HOLLISTER-WHITNEY
DISC BRAKE ADJUSTMENTS
RETRO-FIT KIT SUPPLEMENT

Read and understand ALL of the following Brake Instructions before starting the adjustment procedure. The installation crew, mechanic, adjuster, and maintenance personnel should be thoroughly familiar with the proper installation, adjustment, operation, and maintenance of the HOLLISTER-WHITNEY Disc Brake.

SAFE ELEVATOR OPERATION DEPENDS ON PROPER BRAKE OPERATION DURING INSTALLATION, AS WELL AS THROUGHOUT THE LIFE OF THE ELEVATOR.

The Brake MUST be adjusted to meet all local, city, state and national codes.

The A17 and B44 Codes require the Brake to stop and hold a downward moving car loaded at 125% of capacity. It follows that when properly counterbalanced, the Brake will also stop an empty car moving upward.

Initial Brake Tension (Spring Pressure) is factory set. During installation, run elevator to assure proper Brake operation, arm alignment, and shoe clearance. Brake tension will eventually be set to stop and hold 125% load on a downward traveling car. This same tension should also stop a fully loaded downward moving car in approximately the same distance as the slow-down. This setting will help prevent the car sliding into the overhead or the pit during an emergency stop.

For SAFETY, when setting the Brake, be sure the car is out of service. When adjusting for final brake tension, adjust spring pressure with loaded car at the bottom floor. When checking the stopping power of the Brake, keep car near bottom floor.

Object of brake adjustments:
1.) Spring pressure strong enough to stop car under all loading conditions.
2.) Spring pressure equal so both shoes pick up and drop at the same time.
3.) Brake arms parallel and straight up.
4.) Shoes parallel to disc with proper and equal air gap on both sides, before and after setting of centering screws.
5.) Proper setting of centering screws for quiet operation with minimal air gap in plungers.
6.) Proper coil voltage to always energize the Brake, even when the coil heats up. Coil may lose 30% of power when hot.
7.) Proper adjustment of monitor switch to indicate proper Brake Operation.

NOTE: ALL INITIAL ADJUSTMENTS SHOULD BE DONE WITH EMPTY CAR IN OVERHEAD AND THE COUNTERWEIGHT LANDED.

A D J U S T M E N T S

NOTE: When replacing shoe assemblies, Part Number 102-061-RK, it will be necessary to unbolt the Brake from the machine base and unscrew one spring housing to enable installation of the new Shoe Assemblies into the Brake. Trace Brake Housing foot print on machine base prior to removing the Brake. This will help with the realigning of the brake housing during reinstallation.

1.) SPRING ADJUSTMENT:

With Brake applied (Coil de-energized), adjust spring pressure by loosening Lock Nut (A) and screwing Spring Housing (B) into Brake Housing. Note clearance (C), between Brake Shoe (D) and Spring Housing must be equal on both sides and enough for Brake Shoe to pick up when coil is energized. Initially, adjust clearance (C) to 7/32" (note this adjustment may be less on older brakes) and tighten Lock Nut (A).

(Note: This may not be the final setting for 125% load. When finally set at 125% load, the spring pressure may be less than above. Check to see that Brake stops 100% load at approximately the slow-down rate.)

2.) CENTERING SCREW INITIAL ADJUSTMENT:

With Brake applied, adjust Centering Screws (E) until they are at least 1/4" away from the Brake Housing.

3.) BRAKE ARM ADJUSTMENT:

With Brake applied, check that Brake Arms (F) are vertically parallel or angled slightly in toward the Solenoid Housing. If adjustment is necessary remove Snap Rings and Pins (G) [3 per side]. Arms (F) can now be lifted out of the way. Adjust Shoe Eye-bolt (K) for proper alignment.

NOTE: Do not over-tighten Shoe Eye-bolt. (See DETAIL A.)

