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SERVICE BULLETIN

3070 (40-5) MAIN WHEEL ASSEMBLY - UPGRADE FROM A RIVETED BRAKE DISC TO A THRU BOLT BRAKE DISC CONFIGURATION

1. PLANNING INFORMATION

A. APPLICABILITY

This Service Bulletin is applicable to the listed Parker Hannifin main wheel assembly installed on the listed Piper Aircraft:

<u>Parker Hannifin Part No.</u>	<u>Piper Aircraft Model.</u>	<u>Serial Number</u>
3070 (40-5)	PA-24-180, PA-24-250, PA-24-260 PA-25	24-1 thru 24-3306 25-1 thru 25-1999

B. REASON

Product upgrade to remove the riveted brake disc design from the 3070 (40-5) wheel assembly and replace with a thru bolt brake disc configuration.

C. DESCRIPTION

This document provides the necessary instructions to upgrade the 3070 (40-5) wheel assembly to the thru bolt brake disc configuration. Refer to Figure 1.

Note: The main brake assembly will not have to be replaced and is serviceable with the new inner wheel half and brake disc.

Initial Release June 15, 2013
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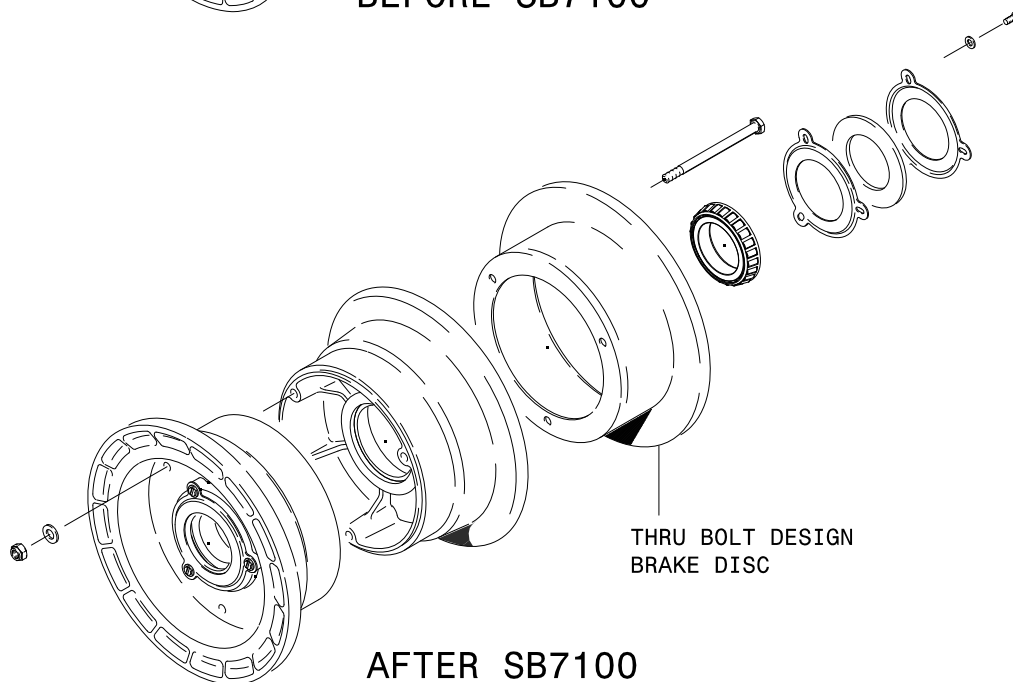
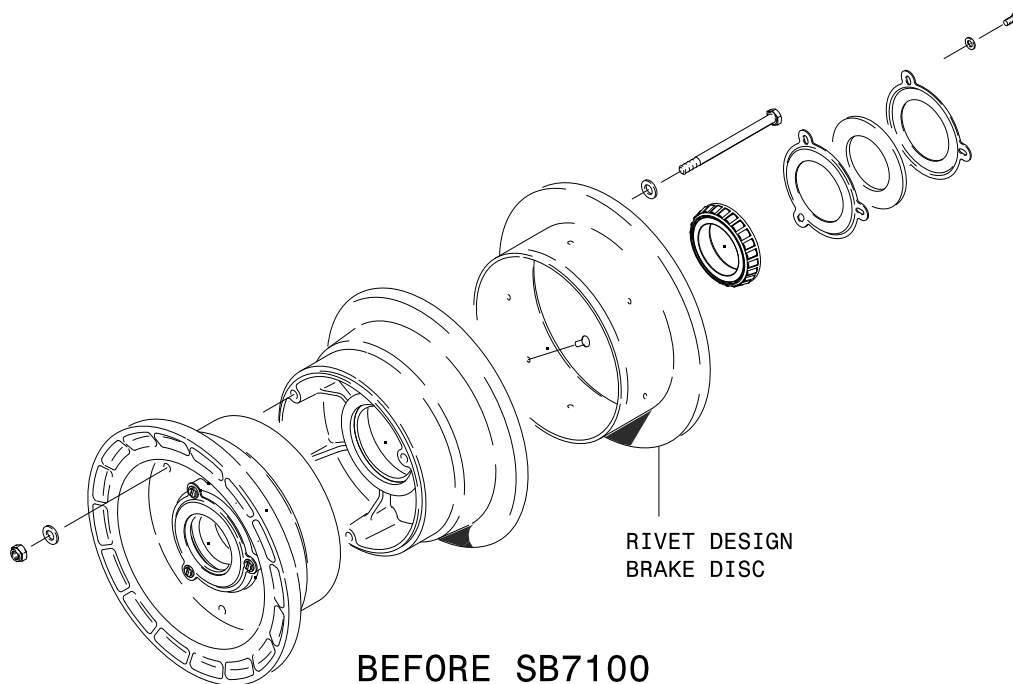


