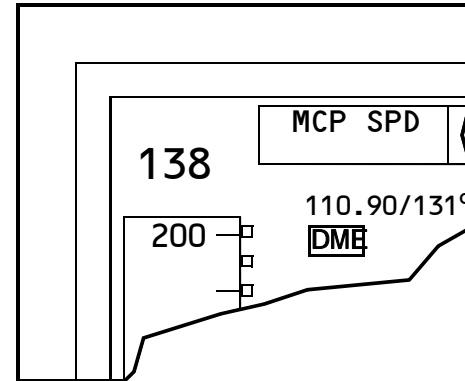
The amber DME flag replaces the DME distance reading on the Nav Data Display and Primary Flight Display.

The DME flag will show on the Nav Data Display when in the VOR or APP mode.

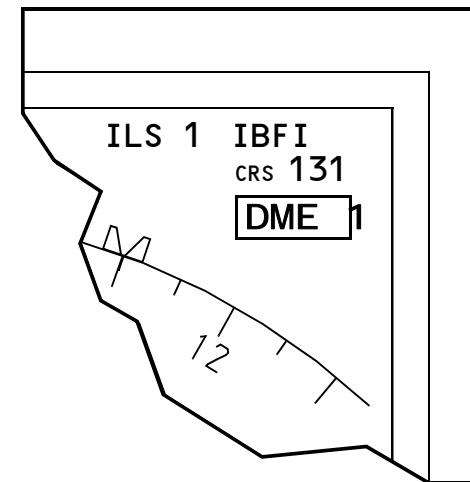
### DME Flag Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

- DME Interrogator
- Wiring from the DME interrogator to the DEUs
- Wiring from the NAV Control Panel to the DME Interrogator



DME FAILURE INDICATION ON PFD



DME FAILURE INDICATION ON ND

737 NG - DME - FLAG

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## DME No Computed Data (NCD)

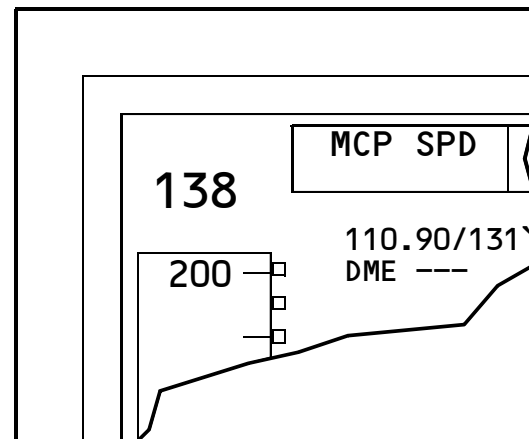
DME distance is removed and replaced by dashes. The dashes show on the Primary Flight Display and the Nav Data Display.

DME information will show on the Nav Data Display when in the VOR or APP mode.

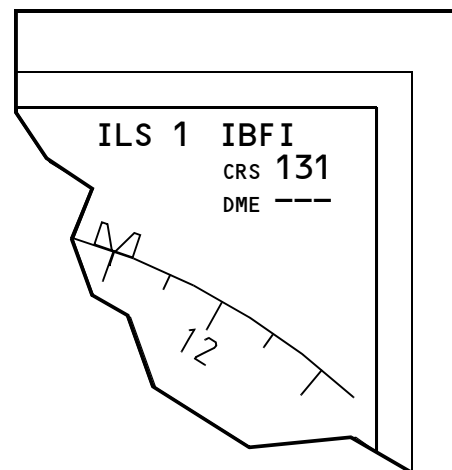
## DME NCD Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

- DME Interrogator
- Nav Control Panel
- DME Antennas
- Wiring from the Nav Control Panel to DME interrogator
- Wiring from the Antennas to the DME interrogator
- No signal / Ground station out of range
- Ground station saturation.