When adjusting the Shoe Eye-bolt (K) inward, you may come up against the end of the Shoe Connecting Rod (J). If so, do not attempt to tighten Shoe Eye-bolt further. Instead, unscrew the Shoe Eye-bolt 1 turn and loosen the Pivot Eye-bolt Jam Nut (P). Adjust Pivot Eye-bolt (Q) out to gain parallel Brake Arm alignment, and retighten Jam Nut (P).

It will now be necessary to adjust the Solenoid Plunger Eye-bolts to match your adjustments to the Pivot Eye-bolts and the Shoe Eye-bolt. When adjustment is complete, make sure to fully tighten Jam Nut (M) by holding the Solenoid Plunger with a thin headed wrench (can be purchased from McMaster-Carr). Do not use the Plunger Eye-bolt to tighten Jam Nut (M). This will result in an improperly tight jam nut and may damage the Eye-bolt. See BRAKE SHOE GAP ADJUSTMENT for further information on Solenoid Plunger settings.

When aligned, grease Pins, re-assemble Pins, and re-tighten Lock Nut (J).

4.) BRAKE COIL VOLTAGE ADJUSTMENT:

To set the Brake Coil voltage, momentarily energize the Brake. Set the Brake Coil voltage per the following:

	230V Coil	115V Coil
If voltage is constant:	230V	115V
If dual voltage:	250V Pick	125V Pick
	150V Hold	75V Hold

PICK voltage should be applied long enough to ensure Solenoid Plungers are touching before dropping to the HOLD voltage. On controls that require a voltage calibration, be sure to adjust calibration.
Please note: Coil may lose 30% of power when hot!

5.) BRAKE SHOE GAP ADJUSTMENT:

With Brake energized, set an initial gap between the Shoes (D) and the Disc (L) of 0.015". With Brake applied (Brake Coil de-energized), loosen Lock Nut (M) and adjust Solenoid Plungers (N) so that an equal amount of each Plunger shows on each side of the Solenoid Housing. Energize Brake, check 0.015" gap, re-adjust as necessary.

NOTES:

a. Moving the Plungers out produces a larger gap between the Shoes and Disc when the Brake Coil is energized.
b. If a Shoe is not parallel to the Disc when the Coil is energized, it may be necessary to tap the Pivot Eye-bolt (Q) up or down to affect the parallel gap.
c. If one shoe picks up slower than the other, loosen the Spring on that side while tightening the Spring on the other side an equal amount.
d. When installing a Brake on an EXISTING MACHINE, it may be necessary to shim the Brake Housing to achieve Shoe-to-Disc parallelism if Shoes are parallel with each other but not with the Disc.

