AIRCRAFT WHEEL & BRAKE DIVISION

PARKER HANNIFIN CORPORATION

AVON, OHIO

PARTS LIST

199-61 Conversion Kit
Cessna Models 190, 195, 195A & 195B

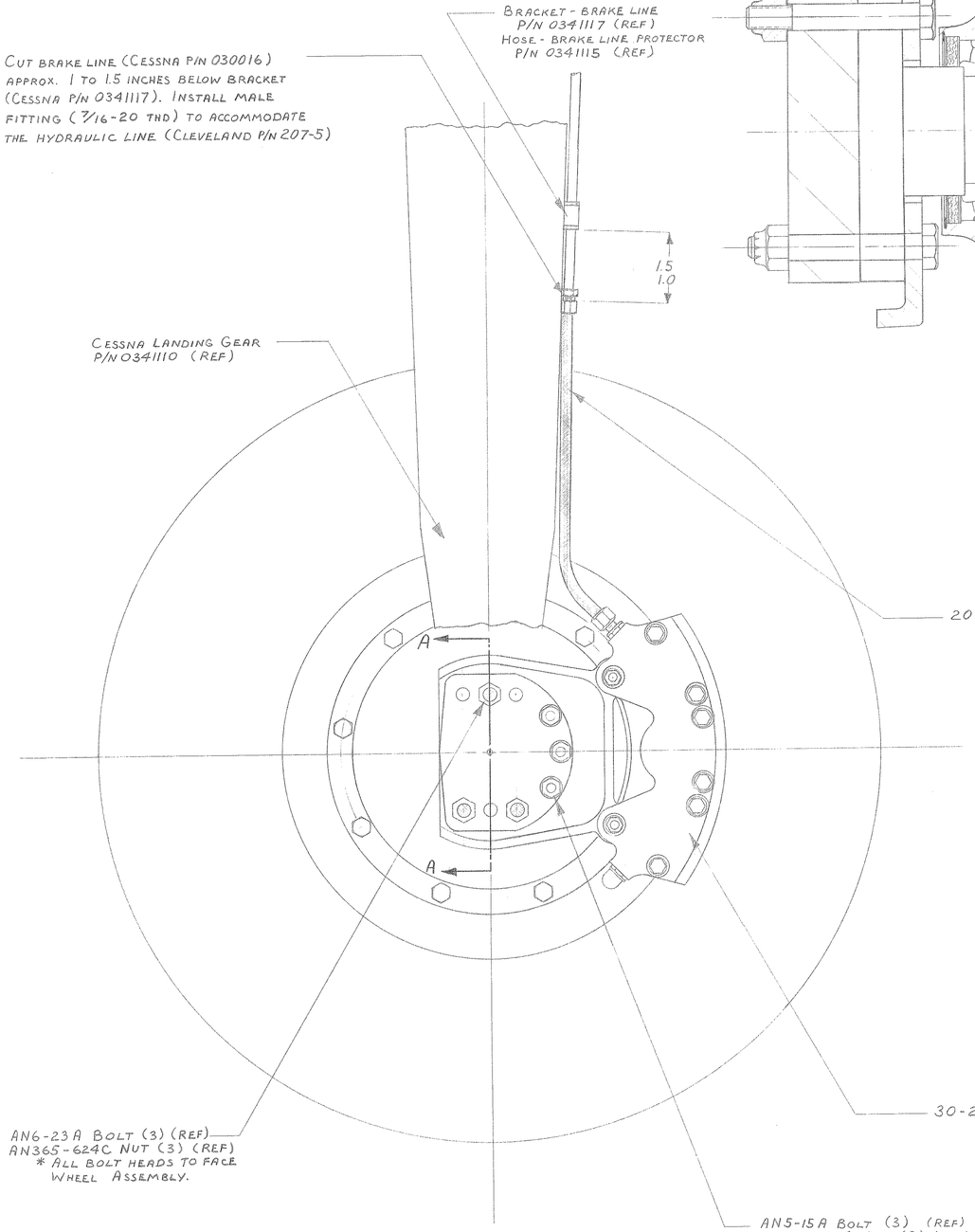
	PART NUMBER	IBM CODE	DESCRIPTION	QUANTITY
(A)	40-40C	040-04003	Wheel Assembly	2
	30-28C	030-02803	Brake Assembly	2
	207-5	207-00500	Hydraulic Line	2
	50-33		Installation Drawing, MLG	1
	SA54GL		Supplemental Type Certificate	1
			Brake Lining Conditioning Procedure	1

