

MOONEY AIRCRAFT CORPORATION
P. O. Box 72
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FAA APPROVED

AIRPLANE FLIGHT MANUAL SUPPLEMENT

FOR

MOONEY MODELS - M20B, M20C, M20E, M20F,
M20G, M20J, M20K, M20M & M20R

WITH

PRECISE SPEEDBRAKE SYSTEM (SBS)
(WITH CONTROL HORN SWITCH OPERATION)
(Vacuum operated system)

REG. NO.

SER. NO.

This Supplement must be attached to the applicable FAA Approved Airplane Flight Manual when the Precise Speedbrake System (SBS), with control horn switch operation, is installed in accordance with Mooney Aircraft Corporation Drawing Number 950155. The information contained herein supplements or supersedes the basic manual only in those areas listed. For limitation, procedures and performance information not contained in this Supplement, consult the Basic Airplane Flight Manual.

FAA Approved: 

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Original Issue Date: 1 - 28 - 85
REV. A: 11-13-85
REV. B: 6-12-86
REV. C: 7-18-89
REV. D: 8-16-89
REV. E: 7 - 94

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LOG OF REVISIONS

Revision Number	Revision Pages	Description of Revisions	FAA Approved	Date
E	All pages 3 of 4	Added M20R Model to heading of all pages Revised Data	<i>Bainbridge</i>	7/20/04

The revised portions of affected pages are indicated by vertical black lines in the margin.

SECTION I - GENERAL

A vacuum Speedbrake System (SBS) may be installed to provide expedited descents at low cruise power, glide path control on final approach, "lift dumping" in the landing roll and a measure of protection against excessive speed buildup in an inadvertent spiral dive.

This kit consists of wing mounted speedbrakes with dual closure springs in each wing, a suction bellows below rear seat (belly area), a push button switch on pilot's control yoke, an amber light on pilot's panel (annunciator panel light on M20M, M20R) and a cable activation system.

The SBS push button switch located on the left horn of pilot's control wheel features a push (ON) retained position to deploy the speedbrakes. To retract, push one additional time and release to (OFF) position.

Activating this switch closes an electrical circuit to a solenoid valve which, in turn, permits suction from the vacuum system to reach the SBS suction bellows. In the event of an electrical malfunction, the SBS circuit breaker may be pulled to remove electrical power from the heavily spring-loaded solenoid.

SECTION II - OPERATING LIMITATIONS

1. Airspeeds - Same limitations as basic airplane.
2. Descent in icing conditions - SBS OFF.
3. PLACARDS:

Placard to be located at the circuit breaker panel: SPEEDBRAKE
 Placard to be near Speedbrake switch on Control wheel: SPEEDBRAKE
 Placard to be placed in front and in full view of the pilot:
 SPEEDBRAKE EQUIPPED: FOR OPERATING INSTRUCTION AND
 LIMITATIONS SEE FAA APPROVED AFM SUPPLEMENT OR PILOT'S
 OPERATING HANDBOOK.

SECTION III - EMERGENCY PROCEDURES

- | | |
|--|---------|
| 1. Forced landing after engine failure | SBS OFF |
| or as required to modulate glide path with use of Speedbrakes. | |
| (amber light/annunciator-not illuminated) | |
| 2. Spins | SBS OFF |
| 3. Ditching | SBS OFF |
| 4. Disabled elevator system | SBS OFF |
| 5. Electrical Failure | SBS OFF |

SECTION IV - NORMAL OPERATING PROCEDURES

Before Takeoff

- | | |
|----------------------------------|---|
| 1. Speedbrake Push Button Switch | IN-OUT (ON) |
| Check Speedbrakes | DEPLOYED (amber light/annunciator- illuminated) |
| 2. Speedbrake Push Button Switch | IN-OUT-(OFF) |
| Check Speedbrakes | Down (amber light/annunciator-not illuminated) |

During Takeoff

- | | |
|--------|---|
| 1. SBS | OFF (amber light/annunciator-not illuminated) |
|--------|---|

SECTION IV (Cont'd.)

Enroute

1. SBS OFF

Expedited descents

1. Select 2200 RPM and approximately 22 inches manifold pressure to keep the engine warm.
Push Switch (ON) to deploy speedbrakes
Push Switch (OFF) to retract speedbrakes -
. (amber light/annunciator light OFF)

Final Approach

Fly a high base leg and final approach, extend wing flaps as desired and actuate the SBS Switch "ON" to deploy the Speedbrakes. The speedbrakes may be operated intermittently - as required - to modulate the glide path. Maintain an 85 knot approach speed by establishing a moderately steep, nose down attitude.

NOTE
Lower the nose in anticipation of increased drag as the SBS is actuated.

Landing

Initiate the landing flare at a slightly higher altitude above the runway and rotate the aircraft more rapidly than usual to perform a tail low touchdown.

////////////////////
// CAUTION //
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If rate of descent is excessive, place SBS switch (OFF) to retract speedbrakes; add power as required to reduce the rate of descent.

Balked Landing (GO-AROUND)

Advance throttle and place SBS Switch (OFF); retract wing flaps per basic Airplane Flight Manual instructions.

Securing Aircraft

Perform a normal shutdown sequence SBS Switch (OFF).

Section V thru X

No change with SBS system retracted.