

# Cleveland

Wheels & Brakes

## Parker Hannifin Corporation

Aircraft Wheel & Brake

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# SERVICE BULLETIN

## WHEEL ASSEMBLY 40-90 AND 40-90B – 164-02201 BRAKE DISC- INSPECT/REPLACE

- EFFECTIVITY:** Parker Hannifin 6-inch main wheel assembly Model Numbers 40-90 and 40-90B, which are equipped with Brake Disc P/N 164-02201
- APPLICABILITY:** The above listed products have been furnished for use on the following Aircraft:  
Aerospatiale / Socata TB30 Epsilon  
Grumman American GA-7  
Pilatus Britten Norman Ltd. BN-2, BN-2A, BN-2B, BN-2T  
Piper PA-24-400, PA-30, PA-32-260, PA-32-300, PA-34-200, PA-39
- In addition, products may have been used on kit planes, homebuilt aircraft or by float manufacturers.
- REASON:** Parker Hannifin has received reports of surface discontinuities in the brake disc cup wall adjacent to the mounting flange on P/N 164-02201 brake disc that have been removed from service. The returned products contain through wall discontinuities, missing material, and / or complete separation of the brake disc cup mounting surface from the brake disc cup wall and flange. (Reference Figure 1) It is required that in service products containing indications be removed from service. Continued use of a product with indications could result in the loss of directional control or brake effectiveness during taxi.
- By their very nature, brake discs are wear components with service life being influenced by factors such as; aggressive braking, improper wheel tie bolt torque, landing gear vibration, corrosion and heat. All of which can cause a product's removal from service. Performing maintenance and regular inspections of wheel and brake components in accordance with the Component Maintenance Manual will enhance the product's useful service life.
- DESCRIPTION;** This document provides the necessary inspection instructions for in service 164-02201 brake discs.
- COMPLIANCE:** **Mandatory - Perform accomplishment instructions as outlined on pages 2 and 3.**
- APPROVAL:** The contents of this Service Bulletin are FAA DER approved.
- WT. & BAL.:** Not Applicable
- PUBLICATIONS:** This service bulletin will be incorporated into the Cleveland Wheels & Brakes Component Maintenance Manual at next revision.



# SERVICE BULLETIN

## ACCOMPLISHMENT INSTRUCTIONS:

### PRODUCT INSTALLED ON AIRCRAFT

- 1) Within the next 25 flight hours (unless previously complied with), at next annual inspection, or at next tire change, whichever comes first, inspect aircraft or aircraft records to determine if Main Wheel Assembly Model Number 40-90 or 40-90B are installed.
  
- 2) Aircraft that have been identified as not being equipped with affected products may be returned to service.
  
- 3) For aircraft that are identified as being equipped with affected products, remove each main wheel from the aircraft, disassemble (to the extent necessary), replace or thoroughly inspect each brake disc in accordance with the Cleveland Wheels & Brakes Component Maintenance Manual [Ref: Section 300, Para's 3.A.(1), 3.B.(1), and 3.C.(7)]. In the event that a brake disc has crack like indications, it must be replaced or more thoroughly evaluated using dye penetrant and or magnetic particle inspection techniques. These inspection techniques are more conclusive by the removal of any protective primers and paints.
  
- 4) Brake discs that are determined to contain cracks, worn below minimum flange thickness, elongated bolt holes, excessively coned or corroded must be replaced.

Following is a listing of recommended penetrant inspection materials / suppliers:

Type	Penetrant	Developer	Supplier
Fluorescent	Zyglo ZL-16	Zyglo ZP-13 (wet) optional	Magnaflux Corporation 7310 West Lawrence St. Chicago, IL. 60656
	Penetrex ZL-2A with emulsifier ZE-4	Penetrex ZP-4 (dry) or ZP-13 optional	
Red Dye	Spot Check	Spot Check	Turco Products Division of Purex Corp. P.O.Box 6200 Carson, CA 90749
	Dy-Check	Dy-check	
	Met-L-Chek	Met-L-Chek	Met-L-Chek Company 1639 Euclid Street Santa Monica. CA 90404

Any brake disc that has been determined to be airworthy may be repainted (if applicable) and returned to service. Make appropriate entry in aircraft log books.

# SERVICE BULLETIN

ACCOMPLISHMENT INSTRUCTIONS: (CONTINUED)

PRODUCT INSTALLED ON AIRCRAFT

- 5) At each following annual inspection or tire change re-inspect and / or replace as needed, each brake disc as indicated per preceding sections 3) and 4).
- 6) Pilots should be made aware of this possible condition. Normal pre-flight inspection should include inspection of the wheels and brakes for general security, with particular attention paid to each main wheel brake disc. Visually inspect for any signs of brake disc separation from wheel. If indicated, the aircraft must be immediately removed from service, and the brake disc inspected and replaced (as needed) as per preceding sections 3) and 4).
- 7) Make an appropriate Log Book entry for each maintenance activity performed.



Figure 1