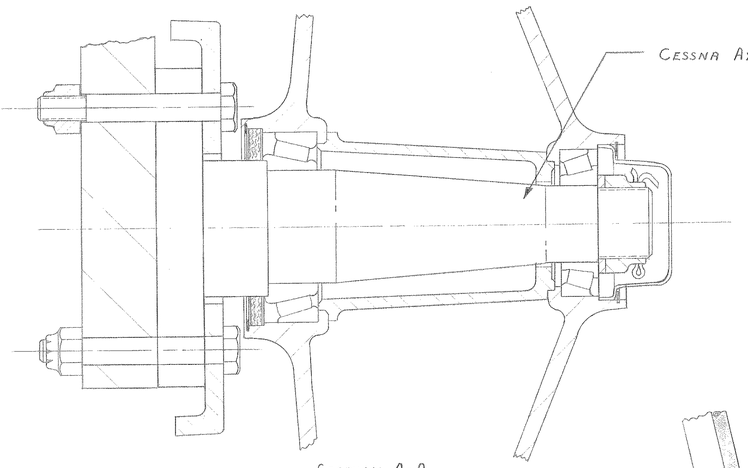
199-61
10-29-73
04-23-79 REV A

DO NOT SCALE

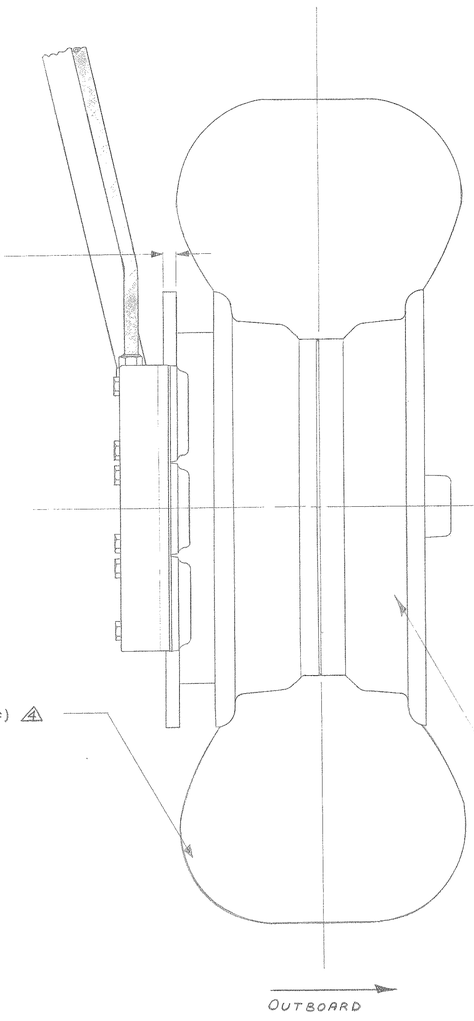
50-33 D

CHANGE NOTICE	LETTER	DESCRIPTION OF CHANGE	CHG. BY	DATE	CHK'D. BY
2.67/15	C	REVISE & REDRAW	BB	4/19/78	
294/198	D	164-8F WAS 164-8	AL	2-24-89	BB





SECTION A-A
AXLE DETAIL - FULL SCALE



NOTES:

1. THIS INSTALLATION APPLIES TO CESSNA AIRCRAFT MODELS 190, 195, 195A AND 195B.
2. COMPONENTS SUPPLIED BY CLEVELAND WHEELS & BRAKES.
3. THIS INSTALLATION DOES NOT APPLY TO AIRCRAFT WITH CROSS WIND (CASTERING) LANDING GEAR.
4. THIS INSTALLATION REQUIRES 6.50-10, 8 PLY TIRES.
5. (D) WHEEL ASS'Y UTILIZES A 164-8F BRAKE DISC ASS'Y. BRAKE ASS'Y UTILIZES 66-33 LININGS.

