PARKER HANNIFIN CORPORATION

AIRCRAFT WHEEL & BRAKE DIVISION

AVON, OHIO

PARTS LIST

199-138 Conversion Kit

Beech Aircraft Models:
D55, D55A, E55, E55A, 58, 58A, 95, B95, B95A, D95A, E95, 95-55, 95-A55, 95-B55, 95-B55A, 95-B55B, 95-C55, 95-C55A

PART NO.	CODE NO.	DRAWING REVISION	DESCRIPTION	QUANTITY
30-93C	030-09303	Int. dtd. 1/26/84	Brake Assembly	2
40-128D	040-12804	Rev. B dtd. 10/22/81	Wheel Assembly	2
AN5-7A	103-21300	--	Bolt	8
AN365-524	094-10400	--	Nut	8
AN960-516L	095-10700	--	Washer	16
104-31	104-03100	--	90° Elbow (Parker 4-C50X)	2
	50-97	Int. dtd. 4/8/85	Installation Drawing	1
		Int. dtd. 4/2/85	Installation Manual	1
SA912GL			STC	1
			Warranty Registration Card	1
			Flight Manual Revisions	1

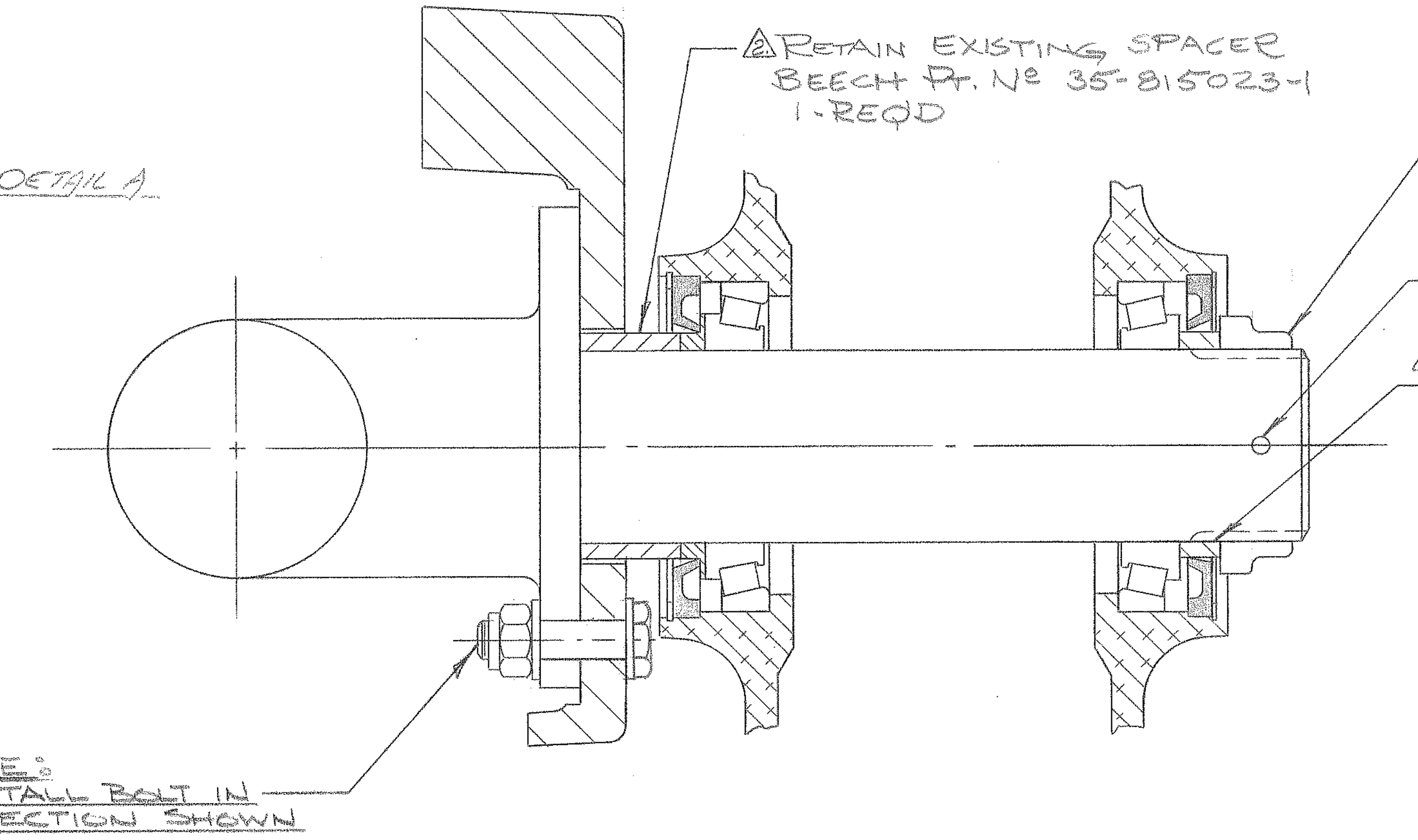
* Note: This kit will convert 1 aircraft to Cleveland main wheels & brakes.