DME NCD INDICATOIN ON PFD



DME NCD INDICATION ON ND

## 737 NG - DME - NO COMPUTER DATA

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## Global Position System (GPS) Fail Light

The GPS has continuous monitor BITE. These are the three ways to detect GPS failures:

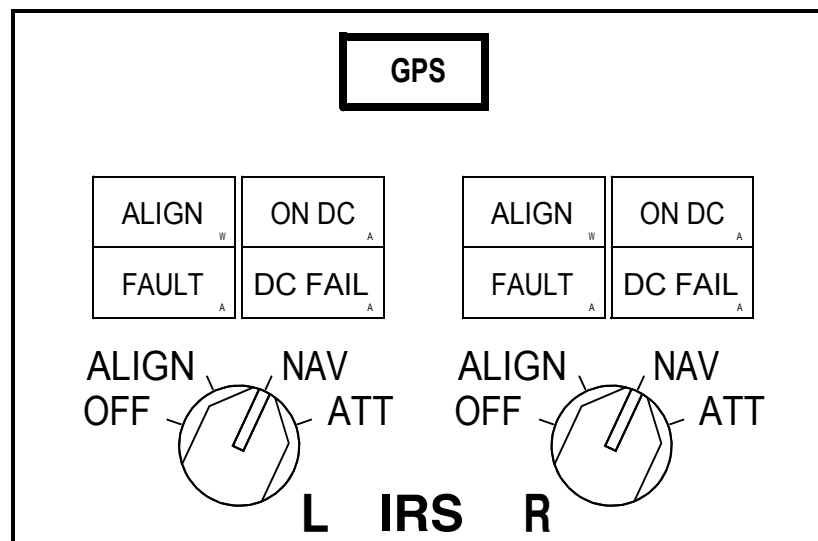
- When both GPS system 1 and 2 fail, the amber GPS fail light comes on automatically
- With a single GPS failure, recall must be activated to illuminate the GPS fail light
- The FMC SENSOR STATUS page shows MMR failures. The FMC SENSOR DATA page shows the internal failure in the MMR

## GPS Fail Light Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

- Multimode Receive (MMR)
- GPS Antenna
- Wiring

**NOTE:** If the flight crew reports a loss of GPS position left and/or right on the FMC POS REF page of the MCDU, with no GPS fail light, perform BITE on the MMR(s). If MMR passes BITE, then replace the GPS antenna on the side that is not showing GPS position.



### 737 NG - GPS FAIL - LIGHT

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### MAP Fail Flag

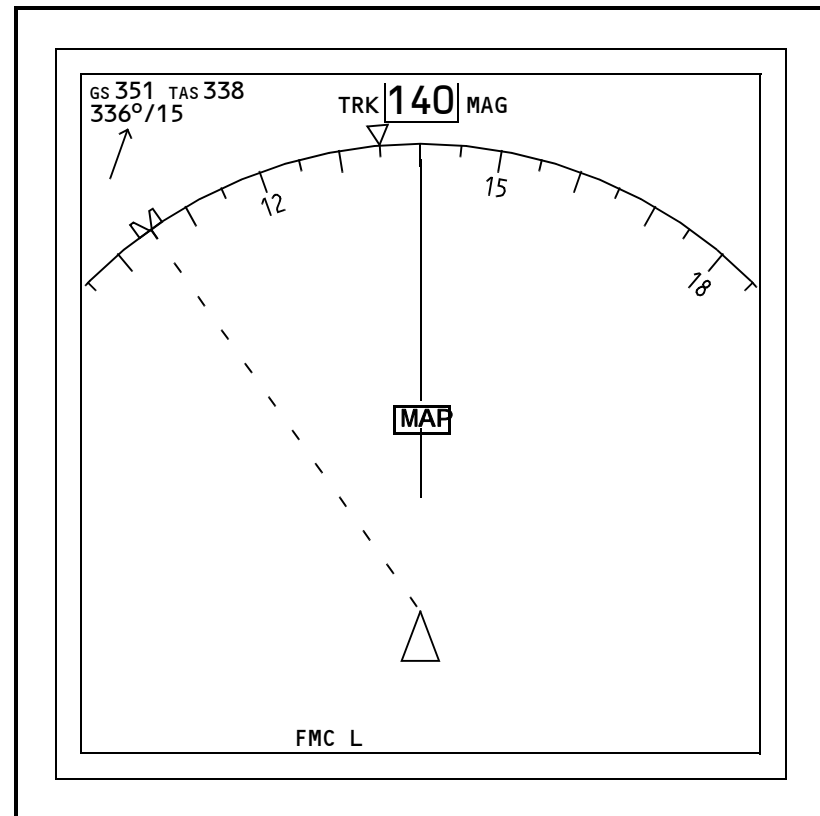
The amber MAP flag shows if the map data from the Flight Management Computer (FMC) is invalid. All map data is blanked in this condition. The aircraft symbol, track line, heading select bug, compass rose, GS, TAS, wind direction and speed from the ADIRU will be valid and shown.

