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SERVICE BULLETIN

40-177A WHEEL ASSEMBLY – INSPECT/REPAIR BEARING BORE

1. PLANNING INFORMATION

A. APPLICABILITY

This service bulletin is applicable to the following Parker Hannifin wheel assemblies installed on aircraft and wheel assembly units in stores:

Wheel Assembly P/N	Wheel Half Subassembly P/N
40-177A	161-11700 Inboard / 162-10700 Outboard

B. REASON

To address possible lack of primer in the inboard and outboard bearing bore areas. Refer to Figure 1.

C. DESCRIPTION

This service bulletin will provide instruction to the level required for the inspection, repair, and return of product to service.

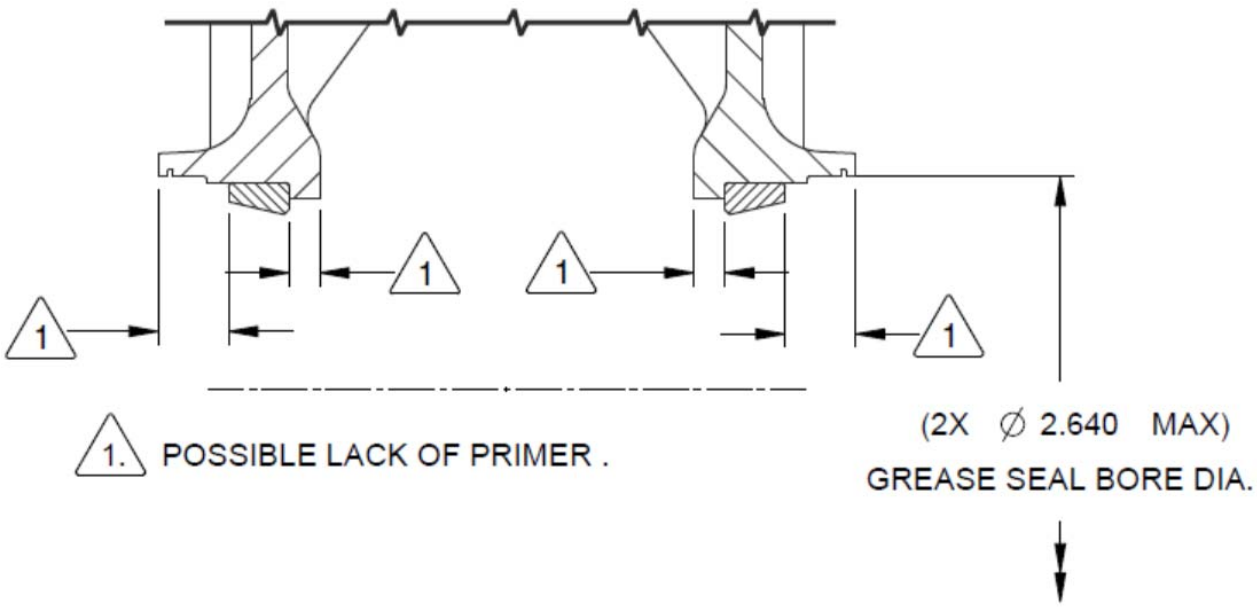

Figure 1 Possible lack of primer

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D. COMPLIANCE

Recommended – At earliest convenience, or at next tire change, or at next scheduled maintenance.

E. APPROVAL

This service bulletin is approved for support of an FAA-TSO-C26 product.

F. MANPOWER

Estimate per wheel assembly. 15 to 30 minutes.

G. TOOLING

Standard tooling:

- Screwdriver
- Brass pick

H. WEIGHT AND BALANCE

Not affected.

I. REFERENCES

AWBPC0001 .....Product Catalog
AWBCMM0001 .....Component Maintenance Manual – External Design Wheels & Brakes
AWBTSG0001.....Technician's Service Guide

J. OTHER PUBLICATIONS AFFECTED

None.

K. PREVIOUS MODIFICATIONS

None.

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2. EQUIPMENT REMOVAL

Instructions are per wheel assembly.

A. REMOVE THE WHEEL ASSEMBLY

SAFETY WARNING: MAKE SURE THE AIRCRAFT IS SECURE AND STABLE BEFORE BEGINNING ANY WORK. WORKING AROUND AN AIRCRAFT THAT IS NOT SECURE AND STABLE CAN CAUSE INJURY OR DEATH.

(1) Refer to the airframe manufacturer's instructions to properly raise and support the aircraft.

(2) Refer to the airframe manufacturer's instructions to remove the wheel assembly from the aircraft for servicing.

B. REMOVE COMPONENTS FROM THE WHEEL ASSEMBLY BEARING BORES

(1) Use a flat blade screwdriver to remove the retaining ring from the inboard and outboard wheel hub. Use the screwdriver tip against the retaining ring notch and twist the screwdriver to dislodge the notched end of the retaining ring and carefully unwind the retaining ring from the groove.

(2) Remove the grease seal and bearing cone from the inboard and outboard bearing bore.

