

AIRCRAFT WHEEL & BRAKE DIVISION
PARKER HANNIFIN CORPORATION
AVON, OHIO

FAA-PMA

PARTS LIST

199-73 CONVERSION KIT

BEECH AIRCRAFT
MODELS 58P, 58TC, 60, A60 & B60

<u>PART NUMBER</u>	<u>DRAWING REVISION</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>
30-93	Rev. E, dated 11-12-1980	Brake Assembly	2
40-128	Rev. H, dated 08-19-1993	Wheel Assembly	2
067-03200	Rev. J, dated 06-25-2003	Outboard Axle Spacer	2
104-03100		Elbow (4-C50X-S)	2
207-01000	Rev. F, dated 03-28-2007	Hose Assembly	2
<u>Publication Package (P/N PP199-73)</u>			
50-42	Rev. D, dated 06-22-1989	Installation Drawing	
SA178GL	Amendment dated 05-02-1986	Supplemental Type Certificate (58P, 58TC)	
SA179GL	Amendment dated 05-02-1986	Supplemental Type Certificate (60, A60, B60)	
PRM14A	-----	Product Reference Memo - "Conditioning Procedure for Metallic Brake Lining"	
PRM69	-----	Product Reference Memo - "Availability of General Maintenance Information & Torquing Procedures"	
-----		Product Registration Card	

NOTES:

1. This kit will convert one aircraft to Cleveland Wheels and Brakes.
2. The 30-93 brake assembly is designed for use with MIL-H-5606 hydraulic fluid.

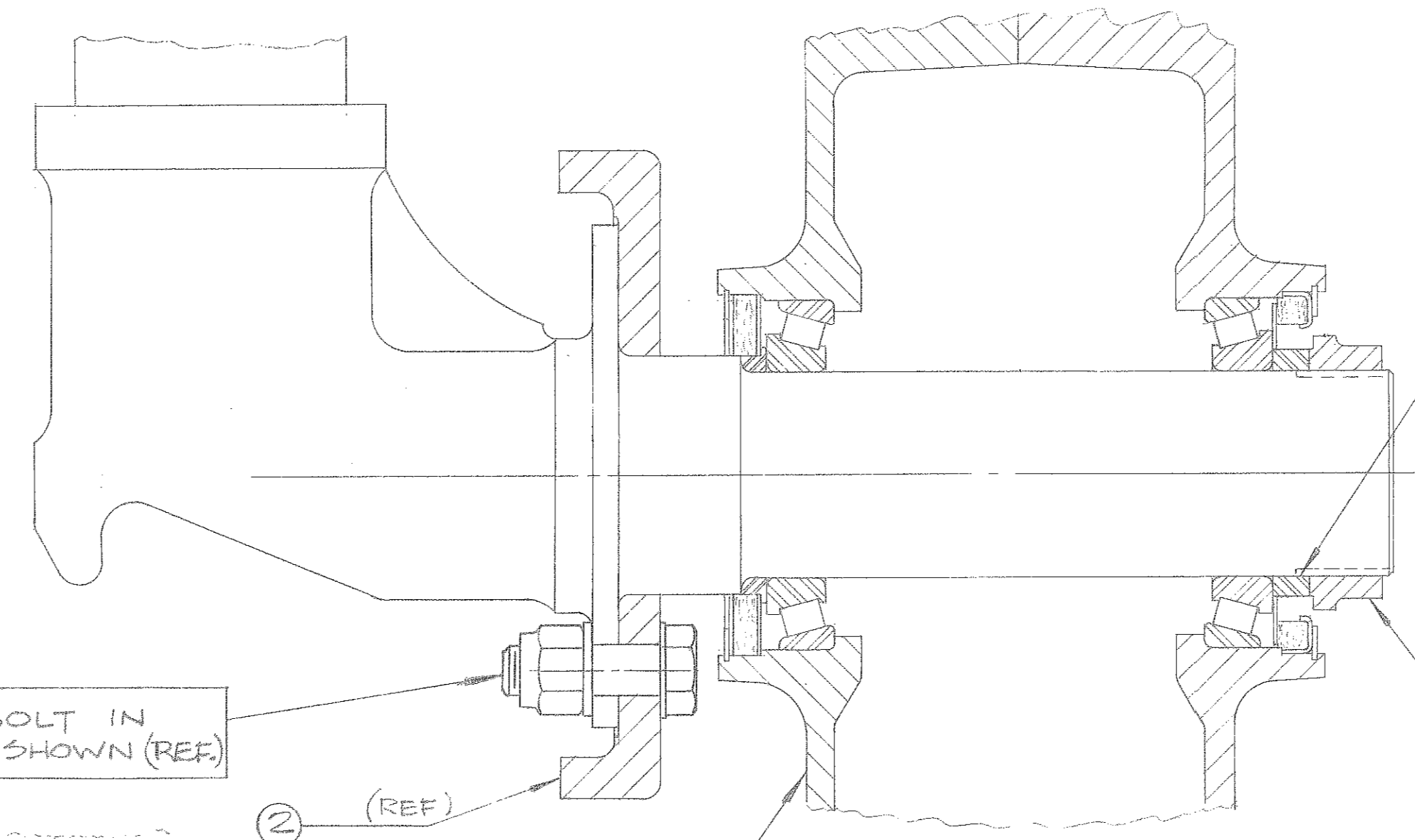
199-73
Rev. NC 02-09-1977 / 05-02-1977
Rev. A 12-10-1981 (268-99)
Rev. B 02-26-1986 (277-89)
Rev. C 06-22-1989 (297-02)
Rev. D 07-09-2003 (0356-95)
Rev. E 11-01-2004 (0363-54)
Rev. F 07-30-2008 (0381-10)

