

AIRCRAFT WHEEL & BRAKE DIVISION  
PARKER HANNIFIN CORPORATION  
AVON, OHIO

PARTS LIST

199-76 CONVERSION KIT

CESSNA MODELS

340, 340A, 401, 401A, 401B, 402, 402A, 402B, 402C,  
411, 411A, 414, 414A, 421, 421A, 421B, 421C

<u>PART NUMBER</u>	<u>DRAWING REVISION</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>
30-100	Rev. D dated 06-21-2006	Brake Assembly	2
40-135A	Rev. E dated 11-22-2006	Wheel Assembly	2
067-04300	Rev. A dated 09-15-1978	Spacer	2
104-00200	-----	Fitting (AN815-4D)	2
101-00700	-----	O-Ring (MS28775-012)	2
104-02000	-----	Elbow Fitting (AN837-4D)	2
094-90500	-----	Nut (AN924-4D)	2

Publication Package (P/N PP199-07600)

50-47	Rev. G dated 10-27-1988	Installation Drawing (Two Sheets)
SA197GL	Last amend date 1-26-83	Supplemental Type Certificate (Cessna Models 401, 401A, 401B, 402, 402A, 402B, 402C, 411, 411A, 414, 414A, 421, 421A, 421B, 421C)
SA664GL	Issue date 2-24-83	Supplemental Type Certificate (Cessna Models 340, 340A)
PRM14A	-----	Metallic Brake Lining Conditioning Procedure
PRM69	-----	General Maintenance Information
-----		Product Registration Card

**NOTES:**

- This kit will convert one aircraft to Cleveland Wheels and Brakes.
- For use with MIL-H-5606 (Red Fluid).

199-76  
REV. E 12-20-1982 (271-39)  
REV. F 10-27-1988 (293-17)  
REV. G 05-08-2007 (0374-74)

DO NOT SCALE

## 199-76 CONVERSION KIT

THE CONVERSION KIT INSTALLED PER THIS DRAWING IS APPLICABLE TO THE FOLLOWING CESSNA AIRCRAFT:

MODELS 340 AND 340A (SEE NOTE (A) SHEET 1)  
MODELS 401, 401A AND 401B  
MODELS 402, 402A, 402B AND 402C  
MODELS 411 AND 411A  
MODELS 414 AND 414A  
MODELS 421, 421A, 421B AND 421C  
(SEE SHEET 2 FOR 421C INSTALLATION)

## INSTALLATION INSTRUCTIONS:

1. PROPERLY JACK-UP AIRCRAFT.
2. REMOVE EXISTING M.L.G. WHEELS.
3. DISCONNECT EXISTING HYDRAULIC INLET LINE AND CAP. IF AIRCRAFT USES GOODYEAR WHEELS AND BRAKES, REPLACE EXISTING HOLE WITH CESSNA HOSE 31167-4-0520 OR MS 28741-4-0520. IF AIRCRAFT USES CLEVELAND WHEELS AND BRAKES, USE EXISTING LINE.
4. REMOVE EXISTING BRAKES.
5. INSTALL TORQUE PLATE P/N 075-01902 (75-13B) (NOTE: ON THE FOLLOWING MODELS INSTALL CESSNA SPACER 5041000-33 BETWEEN MOUNTING FLANGE AND NEW TORQUE PLATE.)  
MOD. 401B: 5/16 0001 THRU 0230 (PRESENTLY GOODYEAR BRAKES)  
MOD. 402: 5/16 0001 THRU 0230 (PRESENTLY GOODYEAR BRAKES)  
MOD. 402B: 5/16 0234 AND ON (PRESENTLY CLEVELAND BRAKES)  
MOD. 414: 5/16 0001 THRU 0230 (PRESENTLY GOODYEAR BRAKES)  
MOD. 414: 5/16 0236 AND ON (PRESENTLY CLEVELAND BRAKES)  
MOD. 421: 3/4 721-0001 TO 721-0001 (PRESENTLY GOODYEAR BRAKES)

**NOTICE!**  
SEE DETAIL A ON SHEET 2 BEFORE PROCEEDING TO STEP NO. 5

(REF.)  
MTG. HARDWARE (USE EXISTING)

MODEL 401, 402, 414 & 421  
B- BOLT - NAS 464P4AB  
B- WASHER - AN960-416 (UNDER NUT)  
B- NUT - MS 21042L4 (TORQUE TO 100-120 IN-LBS)  
MODEL 414: (REF.)  
B- BOLT - NAS 464P4AB  
B- WASHER - AN960-416L (UNDER NUT)  
B- NUT - MS 21042L4 (TORQUE TO 100-120 IN-LBS)

USE CESSNA  
HOSE  
31167-4-0520 OR  
MS 28741-4-0520

504-1000-33 SPACER  
INSTALLED BETWEEN 75-19B  
TORQUE PLATE AND AXLE  
MTG. FLANGE ON SOME  
MODELS.  
SEE NOTE (E) FOR MODEL  
AND S/N APPLICABILITY.