3. CLEAN THE AFFECTED AREAS

SAFETY WARNING: MAKE SURE THAT THE AREA WHERE YOU WILL USE THE CLEANING SOLVENTS HAS GOOD AIRFLOW. DO NOT TOUCH OR GET FLUID ON YOUR BODY AND DO NOT BREATHE VAPORS. KEEP CONTAINERS COVERED WHEN NOT IN USE. REFER TO APPLICABLE MSDS (MATERIAL DATA SAFETY SHEET) AND FOLLOW MANUFACTURER'S INSTRUCTIONS FOR PRODUCT USE AND REQUIRED PROTECTIVE GEAR.

A. CLEAN THE BEARING BORE AREA

(1) Refer to Figure 1 and clean the inboard and outboard bearing bores with a suitable cleaning/degreasing solvent.

(2) If required, dry the bearing bore area with a clean lint free cloth or allow to air dry.

4. INSPECT

Inspect bearing bore for conformal coating of primer per Figure 1.

A. FOR WHEEL HALVES THAT ARE COATED WITH PRIMER

No further actions are required. Reassemble, install and return to service per step 5.A.

B. FOR WHEEL HALVES THAT ARE NOT COATED WITH PRIMER

Proceed to step 5.B.

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5. REPAIR INSTRUCTIONS

A. THE BEARING BORE HAS PRIMER

After cleaning (Section 3.), no other action is required.

(1) Install the following into the inboard and outboard bearing bore hub of the wheel assembly in the order listed:

- Bearing cone
- Grease seal. The elastomer side will face in towards the bearing cone.
- Retaining ring. Install the end of the retaining ring into the groove in the inner hub of the wheel half and wind or spiral the ring into the groove.

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SAFETY WARNING: ALWAYS FOLLOW PROPER TIRE INFLATION SAFETY PRACTICES. SERVICE THE TIRE WITH INFLATION SAFETY EQUIPMENT DESIGNED FOR THIS OPERATION.

(2) Refer to the airframe manufacturer's tire inflation procedure to inflate the tire.

(3) Refer to the airframe manufacturer's instructions to install the wheel/tire unit on the aircraft for return to service.

B. THE BEARING BORE HAS NO PRIMER

(1) After cleaning (Section 3.), if there is no evidence of corrosion and no primer, then perform the following steps.

SAFETY WARNING: MAKE SURE THAT THE AREA WHERE YOU WILL USE THE PRIMER PRODUCT HAS GOOD AIRFLOW. DO NOT BREATHE VAPORS. KEEP CONTAINERS COVERED WHEN NOT IN USE. REFER TO APPLICABLE MSDS (MATERIAL DATA SAFETY SHEET) AND FOLLOW MANUFACTURER'S INSTRUCTIONS FOR PRODUCT USE AND REQUIRED PROTECTIVE GEAR.

NOTE: To achieve the best results, always refer to the manufacturer's instructions for mixing, application, and use of product.

(a) Apply masking tape to protect the bearing cup.

(b) Brush a light, wet coat of MIL-PRF-23377, Type 1, Class C2 primer to the indicated surfaces in Figure 2.

1 Before the primer dries, use a brass pick or other suitable tool to remove any primer from the retaining ring groove.

2 Allow the primed areas to dry.

3 Remove the masking tape from the bearing cup.

(c) Install the following into the inboard and outboard bearing bore hub of the wheel assembly in the order listed:

- Bearing cone
- Grease seal. The elastomer side will face in towards the bearing cone.
- Retaining ring. Install the end of the retaining ring into the groove in the inner hub of the wheel half and wind or spiral the ring into the groove.

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SAFETY WARNING: ALWAYS FOLLOW PROPER TIRE INFLATION SAFETY PRACTICES. SERVICE THE TIRE WITH INFLATION SAFETY EQUIPMENT DESIGNED FOR THIS OPERATION.

(d) Refer to the airframe manufacturer's tire inflation procedure to inflate the tire.

(e) Refer to the airframe manufacturer's instructions to install the wheel/tire unit on the aircraft for return to service.

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(2) After cleaning (Section 3.), if there is evidence of corrosion and no primer, then perform the following steps.

SAFETY WARNING: MAKE SURE THAT THE AREA WHERE YOU WILL USE THE PRODUCTS FOR CORROSION REMOVER, PRETREATMENT, AND PRIMER HAS GOOD AIRFLOW. DO NOT BREATHE VAPORS. KEEP CONTAINERS COVERED WHEN NOT IN USE. REFER TO APPLICABLE MSDS (MATERIAL DATA SAFETY SHEET) AND FOLLOW MANUFACTURER'S INSTRUCTIONS FOR PRODUCT USE AND REQUIRED PROTECTIVE GEAR.

NOTE: If corrosive pitting is in excess of 25% of the bore surface area, then the wheel half must be scrapped. Surface level pitting less than 25% of the bore surface area is acceptable.

NOTE: To achieve the best results, always refer to the manufacturer's instructions for mixing, application, and use of product(s).

(a) Apply masking tape to protect the bearing cup.

(b) Hand buff the affected areas with an abrasive material such as Scotch-Brite™ pad, P/N 7440.