50-42		D			
CHANGE NO.	LET.	DESCRIPTION OF CHANGE	CHKD. BY	DATE	CHKD. BY
260	A	ADDED ITEM 6	JCF	15-27	141
268	B	REVISED NOTES.	RS	12-10	187
271	C	104-47 W/ 104-00200	NA	2-27	45
297	D	SEE C/N	NA	5-22	89
-02		ADDED NOTE	P0	8-22	88

199-73 KIT
 INSTALLED PER THIS DRAWING IS APPLICABLE TO THE FOLLOWING AIRCRAFT MODELS
 BEECHCRAFT: 60, A60, B60
 58 P, 58 TC

WHEEL TORQUING PROCEDURE:

1. PLACE WHEEL, BUSHING AND AXLE NUT ON AXLE IN CORRECT POSITION.
2. WHILE ROTATING WHEEL, TIGHTEN AXLE NUT AND TORQUE TO 40 IN-LBS.
3. BACK AXLE NUT TO ZERO TORQUE.
4. WHILE ROTATING WHEEL, RE-TORQUE AXLE NUT TO 20-25 IN-LBS.
5. IF COTTER PIN HOLE DOES NOT LINE UP, ADVANCE TO NEXT SLOT AND INSERT COTTER PIN.



NOTE: PERMISSIBLE TO USE CLEVELAND SPACER P/N 067-03200 IN PLACE OF EXISTING BUSHING, IF NEEDED FOR PROPER COTTER PIN TO NUT ALIGNMENT.

NOTE: INSTALL BOLT IN DIRECTION SHOWN (REF.)

