

U.S. EXPORT CONTROLLED
Dissemination is restricted by the Export Administration Act of 1979 (50 U.S.C. App. 2401, et seq) and the Export Administration Regulations.

UPGRADE OF 30-182 BRAKE ASSEMBLY TO 30-182A CONFIGURATION

1. PLANNING INFORMATION

A. APPLICABILITY

This service bulletin is applicable to all Parker Hannifin Corporation, Aircraft Wheel & Brake Division part number 30-182 brake assemblies.

B. REASON

Product Improvement. Parker has completed design and testing of a new brake lining, 066-15300 that offers improved brake lining life. Brake lining 066-15300 is thicker with more wearable friction material than existing lining. There is sufficient running clearance in existing brake frame design to fit 066-15300 linings.

C. DESCRIPTION

Lining P/N 066-03300 used in the P/N 30-182 brake assembly is superseded by P/N 066-15300 used in the P/N 30-182A brake assembly. This document provides the necessary instructions to upgrade the 30-182 brake assembly to the 30-182A configuration.

CAUTION: LININGS MUST BE REPLACED IN COMPLETE SETS ON EACH BRAKE ASSEMBLY. THE 066-15300 LINING IS 0.035 INCH THICKER THAN THE 066-03300 LINING.

(1) Lining comparison. Refer to Figure 1.

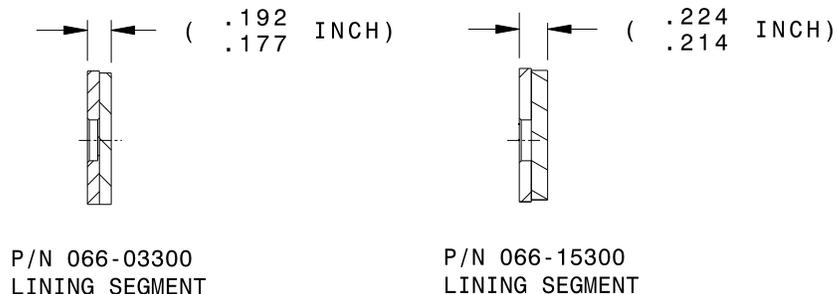


Figure 1 Lining comparison



SERVICE BULLETIN

UPGRADE OF 30-182 BRAKE ASSEMBLY TO 30-182A CONFIGURATION

(2) Parts affected. Refer to Table 1.

Table 1

BEFORE SB7105			AFTER SB7105		
30-182 Brake Assembly			30-182A Brake Assembly		
PART NO.	DESCRIPTION	QTY	PART NO.	DESCRIPTION	QTY
091-16100	Cylinder Assembly	1	091-16101	Cylinder Assembly	1
073-08500	PRESSURE PLATE ASSY	1	073-08502	PRESSURE PLATE ASSY	1
063-02500	PRESSURE PLATE	1	063-02500	PRESSURE PLATE	1
177-00300	PIN, ATTACHMENT	8	177-00300	PIN, ATTACHMENT	8
066-03300	LINING	4	066-15300	LINING	4
074-06600	BACK PLATE ASSY	4	074-06602	BACK PLATE ASSY	4
064-01600	BACK PLATE	1	064-01600	BACK PLATE	1
177-00300	PIN, ATTACHMENT	2	177-00300	PIN, ATTACHMENT	2
066-03300	LINING	1	066-15300	LINING	1
			166-32800	NAMEPLATE, re-identification	1

D. COMPLIANCE

Recommended – at time of overhaul.

E. APPROVAL

This service bulletin is approved for support of an FAA TSO-C26 product.

F. MANPOWER

Unknown.

G. MATERIAL-COST AND AVAILABILITY

Refer to paragraph 3. Material Information.

H. TOOLING

No additional special tooling is required.

I. WEIGHT AND BALANCE

Negligible. Approximately 0.10 lb (0.045 Kg) per brake assembly.

J. OTHER PUBLICATIONS AFFECTED

- AWBPC0001..... Product Catalog
- AWBCMM0001 Component Maintenance Manual - External Design Wheels & Brakes
- AWBTSG0001 Technician's Service Guide

K. PREVIOUS MODIFICATIONS

None.