Figure 1 Wheel configuration

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D. COMPLIANCE

Optional. Until next tire or disc replacement.

E. APPROVAL

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

F. MANPOWER

Estimate. 1 to 2 hours per wheel assembly.

G. MATERIAL

Refer to paragraph 3. Material Information.

H. TOOLING

No additional special tooling is required.

I. WEIGHT AND BALANCE

Negligible. Approximately 0.3 lb (0.136 kg) increase per wheel assembly.

J. OTHER PUBLICATIONS AFFECTED

AWBPC0001Parker Hannifin Aircraft Wheel & Brake Product Catalog

K. PREVIOUS MODIFICATIONS

None.

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2. ACCOMPLISHMENT INSTRUCTIONS

Instructions are per landing gear.

All instruction related to aircraft equipment removal and installation shall be in accordance with the Aircraft Maintenance Manual or Owner's Manual.

For wheel assembly maintenance, refer to the following publications, published by Parker Hannifin – Aircraft Wheel and Brake, for disassembly and assembly procedures; service limits, general maintenance guidelines, and applicable related data. Always obtain the latest issue in effect.


AWBCM0001 Component Maintenance Manual, External Design Wheels & Brakes
AWBTSG0001..... Technician's Service Guide

Contact Technical Support for additional assistance.

Parker Hannifin Corporation
Aircraft Wheel & Brake Division
1160 Center Road
Avon, Ohio 44001 U.S.A.
Attn: Technical Services/Hotline

Website: www.parker.com
E-mail: clevelandwbhelp@parker.com
Fax: (440) 937-5409
Tel: 1-800-BRAKING (1-800-272-5464)

A. DISASSEMBLE THE WHEEL ASSEMBLY

SAFETY WARNING:  **DEFLATE THE TIRE. WORKING ON OR NEAR A FULLY INFLATED TIRE CAN BE DANGEROUS.**

Notes:

- The outer wheel half assembly (1) and outer wheel half specific components will be reused.
 - Discarded items will be replaced with items in 199-587 upgrade kit.
- (1) Follow Aircraft Maintenance Manual or Owner's Manual to fully deflate the tire.
 - (2) Loosen the brake back plate assembly tie bolts which fasten the back plate to the brake housing. Remove the back plate and the insulator shim, if so equipped.
 - (3) Remove the axle mounting hardware and slide the wheel/tire assembly off of the axle.
 - (4) Refer to Figure 2 and remove the inner wheel half components as follows:
 - (a) Remove and discard the wheel assembly attaching bolts (7), washers (8), and nuts (9) and separate the inner wheel half assembly from the outer wheel half assembly. Place the outer wheel half assembly and tire to the side.
 - (b) Remove and discard the screws (12) and washers (13) that attach the inner grease seal rings (11) and felt (10) to the inner wheel half. Also, remove and discard the inner grease seal rings (11), and felt (10).
 - (c) Remove and discard the inner bearing cone (6).
 - (d) Remove and discard the inner wheel half assembly (2).
- Note:** The brake disc (3) will be attached to the inner wheel half by rivets (4).