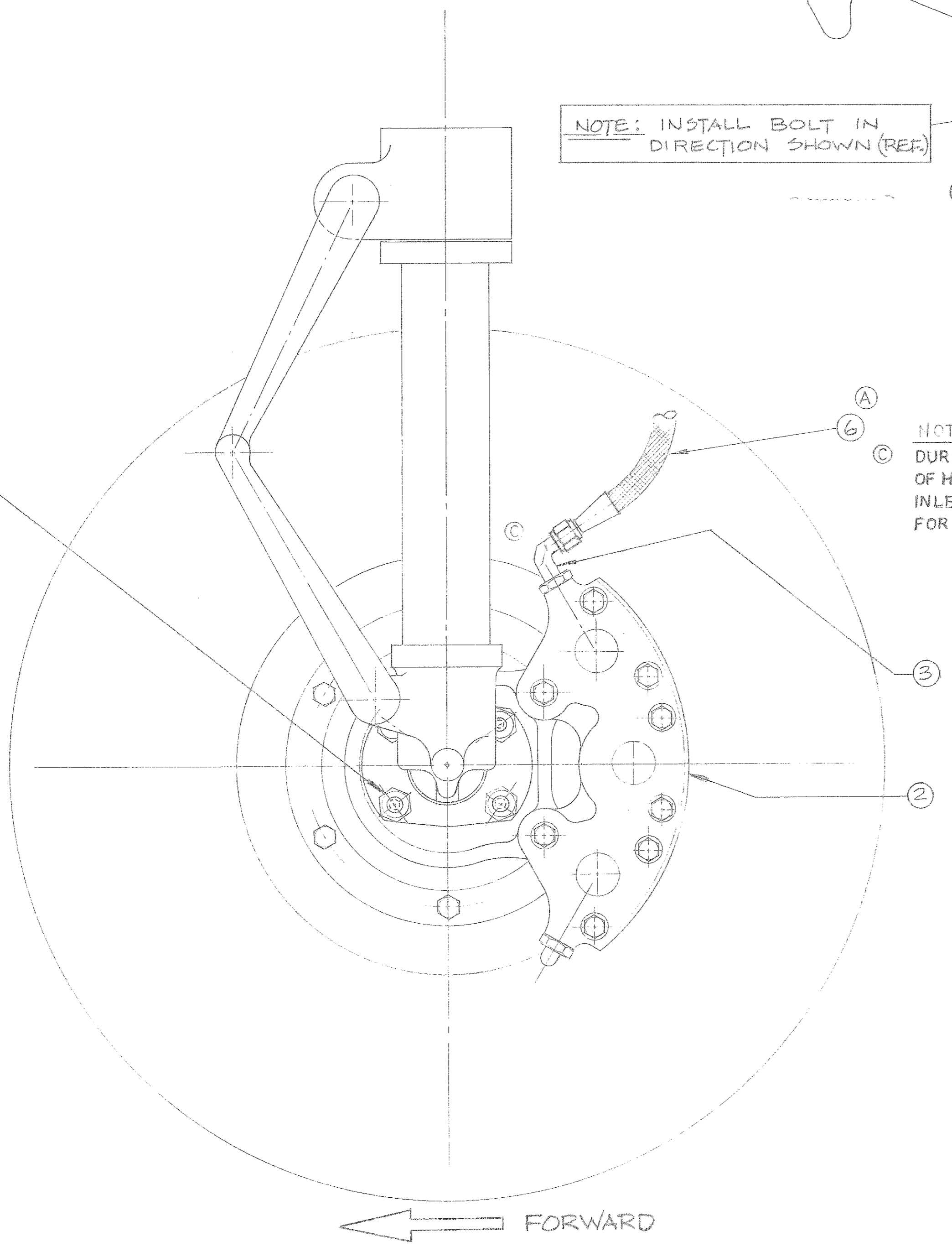
(REF.) BUSHING 95-810002-13 (EXISTING)
 NUT AN 7502-24 (EXISTING) (REF.)
 COTTER PIN MS24665-360
 (SEE WHEEL TORQUING PROCEDURE)

INSTALLATION INSTRUCTIONS:

1. PROPERLY JACK-UP AIRCRAFT.
2. DEFLATE MAIN WHEEL TIRES COMPLETELY.
3. REMOVE HYDRAULIC LINE AND CAP.
4. REMOVE EXISTING WHEELS AND BRAKES.
5. USING EXISTING HARDWARE INSTALL TORQUE PLATE (075-10901).
6. MOUNT WHEEL (40-128) USING NOTED WHEEL TORQUING PROCEDURE.
7. LOOSEN 6 TIE BOLTS ON NEW BRAKE ASSY. AND REMOVE 3 BACK PLATES.
8. SLIDE NEW BRAKE CYLINDER INTO TORQUE PLATE.
9. INSTALL INSULATOR SHIM ONTO TIE BOLTS.
10. INSTALL BACK PLATES BETWEEN BRAKE DISC AND INNER WHEEL FLANGE. ALIGN BACK PLATE WITH BOLTS AND TORQUE BOLTS TO 80-90 IN-LBS.
11. RECONNECT HYDRAULIC LINE. CHECK RESERVOIR FLUID LEVEL AND BLEED SYSTEM.
12. REINFLATE TIRES PER AIRCRAFT SPEC.
13. DEPRESS AND RELEASE TOE PEDALS SEVERAL TIMES. ROTATE WHEELS BY HAND TO CHECK FOR EXCESSIVE DRAG. A SLIGHT AMOUNT OF DRAG IS ACCEPTABLE AND NOT DETRIMENTAL. HOWEVER, A SEVERELY BOUND-UP SYSTEM SHOULD BE INVESTIGATED AND CORRECTED. DRAG COULD BE CAUSED BY COCKED LINING OR AIR IN HYD. SYSTEM ETC.
14. RETRACT LANDING GEAR AND INSPECT FOR CLEARANCE BETWEEN TIRE AND RIBS IN UPPER WHEEL WELL. (TIRE SHOULD ROTATE FREELY). IF INTERFERENCE OCCURS, MODIFY GEAR RIGGING PER BEECHCRAFT MAINTENANCE MANUAL. **NOTE:** INTERFERENCE CAN BE DETECTED BY VISUALLY OBSERVING TOP OF WING DURING GEAR RETRACTION.
15. INSPECT FOR CLEARANCE BETWEEN 30-93 BRAKE AND INBOARD DOOR. CLEARANCE SHOULD BE AT LEAST .25 IN. WHEN NECESSARY, ADJUST DOOR RIGGING PER BEECHCRAFT MAINTENANCE MANUAL.
16. REMOVE AIRCRAFT FROM JACKS, AND CONDITION LININGS PER ENCLOSED INSTRUCTION SHEET.

- EXISTING HARDWARE (REF.)
- 4-AN6-12A - BOLT
 - 4-AN960-616L WASHER (UNDER BOLT HEAD)
 - 4-AN960-616 WASHER (UNDER NUT)
 - 4-MS20365-624C NUT
- TORQUE TO 85 IN-LBS.

NOTE: INSTALL BOLT IN DIRECTION SHOWN



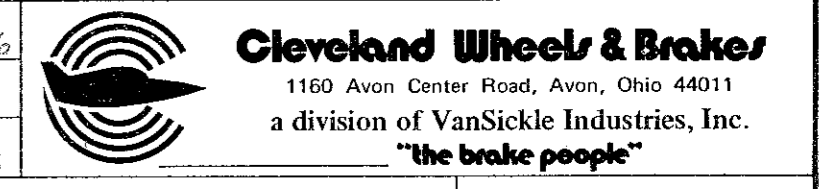
TIRE SIZE: (REF)
 6.50-8 EIGHT PLY
 6.50-8 TEN PLY
 ALT. 19.5x6.75-8 EIGHT PLY

WEIGHT
 WHEEL: 12.3 LBS.
 BRAKE: 4.8 LBS.
 TOTAL: 17.1 LBS.

QTY	ITEM	PART NO.	DESCRIPTION	MATERIAL & SPEC.	HEAT TREAT & SPEC.	FINISH & SPEC.	WGT.
1	6	207-01000	HOSE ASSY				
1	3	104-03100	FITTING				
1	2	30-93	BRAKE ASSY.				
1	1	40-128	WHEEL ASSY.				
X	X	50-42	WHEEL & BRAKE INSTALL.				