UPGRADE OF 30-182 BRAKE ASSEMBLY TO 30-182A CONFIGURATION

2. ACCOMPLISHMENT INSTRUCTIONS

Instructions are per brake assembly.

SAFETY WARNING:  **MAKE SURE THE AIRCRAFT IS SECURE AND STABLE BEFORE BEGINNING ANY WORK. WORKING AROUND AN AIRCRAFT THAT IS NOT SECURE AND STABLE CAN CAUSE INJURY OR DEATH.**

Note: Use the following publications for additional part identification and on-aircraft/off-aircraft maintenance support including instruction for product inspection, repair and refinishing:

AWBPC0001Product Catalog
AWBCMM0001Component Maintenance Manual - External Design Wheels & Brakes
AWBTSG0001Technician's Service Guide

A. REMOVE THE BRAKE ASSEMBLY

The following procedures can be accomplished without raising the aircraft or removing the main wheel assembly.

- (1) Refer to Figure 2. Remove and retain the existing 4X back plate assemblies (074-06600) by loosening and removing the 8X bolts (103-14300) and washers (095-10400). Remove and retain the shim (068-02800).

CAUTION: DO NOT LET THE BRAKE ASSEMBLY HANG FREELY WHILE ATTACHED TO THE AIRCRAFT HYDRAULIC LINE. DO NOT PINCH OR BIND THE HYDRAULIC LINE.

- (2) Refer to Figure 3. Slide the brake caliper free from the torque plate and remove and retain the existing pressure plate assembly (073-08500) by sliding over the anchor bolts which are press fit into the brake housing.
- (3) Temporarily support and secure the brake so that it will not cause binding of the aircraft hydraulic line.