INSTALLATION INSTRUCTIONS

1. PROPERLY JACK UP AIRCRAFT.
2. REMOVE EXISTING M.L.G. WHEELS.
3. DISCONNECT HYDRAULIC LINES, AND CAP.
4. REMOVE EXISTING BRAKE ASSEMBLIES.
5. CUT BRAKE LINE (CESSNA P/N 0300106) APPROX. 1 - 1.5 INCHES BELOW THE SUPPORT BRACKET (CESSNA P/N 0341117). INSTALL A MALE FLARE FITTING (7/16-20 THREAD) TO ACCOMMODATE THE FLEXIBLE HYDRAULIC FEED LINE (CLEVELAND P/N 207-5).
6. INSTALL 75-89 TORQUE PLATE ASS'Y USING HARDWARE SPECIFIED ON DRAWING.
7. INSTALL MOUNTED 40-40C WHEEL ASS'Y, 07100 OUTBOARD BEARING, TAB WASHER, AND AXLE NUT. WHILE ROTATING WHEEL, TIGHTEN AXLE NUT TO 40 IN-LBS, THEN BACK OFF TO 0. WHILE ROTATING WHEEL, RETIGHTEN AXLE NUT TO 20 IN-LBS. IF SLOT IN NUT AND HOLE IN AXLE DO NOT ALIGN, ROTATE NUT (TIGHTENING OR LOOSENING) UNTIL NEAREST POSSIBLE ALIGNMENT IS REACHED. INSERT COTTER PIN. INSTALL 158-8 HUB CAP AND 155-6 SNAP RING.
8. LOOSEN 6 TIE BOLTS ON NEW BRAKE ASS'Y AND REMOVE 3 BACK PLATES.
9. SLIDE NEW BRAKE CYLINDER INTO PREVIOUSLY MOUNTED TORQUE PLATE ASS'Y.
10. MAKE SURE THE INSULATOR SHIM IS IN POSITION ON THE TIE BOLTS AND PLACE BACK PLATES BETWEEN BRAKE DISC AND WHEEL FLANGE. ALIGN BACK PLATES WITH TIE BOLTS, AND TORQUE BOLTS TO 75-80 IN-LBS.
11. INSTALL 207-5 FLEXIBLE HYDRAULIC FEED LINE. CHECK FLUID LEVEL, AND BLEED SYSTEM.
12. INFLATE TIRES TO CORRECT PRESSURE.
13. DEPRESS AND RELEASE TOE PEDALS SEVERAL TIMES. ROTATE WHEELS BY HAND, CHECKING FOR BRAKE DRAG. A SLIGHT AMOUNT OF DRAG IS ACCEPTABLE AND NOT DETRIMENTAL. HOWEVER, A SEVERELY BOUND SYSTEM SHOULD BE INVESTIGATED AND CORRECTED. EXCESS DRAG CAN BE CAUSED BY AN IMPROPERLY SEATED LINING.
14. REMOVE AIRCRAFT FROM JACKS AND CONDITION LININGS PER ENCLOSED INSTRUCTION SHEET.