40-135A WHEEL ASSY  
6.50-10 TYPE II

(REF.)  
AN7503-15 OR  
MS 21258-15 WASHER  
AXLE NUT - CM 2910-15  
COTTER PIN - MS 24665-357

HUB CAP - 158-B (REF.)

SNAPPING - 155-6 (REF.)

30-100 BRAKE ASSY

AN815-40 INLET FITTING WITH  
AN 6227-7 "O" RING

R.H. VIEW  
FWD.

NOTE: ON INSTALLATIONS USING  
EXISTING HOSE, USE 45°  
FITTING AS SHOWN ON SHEET 2.

6. REMOVE 155-6 SNAP RING, 158-B HUB CAP, COTTER PIN, AXLE NUT, WASHER AND BEARING.
7. INSTALL WHEEL ASSY 40-135A ON AXLE. INSTALL 07100 BEARING, MS 21258-15 WASHER OR AN7503-15 WASHER, AND CM 2910-15 AXLE NUT. WHILE ROTATING WHEEL, TIGHTEN AXLE NUT TO 40 IN-LBS, THEN BACK OFF TO 0 WHILE ROTATING, TIGHTEN AXLE NUT TO 20 IN-LBS. IF SLOT IN NUT AND HOLE IN AXLE DO NOT LINE UP, ROTATE NUT (TIGHTENING OR LOOSENING), TILL NEAREST POSSIBLE ALIGNMENT IS REACHED. INSERT MS 24665-357 COTTER PIN. INSTALL 158-B HUB CAP AND 155-6 SNAP RING.
8. LOOSEN 8 TIE BOLTS ON NEW BRAKE ASSY AND REMOVE 4 BACKPLATES.
9. SLIDE NEW BRAKE CYLINDER ON GEAR LEG.
10. MAKE SURE THE INSULATOR SHIM IS IN POSITION ON THE TIE BOLTS AND PLACE BACK PLATE ASSY'S BETWEEN BRAKE DISC AND WHEEL FLANGE. ALIGN BACK PLATE ASSY'S WITH THE BOLTS AND TORQUE BOLTS TO 75-80 IN-LBS.
11. INSTALL AN815-40 INLET FITTINGS AND RECONNECT HYDRAULIC LINE. CHECK RESERVOIR FLUID LEVEL AND BLEED SYSTEM. SEE R.H. VIEW.
12. INFLATE TIRES TO AIRCRAFT SPEC.
13. DEPRESS AND RELEASE THE 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 UP 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.
15. WEIGHT AND BALANCE INFORMATION:  
a) FOR AIRCRAFT USING CLEVELAND EQUIPMENT (40-40A WHEEL & 30-23B BRAKE)  
WEIGHT INCREASE \_\_\_\_\_ MOMENT INCREASE \_\_\_\_\_  
+ 8.0 LBS. (+8.0) x (MOMENT ARM, APPLICABLE 40-40A) IN-LBS.  
b) FOR AIRCRAFT USING GOODYEAR EQUIPMENT  
WEIGHT INCREASE \_\_\_\_\_ MOMENT INCREASE \_\_\_\_\_  
+ 0.6 LBS. (+0.6) x (MOMENT ARM, APPLICABLE 40-40A) IN-LBS.  
c) FOR AIRCRAFT USING CLEVELAND EQUIPMENT (40-135 WHEEL & 30-100 BRAKE)  
WEIGHT INCREASE \_\_\_\_\_ MOMENT INCREASE \_\_\_\_\_  
+ 0.6 LBS. (6.0) x (MOMENT ARM, APPLICABLE 40-40A) IN-LBS.