UPGRADE OF 30-182 BRAKE ASSEMBLY TO 30-182A CONFIGURATION

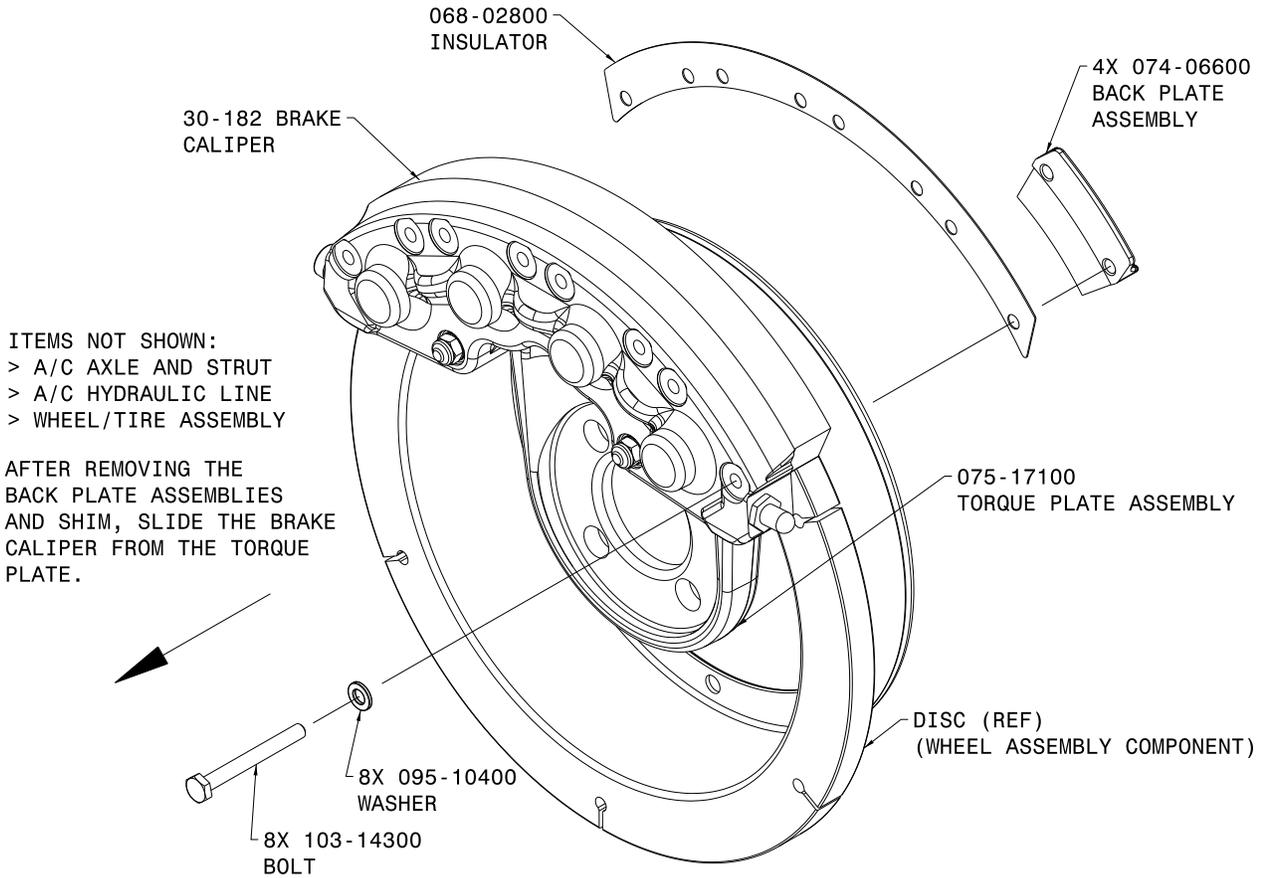


Figure 2 Remove the 4X back plate assembly

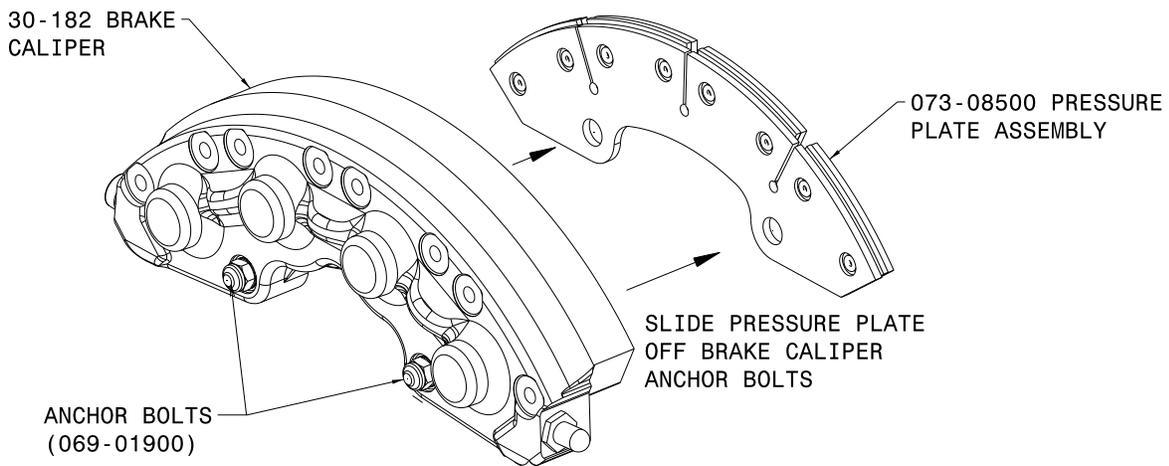


Figure 3 Remove the pressure plate assembly

UPGRADE OF 30-182 BRAKE ASSEMBLY TO 30-182A CONFIGURATION

B. REPLACE THE LINING SEGMENTS

- (1) Remove the old lining segments (066-03300).

Note: The lining segments are press fit onto steel attachment pins (177-00300). The lining segments must be pried off.

- (a) Use a flat blade screwdriver and pry off the old lining (066-03300) from each of the four [4] back plates and the pressure plate.

Note: The 199-281 kit includes new attachment pins (177-00300) to be used as required. There are 2X pins on each back plate and 8X pins on the pressure plate.

- (2) Inspect the attachment pins (177-00300) for mushroomed heads or other visible damage. Damaged attachment pins can be replaced as follows:

- (a) Refer to Figure 4. Use a twist drill bit and carefully drill into the clinched end of the pin. Remove only enough material to allow a press punch or pin punch to force the pin out of the hole without deforming or enlarging the hole. Discard the pin.

