

FAA APPROVED
AIRPLANE FLIGHT MANUAL SUPPLEMENT
FOR
MOONEY MODEL M20M, M20R, AND M20S
WITH
***BENDIX/KING®* 150 AUTOMATIC**
FLIGHT CONTROL SYSTEM

Reg. No. _____

Ser. No. _____

This supplement must be attached to the FAA Approved Airplane Flight Manual when the Bendix/King 150 Automatic Flight Control System is installed in accordance with STC SA2319CE-D. The information contained herein supplements or supersedes the basic manual only in those areas listed herein. For limitations, procedures, and performance information not contained in this supplement; consult the basic Airplane Flight Manual.

FAA APPROVED: _____

For Chris Durkin
DAS Coordinator
AlliedSignal Inc.
DAS4CE

DATE: 4-9-99

SECTION 1- GENERAL

This manual is provided to acquaint the pilot with the limitations as well as normal and emergency operating procedures of the Bendix/King 150 Series Automatic Flight Control System. The limitations presented are pertinent to the operation of the 150 System as installed in the Mooney Model M20M, M20R, and M20S airplanes; the Flight Control System must be operated within the limitations herein specified.

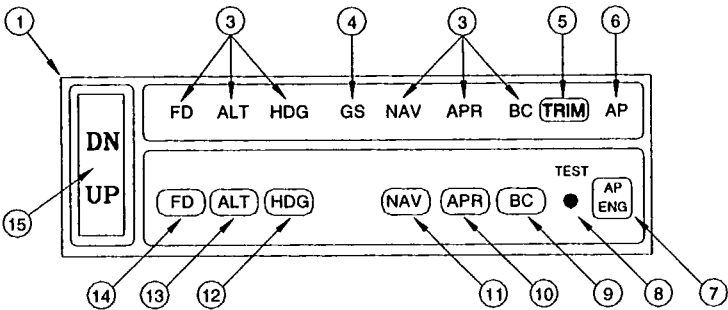
The 150 Series AFCS is certified in this airplane with 2 axis control, pitch and roll, as described on the following pages.

The 150 Series AFCS has an electric pitch trim system which provides autotrim during autopilot operation and manual electric trim from the pilot. The trim system is designed to withstand any single inflight malfunction. A trim fault is visually and aurally annunciated.

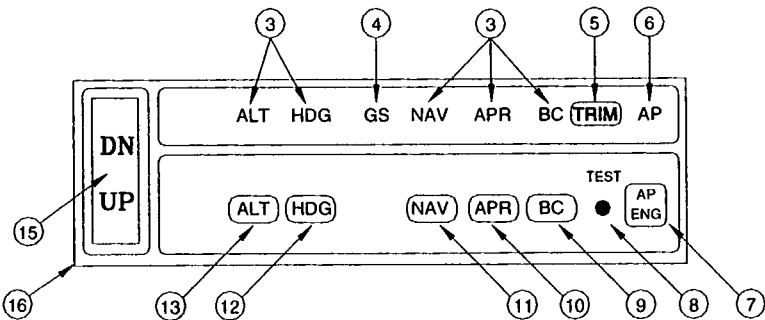
A lockout device prevents autopilot engagement until the system has been successfully preflight tested.

The following conditions will cause the Autopilot to automatically disengage:

- A. Power failure.
- B. Internal Flight Control System failure.
- C. With the KCS 55A Compass System, a loss of compass valid (displaying HDG flag) disengages the Autopilot when a mode using heading information is engaged. With the HDG flag present, only the autopilot may be re-engaged in the basic wings level mode along with any vertical mode.
- D. Roll rates in excess of 14° per second will cause the autopilot to disengage except when the CWS switch is held depressed.
- E. Pitch rates in excess of 5° per second will cause the autopilot to disengage except when the CWS switch is held depressed.



KC 192 AUTOPILOT & FLIGHT DIRECTOR COMPUTER



KC 191 AUTOPILOT COMPUTER

1. KFC 150 SYSTEM KC 192 AUTOPILOT COMPUTER - Complete Flight Director and Autopilot computer, including system mode annunciators and system controls.
2. (Not used)
3. MODE ANNUNCIATORS - Illuminate when a mode is selected by the corresponding mode selector button (PUSH ON - PUSH OFF).
4. GLIDESLOPE (GS) ANNUNCIATOR - Illuminates continuously whenever the autopilot is coupled to the glideslope signal. The GS annunciator will flash if the glideslope signal is lost (GS flag in CDI or absence of glideslope pointers in KI 525A). The autopilot reverts to pitch attitude hold operation. If a valid glideslope signal returns within six seconds, the autopilot will automatically recouple in the GS mode. If the valid signal does not return within six seconds, the autopilot will remain in pitch attitude hold mode until such time that a valid glideslope returns and the aircraft passes thru the glideslope. At that point GS couple will re-occur.
5. TRIM WARNING LIGHT (TRIM) - Illuminates continuously whenever trim power is not on or the system has not been preflight tested. THE TRIM warning light illuminates and is accompanied by an audible warning whenever a manual trim fault is detected. The Manual Trim System is monitored for the Trim Servo running without a command. The TRIM warning light will illuminate and be accompanied by an audible warning whenever an autotrim failure occurs. The autotrim system is monitored for the following failures: trim servo running without a command; trim servo not running when commanded to run; trim servo running in the wrong direction.