The MAP flag will show when the Nav Data Display (ND) is selected to the map and plan modes.

### MAP Flag Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

- Flight Management Computer (FMC)
- Wiring.
- Toggling the FMC selector to BOTH on 1 then BOTH on 2, back to NORMAL



737 NG - MAP - FLAG

## Vertical Track (VTK) Flag

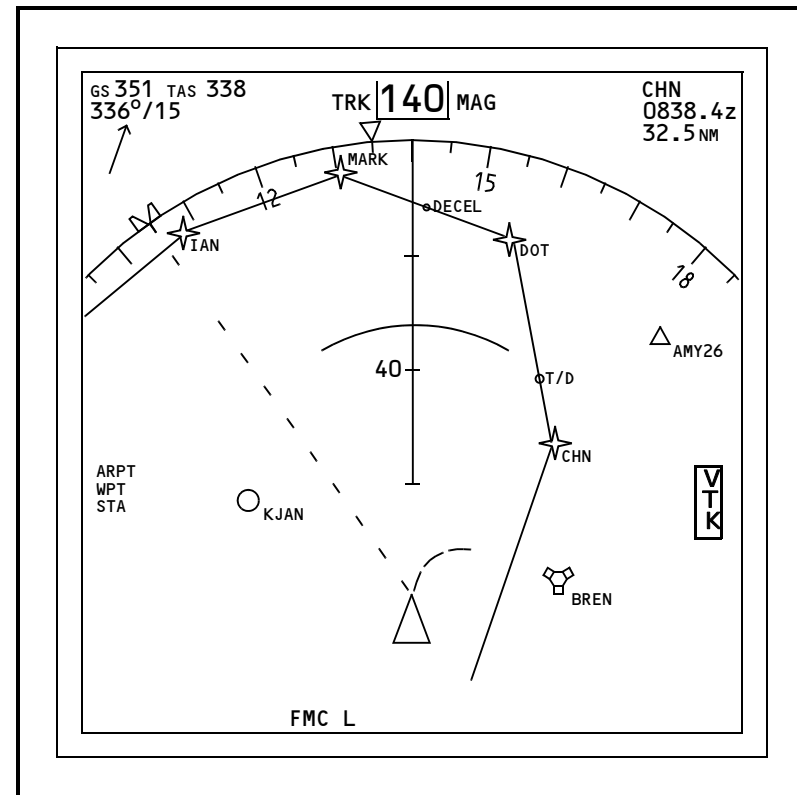
The amber VTK flag shows when the vertical deviation data from the Flight Management Computer (FMC) invalid. Only the vertical deviation scale is blanked in this condition.

The VTK flag will show when the Nav Data Display (ND) is selected to the MAP or PLAN mode.

## VTK Flag Possible Causes

**NOTE:** Before replacing any component perform BITE if available.

- Flight Management Computer (FMC).
- Toggle the FMC selector to BOTH on 1 then BOTH on 2, back to NORMAL



737 NG - VERTICAL TRACK - FLAG

34-61-VTKflag\_fm

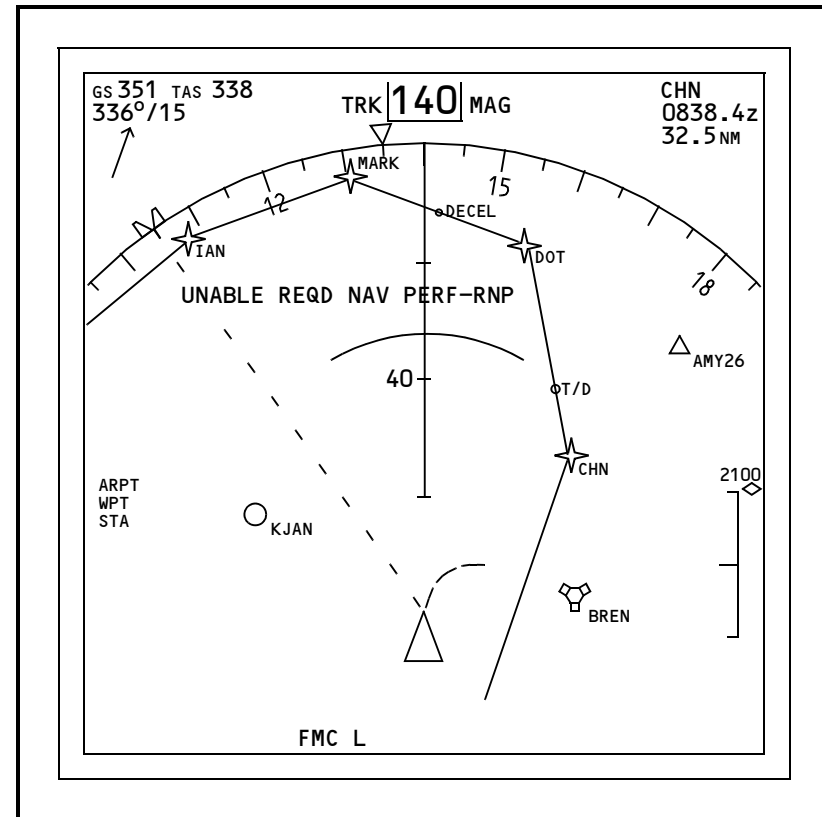
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## UNABLE REQD NAV PERF-RNP Message