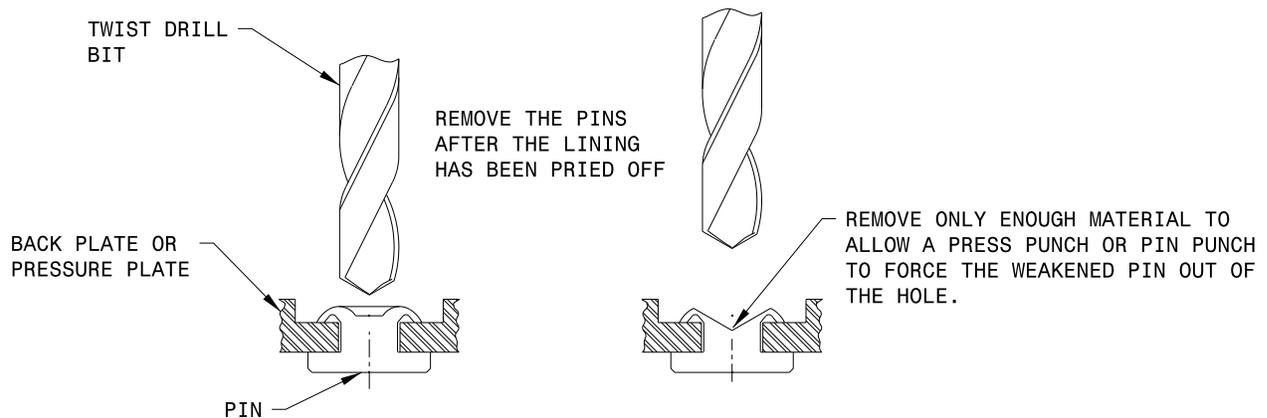


Figure 4 Remove the attachment pins

- (3) Clean the back plate and pressure plate.

- (a) Clean the pressure plate and back plate surfaces of dirt, grease, etc. before installing new attachment pins and linings.

UPGRADE OF 30-182 BRAKE ASSEMBLY TO 30-182A CONFIGURATION

- (4) Install new pins (177-00300). Refer to Figure 5.
- (a) If replacing damaged attachment pins, install new pins in each back plate and pressure plate as follows:
- 1 Install with the tail end of the pin (end to be clinched) toward the counterbore side of the back plate or pressure plate.
 - 2 Place pins and back plate or pressure plate on a flat metal surface.
 - 3 Using appropriate rivet tools, install the pins.

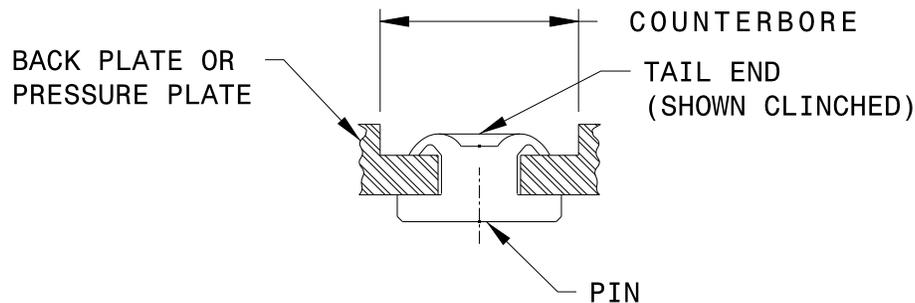


Figure 5 Install the attachment pins

- (b) Check to make sure that the attachment pins are tight and movement free with no distortion of parts. Refer to Figure 6 for pin installation acceptance criteria.
- 1 The split shall not occur inside the crest of the clenched surface.
 - 2 No more than two splits shall occur in a 90° area.
 - 3 A total of no more than three splits shall be allowed.