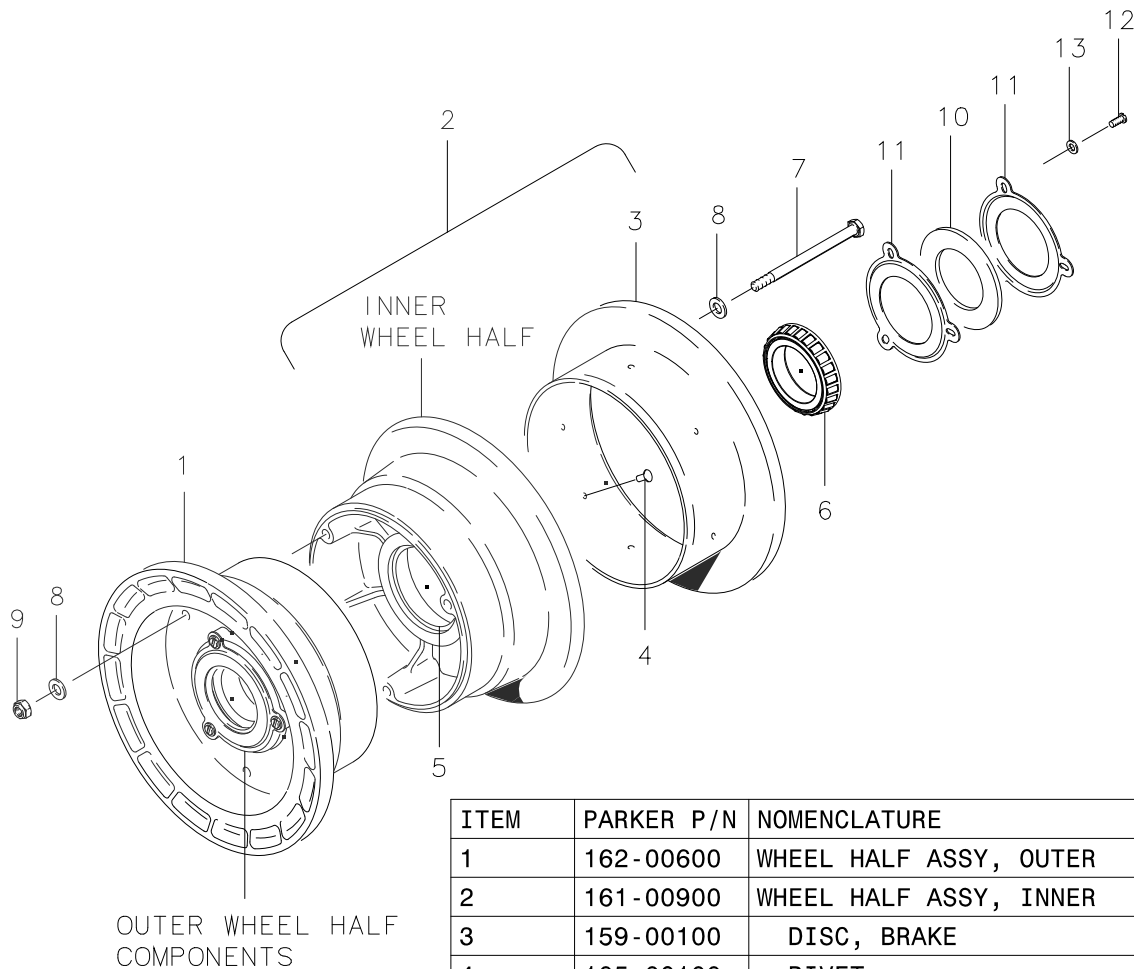
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ITEM	PARKER P/N	NOMENCLATURE
1	162-00600	WHEEL HALF ASSY, OUTER
2	161-00900	WHEEL HALF ASSY, INNER
3	159-00100	DISC, BRAKE
4	105-00100	RIVET
5	214-00100	CUP, BEARING
6	214-00200	CONE, BEARING
7	103-11000	BOLT
8	095-10400	WASHER
9	094-10300	NUT
10	154-00400	GREASE SEAL, FELT
11	153-00500	GREASE SEAL, RING
12	102-05100	SCREW
13	095-15100	WASHER, LOCK

Figure 2 3070 (40-5) with riveted brake disc configuration

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B. ASSEMBLE THE WHEEL ASSEMBLY

Refer to Figure 3 and Section 3.A. Material Requirements.