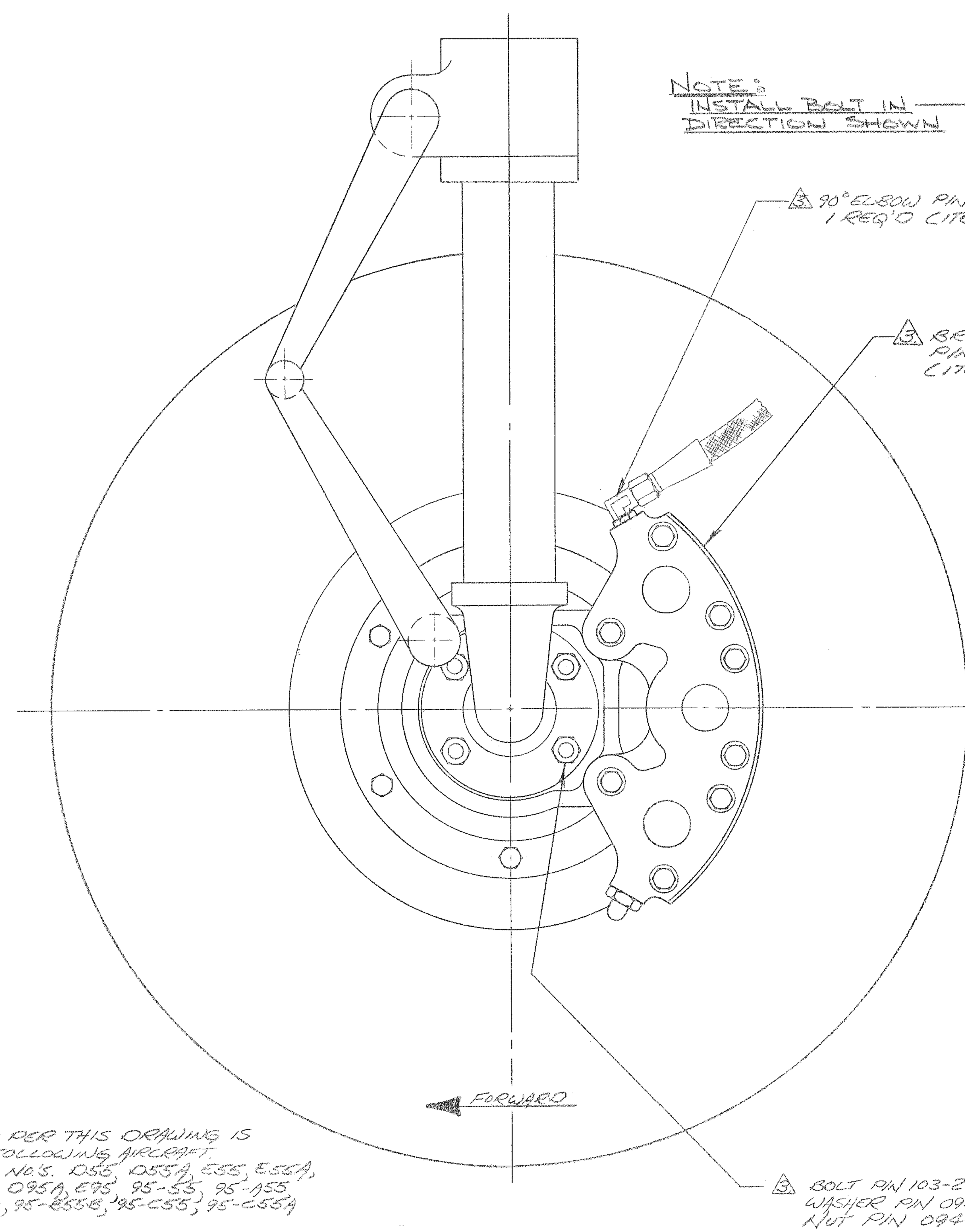
199-138
4/8/85 Int. 275-99

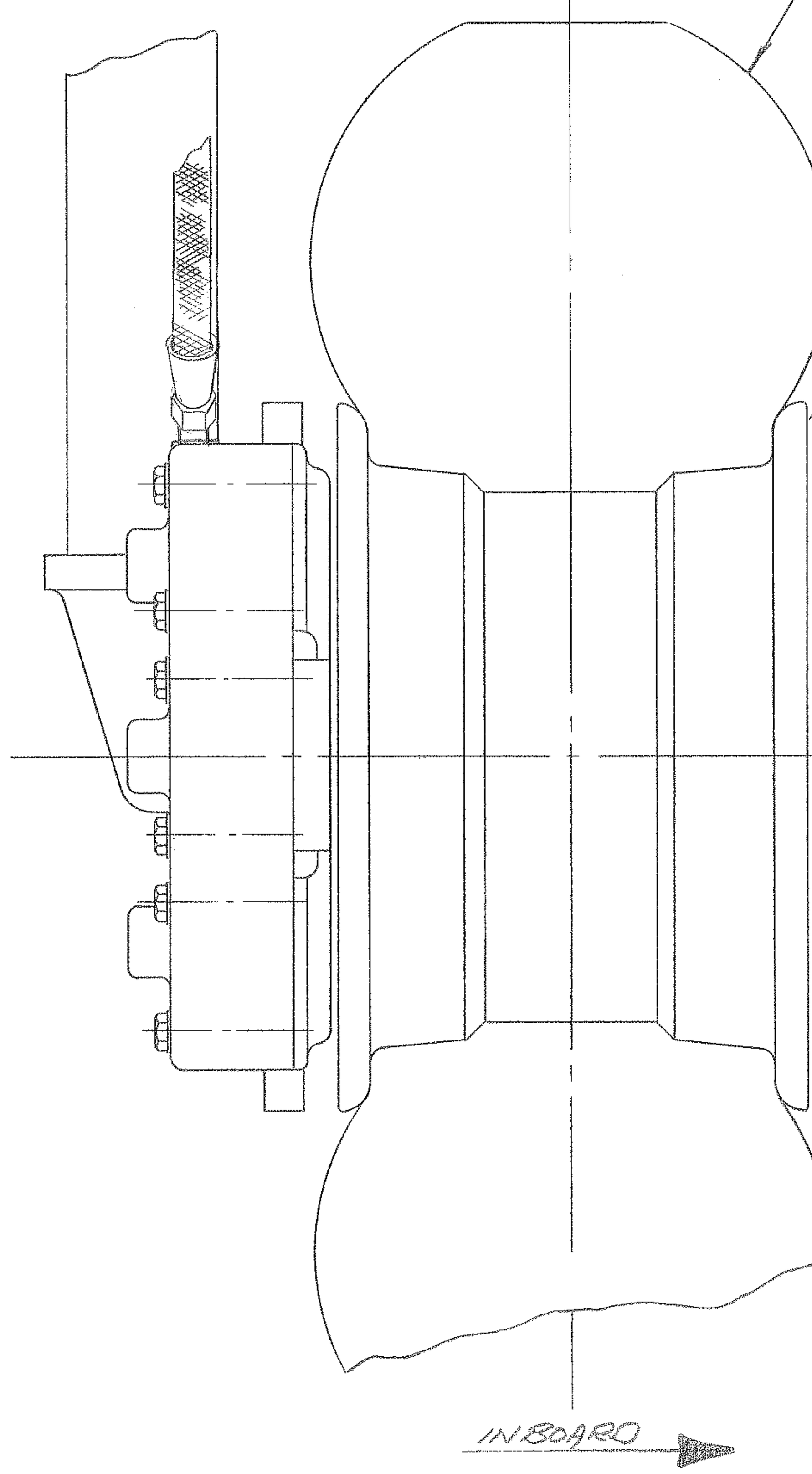
DO NOT SCALE

CHANGE NOTICE	LETTER	DESCRIPTION OF CHANGE	CHG. BY	DATE	CHK'D BY
275/99	+	INIT. RELEASE			

DETAIL A







WEIGHT AND BALANCE DATA

NEW INSTALLED

WHEEL ——— 12.3 LB'S.
BRAKE ——— 4.8 LB'S
TOTAL/SIDE — 17.1 LB'S

OLD REMOVED

TOTAL/SIDE ___

WEIGH EXISTING WHEELS & BRAKES. SUBTRACT FROM NEW WEIGHTS TO DERIVE WEIGHT INCREASE CREATED BY 199-138 KIT INSTALLATION. MULTIPLY WEIGHT INCREASE BY APPLICABLE AIRCRAFT MOMENT; REVISE WEIGHT & BALANCE INFO. IN LOG BOOK.

NOTES

1. 199-138 KIT INSTALLED PER THIS DRAWING IS APPLICABLE TO THE FOLLOWING AIRCRAFT. BEECHCRAFT MODEL NO'S. D55, D55A, E55, E55A, 58, 95, B95, B95A, D95A, E95, 95-55, 95-A55, 95-B55, 95-B55A, 95-B55B, 95-C55, 95-C55A 58A
2. EXISTING HARDWARE TO BE RETAINED AND REUSED
3. PARTS SUPPLIED IN KIT 199-138
4. REFER TO 199-138 INSTALLATION AND MAINTENANCE PROCEDURES.

QTY	QTY	ITEM	PART NO.	DESCRIPTION	MATERIAL & SPEC.	HEAT TREAT & SPEC.	FINISH & SPEC.	WGT.
X	X		50-97	WHEEL & BRAKE INSTALLATION				

NEXT ASSEMBLY | QTY | FINAL ASSEMBLY: AIRCRAFT | QTY: 1

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ZYGLO PER MIL-I-6866 STAMP P ON PART
MAGNAFLUX PER MIL-I-6868 STAMP M ON PART
√ MACHINED SURFACES PER MIL STD 10 UNLESS OTHERWISE NOTED
UNLESS NOTED ALL THREADS PER MIL-S-7742

PATTERN, CASTING OR BLANK NO.