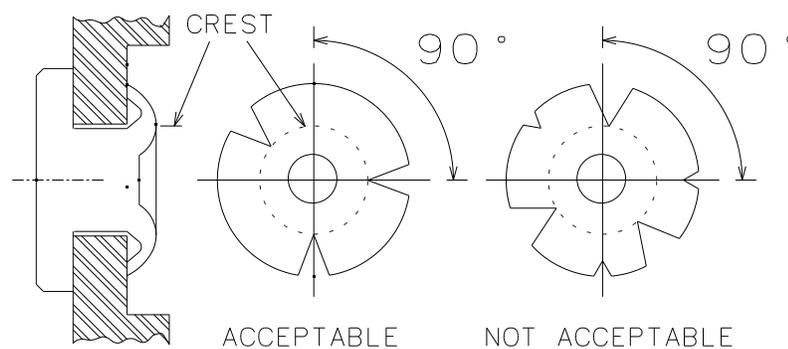


Figure 6 Pin installation acceptance criteria

UPGRADE OF 30-182 BRAKE ASSEMBLY TO 30-182A CONFIGURATION

- (5) Install the new lining segments (066-15300). Refer to Figure 7.

Note: The adhesive is used to maintain position of the lining segment until the brake is assembled on the disc (component of the wheel assembly). The adhesive will be burned off in the first few stops. Lining will remain in place on the assembly; trapped between the brake disc and the pressure plate/back plates.

- (a) Apply a light film of spray adhesive to the metal backing of the lining segment and install the lining segment onto the pins. Check to insure that the metal backing is tight against the back plates and the pressure plate.