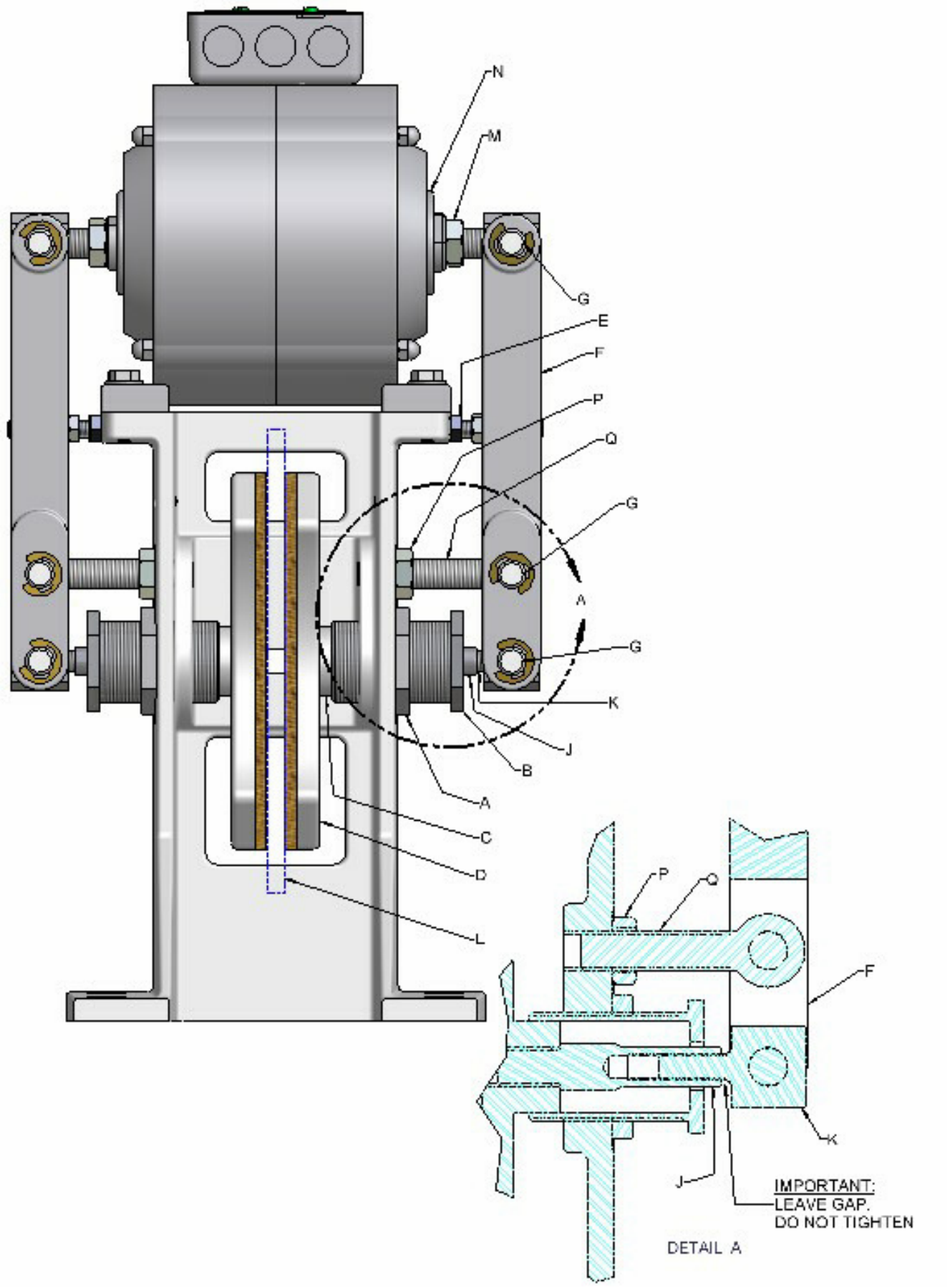
6.) CENTERING SCREW FINAL ADJUSTMENT:

With Coil energized, adjust each Centering Screw (E) to just touch Brake Housing. With Coil de-energized, adjust each Centering Screw in slightly, adjusting them for a Shoe-to-Disc gap of 0.012", and tighten Lock Nut. This will produce a quieter Brake.

NOTE: Plungers will now have a slight air gap, but this will not affect Brake Pick Up.

7.) Run elevator as much as possible to assure proper operation.