WORK TO DIMENSIONS — DO NOT SCALE
TOLERANCE FOR .XXX ± .010
TOLERANCE FOR .XX ± .030
TOLERANCE FOR ANGULAR DIMS. ± 1/2°
TOLERANCE FOR FRACTIONAL DIMS. ± .030

BREAK SHARP EDGES .010 UNLESS NOTED. REMOVE ALL BURRS BEFORE PLATING. DRILL PER INSP. PROCEDURE NO. 114.

DRAWN BY: MAM
CHECKED BY:
SCALE: 1/2 = 1"

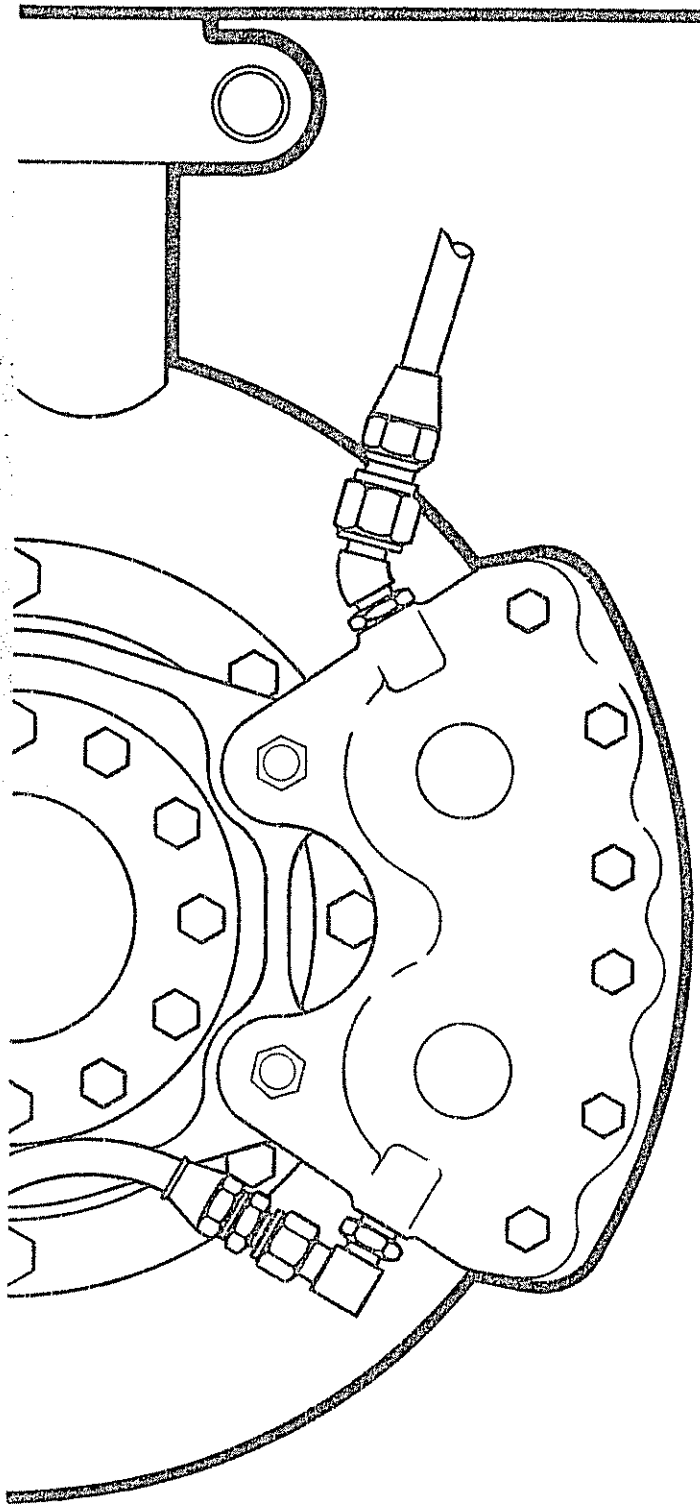
Cleveland Wheels & Brakes
Aircraft Wheel and Brake Division
Parker Hannifin Corporation
1160 Center Road
Avon, Ohio 44011

NAME: INSTALLATION DWG. FOR KIT 199-138

50-97

050-09700

Cleveland
Wheels & Brakes



Conversion Kit
Installation Manual

Kit Number 199-138
For
Beech Baron
Model Aircraft

Parker
General Aviation

Parker Hannifin Corporation
Aircraft Wheel & Brake Division
1160 Center Road
Avon Ohio 44011 USA
(216) 934 5221 871 6424

MASTER COPY

Kit Number 139-138

For

Beech Baron

Model Aircraft

INSTALLATION INSTRUCTIONS
Cleveland Wheels & Brakes Conversion Kit 199-138

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INSTALLATION INSTRUCTIONS
Cleveland Wheels & Brakes Conversion Kit 199-138

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INSTALLATION INSTRUCTIONS
Cleveland Wheels & Brakes Conversion Kit 199-138

LIST OF REVISIONS

REVISION	DATE	PAGE	DESCRIPTION	APVD
Initial Release	04/02/85	----	Installation Instructions Cleveland Wheels & Brakes Conversion Kit 199-138	

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INSTALLATION INSTRUCTIONS
Cleveland Wheels & Brakes Conversion Kit 199-138

Notes

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INSTALLATION INSTRUCTIONS
Cleveland Wheels & Brakes Conversion Kit 199-138

1. INTRODUCTION.

1.1 This manual is published for the guidance of personnel responsible for the installation of Cleveland Conversion Kit 199-138.

1.2 Each kit contains all materials and instructions needed to replace existing equipment with Cleveland wheels and brakes. Kit 199-138 will completely retrofit the aircraft to Cleveland wheels and brakes.

2. TSO NOTICE.

2.1 The wheels and brakes used in this conversion kit carry a "TSO" marking which identifies them as having been fully laboratory tested and qualified to meet the applicable Federal Aviation Agency (FAA) specifications and requirements.

2.2 After final certification, substitution of critical parts or changes of processes or materials are not permitted without requalification of the assemblies and resubmittal of the test data to the FAA for approval.

2.3 FAA regulations subject both Parker Hannifin, Aircraft Wheel and Brake Division and the user to constant surveillance to assure that uncompromising Quality Assurance materials and processing controls are maintained in order to provide replacement parts that are the same as the parts originally certified in the assembly.

3. APPLICABILITY.

3.1 "KIT 199-138":

MAKE	MODELS
Beech	D55,D55A,E55,E55A
Beech	58,58A
Beech	95,B95,B95A,D95A,E95 95-55,95-A55,95-B55, 95-B55A,95-B55B,95-C55 95-C55A

4. ORDER INFORMATION.

4.1 To order spare parts, contact the nearest Parker Hannifin, Aircraft Wheel & Brake distributor in your area, or call Parker Hannifin, Aircraft Wheel & Brake Division, Customer Service at 1-800-BRAKING for assistance.

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5 DESCRIPTION.

5.1 The brake is a single caliper, 3 piston external disc design, with sintered metallic lining. It is suitable for use with MIL-H-5606 brake fluid, and is composed of the following parts listed on page 18.

5.2 The wheel is cast magnesium and conforms to all Tire and Rim Association standards for a 7.00-8 divided type wheel. The wheel is a tube-type only. Rubber lip seals on the inner and outer wheel halves protect the bearings. It is composed of the following parts listed on page 16.

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6. INSTALLATION.

6.1 Jack aircraft in accordance with Beech Service Manual, deflate main wheels completely, and remove and retain axle nut and inboard and outboard spacers. Remove existing main gear wheels.