IN SOME CASES WHEN INSTALLING THIS KIT ON CESSNA 340 AIRCRAFT, IT IS NECESSARY TO ADJUST THE RUDDER PEDALS TO OBTAIN A MORE VERTICAL POSITION. IF THIS ADJUSTMENT IS NOT MADE, THE PEDALS MAY ROTATE PAIR 45° FROM VERTICAL AT WHICH POINT, MAX. BRAKE PRESSURE IS DIFFICULT TO OBTAIN.

QTY	ITEM	PART NO.	DESCRIPTION	MATERIAL & SPEC.	HEAT TREAT & SPEC.	FINISH & SPEC.	NOT.
1	30-100 BRAKE ASSY	30-100	30-100 BRAKE ASSY	STEEL	Q&T	BLACK	
1	40-135 WHEEL ASSY	40-135	40-135 WHEEL ASSY	STEEL	Q&T	BLACK	
1	AN815-40 INLET FITTING	AN815-40	AN815-40 INLET FITTING	ALUMINUM	Q&T	BLACK	
1	AN 6227-7 "O" RING	AN 6227-7	AN 6227-7 "O" RING	STEEL	Q&T	BLACK	
1	MS 21258-15 WASHER	MS 21258-15	MS 21258-15 WASHER	STEEL	Q&T	BLACK	
1	CM 2910-15 AXLE NUT	CM 2910-15	CM 2910-15 AXLE NUT	STEEL	Q&T	BLACK	
1	MS 24665-357 COTTER PIN	MS 24665-357	MS 24665-357 COTTER PIN	STEEL	Q&T	BLACK	
1	504-1000-33 SPACER	504-1000-33	504-1000-33 SPACER	STEEL	Q&T	BLACK	
1	07100 BEARING	07100	07100 BEARING	STEEL	Q&T	BLACK	
1	AN7503-15 WASHER	AN7503-15	AN7503-15 WASHER	STEEL	Q&T	BLACK	
1	MS 21042L4 NUT	MS 21042L4	MS 21042L4 NUT	STEEL	Q&T	BLACK	
1	AN960-416 WASHER	AN960-416	AN960-416 WASHER	STEEL	Q&T	BLACK	
1	NAS 464P4AB BOLT	NAS 464P4AB	NAS 464P4AB BOLT	STEEL	Q&T	BLACK	

**Cleveland Wheel & Brakes**  
1180 Avon Center Road, Avon, Ohio 44001  
a division of VanDyne Industries, Inc.  
"the brake people"

INSTALLATION DRAWING AND INSTRUCTIONS  
50-47

SHEET 1 OF 2 050-04700

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DETAIL A

NOTICE!!

(REF)  
- CESSNA PART NO. (.875 LENGTH "X" DIM.)  
5041104-1, -2, -3, -4, -11, -12, -15, -16,  
-17 & -18.

NOTICE - INSPECTION & INSTALLATION INSTRUCTIONS

NORMAL INSTALLATION  
IF "X" DIMENSION (INBOARD BEARING STOP SHOULDER TO MOUNTING FLANGE) MEASURES .925, DISCARD THE TWO 67-43 SPACERS SUPPLIED IN KIT AND PROCEED WITH INSTALLATION PER INSTRUCTIONS ON SHEET 1.

MODIFIED ALTERNATE INSTALLATION  
IF "X" DIMENSION (INBOARD BEARING STOP  
SHOULDER TO MOUNTING FLANGE) MEASURES  
.875, INSTALL IEA 67-43 SPACER AS SHOWN  
IN ILLUSTRATION. WHEN THIS HAS BEEN  
ACCOMPLISHED PROCEED WITH STEP 5 THRU 15.

