



# SERVICE LETTER

No. 801

Piper Aircraft Corporation

Lock Haven, Pennsylvania, U.S.A.

February 25, 1977 M

Subject:

Goodyear Tri-Metallic Brakes, Maintenance and Operation; reference attached Goodyear Service Letter "PA-31-350/PA-31P/PA-31T-SL-1" dated January 15, 1977.

Models Affected:

Serial Numbers Affected:

PA-31-350 Navajo Chieftain.....	31-5001 and up (with Goodyear Main Wheel/Brake Installation).
PA-31P Pressurized Navajo .....	31P-1 and up.
PA-31T Cheyenne.....	31T-7400002 and up.

Compliance Time: This information is submitted as maintenance/operational data for the benefit of owners/operators of the above referenced aircraft and does not require specific compliance activity.

Purpose: Refer to attached Goodyear Service Letter, "Problem" and "Solution" sections.

Instructions: Refer to attached Service Letter, "Solution" section.

Material Required: Not Applicable.

Availability of Parts: Not Applicable.

Effectivity Date: This Service Release is effective upon receipt.

Summary: This Service Release provides distribution of Goodyear's recommendations to assist owners/operators to prevent and/or remedy brake freeze-up, when encountered during adverse weather conditions. This information, in conjunction with standard recommended brake system maintenance, will assist in the proper operation of Goodyear Tri-Metallic Brakes.

AIRCRAFT WHEEL AND BRAKE DIVISION

GOODYEAR AEROSPACE CORPORATION

AKRON, OHIO 44315

**GOODYEAR**  
AEROSPACE

# SERVICE LETTER

SUBJECT: PIPER TRI-METALLIC BRAKE

REFERENCE: Brake Assembly 5002376 (PA31T) and Brake Assembly 9544482 (PA31P & PA31-350)

PROBLEM: Some operators have been experiencing brake freeze-up with tri-metallic brakes. Brake freeze-up could cause wheel lock conditions due to ice formation between the disk friction surfaces after exposure to moisture during cold weather. This situation has been experienced on the ramp, during taxi operation, and prior to landing. The first two situations result in an inability to move the aircraft, while the latter results in a much more serious condition which can cause a locked wheel landing with attendant damage and possible control problem.

SOLUTION: The following recommendations are listed for each condition which may be helpful in alleviating freeze-up caused by icing and moisture conditions on tri-metallic brakes.

NOTE: THE FOLLOWING SUGGESTIONS IN NO WAY ATTEMPTS TO ADVISE OPERATORS ON METHOD OF OPERATION OF AIRCRAFT.

## PREVENTATIVE METHODS FOR BRAKE FREEZE-UP

### A. General Recommendations

1. Apply maximum brake pressure several times in static condition.

NOTE: Applying sufficient and repeated brake pressure will cause the back plate to deflect and should be helpful in breaking the ice freeze-up, thus providing relative movement to the brake stack components.

2. Application of hot air sources and anti-freeze chemicals.

### B. Specific Recommendations

1. Parking

When severe icing or excessive moisture with freezing weather conditions exist, parked aircraft should have their brakes in "off condition" (not pressurized). If brake ice freeze-up occurs, pressurize the brakes several times using maximum pressure.

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2. Taxi Operation

When the aircraft is stopped on the taxiway or runway and brake freeze-up occurs, pressurize the brake several times using maximum pressure.

To reduce possibility of brake freeze-up during taxi operations in severe weather conditions, one or two taxi slowdowns (from 25 to 5 mph) using light brake pressure may be made permitting stack to reach a warm condition evaporating any moisture build up within the disk stack.

3. Prior to Landing

It is recommended that just prior to landing, and with gear down, maximum brake pressure should be applied several times to alleviate any brake freeze-up caused by icing in the brake assembly during flying conditions.