1 Clean the inboard and outboard bearing bores with a suitable alkaline cleanser to remove any residue from the hand buffing operation.

2 Dry the bearing bore area with a clean lint free cloth or allow to air dry.

(c) Remove the corrosion as follows.

1 Apply corrosion remover, Cortec VpCI® -426, to affected areas of the bearing bore. The product is a brush on application that will take approximately 1-2 minutes to clean the affected areas.

2 Verify corrosion has been removed and, if required, repeat step 1 to reapply corrosion remover.

(d) If needed, remove and reapply fresh masking tape to protect the bearing cup.

(e) Hand buff the affected areas with an abrasive material such as Scotch-Brite™ pad, P/N 7440.

1 Clean the inboard and outboard bearing bores with a suitable alkaline cleanser to remove any residue from the hand buffing operation.

2 Dry the bearing bore area with a clean lint free cloth or allow to air dry.

3 Refer to Figure 1 and measure the inboard and outboard grease seal bore diameter in three places where pitting has not occurred. Diameter should not exceed Ø 2.640 max to maintain squeeze on the grease seal.

(f) Surface pretreat the bearing bore surfaces as follows.

MIL-M-3171 Type VI.

1 Apply mixed solution to repaired area at room temperature and allow to dry.

(g) Brush a light, wet coat of MIL-PRF-23377, Type 1, Class C2 primer to the indicated surfaces in Figure 2.

1 Before the primer dries, use a brass pick or other suitable tool to remove any primer from the retaining ring groove.

2 Allow the primed areas to dry.

3 Remove the masking tape from the bearing cup.

(h) Install the following into the inboard and outboard bearing bore hub of the wheel assembly in the order listed:

- Bearing cone
- Grease seal. The elastomer side will face in towards the bearing cone.
- Retaining ring. Install the end of the retaining ring into the groove in the inner hub of the wheel half and wind or spiral the ring into the groove.

(i) If there is evidence of paint removal due to the hand buffing operation around the edges of the wheel hub, then touch-up with topcoat is permitted.

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SAFETY WARNING: ALWAYS FOLLOW PROPER TIRE INFLATION SAFETY PRACTICES. SERVICE THE TIRE WITH INFLATION SAFETY EQUIPMENT DESIGNED FOR THIS OPERATION.

(j) Refer to the airframe manufacturer's tire inflation procedure to inflate the tire.

(k) Refer to the airframe manufacturer's instructions to install the wheel/tire unit on the aircraft for return to service.

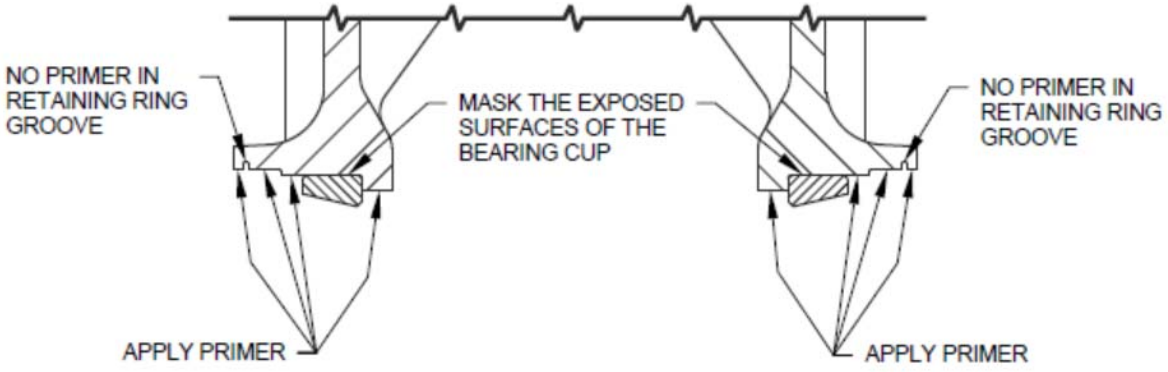

Figure 2 Prime the bearing bore surfaces

6. LOGBOOK ENTRY

(1) Make the appropriate airframe logbook entry of compliance.

7. MATERIAL INFORMATION

A. MATERIAL-REQUIREMENTS

Consumable products

- Alkaline cleanser, commercial source
- Scotch-Brite™ pads, P/N 7440, commercial source
- Corrosion remover: Cortec VpCI® -426, Cortec Corp., St. Paul, MN USA
- Surface pretreatment:

  For magnesium: MIL-M-3171 Type VI, commercial source
- Primer: MIL-PRF-23377, Type 1, Class C2, commercial source
- Topcoat: P/N F63W13, 2 component polyurethane white topcoat, Sherwin Williams, Cleveland, OH USA

Contact Parker Hannifin for replacement hardware availability.

Parker Hannifin Corporation
Aircraft Wheel & Brake Division
Technical Service Hotline: 1-800-BRAKING
Customer Support Fax: 440-937-5409
E-mail: clevelandwbhelp@parker.com

B. LIST OF COMPONENTS

Not applicable.

C. INTERCHANGEABILITY

Not applicable.

D. PARTS DISPOSITION

Not applicable.