

SUBJECT: Manual Landing Gear Aircraft - Gear Handle Down-Lock Latch and Placard

MODELS

AFFECTED: Part I and Part II - M20, M20A, M20B & M20C, - S/N's 1002 THRU 2050  
Part II - All Manual Gear Aircraft.

TIME OF COMPLIANCE: At Next Scheduled Maintenance Action or within next 25 operational hours.

INTRODUCTION:

There have been incidents in which the landing gear inadvertently retracted on some of the above aircraft due to the retraction handle disengaging from down-lock fitting. Mooney Aircraft Corp. has available a reliable device which is interchangeable with original production parts and will assure that the handle is properly latched in down & locked position. Compliance with this Service Bulletin will provide protection against similar mishaps.

Revision A is issued by FAA request, due to two (2) recently known landing gear handles coming disengaged from the latch mechanism. It is not known if the positive latching mechanism provided by this SB (original issue) was incorporated or not. The FAA may issue an Airworthiness Directive (AD) to make it mandatory to incorporate the positive latching mechanism of this SB and to provide a procedure (placard) for the operator/pilot to determine that the landing gear handle is in the proper locked position.

INSTRUCTIONS: —Part I

Place airplane on jacks before beginning down lock change. See Service and Maintenance Manual for proper method of placing airplane on jacks. Retract landing gear to keep handle out of the way. Remove two AN3-26A bolts which hold P/N 5040 (560006) to instrument panel support structure. Remove micro-switch and supporting brackets from P/N 5040 (560006) and re-install micro-switch and brackets to new handle lock assembly, P/N 5286 (560046). Attach P/N 5286 (560046) to instrument panel support structure with (2 each) AN3-26A bolts, AN960-10 washers and AN363-1032 nuts. Release gear from retracted position; remove and replace existing handle with P/N 5039 (560005) from this kit. P/N 5039 (560005) has machined groove in top fitting for positive latch pin to engage.

Adjust retraction handle length with AN363-1032 nut on threaded rod, so grip will bottom out into the 5286 (560046) lock assembly with from 1/16" to 3/32" excess length. If handle is too long, it may be difficult to extend landing gear because handle may have excessive friction upon entering latch casting portion of 5286 (560046) assembly.

Adjust micro-switch to close circuit for gear warning light (GREEN - Down and Locked) when handle is 1/8" or less from the maximum top position of handle latch mechanism. Bend micro-switch actuator arm if necessary for proper adjustment.

Check over center pre-load on nose gear and both main gears, with proper rigging tools, per Service Bulletin M20-35A for M20 & M20A.. The main gear should have between 275 and 375 inch/pounds of torque (pre-load) when over center joint opens enough to insert a .005" feeler gauge between truss and link. The nose gear should have between 150 and 200 inch/pounds of torque (pre-load) for the same amount of movement. Reference Service Instruction M20-32 for preload values for M20B, C, E, F, G and M20D converted to retractable gear. Be careful to make adjustments on nose gear in a manner to insure equal adjustment on the two retracting tubes [(P/N 5085) (560044)]. Always inspect the two other landing gears, for proper pre-load, after making an adjustment on any one landing gear.

After final gear rigging adjustments, cycle gear and determine if undue pressure is needed on gear retraction lever to lock handle into gear down and locked position. If so, gear can be re-rigged to near minimum torque (pre-load) values, as called out in SB M20-35A or SI M20-32, as applicable, but in no case should rigging be less than minimum values.

Part II

Place new placard, SB M20-88A-2, on top of 560046 retraction handle lock down assembly. Remove 150039-43 placard, if installed, prior to installation of SB M20-88A-2 placard.

It is recommended that the boot (if installed) attached to floorboard and lower portion of retraction lever assembly be temporarily re-positioned at this time so the weld joint between retraction lever rod and retraction bellcrank can be carefully inspected. Repair or replace retraction lever assembly as necessary. Re-position boot to proper location.