The UNABLE REQD NAV PERF - RNP message shows when the Actual Navigation Performance (ANP) exceeds the Required Navigation Performance (RNP) for the current flight environment. The map data is not blanked in this condition. The flight crew must select a reliable navigation source from the FMC. Check POS SHIFT page for corrupted data. Update with the best NAV sensor data values GPS, DME, or VOR via the MCDU.

- Flight Management Computer (FMC)
- Toggle the FMC selector to BOTH on 1 then BOTH on 2, back to NORMAL



## 737 NG - UNABLE REQD NAV PERF - RNP - MESSAGE

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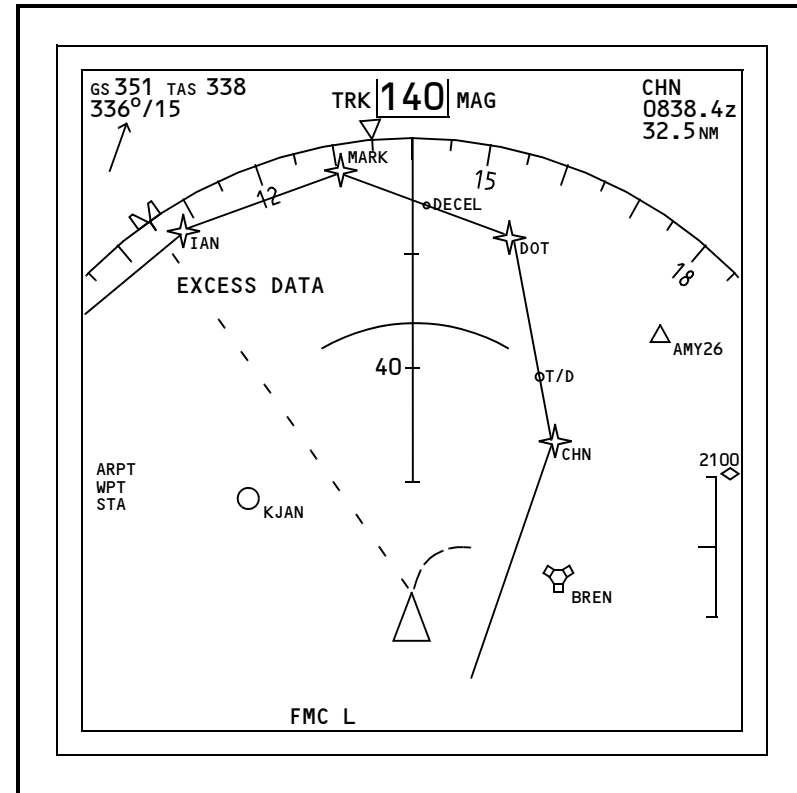
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## EXCESS DATA Message

The amount of display data sent to the Nav Data Display (ND) exceeds the display capabilities. Use the EFIS Control Panel and de-select some of the push button options on the lower line of the EFIS Control Panel (WXR, STA, WPT, APRT, DATA, POS, or TERR).



34-61-excess.fm

737 NG - EXCESS DATA - MESSAGE

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**MAP RANGE & MAP/WXR DISAGREE Message**

The Amber MAP RANGE DISAGREE message shows when a new range has been selected on the EFIS control panel and new map data is not received from the FMC. All map data is blanked in this condition. The display will default to the 40 mile range, and the aircraft symbol, track line, heading select bug, compass rose, GS, TAS, wind direction and speed from the ADIRU will be shown.