6.2 Disconnect lower hydraulic line at brake and cap. Next, disconnect existing brake assemblies from axle and remove.

6.3 The brakes are shipped from the factory as a complete assembly.

6.4 The wheel assemblies are shipped from the factory as a complete assembly. The bearings are packed with grease and installed in the wheel halves.

-NOTE-

Extended storage of lubricated bearings
may require relubrication.

6.5 Remove snap ring Item #12, grease seal Item #11, and bearing cone Item #10 from the outboard side of wheel assembly Item #1 and place on a clean surface to avoid contamination.

6.6 Remove all six (6) nuts Item #9, washers Item #8 and tie bolts Item #7 to separate wheel halves.

6.7 Position disc Item #13 and inner wheel half Item #3 on a flat surface with the register side up.

6.8 Place serviceable tire & tube over inner wheel half Item #3 and then place outer wheel half Item #6 in tire making sure to properly align inner and outer registers.

6.9 Slide tie bolts Item #7 through wheel assembly. Install washers Item #8 and nuts Item #9 on to tie bolts Item #7 and torque to 150 in-lbs.

6.10 Inflate tire to proper pressure in safety cage.

6.11 Inspect bearing cone Item #10 for contamination and/or solidification at every periodic inspection. Repack wheel bearings with Aeroshell 22 per MIL-G-81322C or equivalent if required.

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6.12 Check for burrs or rough threads on axle and axle nut.

6.13 Mount torque plate Item #39 to axle flange using new bolts Item #43, nuts Item #44 and washers Item #45. Torque at 150 in-lbs.

-NOTE-

Bolt head to be towards the wheel. Orientation as shown on Installation Drawing 50-97, Detail A

6.14 Mount wheel and tire assembly on axle using existing spacers as shown in Installation Drawing 50-97, Detail A.

6.15 Apply a thin coat of bearing grease on axle nut and threads. Install bearing cone Item #10, grease seal Item #11, and snap ring Item #12 in wheel. Install spacer, tang washer, and axle nut on axle. Tighten axle nut to 150 to 200 in-lbs of torque while rotating the wheel to insure proper seating of the bearings. Back off the axle nut to zero torque, then retorque the nut to 40 in-lbs while rotating the wheel. If the holes do not align, tighten the nut to the next available key position. Install a cotter pin.

-NOTE-

Axle nut torque to be 40 in-lbs minimum of torque

6.16 Loosen six (6) tie bolts Item #33 on 30-93C brake assembly, and remove three (3) back plates Item #26.

6.17 Slide new brake cylinder Item #17 into torque plate Item #39.

6.18 Install insulator shim Item #29 over tie bolts.

6.19 Install back plates Item #26 between brake disc and inner wheel flange. Align back plate with bolts, and torque at 80-90 in-lbs.

6.20 Reconnect hydraulic line. Check reservoir fluid level and bleed system.

6.21 Depress and release toe pedals several times. Rotate wheels by hand to check for excessive drag. A slight amount of drag is acceptable, however a severely bound-up system should be investigated and corrected. Drag could be caused by cocked lining, or air in hydraulic system.

6.22 Remove aircraft from jacks and condition linings per Section 9.

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7. WEIGHT AND BALANCE COMPUTATIONS

Weight: 17.1 lbs. per wheel and brake assembly.

Complete Form 337 and make appropriate log book entries.

8. FLIGHT MANUAL INSERTS (Located in front cover pocket)

8.1 Attach label listed "Item installed in airplane" in flight manual as close as possible to the original section labeled Main Wheel Assembly. Enter the correct arm and moment in blocks provided. Zero items out for the original main wheel and brake assemblies that have been removed.

9. METALLIC BRAKE LINING CONDITIONING PROCEDURE

9.1 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.

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

9.3 Conditioning may be accomplished as follows:

9.3.1 Perform two (2) full stop braking applications from 30 to 35 knots, allowing the brake discs to cool between each stop.

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

9.3.3 Avoid light use, such as taxiing, which will cause the glaze to be worn rapidly.

10. WARRANTY REGISTRATION

10.1 Completely fill out enclosed warranty card and return promptly. Postage is prepaid.

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11. MAINTENANCE

11.1 Wheel Maintenance

11.1.1 Inspect wheel half flanges for cracks and corrosion.

11.1.2 Inspect brake disc assembly for cracks, excessive wear or scoring, rust and corrosion. Disc should be replaced when worn to a thickness of .475 in. See Figure 4.

11.1.3 Check for loose bolts and nuts and retighten or replace if necessary.

-NOTE-

No repair or replacement is recommended while equipment is on aircraft.

11.2 Brake Maintenance

11.2.1 Visually check the brake for hydraulic leakage.

11.2.2 If brake pedal is not firm, bleed brakes again.

11.2.3 Check for loose bolts and nuts and retighten or replace as necessary.

11.2.4 Visually check lining for excessive wear or edge chipping. Linings should be replaced when worn to a thickness of .100 in. See Figure 4.

11.2.5 Recommended wear limits for discs and linings - See Section 12.2.5.

12. OVERHAUL

12.1 Wheel Overhaul

-NOTE-

Should be accomplished only while wheel is removed from aircraft.

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12.1.1 Dismounting

12.1.1.1 Deflate tire. Back plates must be removed from brake before wheel removal. Remove axle nut and outboard spacer. Remove wheel and tire assembly from axle as a unit. Remove snap ring Item #12, grease seals Item #11 and bearing cones Item #10 from both wheel halves Item #3, and Item #6.

12.1.1.2 Break tire beads away from wheel flange with a bead breaker or pneumatic tire dismounter.

-CAUTION-

DO NOT USE TIRE IRONS. THEY MAY DAMAGE THE WHEEL FLANGES OR TIRE BEADS.

12.1.1.3 Remove six (6) nuts Item #9, washers Item #8, and bolts Item #7 from the wheel assembly and remove brake disc.

12.1.1.4 Separate the wheel halves and remove the tire and tube.

-NOTE-

Bearing cups Item #4 are shrunk fit into the wheel halves and should not be removed unless replacement is necessary. If a bearing cup Item #4 is to be replaced, heat the wheel half to 149 degrees C (300 degrees F) maximum for 20 minutes before trying to remove the cup. Support the wheel hub while removing the bearing cup Item #4 shown in the following Figure 1.

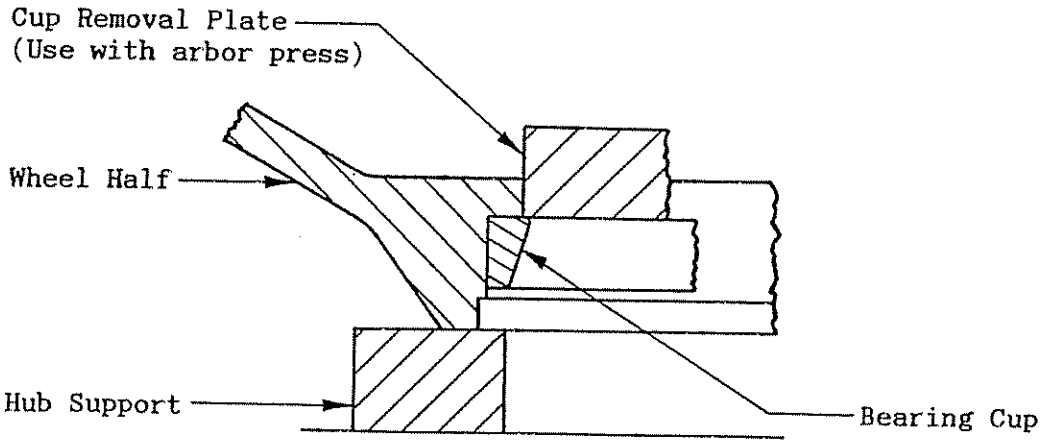

Figure 1 Supporting Wheel Hub

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12.1.2 Cleaning

12.1.2.1 Clean all metal parts in a suitable solvent and dry with a lint free cloth.

12.1.2.2 Wipe bearing grease seal clean with dry cloth. Do not use cleaning solvents on rubber components used in this wheel assembly.