## INSTALLATION INSTRUCTIONS FOR 421C

1. PROPERLY JACK UP AIRCRAFT.
2. REMOVE EXISTING ATL G WHEELS.
3. REMOVE EXISTING HYDRAULIC LINES, AND REPLACE WITH MS 28791 - F - 0520 (77R) RV-1 L/W SIDE
4. REMOVE EXISTING BRAKES
5. INSTALL 75-138 TORQUE PLATE ASSY.
6. REMOVE 155-6 WARP RING, 125-8 HUB CAP, COTTER PIN, NUT, WASHER AND COTTER BEARING FROM 40-135A WHEEL.
7. INSTALL WHEEL END OF DISC BEARING ASSY ON AXLE, INSTALL COTTER RING, MS 21529-1 WASHER AND COTTER PIN ON 155-6 AXLE NUT, WHILE ROTATING WHEEL, TIGHTEN AXLE NUT TO 40-1453. THEN BACK OFF TO 0. WHILE ROTATING WHEEL, RELEASE NUT, BEARING AND WASHER. IF SET IN WHEEL AND HOLE IN AXLE DO NOT LINE UP, ROTATE NUT SIGHTLY ON LOOSENING, UNTIL NEAREST POSSIBLE ALIGNMENT IS REACHED.
8. INSERT COTTER PIN AND INSTALL HUB CAP & WARP RING.
9. LOOSEN 6-BOLTS ON 30-100 BRAKE ASSY AND REMOVE & BACK PLATE ASSY'S.
10. SLIDE NEW CRIMMER INTO TORQUE PLATE ASSY.
11. CAUTION MAKE THE INSULATOR SHIM IS IN POSITION ON THE 6-BOLTS AND PRELAP THE 6-BOLTS & PLATE ASSY'S. BETWEEN BRAKE DISC AND WHEEL RIMMING. ALIGN BRAKE PLATE ASSY'S WITH THE BOLTS AND TORQUE BOLTS TO 75-60 IN 14-63.
12. INSTALL MS 287-40 FITTINGS AS SHOWN, CONNECT NEW HYDRAULIC LINES TO EACH RESERVOIR MAIN LEVEL AND BUSED SYSTEM.
13. PROPERLY INFLATE TIRES
14. DEPRESS AND RELEASE TIRE MANUALS SEVERAL TIMES. ROTATE WHEELS BY HAND CHECKING FOR BRAKE DRAG. A SLIGHT AMOUNT OF DRAG IS ACCEPTABLE AND NOT DETRIMENTAL. HOWEVER, A SEVERELY BOUND UP SYSTEM SHOULD BE INVESTIGATED AND CORRECTED. EXCESSIVE DRAG CAN BE CAUSED BY AN IMPROPERLY SETTED LINING.
15. REMOVE AIRCRAFT FROM TRACKS AND CONDITION LUNGS PER ENCLOSED INSTRUCTION SHEET.

14. REMOVE AIRCRAFT FROM JACKS AND CONDITION LININGS PER ENCLOSED INSTRUCTION SHEET

MS2874-4-0520 -  
HOSE ASSY TYP.  
L4. + R.H. INSTALLATION

(REF)  
- MTG. HARDWARE (USE EXISTING)  
- N43969 PLAB BOLT-BEA.  
A4360-216 WASHER-BEA.  
A4321042 L4 NUT-BEA.  
TORQUE NUTS TO 100-120 IN.-LBS.

TIRE SIZE:  
6.50-10, 8 PLY  
6.50-10 TUBE

AN 337-4D FITTING  
AN 924-4D NUT  
AN 6227-7 "O" RING

(REF)  
164-203 F BRAKE DISC  
(G) (F) (D)

✓ 40-135A WHEEL ASSY.  
6.50-10 TYPE III

(REF)  
MS21258-15 WASHER  
CM2910-15 AXLE NUT  
MS24665-357 COTTER PIN

- 158-B HUB CAP (REF)

- 155-6 SNAPPING (REF)

30-100 BRAKE ASSY.

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OUTWARD

QTY	ITEM	QTY	FINAL ASSEMBLY	DESCRIPTION	MATERIALS & SPEC.	HEAT TREAT & SPEC.	FINISH & SPEC.	WGT.
NEXT DESIGN IN					NOTE: CASTING OR BLANK NO. PARTING DIMENSIONS OR DO NOT SCALE SCALE 1" = 1"	CHECKED BY <i>[Signature]</i> DATE		
THIS DESIGN IS THE PROPERTY OF CLEVELAND WHEEL & BRAKE CO. IT IS NOT TO BE REPRODUCED OR USED FOR MANUFACTURE OR SALE OF THE BASIS FOR MANUFACTURE OR SALE OF EQUIPMENT WITHOUT WRITTEN PERMISSION FROM THIS COMPANY.				ZNYLO PER MALL-6866 STAMP ON ON PART CARTER MFG. CO. #1909 STAMP "P" ON PART MILLING - UNLESS OTHERWISE SPECIFIED UNLESS NOTED OTHERWISE ALL DIMENSIONS ARE TO BE HAD TO ± .0005 THIS DRAWING IS FILED IN 3743	POTENTIAL CRACKS AND DISCOLORATION DO NOT SCALE SCALE 1" = 1" REWORK FOR AN INSIDE DIA. 1.125" REWORK FOR AN INSIDE DIA. 1.125" REWORK FOR AN INSIDE DIA. 1.125" BRASS BRUSH FINISH BREAK DRILL DEEP ENDS 0.005 UNLESS NOTED REMOVE ALL BURRS BEFORE PATTERN DRILL PER INSP. PROCEDURE NO. 14	NAME <i>[Signature]</i> DATE	<b>Cleveland Wheel &amp; Brake Co.</b> a division of Vascos Industries, Inc. "the brake people"	
							<b>EXPLANATION DRAWING # AND INSTRUCTIONS:</b>	50-47