8.) *CAUTION:* Before releasing car to the public, re-check that Brake is operating properly and will stop 125% load. If Brake Tension is ever changed, re-adjust Items 5.), 6.), and 7.) above.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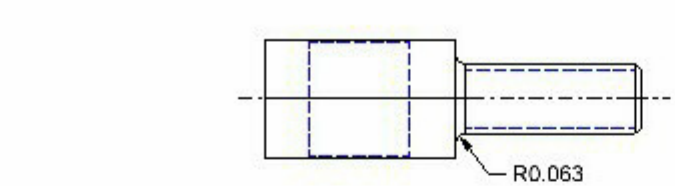
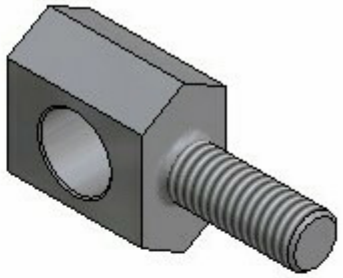
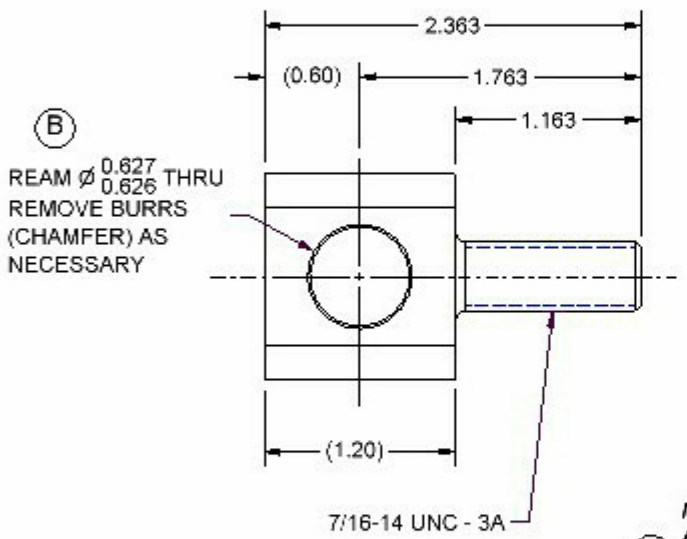
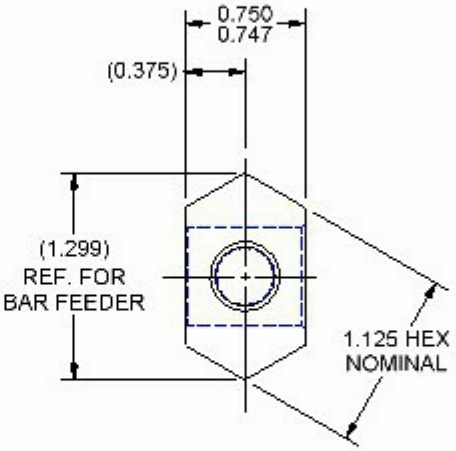
IMPORTANT:
LEAVE GAP.
DO NOT TIGHTEN
DETAIL A









THREAD DATA:

MAJOR Ø = 0.4324 ± 0.0051

PITCH Ø = 0.3894 ± 0.0017

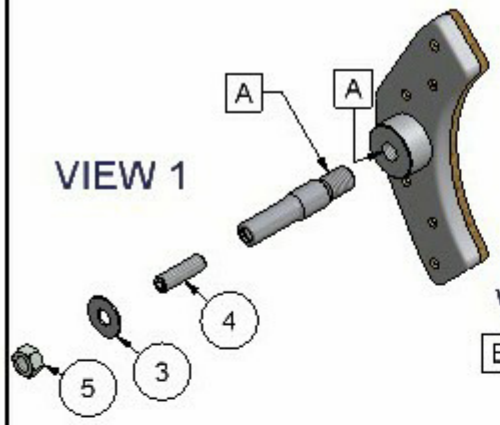
MINOR Ø = 0.3525

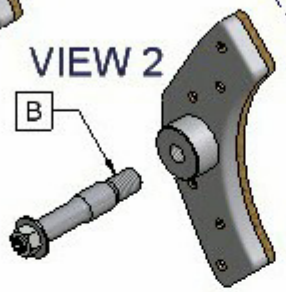
LEAD = 0.0714

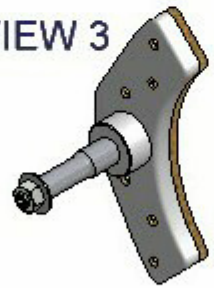
THREAD HT. = 0.0399

Ⓐ ***NOTE MATERIAL CHANGE. ALSO NOTE THIS IS NOT THE SAME MATERIAL AS IS USED IN THE SLOTTED EYEBOLT.***

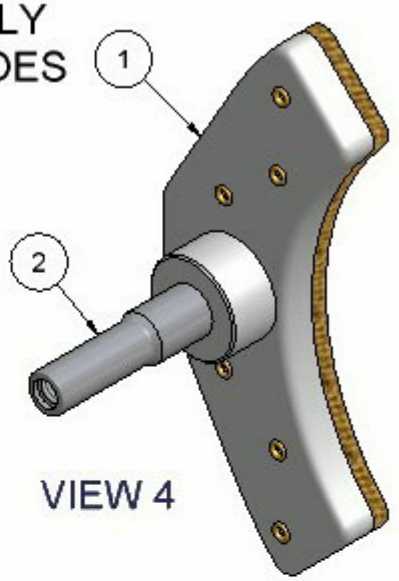
						HOLLISTER-WHITNEY ELEVATOR CO.			
						TITLE: EYEBOLT - DISC BRAKE RETROFIT KIT			
						DRAWN BY: LIL	SCALE: 1:1	MATERIAL: "STRESS PROOF" - ASTM A311 CLASS B, GRADE 1144	DIMENSIONAL TOLERANCES: 2 PLACE ± 0.01, ANGLES ± 1° 3 & 4 PLACE ± 0.001 REF = (OPER.) NOMINAL = ± 0.015
			B	WAS 0.626/0.625, PUR #339	LTL 4/19/06				
			A	WAS FORGED 1030 EYEBOLT, PUR #334	LTL 2/17/06	SHEET SIZE A	DATE 11/12/2002	102-059 -RK	







(B) NOTE: IF FACTORY ASSEMBLED, ONLY ASSEMBLED SHOES AND ROD ARE INCLUDED. SEE VIEW 4



ASSEMBLY STEPS:

1) CLEAN THREADS THOROUGHLY AT DESIGNATED AREA "A" (SEE VIEW 1)

2) INSERT SET SCREW, WASHER & HEX NUT (ITEM 3, 4 & 5) INTO CONNECTING ROD (ITEM 2). SEE VIEW 2

3) APPLY LOCTITE 271 TO ROD THREADS AT AREA "B" (SEE VIEW 2).

4) USING NUT (5) SCREW ROD (2) INTO SHOE ASSEMBLY (1) TO 50 ft-lbs TORQUE. (VIEW 3)

5) BEING CAREFUL NOT TO LOOSEN ROD (2) REMOVE NUT WASHER AND SET SCREW FROM ASSEMBLY.

(A)

Parts List

ITEM	QTY	P/N	DESCRIPTION
1	2	102-029	BRAKE SHOE ASS'Y
2	2	102-060-RK	ROD - DISC BRAKE REPAIR KIT CONNECTING
3	2	7/16"	WASHER
4	2	7/16"-14UNC	SET SCREW
5	2	7/16"-14UNC	HEX NUT

