

SUBJECT: MECHANICAL PRODUCTS, INC., CIRCUIT BREAKER INSPECTION,
P/N's 4200 / MS26574-V,L,VL series
4001 / MS22073-V,L,VL series
8500 / NONE
4310-001 / MS3320 series
4310-019 / MS3320V series

**MODELS/
S/N AFFECTED:** Mooney M20J S/N: 24-1530 thru 24-1596
24-3000 thru 24-3013

Mooney M20K S/N: 25-0857 thru 25-0889
25-1000 thru 25-1066

**TIME OF
COMPLIANCE:** Within next 25 hours flight time.

INTRODUCTION: Some Series 4001, 4200, 8500, 4310-001 and 4310-019 circuit breakers manufactured by Mechanical Products, Inc. (MPI) may have an internal assembly defect which will allow an internal shorting bar to rotate and contact the mounting bushing. This shorted condition will cause a potential "No Trip" situation and/or a shock hazard. Only the 4200 Series are used on production Mooney aircraft.

MPI series/MS P/N	Amp Rating	Date Codes Affected
4200/MS26574-V,L,VL	1/2 to 5	8430 thru 8636

- INSTRUCTIONS:**
1. Some aircraft may have circuit breakers from manufacturers other than MPI installed. Determination of these without removing the circuit breaker panel can be made using an MPI "Service Instruction" 1986 C.B. recall. This "Service Instruction" is included with this Service Bulletin.

If MPI circuit breakers are found the following **MUST BE** accomplished within the compliance time shown above.
 2. Pull circuit breaker panel out per Service & Maintenance Manual No. 120, 121, 130 & 131 (Section 39-10-03, para. 1.A.thru 1.F.) to gain access.
 3. Inspect each circuit breaker for date code as specified in Introduction.
 4. If within the Date Codes specified the circuit breakers **MUST BE REPLACED** with an approved (inspected) unit identified by a second date code and white paint stripe, either a "T" or a "S" located in the terminal area of each circuit breaker.
 5. Replacement circuit breakers can be obtained through Mooney Marketing and Service Centers (MMC/SC).
 6. Mooney Aircraft Corporation will allow up to 7.0 hours labor for compliance of this Service Bulletin if complied with by February 28, 1987. Removed circuit breakers must be returned with Mooney Warranty Claim Form through any Mooney Marketing or Service Center.
 7. Install approved circuit breakers and wire per original configuration. Reinstall circuit breaker panel into its proper position.

CAUTION
Be certain isolation strips are replaced correctly between C.B.'s, wiring and structure.

INSTRUCTIONS (cont...) 8. Conduct ground and flight test to verify correct reinstallation.

CAUTION
Do not cycle C.B.'s unless absolutely
essential or as specified in Aircraft
Flight Manual.

9. Enter compliance note in Log Book.

10. Return aircraft to service.

**REFERENCE
DATA:**

MPI Service Instruction for 1986 Circuit Breaker Recall.

PARTS LIST:

1. 4200-002-1
2. 4200-002-2
3. 4200-002-3
4. 4200-002-5



**ORDER PROPER
AMPERAGE RATINGS AS
REQUIRED.**

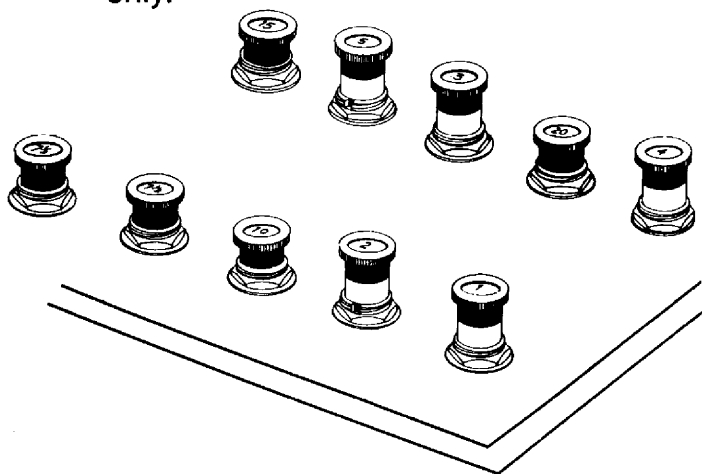
**TABLES/
FIGURES:**

N/A

SERVICE INSTRUCTION

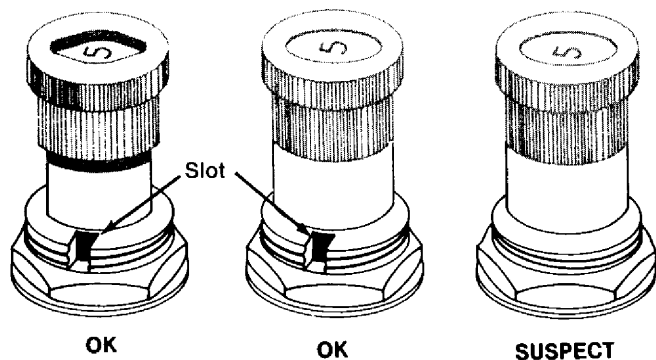
For 1986 Circuit Breaker Recall

1. Check panel for $\frac{1}{2}$ to 5 amp circuit breakers. Pull out (unlatch) all $\frac{1}{2}$ to 5 amp circuit breakers only.