- (1) Mount the tire.
 - (a) Prior to mounting, make sure tire is clean. Inspect bead area and wipe it clean with denatured alcohol, followed by soap and water, then dry thoroughly
 - (b) Inflate the inner tube just enough to round it out.
 - (c) Install the inner tube with the yellow strip (or equivalent heavy spot marking) adjacent to the red (light spot) balance dot on the tire. If the tube has no balance mark, place valve adjacent to the balance dot.
 - (d) Install the tire and inner tube on the outer wheel half, inserting the valve stem through the valve hole in the wheel. Place the inner wheel half assembly (2) inside the tire. Align the bolt holes.

SAFETY WARNING:  FAILURE TO PROPERLY TORQUE THE WHEEL ASSEMBLY BOLTS (6) MAY RESULT IN PREMATURE FAILURE OF THE MATING COMPONENTS OR HARDWARE.

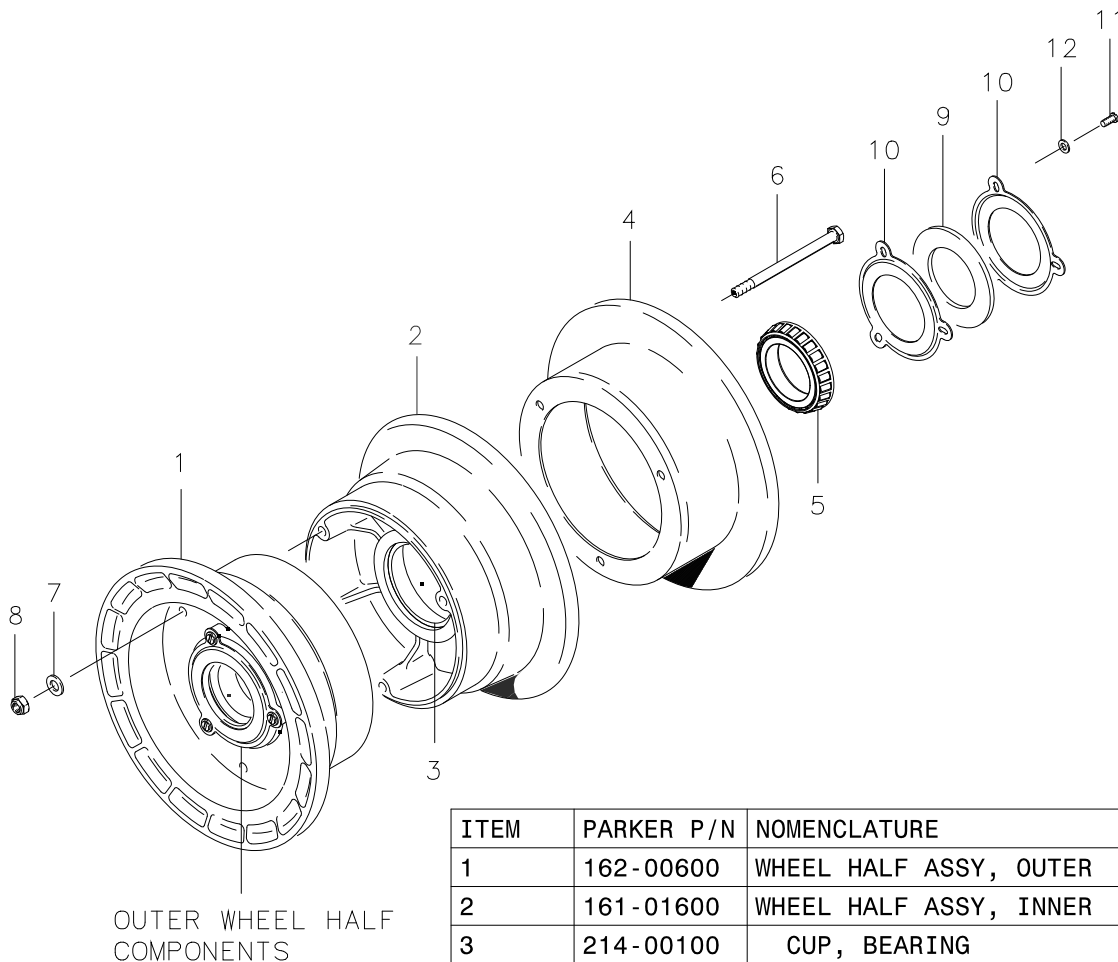
CAUTION: DO NOT USE POWER TOOLS FOR THE INSTALLATION OF NUTS AND BOLTS. POWER TOOLS CAN CAUSE OVER TIGHTENING.