12.1.2.3 Wash bearing cones in uncontaminated cleaning solution, rotate the bearing cones by hand while submerged in the solution. Repack bearings with grease immediately after inspection to prevent corrosion and place in a clean, closed container.

-CAUTION-

DO NOT SPIN DRY BEARINGS OR HANDLE BEARINGS WITH BARE HANDS.

12.1.2.4 Parts requiring fluorescent inspection are to be completely stripped using acetone or equivalent. Air dry parts after stripping is completed.

12.1.3 Inspection

-NOTE-

Inspect bolts Item #7 and wheel halves Item #3 & Item #6 after the fifth tire change, and then after the third subsequent tire change, for a total of twenty tire changes, and then at each and every tire change thereafter

12.1.3.1 Magnaflux bolts Item #7 for cracks and breaks.

12.1.3.2 With dye penetrant, inspect wheel halves Item #3 and Item #6 for cracks and breaks. Note in particular the bead seat, tube well, and web junction areas.

12.1.3.3 Visually inspect all metal parts for pitting, corrosion, cracks, breaks, uneven wear, and other surface defects.

12.1.3.4 Inspect bearing grease seal Item #11 for pits, cuts, and other defects. Replace as necessary.

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12.1.4 Repair and Replacement

12.1.4.1 Repair scratches, nicks, corrosion, and other surface blemishes on wheel halves Item #3 and Item #6 by sanding with emery cloth, removing as little material as possible. Polish repaired surfaces with 400 grit emery cloth.

12.1.4.2 Paint repaired areas with two of coats zinc chromate primer, and one coat of white lacquer.

-CAUTION-

NEVER PAINT WORKING SURFACES OF BEARING CUPS.

12.1.4.3 Replace all parts worn or damaged beyond limits of repair.

12.1.4.4 To replace bearing cups, proceed as follows:

12.1.4.4.1 Heat wheel halves to 149 degrees C (300 degrees F) maximum and cool cups to -18 degrees C (0 degrees F).

12.1.4.4.2 Support wheel hub and paint the ID of the hub with zinc chromate primer. Then press cup into wheel half as shown in Figure 2.

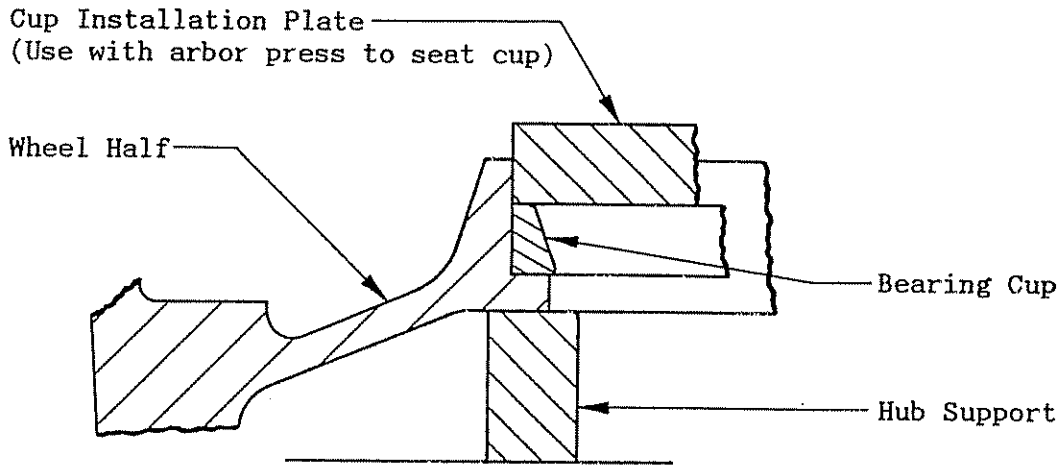

Figure 2 Supporting Wheel Hub

-NOTE-

The wet zinc chromate primer lubricates the parts to be pressed together and acts as protection against galvanic corrosion between the parts.

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12.1.5 Lubrication

12.1.5.1 Pack Aeroshell 22 or equivalent per MIL-C-81322C into bearing cones and smear grease on ends of rollers. Do not over lubricate. Spread a thin coat of grease on the surface of the bearing cups.

12.1.5.2 Lubricate threads of bolts and nuts and face of washers with thread compound.

12.1.6 Reassembly

12.1.6.1 Position disc Item #13 and wheel half Item #3 on a flat surface with register side up.

12.1.6.2 Place a serviceable tire & tube over inner wheel half Item #3 and then place outer wheel half Item #6 in the tire, making sure to properly align inner and outer wheel registers.

12.1.6.3 Slide tie bolts Item #7 through wheel assembly. Install washers Item #8 and nuts Item #9 on tie bolts Item #7 and torque to 150 in-lbs.

12.1.6.4 Inflate tire to proper pressure in a safety cage.

12.1.6.5 Install bearing cones Item #10 to inner wheel half Item #3 and outer wheel half Item #6.

12.1.6.6 Install grease seal Item #11 and snap ring Item #12 into the inner and outer wheel halves, Items #3 and #6.

12.2 Brake Overhaul

12.2.1 Dismounting

-NOTE-

It is not necessary to remove the wheel from the aircraft to disassemble and service brake assembly

12.2.1.1 Remove and cap hydraulic line.

12.2.1.2 Remove the cylinder tie bolts Item #33 and remove back plates Item #26.

12.2.1.3 Remove the brake cylinder assembly from the torque plate (the torque plate will remain mounted to the axle).

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12.2.1.4 Remove the pressure plate assembly, inlet fitting, and bleeder fitting.

12.2.1.5 The pistons may be removed by applying a slight amount of air pressure to the inlet or outlet ports of the cylinder.

12.2.1.6 Remove the O-rings from cylinder.

12.2.1.7 If necessary, the anchor bolts may be removed by using a holding fixture and arbor press. If possible, place the anchor bolts into the holding fixture so that the anchor bolt is piloted while being removed.

-CAUTION-

CYLINDER MUST BE SQUARE WITH ARBOR IN STEPS A AND B
SO THAT THE ANCHOR BOLTS DO NOT COCK.