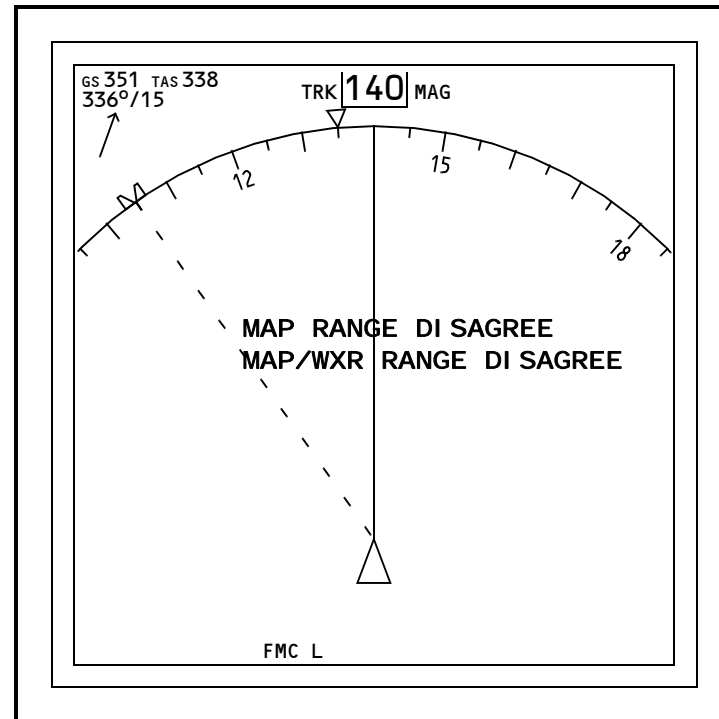
**MAP / WXR RANGE DISAGREE Message**

Indicates selected range on the EFIS control panel does not match the WXR R/T and/or FMC range.

**MAP RANGE & MAP/WXR DISAGREE Message Possible Causes**

- EFIS Control Panel
- Flight Management Computer (FMC)
- Weather Radar Transceiver
- DEU
- Wiring

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**737 NG - MAP RANGE DISAGREE - MESSAGE**

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## FMC DISAGREE Message

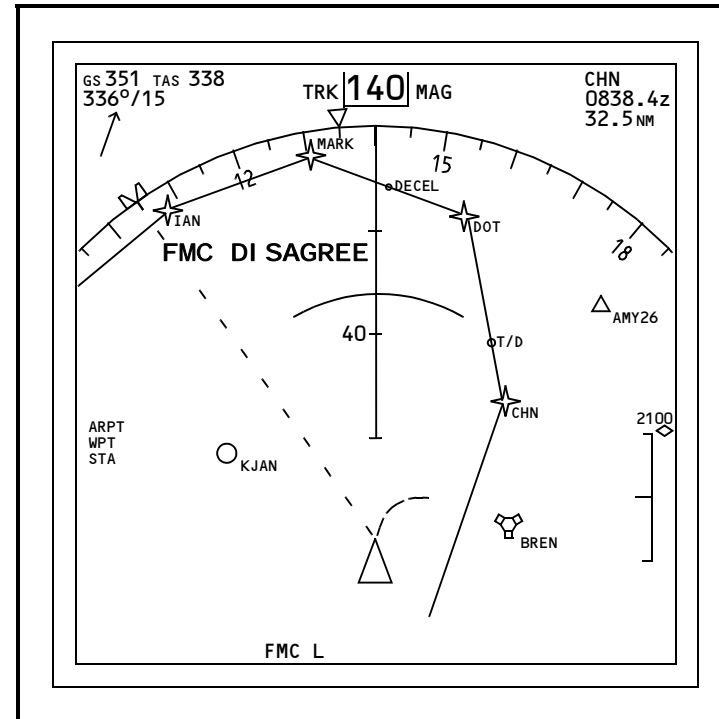
The FMC DISAGREE message shows when there is a data miscompare between the two Flight Management Computers (FMCs) in approach or on the ground. The message is amber in color.

If both the UNABLE REQD NAV PERF - RNP and FMC DISAGREE messages are active at the same time, they will show on two independent lines on the display.