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NAME: CLEVELAND WHEEL & BRAKE INSTALLATION	SCALE: NONE	50-42

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Cleveland

Wheels & Brakes

Parker Hannifin Corporation

Aircraft Wheel & Brake

1160 Center Road

Avon, Ohio 44011 USA

1-800-BRAKING (272-5464)

216-937-1272 • FAX 216-937-5409

PRODUCT REFERENCE MEMO

METALLIC BRAKE LINING CONDITIONING PROCEDURE

The brake lining material used in this brake assembly is an iron based metallic composition. This material must be properly conditioned (glazed) in order to provide optimum service life.

Dynamometer tests have shown that at low braking energies, unglazed linings experience greater wear and the brake discs can become severely scored.

Conditioning may be accomplished as follows:

1. Perform two (2) consecutive full stop braking applications from 30 to 35 kts. Do not allow the brake discs to cool substantially between stops.
2. On aircraft with tail wheels, exercise caution during stopping to prevent tail lifting. Due to the efficiency of these brakes, extremely hard braking could result in lifting the tail from the ground.

This conditioning procedure will wear off high spots and generate sufficient heat to glaze the linings. Once the linings are glazed, the braking system will provide many hours of maintenance free service.

Visual inspection of the brake disc will indicate the lining condition. A smooth surface, without grooves, indicates the linings are properly glazed. If the disc is rough (grooved), the linings must be reglazed. The conditioning procedure should be performed whenever the rough disc condition is evident.

Light use, such as in taxiing, will cause the glaze to be worn rapidly.

Use caution in performing this procedure, as higher speeds with successive stops could cause the brakes to overheat resulting in warped discs and/or pressure plates.

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PRODUCT REFERENCE MEMO

AVAILABILITY OF GENERAL MAINTENANCE INFORMATION AND TORQUING PROCEDURES

EFFECTIVITY: All Parker Hannifin (Cleveland Wheels & Brakes) External Disc Design wheel & brake assemblies.

APPLICABILITY: Aircraft converted per STC approved kits to use Cleveland External Disc Design wheel & brake assemblies.

REASON: This PRM is issued to inform Wheel & Brake Conversion Kit users and installers that information regarding general maintenance and proper bolt / nut torquing procedures is available. This information is contained in the Cleveland Wheels & Brakes Component Maintenance Manual (CMM) and in the Cleveland Technicians Service Guide, PRM64. Most Cleveland Conversion Kits were designed prior to creation of the CMM. Parker Hannifin is in process of upgrading kit paperwork to include a requirement to use the CMM and PRM64 as wheel & brake service information. This PRM serves the same purpose for kits whose paperwork has not yet been upgraded.

DESCRIPTION: The Cleveland Wheels & Brakes Component Maintenance Manual and PRM64, Technician's Service Guide shall be used as service information when performing general maintenance on Cleveland External Disc Design wheels & brakes. Particular attention should be paid to instructions regarding wheel bolt torquing procedures.

NOTE: Refer to the CMM or PRM64 to determine the required torque procedure (Dry or Lubtork). While using the required torque procedure, observe the torque required to turn the nut (free running torque). This value must be added to the value stated on the casting or nameplate (or in the CMM or PRM64) to obtain a true torque value. Proper torque is imperative to prevent premature bolt or mating component failure.

COMPLIANCE: Highly Recommended.

APPROVAL: The engineering contents of this Product Reference Memo are FAA DER approved.

WEIGHT & BALANCE: Not applicable.