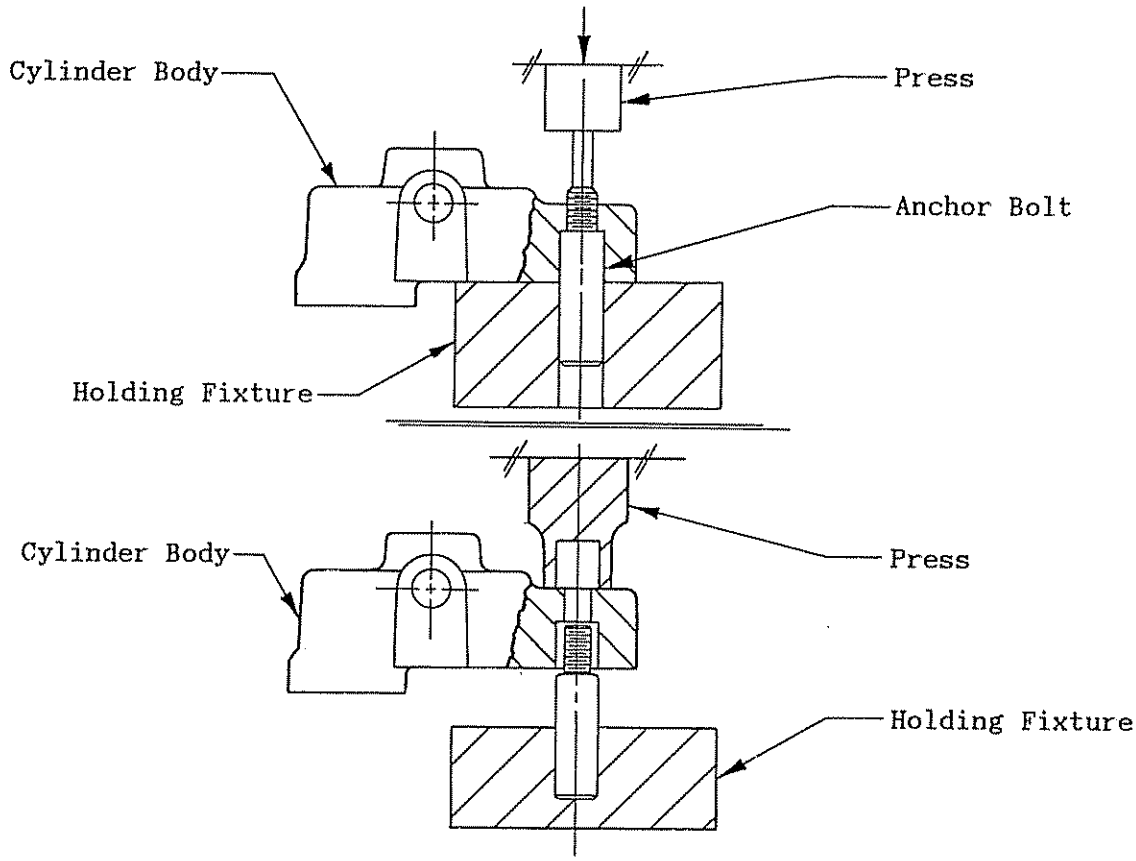

Figure 3 Anchor Bolt Removal

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12.2.2 Cleaning

12.2.2.1 Clean all metal parts in alcohol or suitable solvent.

12.2.2.2 Discard all O-ring seals.

12.2.3 Inspection

12.2.3.1 Inspect brake cylinder Item #18 for cracks, especially in the lug area around the anchor bolts. Cracks in this area necessitate cylinder replacement.

12.2.3.2 Small nicks and light corrosion may be blended and removed with emery or sand paper. Any area from which the protective coating is removed should be thoroughly cleaned, and repainted with one coat of zinc chromate primer, and one coat of white lacquer.

12.2.3.3 Inspect the fitting ports and piston bores for contamination. Light scratches or nicks in the piston bores, pilot bores, or on the chamfered surfaces within these bores may be polished out with #600 grit emery. NOTE: Nicks and burrs in the pilot bore area can prevent the pistons from properly retracting, resulting in brake drag.

12.2.3.4 Thoroughly clean out any residue upon completion of step 12.2.3.3. Any external surfaces around the piston bores from which the protective coating has been removed should be cleaned, and painted with one coat of zinc chromate primer and one coat of white lacquer.

-NOTE-

Do not paint internal surfaces of piston bores.

12.2.3.5 Inspect pistons Item #19 for nicks or burrs. Remove nicks or burrs by polishing with #600 grit emery. Thoroughly clean before reinstallation.

12.2.3.6 Inspect brake lining for edge chipping and surface deterioration. See section 12.2.5 for wear limits.

12.2.3.7 Lining replacement can be accomplished by prying the old segments off of the carrier with a screwdriver. To install new pads, apply a light film of glue to the backing material of the pad, and snap the new pad onto the carrier pins. The glue will retain the pads in the correct position when reassembling the brake.

-NOTE-

If the linings are changed, but the pistons are not removed from the cylinder, clean the exposed surfaces of the pistons before displacing the pistons back into the cylinder.

12.2.3.8 Inspect pressure plate Item #23 and back plates Item #26 for cracks or warpage. Replace if cracked or severely deformed. Inspect pins Item #25 for looseness. If loose, tighten with rivet set and anvil, part number 199-1A and 199-1B or replace with back plate and pressure plate assembly.

-NOTE-

Slightly warped pressure plates with relief slots can be fixtured in a vise and straightened when laid on a flat surface, flatness should be within .010 TIR. Warped pressure plates can cause brake drag.

12.2.3.9 Inspect anchor bolt holes in torque plate for internal corrosion or contamination. If present, clean with emery and apply a light coat of dry lube.

-NOTE-

For best service life, the cylinders must slide freely in the torque plate.

Check the anchor bolt hole and mounting bolt hole areas for elongation or cracks. Badly elongated or cracked parts should be replaced with new parts of corresponding part number. Minor corrosion on the torque plates may be removed with #600 grit emery.

-NOTE-

Surfaces from which the protective coating is removed should be painted with one coat of zinc chromate primer, and one coat of white lacquer.

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12.2.3.10 Inspect bolts Item #33 for cracks, thread damage, or corrosion and replace if necessary.

12.2.4 Reassembly

12.2.4.1 If removed, press anchor bolts Item #31 (ref. Figure 3) into brake and install washers and nuts. Torque nuts to 60-70 in-lbs.

12.2.4.2 Install inlet and bleeder fitting.

12.2.4.3 For piston installation, lubricate the piston, O-ring, and piston bore with a small amount of MIL-H-5606 hydraulic fluid. Place piston in bore and rotate to seat drag ring and insure that piston and seal are in proper alignment. Tap the piston with a wooden or plastic mallet while alternately rotating. If considerable effort is required, remove piston and inspect bore and pilot bore area for damage. If the bore is damaged, check the corresponding area of the piston for damage. Repair, if necessary, and repeat the above procedure.

12.2.4.4 Install pressure plate assembly by aligning anchor bolt holes with anchor bolts and slide onto cylinder. The pressure plate must float freely on the anchor bolts.

12.2.4.5 Install brake assembly to torque plate by aligning anchor bolts with torque plate holes and sliding brake assembly onto torque plate (it must slide freely).

12.2.4.6 Install washers Item #34, tie bolts Item #33, and insulator shim Item #29. Install back plate assemblies Item #26 between brake disc and wheel flange, and align with tie bolts. Torque bolts to 75-80 in-lbs.

12.2.4.7 Reconnect hydraulic lines and bleed system. Check pedal for proper feel and travel.

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12.2.5 Wear Limits

12.2.5.1 Maximum wear limits for brake linings and discs are shown in the following sketch. Disc warpage should not exceed .015 in.