## Message Possible Causes

- Flight Management Computer (FMC)
- Toggle the FMC selector to BOTH on 1 then BOTH on 2, back to NORMAL.
- Wiring

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34-61-FMCDISAGREE.fm

## 737 NG FMC DISAGREE - MESSAGE

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## ADIRU - ISDU FAULT CODES

### General

ADIRS maintenance codes show on the IRS DISPLAY of the ISDU. Some codes give the condition of ADIRS components and signals. Some codes give instructions.

Two or more codes cause the ISDU CLR key light to come on. Push the CLR key to show the codes in sequence.

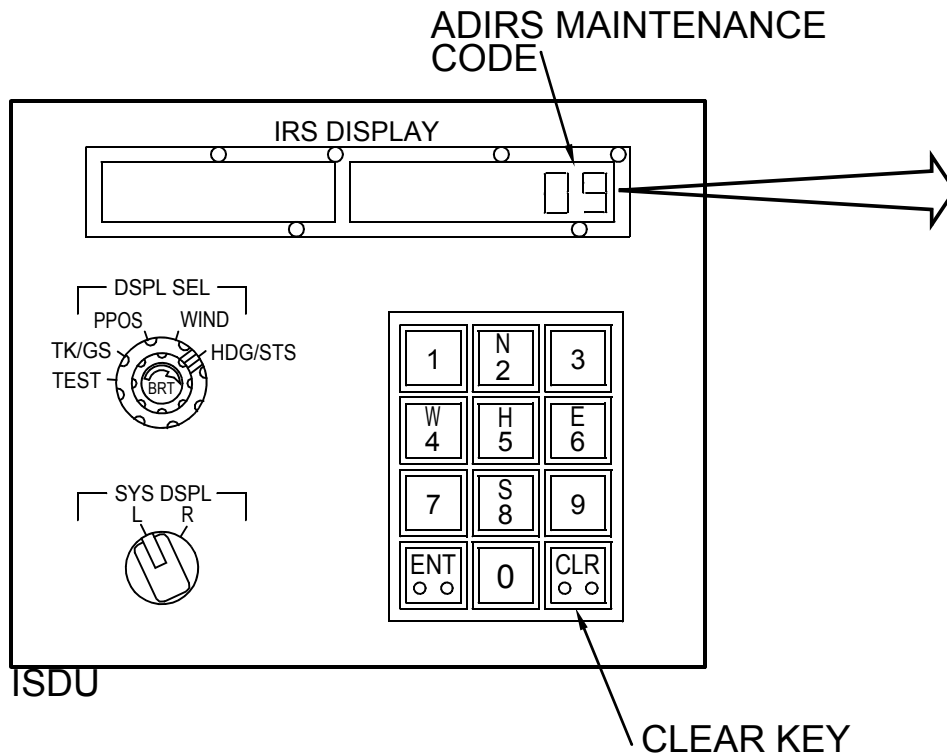
The ADIRS maintenance codes come from the ADIRUs. Put the SYS DSPL selector in the L position to see codes from left ADIRU. The right shows codes from the right ADIRU.

NOTE: Maintenance codes 26 and 36 are not used.

### MCDU Display Pages

You can see the list of ADIRS maintenance codes on the MCDU. The list is a part of the ADIRS BITE.

A34-21-flag-049.fm



CODE TABLE	
01	ISDU FAIL
02	IR FAILURE
03	EXCESSIVE MOTION
04	ALIGN FAULT
07	ADR DATA INVLD
08	ENTER PPOS
09	ENTER HEADING
10	ISDU POWER LOSS
18	NO ADR DATA
19	IR PROG PIN INVLD
20	ADR FAIL
21	ADR PROG PIN INVLD
22	TAT PROBE SIGNAL FAIL
23	AOA SIGNAL FAIL
24	NO AOA REF SIGNAL
1	26 NO BARO 3 REF SIGNAL
27	NO PITOT ADM DATA
28	NO STATIC ADM DATA
29	NO BARO 1 DATA
30	NO BARO 2 DATA
31	NO IR DATA
32	PITOT ADM DATA INVLD
33	STATIC ADM DATA INVLD
34	BARO 1 DATA INVLD
35	BARO 2 DATA INVLD
1	36 BARO 3 SIGNAL FAIL
37	IR DATA INVLD
38	AIR/GND LOGIC INVLD

1 NOT USED

### ADIRU - FAULT CODES

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