QTY	QTY	ITEM	PART NO.	DESCRIPTION	MATERIAL & SPEC.	HEAT TREAT & SPEC.	FINISH & SPEC.	WGT.
NEXT ASSEMBLY		QTY	FINAL ASSEMBLY	QTY	PATTERN, CASTING OR BLANK NO.	DRAWN BY JB 8/17/73		
			ZYGLO PER MIL-I-6866 STAMP M ON PART		WORK TO DIMENSIONS – DO NOT SCALE TOLERANCE FOR .XXX ± .010 TOLERANCE FOR .XX ± .020 TOLERANCE FOR ANGULAR DIMS. ± 1/2° TOLERANCE FOR FRACTIONAL DIMS. ± .030	CHECKED BY		
			MAGNAFLUX PER MIL-I-6868 STAMP P ON PART			SCALE 1/2		
			√ MACHINED SURFACES PER MIL-STD 10 UNLESS OTHERWISE NOTED		BREAK SHARP EDGES .010 UNLESS NOTED. REMOVE ALL BURRS BEFORE PLATING. DRILL PER INSP. PROCEDURE NO. 114.	NAME CLEVELAND WHEELS & BRAKES INSTALLATION		50-33
			UNLESS NOTED ALL THREADS PER MIL-S-7742					

Cleveland Wheels & Brakes
1160 Avon Center Road, Avon, Ohio 44011
a division of VanSickle Industries, Inc.
"the brake people"

050-03300

Civil Aviation Authority
AUSTRALIA

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

Ref: F93/0213

The Manager
Cleveland Wheels & Brakes
Division of Van Sickle Industries
1160 Avon Center Road
AVON, OHIO 44011

Dear Sir,

Re: FAA STC SA54GL

We have received an application from The Old Aeroplane Company Pty Ltd of 2 Canadian Way Road, MT. ELIZA VIC 3930 for validation of the subject STC for Installation of Cleveland Wheel and Brake Conversion Kit P/N 199-61 in accordance with Cleveland Installation Drawing 50-33, Revision B dated August 17, 1973 installed in a Cessna 195.

This is to advise that the STC has been validated and has been entered in the Register of Foreign Supplemental Type Certificates Acceptable in Australia.

Yours faithfully

(R.J. Brent)
for Branch Manager
Airworthiness and Operations

4 March 1993

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 SA54GL

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 3 *of the* Civil Air *Regulations.* (See Aircraft Specification No. A-790 for Complete Certification Basis)

Original Product—Type Certificate Number A790
Make Cessna
Model 190, 195, 195A, and 195B

Description of Type Design Change

Install Cleveland Wheel and Brake Conversion Kit P/N 199-61 in accordance with Cleveland Installation Drawing 50-33, Revision C dated April 19, 1979.

Limitations and Conditions

1. A 6.50x10-8 ply tire is to be used with Cleveland Conversion Kit P/N 199-61.
2. This installation is not eligible for use on aircraft equipped with the optional crosswind (castering) landing gear.
3. This approval should not be incorporated in any aircraft of these specific models on which other approved modifications are incorporated, unless it is determined that the interrelationship between this change and any of those previously incorporated approved modifications will not introduce any 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 November 7, 1973

Date of issuance June 10, 1974

Date reissued October 28, 1980

Date amended April 1, 1981

By direction of the Administrator

W. F. Horn, Jr. *(Signature)*
Chief, Engineering & Manufacturing Branch,
Great Lakes Region AGL-210
(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)

Cleveland
Wheels & Brakes

WEIGHT AND BALANCE

FOR

199-06100 KIT

Major components of this kit may differ in weight from existing equipment. Removed components as listed should be weighed. Subtract old installation weight from new installation weight to determine weight change created by installation of this kit. Multiply weight change by moment (applicable to aircraft) and revise weight and balance information in aircraft log book.

DATA

OLD INSTALLATION

Unit	Weight / Unit		# of Units		Weight	
Brake	_____	X	2	=	_____	LBS.
Wheel	_____	X	2	=	_____	LBS.
			TOTAL	=	_____	LBS.

NEW INSTALLATION

Unit	Weight / Unit		# of Units		Weight	
Brake	4.07	X	2	=	8.14	LBS.
Wheel	14.10	X	2	=	28.20	LBS.
			TOTAL	=	36.34	LBS.

Parker
General Aviation