

Service PROCEDURES

DECEMBER 2003

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SUBJECT

**Conversion instructions for
P-63A TO P-63C** page 1
P-63B TO P-63C page 2

The purpose of this procedure is to ensure that the PACBRAKE ENGINE BRAKE for the SERIES 60 engine provides optimum performance with the lowest internal hydraulic oil pressure possible.

CONVERSION INSTRUCTIONS FOR P-63A/P-63B/P-63C

Conversion instructions for P-63A to P-63C KIT P60083

The purpose of this procedure is to ensure that the PACBRAKE ENGINE BRAKE for the SERIES 60 engine provides optimum performance with the lowest internal hydraulic oil pressure possible.

INSTRUCTIONS

PLEASE VERIFY ENGINE MODEL NUMBER WITH CHART ON PAGE 4. FOLLOW THIS PROCEDURE CAREFULLY AS INCORRECT APPLICATION OF THESE PARTS CAN CAUSE ENGINE DAMAGE.

As replacement of the master pistons is required, the housing assemblies must be removed from the engine. It is advisable to exchange all the parts with the housings on a bench.

Refer to diagram on page 3.

1. Remove all three solenoids to access the oil supply ball check items: ball check retainer, ball check spring and ball check. Use needle nose pliers to remove and discard the key, spring and ball. Reinstall solenoid. Torque to 150 in.lbs.
2. Remove the control valve cover items: capscrew, spring plate, and cover using a 7/16" socket. USE CAUTION AS THESE PLATES ARE UNDER SPRING PRESSURE.
3. Replace the original accumulator spring with the single (red)

spring supplied. The brake assemblies may have 3 accumulator springs, if so, they are all to be replaced with the new single spring. Reinstall the cover plates.

4. Remove and replace all 12 slave piston adjusting screws with the ones provided.
5. Turn the housing over to access the master pistons. Remove the button head screw, master piston spring and replace the master piston assembly with the orficed type supplied. Loctite and tighten the master piston button head screws. Be sure spring is parallel to the master piston so that no binding occurs when the spring returns the master piston into the bore.
6. Remove the socket head screw, stepped washer, bridge spring, slave piston bridge and inner slave pistons. Replace all 6 **inner** slave pistons with the ones with no bleed holes (supplied). Using a 1/4-20NC tap, clean the residual Loctite from the bridge shoulder bolt threads. Reinstall the original slave piston bridge, use the new double slave spring combination and stepped washers supplied, Loctite and install new shoulder bolts supplied, torquing them to 12 N.m. (100 lb.in.). Follow instructions found on service bulletin L5147.
7. Please stamp the serial number tag with the letter "C" over the "A" in the model number.
8. Reinstall the housings on the engine, follow all torque and adjustment procedures in the PACBRAKE installation manual form no. L2008. Installation manuals are available on our website at www.pacbrake.com or by calling Pacbrake at 800-663-0096.

Phone: 800-663-0096 • Fax: 604-882-9278 • E-mail: info@pacbrake.com • Internet: www.pacbrake.com

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PACBRAKE[®]
ENGINE & EXHAUST BRAKES