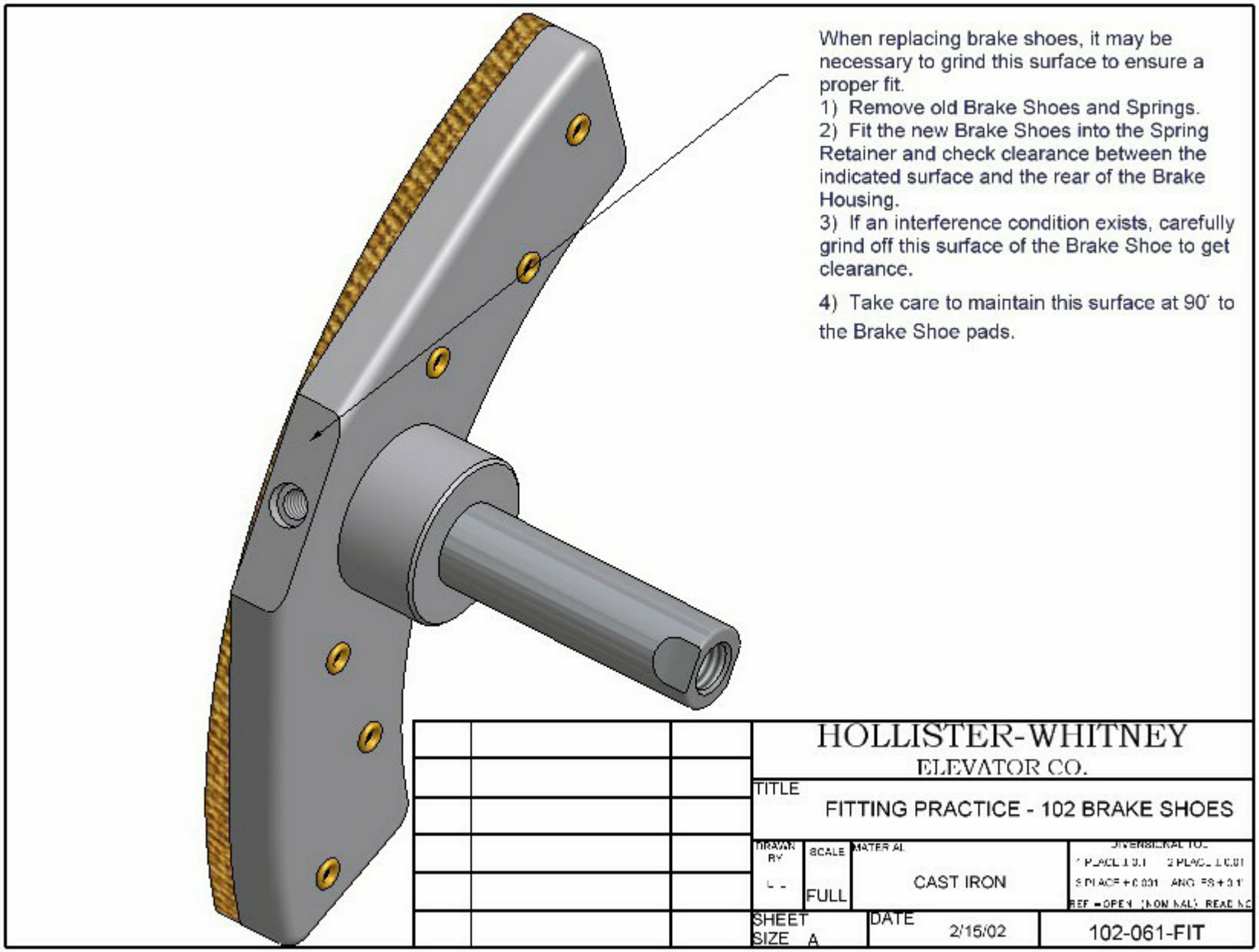
B	ADD NOTE, PUR # 340	LTL 4/28/06
A	QTY CHANGED FROM 1 TO 2. PUR # 284	LTL 10/14/04

HOLLISTER-WHITNEY ELEVATOR CO.

TITLE: ASSEMBLY (REPAIR KIT) - DISC BRAKE SHOE & ROD

DRAWN BY	SCALE	MATERIAL	DIMENSIONAL TOL.
LTL	NA	SEE INDIVIDUAL PARTS	1 PLACE ± 0.1 2 PLACE ± 0.01 3 PLACE ± 0.001 ANGLES ± 0.1° REF = OPEN (NOMINAL) READING

SHEET SIZE	DATE	
A	8/30/2004	102-061-RK



When replacing brake shoes, it may be necessary to grind this surface to ensure a proper fit.

1) Remove old Brake Shoes and Springs.
2) Fit the new Brake Shoes into the Spring Retainer and check clearance between the indicated surface and the rear of the Brake Housing.
3) If an interference condition exists, carefully grind off this surface of the Brake Shoe to get clearance.
4) Take care to maintain this surface at 90° to the Brake Shoe pads.

HOLLISTER-WHITNEY
ELEVATOR CO.

TITLE
FITTING PRACTICE - 102 BRAKE SHOES

DRAWN BY	SCALE	MATERIAL	DIMENSIONAL TOL
L. L.	FULL	CAST IRON	1 PLACE ± 0.1 2 PLACE ± 0.01 3 PLACE ± 0.031 ANG ± 1° REF = OPEN (NON MAL) READ NO

SHEET SIZE	DATE	
A	2/15/02	102-061-FIT