2. Identifying Suspect Circuit Breakers from Front of Panel.

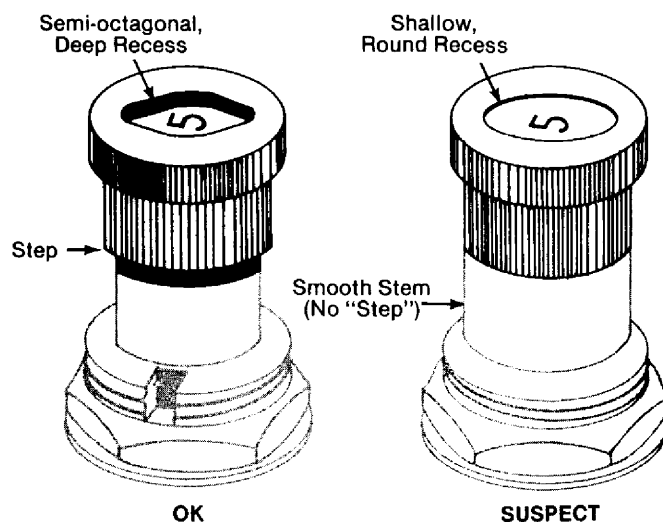
- A. Inspect mounting bushings on all unlatched circuit breakers. Those with a slot in the mounting bushings are OK. Push in circuit breakers with slot in mounting bushing.



- B. Inspect the tops of buttons of those that are still pulled out. Circuit breakers with a deep, semi-octagonal

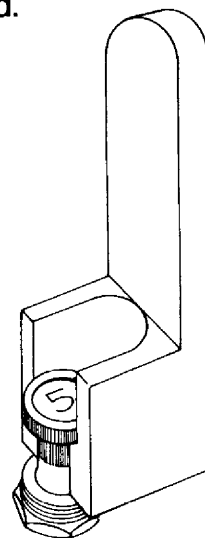
recess in the top and a "step" under the button are OK. Push in all of these you locate.

(Orientation of amp stamp may vary.)

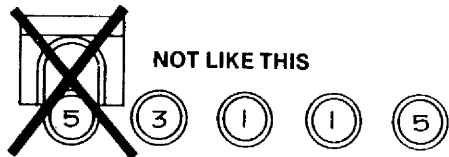
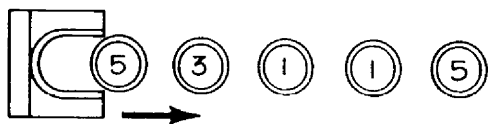


Circuit breakers with a shallow, round recess and a smooth stem (no "step") under button are suspect. Leave them pulled out.

- C. Slip gauge (IG511) between the mounting bushing and over the wide part of the button. Gauge print is enclosed.

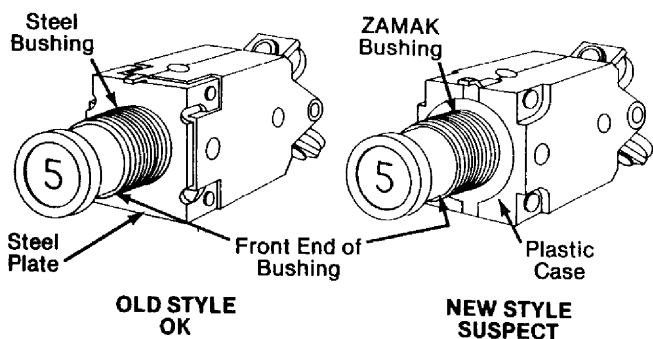


Make sure you proceed down the row in a parallel manner.



The gauge will slide in and snugly fit suspect circuit breakers. It won't fit the button on circuit breakers that are OK. Push in those which the gauge won't fit.

- D. For aircraft that use MS3320 (MP 4310), the following method will sort "old style" (pre-8605) from "new style" (after-8605).



From the front of the panel, use a hand magnet to test the front-end of the threaded bushing. The old style will be magnetic while the new style is practically non-magnetic. (The black chrome finish on the new style is only slightly magnetic.) Push in all circuit breakers that are highly magnetic.

If needed, we can supply a kit of one old style and one new style circuit breaker with a magnet for demonstration purposes.

- E. If any circuit breakers are still pulled out (unlatched), remove the panel.

3. Identifying Suspect Circuit Breakers from Rear of Panel.

- A. Locate and reset (push in) those circuit breakers which are not colored blue or black. Unlatched circuit breakers which are blue or black are suspect.
- B. Identify all blue or black circuit breakers with the following part numbers, configurations and date codes:

PART NUMBER	PHYSICAL/ ELECTRICAL CONFIGURATION	MFG. DATE CODE FROM -THROUGH
8500	All	8514 - 8636
4001/MS22073	All	8501 - 8636
4310/MS 3320,V	001 & 019	8603 - 8636
4200/MS 26574	All	8430 - 8636

- C. Reset (push in) any circuit breakers outside of these part numbers and date codes.

EXAMPLE 1: 4001-001-3 76374 8542 (Numbers may not appear in this order on all circuit breakers.)

SERIES PHYSICAL/ ELECTRICAL CONFIGURATION AMP RATING FED I.D. # DATE CODE

This is a suspect circuit breaker as it falls within the Date Code period for the 4001 series.

EXAMPLE 2: 4310-001-2 76374 8542 (Numbers may not appear in this order on all circuit breakers.)

SERIES PHYSICAL/ ELECTRICAL CONFIGURATION AMP RATING FED I.D. # DATE CODE

This circuit breaker is OK since it falls outside the Date Code for the 4310 series.

- D. Remove and replace the remaining unlatched (button out) circuit breakers.
- E. Return removed circuit breakers to vendor.

If you have any questions, call Al Banks or Bob Vangermeersch at Mechanical Products, Inc.

1824 River Street
P.O. Box 729
Jackson, MI 49204
(517) 782-0391
TWX 8102530827