**Conversion instructions
for P-63B to P-63C** KIT P60087

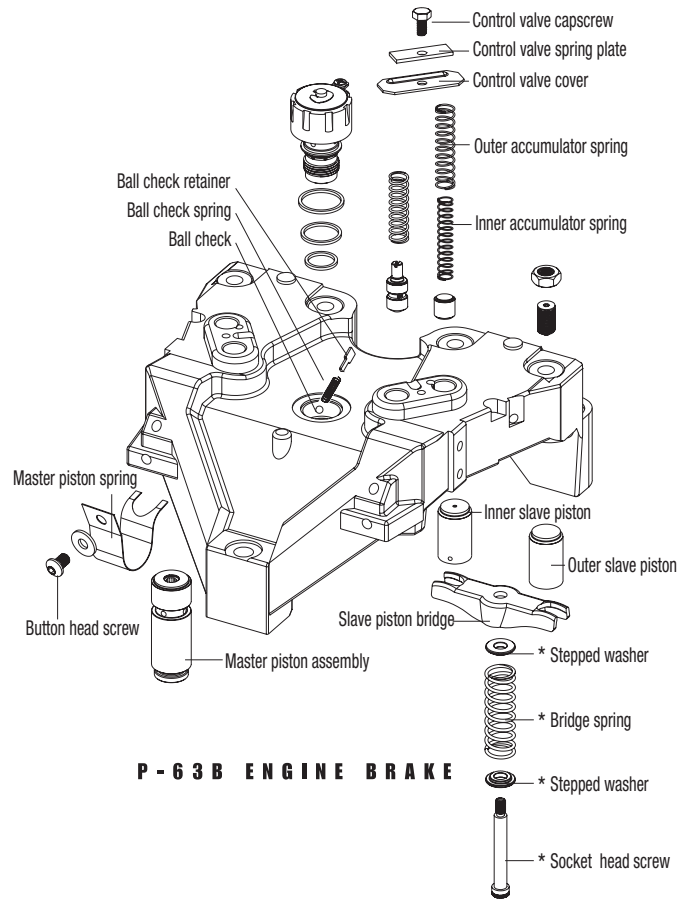
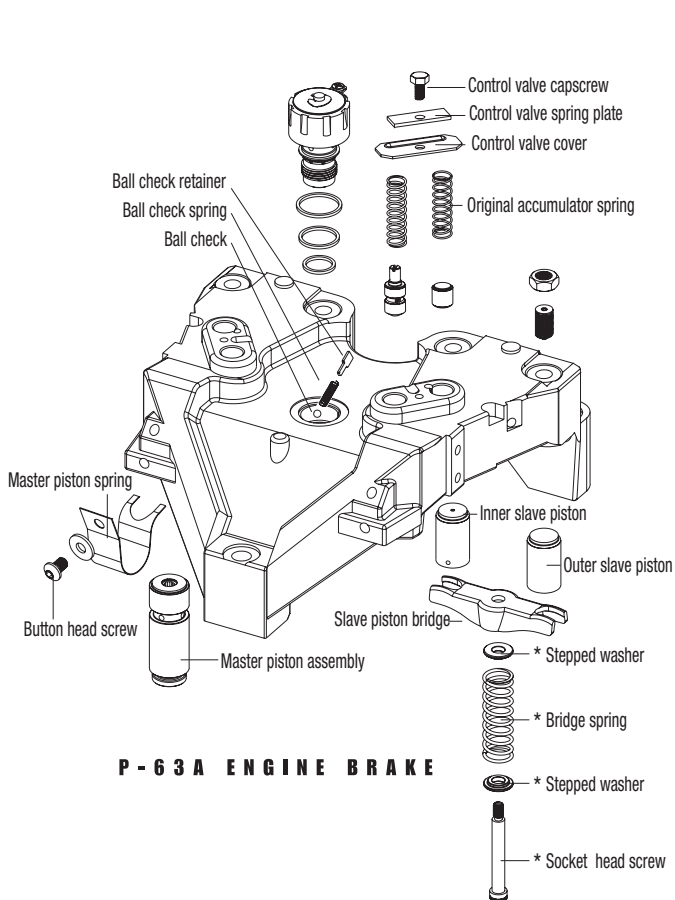
The purpose of this procedure is to ensure that the PACBRAKE ENGINE BRAKE for the SERIES 60 engine provides optimum performance with the lowest internal hydraulic oil pressure possible.

INSTRUCTIONS

PLEASE VERIFY ENGINE MODEL NUMBER WITH CHART ON PAGE 4. FOLLOW THIS PROCEDURE CAREFULLY AS INCORRECT APPLICATION OF THESE PARTS CAN CAUSE ENGINE DAMAGE.

As replacement of the inner slave pistons and return springs is required, the housing assemblies must be removed from the engine. It is advisable to exchange all the parts with the housings on a bench.

1. Remove all three solenoids to access the oil supply ball check. Use needle nose pliers to remove and discard the key, spring and ball. Reinstall solenoid. Torque to 150 in.lbs.
2. Remove the control valve covers items: capscREW, spring plate, and cover using a 7/16" socket. USE CAUTION AS THESE PLATES ARE UNDER SPRING PRESSURE. Remove the inner accumulator spring on each cylinder leaving the outer in place. Reinstall the cover plates.
3. Remove and replace all 12 slave piston adjusting screws with ones provided.



* Note: parts shown are prior to Service Bulletin 154. (Detroit Diesel new replacement injector)
If a new replacement injector is being installed, order kit P60013 from Pacbrake.

4. Turn the housings over to access the socket head screw, stepped washer, bridge spring, slave piston bridge and inner slave pistons. Replace all 6 **inner** slave pistons with the ones with no bleed holes (supplied). Using a 1/4-20NC tap, clean the residual Loctite from the bridge shoulder bolt threads. Reinstall the original slave piston bridge, use the new double slave spring combination and stepped washers supplied, Loctite and install new shoulder bolts supplied torquing them to 12 N.m. (100 lb. in.) Follow instructions found on service