- (2) (Deleted)
- (3) Install the brake disc (4) in the inner wheel half. Align the bolt holes.
- (4) Insert the bolts (6) through the brake disc and both wheel halves.

Note: Bolt heads are to be located on the brake disc side of the wheel.
- (5) Install the washers (7) and the nuts (8). Dry torque the nuts to 90 in-lb., using a clockwise pattern until all the nuts are properly torqued.
- (6) Liberally swab the inner bearing cup, bearing bore hub and grease seal ring areas with the wheel bearing grease.

Note: Make sure the bearing cone is packed with grease. Refer to AWBCMM0001 for grease packing procedure.
- (7) Install the bearing cone (5) into the inner wheel half bearing cup (3).
- (8) Lightly coat all surfaces of the grease seal felt (9) with the wheel bearing grease.
- (9) Place the grease seal felt (9) between the two grease seal rings (10) and attach to the inner wheel half with the screws (11) and washers (12).

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ITEM	PARKER P/N	NOMENCLATURE
1	162-00600	WHEEL HALF ASSY, OUTER
2	161-01600	WHEEL HALF ASSY, INNER
3	214-00100	CUP, BEARING
4	164-00900	DISC, BRAKE
5	214-00200	CONE, BEARING
6	103-11000	BOLT
7	095-10400	WASHER
8	094-10300	NUT
9	154-00400	GREASE SEAL, FELT
10	153-00500	GREASE SEAL, RING
11	102-05100	SCREW
12	095-15100	WASHER, LOCK

Figure 3 3070 (40-5) with thru bolt brake disc configuration

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C. MOUNT THE WHEEL ASSEMBLY ONTO THE AXLE

- (1) Slide the wheel assembly onto the axle making sure the inner bearing is seated.
- (2) Install the axle mounting hardware in accordance with the Aircraft Maintenance Manual or Owner's Manual.
- (3) Install the brake insulator shim, if so equipped, and fasten the back plates to the brake housing by installing the brake tie bolts. Tighten the brake tie bolts in accordance with AWBCMM0001, Component Maintenance Manual, External Design Wheels & Brakes.
- (4) Inflate the tire to the service inflation pressure.
- (5) Make the appropriate airframe logbook entry of compliance.

3. MATERIAL INFORMATION

A. MATERIAL-REQUIREMENTS

Parker Hannifin Kit P/N 199-587 will service both landing gear wheel assemblies and includes the following:

<u>Parker Hannifin P/N</u>	<u>Description</u>	<u>Quantity</u>
161-01600	Wheel Half Assembly, Inner	2
164-00900	Disc, Brake	2
214-00200	Cone, Bearing	2
103-11000	Bolt	6
095-10400	Washer	6
094-10300	Nut	6
154-00400	Grease Seal, Felt	2
153-00500	Grease Seal, Ring	4
102-05100	Screw	6
095-15100	Washer, Lock	6

Consumable products (not provided in P/N 199-587):

- Wheel bearing grease: Mobil Aviation Grease SHC100.
- (Deleted)

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



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B. LIST OF COMPONENTS

NOTE: Quantities are per wheel assembly.

New part number	Name	Qty	Old part number	Qty	Operation
161-01600	Inner Wheel Half Assembly	1	161-00900	1	Replace
164-00900	Brake Disc	1	159-00100	1	Replace

C. INTERCHANGEABILITY

None.

D. PARTS DISPOSITION

Discard the following removed components from the wheel assembly:

P/N 161-00900 Inner Wheel Half Assembly (with riveted P/N 159-00100 Brake Disc)
P/N 214-00200 Bearing Cone, (inner wheel half side)
P/N 103-11000 Bolt, qty 3 (all)
P/N 095-10400 Washer, qty 3 (inner wheel half side)
P/N 094-10300 Nut, qty 3 (all)
P/N 095-15100 Washer, qty 3 (inner wheel half side)
P/N 102-05100 Screw, qty 3 (inner wheel half side)
P/N 154-00400 Grease Seal Felt, qty 1 (inner wheel half side)
P/N 153-00500 Grease Seal Ring, qty 2 (inner wheel half side)

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