PUBLICATIONS: Cleveland Wheels & Brakes Component Maintenance Manual and PRM64 are available from:

Customer Support
Parker Hannifin Corporation
Aircraft Wheel & Brake
1160 Center Road
Avon, Ohio

Phone: 1-800- BRAKING (272-5464)
FAX: 216-937-5409



Parker Hannifin Corporation
Aerospace/Aircraft Wheel & Brake
1160 Center Road
Avon, OH 44011

Date: _ _/ _ _/20_ _

Subject: Letter of Authorization for Installation of STC'd Conversion Kits

To whom it may concern:

Parker Hannifin Corporation, Aircraft Wheel & Brake Division, hereby states that the following item(s):

KIT NUMBER: 199-_____

FAA APPROVAL: 1) STC # _____

NO OTHER APPROVALS NECESSARY

AUTHORIZATION TO INSTALL: With the sale of this STC KIT, OWNER of the Supplemental Type Certificate agrees to permit the buyer or buyer's agent or agency to use the certificate to alter the product under the terms and conditions of this STC.

A/C MAKE: _____

A/C MODEL _____

TAIL # _____

Regards,

Technical Support Team
Technical Hotline (800) 272-5464
Clevelandwbhelp@parker.com
Web-site: www.clevelandwheelandbrake.com
Manufacturer of Cleveland Wheels & Brakes

United States of America
Department of Transportation — Federal Aviation Administration
Supplemental Type Certificate

Number SA178GL

This certificate, issued to

Aircraft Wheel and Brake Division
Parker Hannifin Corporation
1160 Center Road
Avon, Ohio 44011

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 23 of the Federal Aviation Regulations. See Type Certificate Data Sheet A23CE for complete certification basis.

Original Product — Type Certificate Number A23CE
Make Beech
Model 58P, 58TC

Description of Type Design Change

Install Cleveland Conversion Kit P/N 199-73, Revision B, dated February 26, 1986, in accordance with installation drawing 50-42, Revision C, dated February 27, 1986, or later FAA approved revisions.

Limitations and Conditions

This approval should not be extended to other aircraft of these models on which other previously approved modifications are incorporated unless it is determined by the installer that the interrelationship between this change and any of those other previously approved modifications will introduce no adverse effect upon the airworthiness of the aircraft.

This certificate and the supporting data which is the basis for approval shall remain in effect until surrendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the Federal Aviation Administration.

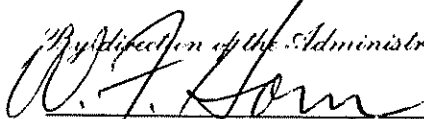
Date of application February 18, 1977

Date issued October 28, 1980

Date of issuance May 23, 1977

Date amended May 2, 1986



By 
W. F. Horn (Signature)
Manager, Chicago Aircraft Certification Office
Central Region, ACE-115C
(Title)

Any alteration of this certificate is punishable by a fine of not exceeding \$1,000, or imprisonment not exceeding 3 years, or both.

This certificate may be transferred in accordance with FAR 21.47

United States of America
Department of Transportation — Federal Aviation Administration
Supplemental Type Certificate

Number SA179GL

This certificate, issued to Aircraft Wheel and Brake Division
Parker Hannifin Corporation
1160 Center Road
Avon, Ohio 44011

certifies that the change in the type design for the following product with the limitations and conditions therefor as specified hereon meets the airworthiness requirements of Part 23 of the Federal Aviation Regulations. See Type Certificate Data Sheet A12CE for complete certification basis.

Original Product — Type Certificate Number A12CE
Make Beech
Model 60, A60, B60

Description of Type Design Change

Install Cleveland Conversion Kit P/N 199-73, Revision B, dated February 26, 1986, in accordance with installation drawing 50-42, Revision C, dated February 27, 1986, or later FAA approved revisions.

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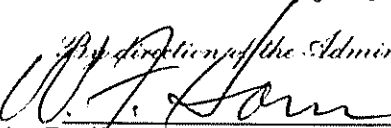
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By direction of the Administrator

W. F. Horn (Signature)
Manager, Chicago Aircraft Certification Office
Central Region, ACE-115C
(Title)

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