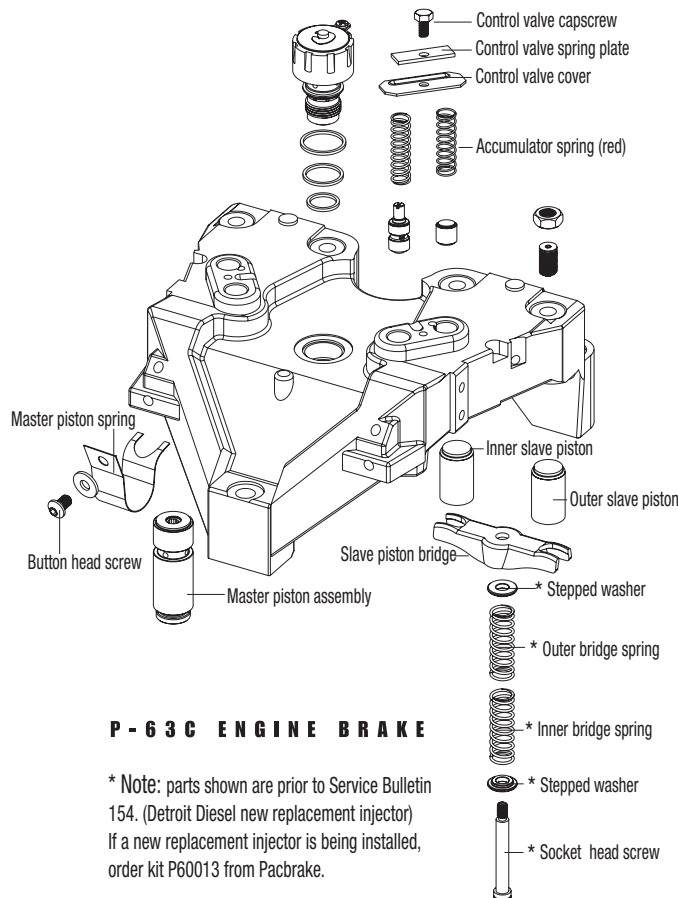
bulletin L5147.

5. Please stamp the housing serial number tag with the letter "C" over the "B" in the model number.

6. Reinstall the housings on the engine, follow all torque and adjustment procedures in the PACBRAKE installation manual form no. L2008. Installation manuals are available on our website at www.pacbrake.com or by calling Pacbrake at 800-663-0096.

Any questions or if you require further information, please contact our customer service hotline @ 1-800-663-0096

or check out our web site @ www.pacbrake.com



P-63A, P-63B or P-63C?

P-63A,P-63B & P-63C will work on all 12.7L applications from 1998 to year 2000 engines

P-63 will only work on the older ('97 and earlier) engines. UNDER NO CIRCUMSTANCES SHOULD THE GENERATIONS OF BRAKE HOUSINGS BE MIXED ON AN ENGINE OR SHOULD OLDER GENERATION BRAKES (P-63) BE INSTALLED ON 1999 ENGINES! MISAPPLICATION COULD CAUSE SEVERE ENGINE DAMAGE.

The following chart will help simplify engine brake application:

YEAR & DISPLACEMENT	DETROIT ENGINE MODEL	CONFIGURATION	PACBRAKE MODEL	PACBRAKE KIT	CONTROL GROUP
PRE '98 11.1L ENGINE	6067-WT40	PRE '90 DDEC I	P-61	P61001	P60150
	6067-WU40	PRE '91 DDEC II	P-61	P61001	P60150
	6067-WU60	'91-'93 DDEC II	P-61	P61001	P60150
	6067-WK60	'93-'95 DDEC III	P-61	P61001	P60155
	6067-SK60	'95-'97 DDEC III	P-61	P61001	P60155
	6067-EK60	'98 DDEC IV	P-61	P61001	P60155
1999 11.1L ENGINE	6067LK60	'99 DDEC IV TRUCK	P-61	P61001	P60155
	6067LK28	'99 DDEC IV COACH	P-61	P61001	P60155
	6067LK45	'99 DDEC IV FIRE TRUCK	P-61	P61001	P60155
	6067LK57	'99 DDEC IV CRANE	P-61	P61001	P60155
PRE '98 12.7L ENGINE	6067-GT40	PRE '90 DDEC I	P-63	P63008	P60150
	6067-GU40	PRE '91 DDEC II	P-63	P63008	P60150
	6067-GU60	'91-'93 DDEC II	P-63	P63008	P60150
	6067-GK60	'93-'97 DDEC III	P-63	P63008	P60155
	6067-TK60	'98 STD. PRODUCTION (400/430/470/500 HP) DDEC IV	P-63A OR P-63B	P63008	P60155
	6067-PK60	'98 PREMIUM, HI TORQUE (470/500 HP) DDEC IV	P-63B	P63008	P60155
1999 12.7L ENGINE	6067BK60	'99 PREM. TRUCK DDEC IV	P-63B OR P-63C	P63009	P60155
	6067BK28	'99 PREM. COACH DDEC IV	P-63B OR P-63C	P63009	P60155
	6067BK45	'99 PREM. FIRE TRUCK DDEC IV	P-63B OR P-63C	P63009	P60155
	6067BK57	'99 PREM. CRANE DDECIV	P-63B OR P-63C	P63009	P60155
	6067MK60	'99 STD. TRUCK DDEC IV	P-63B OR P-63C	P63009	P60155
	6067MK28	'99 STD. COACH DDEC IV	P-63B OR P-63C	P63009	P60155
	6067MK45	'99 STD. FIRE TRUCK DDEC IV	P-63B OR P-63C	P63009	P60155
	6067MK57	'99 STD. CRANE DDEC IV	P-63B OR P-63C	P63009	P60155

NOTE: SERVICE REPLACEMENT HOUSINGS AND PARTS ARE AVAILABLE FOR ALL MODELS. CONSULT PACBRAKE PARTS MANUAL (FORM# L6001) FOR DETAILS.



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