

AIRCRAFT WHEEL & BRAKE DIVISION

PARKER HANNIFIN CORPORATION

AVON, OHIO

PARTS LIST

199-83 CONVERSION KIT

PIPER AIRCRAFT CORP. - PA-31P (PRESSURIZED NAVAJO, ALL S/N's)
PIPER AIRCRAFT CORP. - PA-31-350 NAVAJO CHIEFTAIN*

<u>PART NO.</u>	<u>CODE NO.</u>	<u>DRAWING REVISION</u>	<u>DESCRIPTION</u>	<u>QUANTITY</u>
30-123	030-12300	Rev. A, dated 1-11-79	Brake Assembly	2
40-141	040-14100	Rev. A, dated 7-20-79	Wheel Assembly	2
50-53		Rev. B, dated 5-8-90	Installation Drawing	1
SA284GL			Supplemental Type Certificate (PA-31P)	1
SA295GL			Supplemental Type Certificate (PA-31-350)	1
			Brake Lining Conditioning Sheet	1

THIS KIT WILL CONVERT ONE AIRCRAFT TO CLEVELAND WHEELS AND BRAKES.

* THIS KIT IS APPLICABLE ONLY TO PA-31-350 AIRCRAFT USING PIPER
P/N 45504-12 AND P/N 45504-13 LANDING GEARS; IT IS NOT APPLICABLE TO
AIRCRAFT CURRENTLY USING CLEVELAND WHEELS & BRAKES.

199-83
10-03-78
01-15-79 REV A
02-21-79 REV B
05-08-90 REV C (300-29) ~~45~~

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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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

Initial Release February 01, 1997



PRM69
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REGISTRO AERONAUTICO ITALIANO
Ente Nazionale per l'Aviazione Civile (ex D.Lgs.n.250/97)
DIREZIONE CERTIFICAZIONE MATERIALE AERONAUTICO

Our ref.: 98/4950/MAE
7 October 1998

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

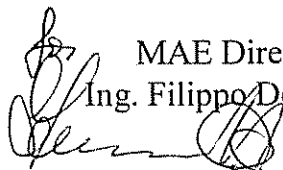
Subject: FAA STC SA284GL "Installation of Cleveland Conversion Kit P/N 199-83" -
Italian Validation.

Reference:

Dear Sirs,
according to the existing Bilateral Airworthiness Agreement between USA and Italy, and
following satisfactory accomplishment of RAI evaluation, we wish to inform you that the
FAA STC SA284GL amended on April 1, 1981 can be considered validated in Italy.
Please consider RAI in the mailing list for continuous airworthiness information for the
related STC installation.

Yours faithfully

CE/bs

 MAE Director
Ing. Filippo De Florio

c.c.: - FAA Brussels
- DD.TT. RAI



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 SA284GL

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 T.C. Data Sheet No. A8EA)

Original Product — Type Certificate Number A8EA
Make Piper
Model PA-31P (425 HP)

Description of Type Design Change

Install Cleveland Conversion Kit P/N 199-83 in accordance with installation drawing 50-53, Revision A, dated December 7, 1979, or later FAA approved revisions.

Limitations and Conditions

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 October 3, 1978

Date received October 28, 1980

Date of issuance February 5, 1979

Date amended February 28, 1979, April 1, 1981



By direction of the Administrator
W. F. Horn, Jr.
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

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

Number SA295GL

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 Data Sheet A20S0)

Original Product — Type Certificate Number A20S0
Make Piper
Model PA-31-350

Description of Type Design Change

Install Cleveland Conversion Kit P/N 199-83 in accordance with installation drawing 50-53, Revision A, dated December 7, 1979, or later FAA approved revisions.

Limitations and Conditions

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 February 21, 1979

Date received October 28, 1980

Date of issuance March 5, 1979

Date amended April 1, 1981



By direction of the Administrator
W. F. Horn, Jr. (Signature)

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

(Title)

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