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 “X” 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.


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
1. Check panel for ½ to 5 amp circuit breakers. Pull out (unlatch) all ½ 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.)

   Semi-octagonal, Deep Recess

   Shallow, Round Recess

   Step

   Smooth Stem (No “Step”)

   OK

   SUSPECT

   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.
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:

<table>
<thead>
<tr>
<th>PART NUMBER</th>
<th>PHYSICAL/ELECTRICAL CONFIGURATION</th>
<th>MFG. DATE CODE FROM THROUGH</th>
</tr>
</thead>
<tbody>
<tr>
<td>8500</td>
<td>All</td>
<td>8514 - 8636</td>
</tr>
<tr>
<td>4001/MS22073</td>
<td>All</td>
<td>8501 - 8636</td>
</tr>
<tr>
<td>4310/MS3320,V</td>
<td>001 &amp; 019</td>
<td>8603 - 8636</td>
</tr>
<tr>
<td>4200/MS26574</td>
<td>All</td>
<td>8430 - 8636</td>
</tr>
</tbody>
</table>

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

Example 1: 4001-001-3 76374 8542

Series Physical/Amp Rating Fed. 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

Series Physical/Amp Rating Fed. 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