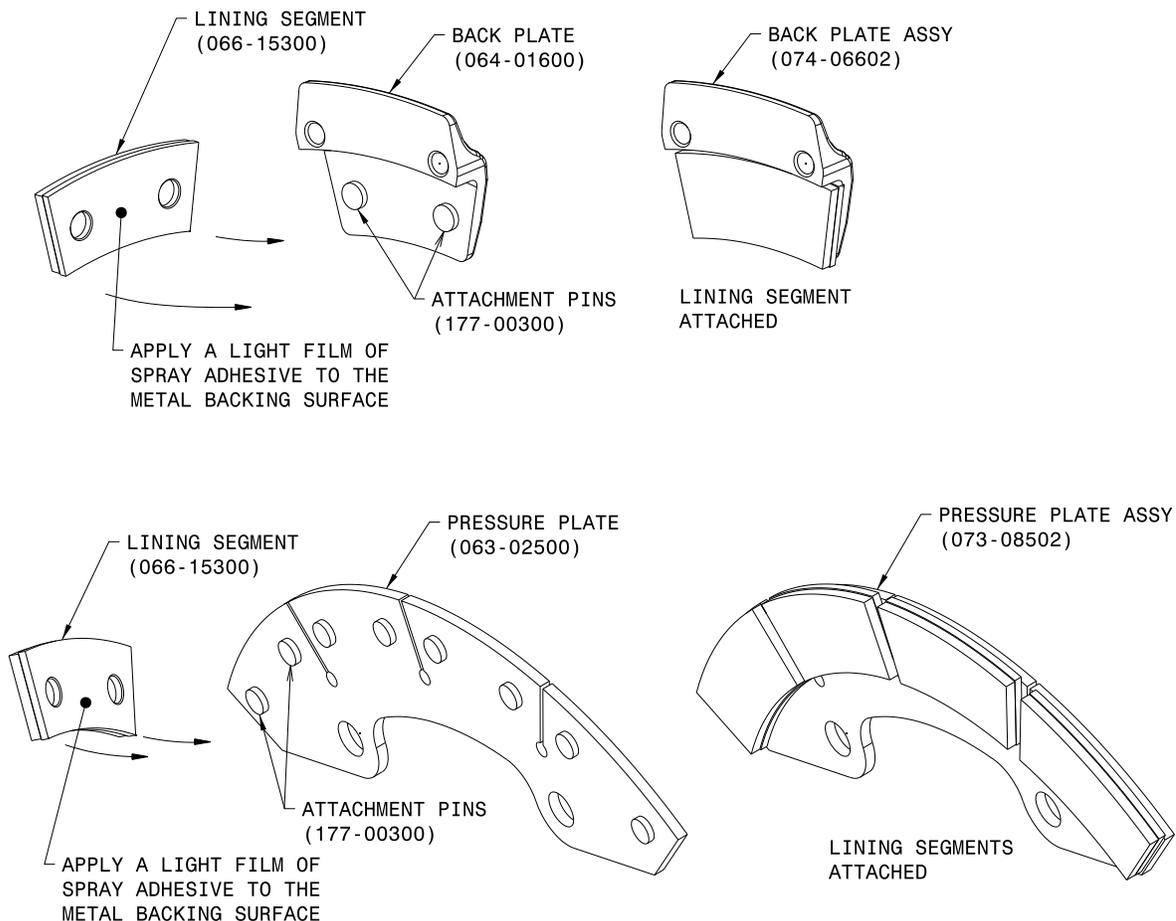


Figure 7 Attach the new lining segments (066-15300)

UPGRADE OF 30-182 BRAKE ASSEMBLY TO 30-182A CONFIGURATION

C. Attach the re-identification nameplate

- (1) The re-identification nameplate, (166-32800) will be located next to the existing nameplate located on the top of the brake housing. Use a water based cleaner/degreaser to clean the area on the brake housing next to the existing nameplate.
- (2) Apply the re-identification nameplate.

D. Reassemble the brake

- (1) Free the brake from temporary support. Reference step 2.A.(3).
- (2) Slide the pressure plate assembly (073-08502) over the anchor bolts in the brake caliper.
- (3) Slide the brake caliper into the torque plate.

CAUTION: DO NOT USE GREASE OR OIL TO LUBRICATE THE ANCHOR BOLTS. THESE MATERIALS WILL ATTRACT DIRT AND ENHANCE THE WEAR OF THE ANCHOR BOLTS.

- (4) Lubricate the anchor bolts with a dry film lubricant specified for your climate environment: amphibious/extremely wet or non-amphibious.
- (5) Install the back plate attachment bolts (103-14300) and washers (095-10400) into the brake caliper.
- (6) Install the insulator (068-02800) onto the attachment bolts and position against the brake caliper.

Note: The attachment bolt (103-14300) uses a patch lock material embedded in the threaded end. The bolts will require replacement after 6 to 8 installations or whenever the bolts can be run past the locking feature by use of fingers only.

- (7) Slide each back plate assembly (074-06602) between the brake disc and the wheel/tire unit and thread the attachment bolts (103-14300) into the back plates. Tighten the bolts to a dry torque (no anti-seize) of 85 to 90 in-lb (9.6 to 10.2 N-m).

E. LOGBOOK ENTRY

- (1) Make the appropriate airframe logbook entry of compliance.



SERVICE BULLETIN

UPGRADE OF 30-182 BRAKE ASSEMBLY TO 30-182A CONFIGURATION

3. MATERIAL INFORMATION

A. MATERIAL-REQUIREMENTS

Parker Hannifin Kit P/N 199-281 will service both landing gear brake assemblies and includes the following:

<u>Parker Hannifin P/N</u>	<u>Description</u>	<u>Quantity</u>
066-15300	Lining	16
177-00300	Pins	32
166-32800	Nameplate	2

Consumable products (not provided in 199-281):

- Spray adhesive
- Cleaner/degreaser, water based
- Dry film lubricant (Refer to AWBCMM0001 or AWBTSG0001 for detailed information)

Contact Parker Hannifin for replacement hardware availability.

Parker Hannifin Corporation
Aircraft Wheel & Brake Division
Technical Service Hotline: 1-800-BRAKING
Customer Support Fax: 440-937-5409
E-mail: clevelandwbhelp@parker.com

B. LIST OF COMPONENTS

NOTE: Quantities are per brake assembly.

New part number	Name	Qty	Old part number	Qty	Operation
066-15300	Lining	8	066-03300	8	Replace
177-00300	Pin	A/R	177-00300	A/R	Replace
166-32800	Nameplate	1			

A/R = As Required

C. INTERCHANGEABILITY

None.

D. PARTS DISPOSITION

Discard the following removed components from each brake assembly:

P/N 066-03300Lining, qty 8
P/N 177-00300Pin, qty A/R (As Required)