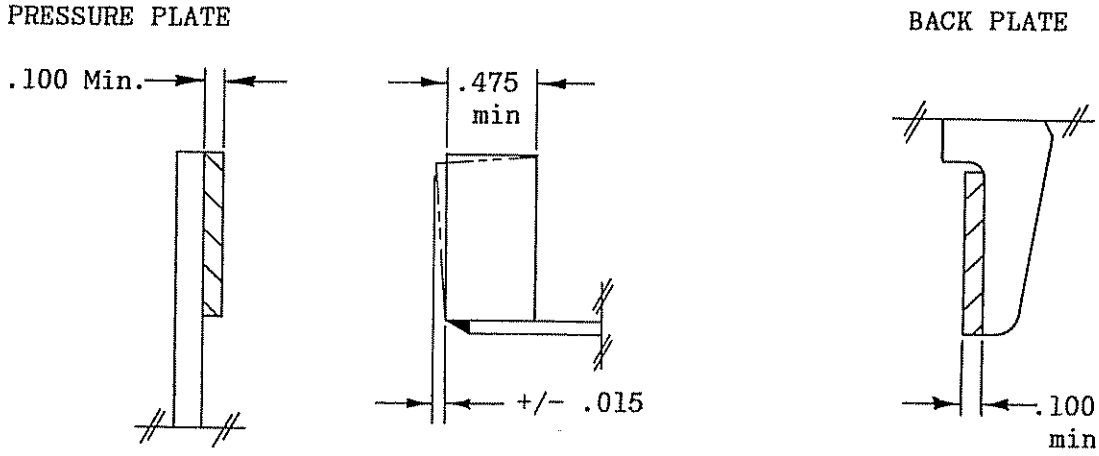

Figure 4
Lining and Disc Wear Limits

April, 1985

13. PARTS LIST

13.1 Wheel Parts List

AIRCRAFT WHEEL AND BRAKE DIVISION

PARKER HANNIFIN CORPORATION

AVON, OHIO

PARTS LIST

40-128D WHEEL ASSEMBLY 7.00-8 TYPE III

ITEM	OLD P/N	CODE NO.	DESCRIPTION	QUANTITY
1	40-128D	040-12804	Wheel Assembly	1
2	161-23A	161-02301	Inner Wheel Half Assembly	1
3	151-19A	151-01901	Wheel Half - Inner	1
4	13836	214-00100	Cup - Bearing (Timken)	1
5	162-21A	162-02101	Outer Wheel Half Assembly	1
6	152-17A	152-01701	Wheel Half - Outer	1
4	13836	214-00100	Cup - Bearing (Timken)	1
7	103-217	103-21700	Bolt	6
8	AN960-516	095-10500	Washer	6
9	AN365-524	094-10400	Nut	6
10	13889	214-00200	Cone - Bearing (Timken)	2
11	154-30	154-03000	Molded Grease Seal Assembly	2
12	3023	155-00100	Ring - Snap	2
13	164-61	164-06100	Brake Disc Assembly	1
14	67-34	067-03400	Axle Spacer	1
15	166-77	166-07700	Nameplate	1

April, 1985

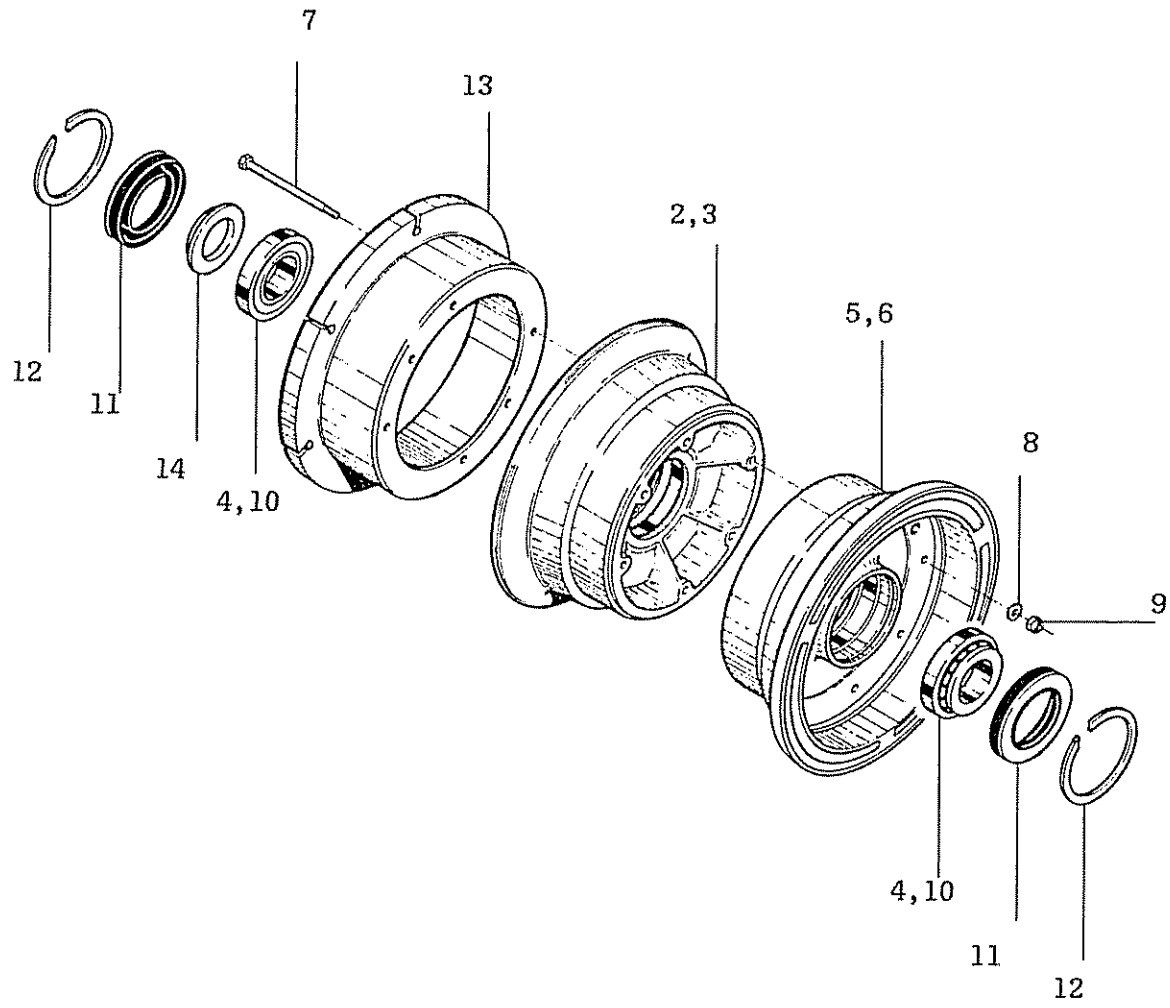

Figure 5
40-128D Wheel Assembly

April, 1985

13.2 Brake Parts List

AIRCRAFT WHEEL & BRAKE DIVISION

PARKER HANNIFIN CORPORATION

AVON, OHIO

PARTS LIST

30-93C BRAKE ASSEMBLY

ITEM	OLD P/N	CODE NO.	DESCRIPTION	QUANTITY
16	30-93C	030-09303	Brake Assembly	1
17	91-155	091-15500	Cylinder Assembly	1
18	61-52A	061-05201	Cylinder	1
19	92-28	092-02800	Piston Assembly	3
20	62-26	062-02600	Piston	3
21	82-20	082-02000	Friction Ring	3
22	88-1	088-00100	Insulator	3
23	73-25	073-02500	Pressure Plate Assembly	1
24	63-24	063-02400	Plate - Pressure	1
25	177-3	177-00300	Pin	6
26	74-12	074-01200	Back Plate Assembly	3
27	64-17	064-01700	Plate - Back	3
25	177-3	177-00300	Pin	6
28	MS28775-132	101-23200	O-Ring	3
29	68-27	068-02700	Shim - Back Plate	1
30	66-97	066-09700	Lining	6
31	69-4	069-00400	Bolt - Anchor	2
32	AN365-428	094-10300	Nut	2
33	LP4-20AM	103-11700	Bolt	6
34	AN960-416L	095-10200	Washer	8
35	183-1	183-00100	Cap - Bleeder	1
36	FC-6446	079-00300	Screw - Bleeder	1
37	AN6227-7	101-00700	O-Ring	1
38	81-2	081-00200	Seat - Bleeder	1
39	75-127	075-12700	Torque Plate Assembly	1
40	65-112	065-11200	Plate - Torque	1
41	145-52	145-05200	Bushing	2
42	166-65	166-06500	Nameplate	1