Service Bulletin M20-88B  
Date: 5-10-94

**WARRANTY:**

The new latch assembly, handle assembly (if needed) and placard are available through any Mooney Aircraft Corporation Service Center. There will be no warranty credit issued for the incorporation of the handle and down lock latch or placard. **Note: The original SB pricing information is no longer valid.**

**Compliance:**

Owners of M20 and M20A models should carefully review SB M20-35A, owners of M20B,C, D (modified), E, F, & G should review SI M20-32 and assure that compliance with rigging instructions have been accomplished. Installation of this Down-Lock Latch will not eliminate the necessity of complying with, and continuing to comply with, the requirements of SB M20-35A or SI M20-20-32, as applicable. After compliance with the installation of this Down-Lock Latch, complete the enclosed compliance card and return it to Mooney Aircraft Corporation, Service Parts Department.

Reference AD 73-21-01

Data: Mooney SB M20-35A & SI M20-32

Parts List: Part I - Kit P/N SB-M20-88A-1 (FORMERLY S.L. 20-88 Kit)

1	.	.	560005 (5039)	.	.	Handle Assembly	.	.	.	.	1
2	.	.	560046 (5286)	.	.	Down Lock Assembly	.	.	.	.	1
. . . . . Part II - Kit P/N SB M20-88A-2											
1	.	.	SB M20-88A-2	.	.	Placard	.	.	.	.	1

Figures Tables: See Figure SB M20-88A-1

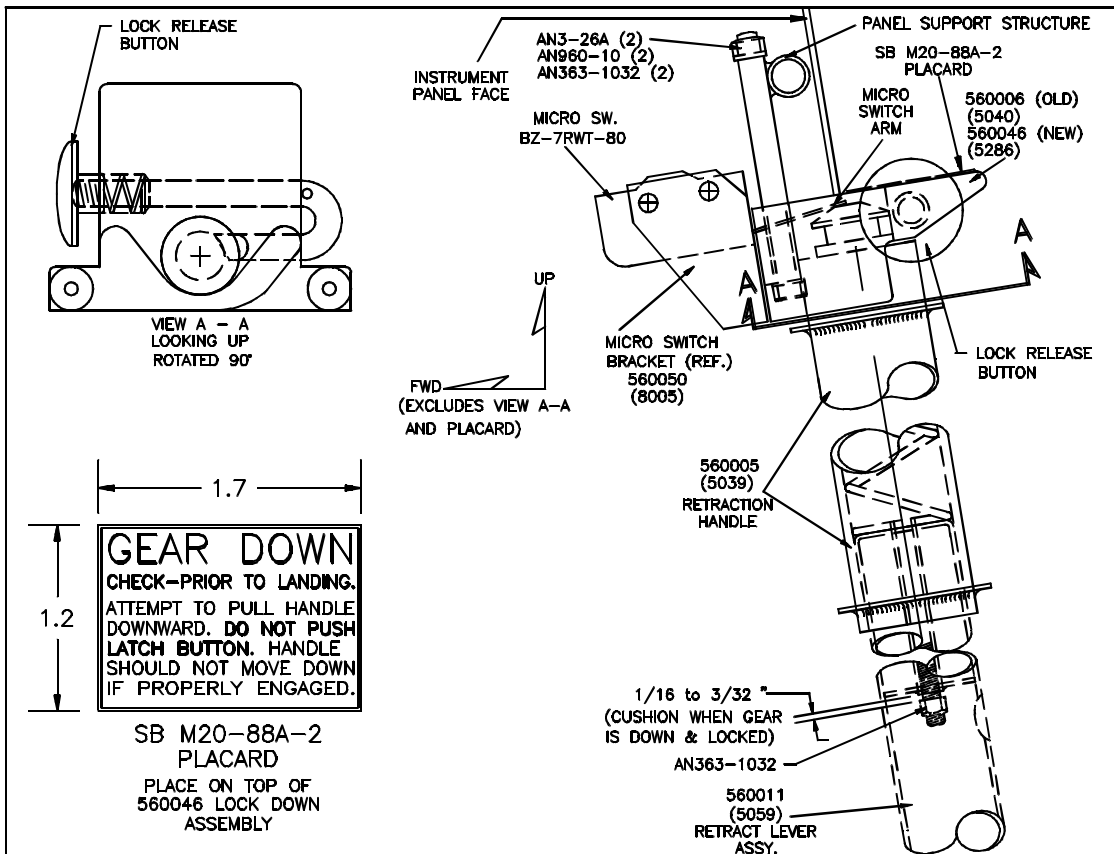


FIGURE SB M20-88A-1