050-04700 SHEET 2 OF 2

Mitteilung über die Ergänzung der Musterzulassung Nr. 0455/2032  
2032a  
2032b

STC-Inhaber: Parker Hannifin Corporation  
Änderung: Einbau Cleveland Conversion Kit P/N 199-76  
Muster/Baureihe: Cessna 401, 401A, 401B, 402, 402A, 402B, 402C, 411,  
411A, 414, 414A, 421, 421A, 421B, 421C  
Geräte-Kennblatt Nr.: 2032, 2032a, 2032b

Die Musterzulassung des/der o.a. Musters/Baureihe wird durch folgende Angaben ergänzt:

Die Verwendung des Cleveland Conversion Kits P/N 199-76, Rev. E (gem. Drawing 50-47, Rev. D vom 20.12.82 oder jede spätere FAA-anerkannte Revision) entsprechend dem FAA Supplemental Type Certificate STC SA197GL ist zugelassen.

Die Lärmzulassung wird nicht berührt.

Unterlagen sind zu beziehen bei:

Atlas Air Service GmbH  
Postfach 15 64  
27766 Ganderkesee  
und  
Parker Hannifin Corporation  
Aircraft Wheel & Brake Division  
1160 Center Road  
P.O. Box 158  
Avon, Ohio 44011  
U.S.A.

Diese Mitteilung gilt in Verbindung mit dem Flugzeug-Kennblatt Nr. 2032, 2032a und 2032b, der jeweils gültigen Ausgabe.

# 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.

# Cleveland

Wheels & Brakes

Parker Hannifin Corporation

**Aircraft Wheel & Brake**

1160 Center Road

Avon, Ohio 44011 USA

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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



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](mailto:Clevelandwbhelp@parker.com)  
Web-site: [www.clevelandwheelandbrake.com](http://www.clevelandwheelandbrake.com)  
Manufacturer of Cleveland Wheels & Brakes

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

*Number* SA197GL

*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.* \*effective May 15, 1956 (refer to Type Certificate Data Sheet A7CE for  
complete certification basis)

*Original Product — Type Certificate Number* A7CE

*Make* Cessna

*Model* 401, 401A, 401B, 402, 402A, 402B, 411, 411A,  
414, 421, 421A, 421B, 421C, 402C, and 414A

*Description of Type Design Change*

Install Cleveland Conversion Kit P/N 199-76, Rev. E, in accordance with  
installation drawing 50-47, Revision D dated December 20, 1982 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 sur-  
rendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the  
Federal Aviation Administration.*

*Date of application* September 12, 1977

*Date issued* October 28, 1980

*Date of issuance* October 18, 1977

*Date amended* November 8, 1977; August 28, 1978;  
January 26, 1983



*By direction of the Administrator*

W. F. Horn, (Signature)

Manager, Chicago Aircraft Certification  
Office, ACE-115C, FAA Central Region

(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* SA664GL

*This certificate, issued to* Aircraft Wheel and Brake Division  
Parker Hannifin Corporation  
1160 Center Road  
Avon, OH 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:* \* effective May 15, 1956 (refer to Type Certificate Data Sheet  
No. 3A25 for complete certification basis).

*Original Product — Type Certificate Number* 3A25  
*Make* Cessna  
*Model* 340, 340A

*Description of Type Design Change.*

Install Cleveland Conversion Kit P/N 199-76, revision E, in accordance with  
Installation Drawing 50-47, revision E, dated February 25, 1983, 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 sur-  
rendered, suspended, revoked, or a termination date is otherwise established by the Administrator of the  
Federal Aviation Administration.*

*Date of application* December 21, 1982 *Date issued*

*Date of issuance* February 24, 1983 *Date amended*



*W. F. Horn*  
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.*