

IRS Panel

IRS OFF / NAV Select Switch

Moving the IRS selectors from OFF to NAV begins a 10 minute alignment period. During this alignment period, the IRS determines the approximate current latitude based on calculations using the motion measured from the rotation of the Earth. The calculated latitude is then compared to the present position latitude from the FMS INIT page when the "INITIALIZE IRS" prompt is selected. A significant mismatch between the calculated latitude and the latitude entered from the INIT page will result in a failed alignment. Longitude cannot be calculated during initialization in the same manner. However, the longitude from the last shutdown is stored and used as a reasonableness check during the next alignment. Pressing the "INITIALIZE IRS" prompt when a significant (assumed) longitude position error exists will also result in a failed alignment. Any failed alignment will be indicated by flashing NAV OFF lights, level 1 "IRU 1 NO ALIGN, IRU 2 NO ALIGN and IRU AUX NO ALIGN" alerts, and a Master Caution alert.

Be very careful when verifying the INIT page LAT/LONG. The FMS/IRS can, in certain cases, be forced to accept an incorrect position

Although the FMS receives position updates from several sources, the IRS **does not receive any enroute updates**. If you enter an incorrect present position during initialization, the IRS will operate with this error for the entire flight. Since the FMS receives updates, this won't be a serious problem until you lose both FMSs in Class II airspace, and you are left with only IRS navigation. If this occurs, you will have an immediate position error approximately equal to the position error entered during alignment. For this reason, it is very important to ensure that the INIT page present position coordinates are correct prior to selecting the "INITIALIZE IRS" prompt.

A rapid alignment (appx 3 mins) may be accomplished by moving the IRS switches from NAV to OFF, then back to NAV within 5 seconds. Realignment will then be initialized with the existing attitude and heading. Velocities will be zeroed.

NAV OFF (light)

Extinguished – Alignment is complete, operating in NAV mode

Steady On – IRS system is either off, in align mode, or has failed

Flashing – Position not entered within ten minutes, present latitude does not agree with calculated position in the IRU, or the IRU has sensed motion during the alignment phase.

Movement of the first IRS switch from OFF to NAV (after a landing has occurred) will initiate the **Cargo Fire Test**



IRS computes:

Lat / Long
Attitude
Heading (Mag / True)
Velocity

Left EMER AC Bus

#1 AC BUS

Right EMER AC Bus