April, 1985

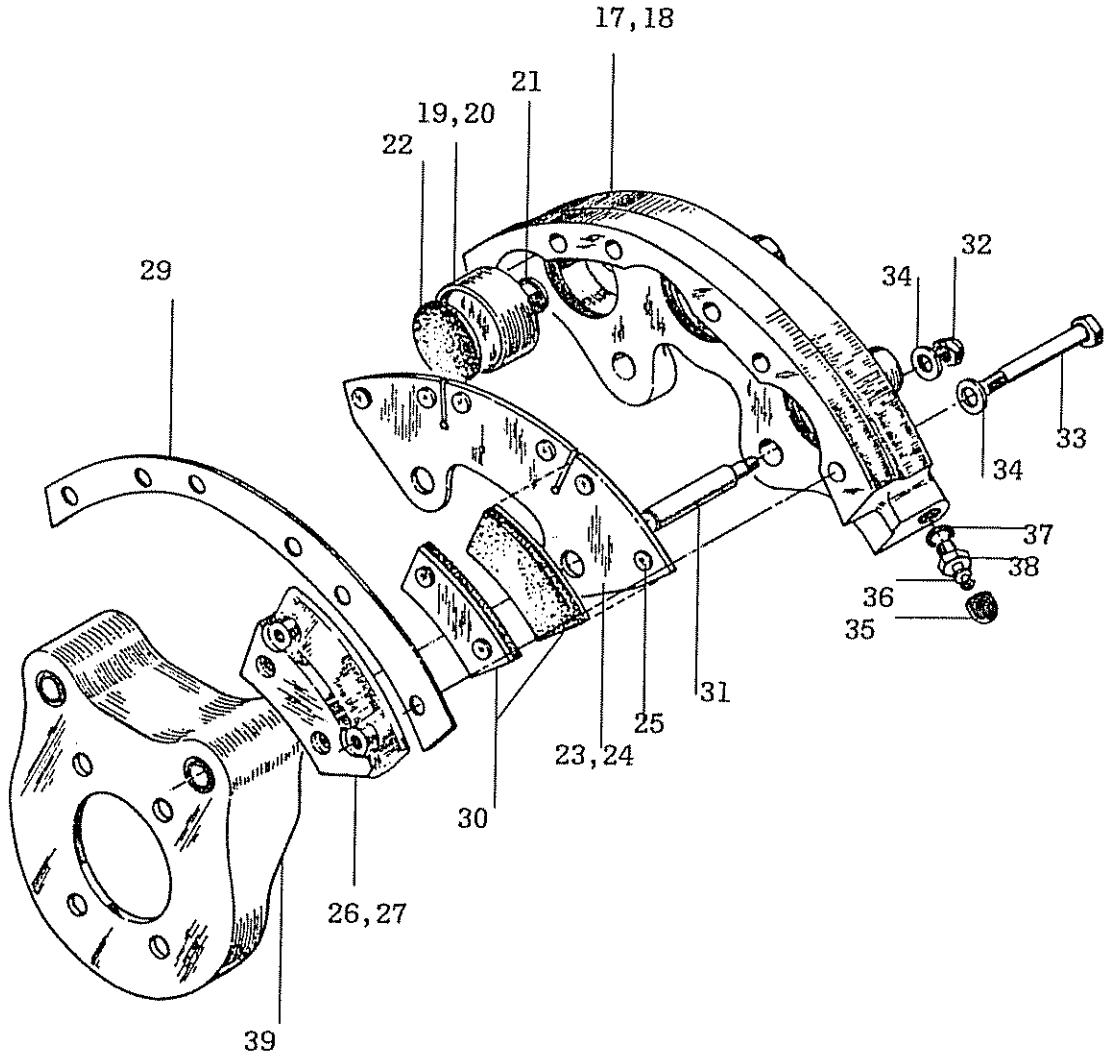

Figure 6
030-09303 Brake Assembly

April, 1985

13.3 Kit Parts List

AIRCRAFT WHEEL & BRAKE DIVISION

PARKER HANNIFIN CORPORATION

AVON, OHIO

PARTS LIST

199-138 CONVERSION KIT

BEECH BARON

ITEM	OLD P/N	CODE NO.	DESCRIPTION	QUANTITY
16	30-93C	030-09303	Brake Assembly*	2
1	40-128D	040-12804	Wheel Assembly**	2
43	AN5-7A	103-21300	Bolt	8
44	AN365-524	094-10400	Nut	8
45	AN960-516L	095-10700	Washer	16
46	104-31	104-03100	90° Inlet Fitting	2
		50-97	Installation Drawing	1
			Installation Manual	1
			STC	1
			Warranty Registration Card	1
			Flight Manual Revisions	1

* For Subassembly and Parts Identification: See 30-93C Parts List
** For Subassembly and Parts Identification: See 40-128D Parts List

April, 1985

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

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

Civil Aviation Authority
AUSTRALIA

GPO Box 367 Canberra ACT 2601
Australia
Telephone (06) 268 4111
Telex 62221
Fax (06) 268 5683

Ref: F95/0025

Manager
Aircraft Wheel & Brake Division
Parker Hannifin Corporation
1160 Center Road
Avon, Ohio 44011 U.S.A.

Dear Sir.

Re: FAA STC SA912GL - Beech Models as per STC Sheet

We have received an application from:-

Manager
Cincinnati Investments Pty Ltd
114 Beaconsfield Road
Chatswood 2067
Australia,

- for validation of the subject STC.

This is to advise that the STC has been validated to the revision dated July 15 1985 and entered in the "Register Of Foreign STCs Acceptable in Australia".

Please advise this office of any subsequent revisions to this STC.

Yours faithfully,

R Smith
Manager
Aircraft Certification
16 January 1995

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 SA912GL

This certificate, issued to Aircraft Wheel & 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 3 *of the* Civil Air *Regulations.* See Type Certification Data Sheet 3A16 for complete certification basis.

Original Product — Type Certificate Number 3A16

Make Beech Aircraft Corporation

Model D55, D55A, E55, E55A, 58, 58A, 95, B95, B95A, D95A, E95, 95-55, 95-A55, 95-B55, 95-B55A, 95-B55B, 95-C55, 95-C55A

Description of Type Design Change:

Install Aircraft Wheel and Brake Conversion Kit 199-138, no revision, dated April 8, 1985, in accordance with Cleveland Wheels and Brakes Installation Drawing 50-97, no revision, dated April 8, 1985, or other FAA approved revisions of Kit 199-138 and installation drawing 50-97.

Limitations and Conditions

Compatibility of this modification with other previously approved modifications must be determined by the installer.

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 May 15, 1985 *Date reissued*

Date of issuance June 25, 1985 *Date amended* July 15, 1985

FEDERAL AVIATION ADMINISTRATION

By direction of the Administrator

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

FAA Form 8110-2 (10-68)