



Jacobs Engine Brake Service Letter E485

SUBJECT: Master Piston Retainer Design Change and Field Upgrade

**MODELS AFFECTED: Caterpillar 340A and 340B
(Lightweight Housings Only)**

DATE: October 28, 1998

Introduction

Jacobs Vehicle Systems has redesigned the Master Piston Assembly retaining system for Model 340A and 340B Jacobs Engine Brakes™ used on Caterpillar 3406E engines. This change has been incorporated into current production engine brakes and engines. In addition, engine brake housings produced before this change took place should be upgraded to the new design whenever the engine brake housings are removed for engine or engine brake service. The upgrade applies only to the newer lightweight housings manufactured since March, 1997.

The new design replaces the original single Master Piston Retaining Washer with a two-washer retaining system. This change provides the Master Piston Pushrod with a greater range of motion than the previous design, and eliminates the possibility of the Pushrod contacting the Retaining Washer. Though extremely unlikely, in certain cases the stack up of manufacturing tolerances of the engine and engine brake may allow such contact, resulting in the fracture of the Retaining Washer. This in turn would allow the Master Piston Pushrod to fall out of the housing, possibly damaging engine or engine brake components.

Impact

The field upgrade affects the following engine brake housings:

Model	Jacobs P/N	Caterpillar P/N	Serial Number
340A -12 Volt	024156	141-8389	340A 070000 to 340A 1426740
340A -24 Volt	024157	144-2996	340A A01000 to 340A A022990
340B -12 Volt, 5 point mntg. config.	025549	157-3493*	340B 058274 and less
340B -24 Volt, 5 point mntg. config.	025550	157-3495*	340B A03565 and less
340B -12 Volt, 6 point mntg. config.	024444	157-3493*	all
340B -24 Volt, 6 point mntg. config.	024450	157-3495*	all

* 5 bolt mounting configuration housings supercede 6 bolt mounting configuration housings and therefore have the same Caterpillar part number.

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These housings were manufactured with the newer, lightweight casting design between March, 1997 and August, 1998. The housings may be identified by the Jacobs part number and serial number printed on the housing identification plate. These engine brake housings should be upgraded to the new two-washer system whenever the engine brake housings are removed for engine or engine brake service.

Master Piston Retaining Washer, P/N 143-6586, will remain available as a service part for Model 340 and 340A housings using the older, heavyweight casting (serial numbers less than 340A 070000 - 12 volt and 340A A01000 - 24 volt).

New Parts

Jacobs has introduced the following new parts:

P/N 164-2025, Master Piston Retainer Group, contains:

- One (1) Inner Master Piston Retaining Washer
- One (1) Outer Master Piston Retaining Washer
- Installation Instructions

Obsolescence

No parts have been made obsolete as a result of this change.

Service Information

This upgrade requires the replacement of the existing single Master Piston Retaining Washer (Figure 1 below) with the new two-washer system (Figure 2 below). Refer to the 340 Series Installation Manual, Jacobs P/N 019950B (Rev. 12/97), when servicing the engine brake. This installation Manual is included in the Jake Brake Retarders Product Reference Guide, Caterpillar Manual Form RENR1370.

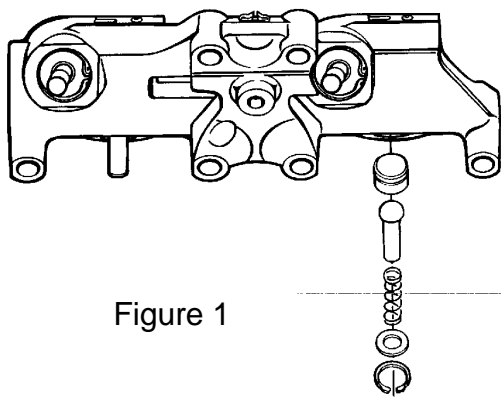


Figure 1

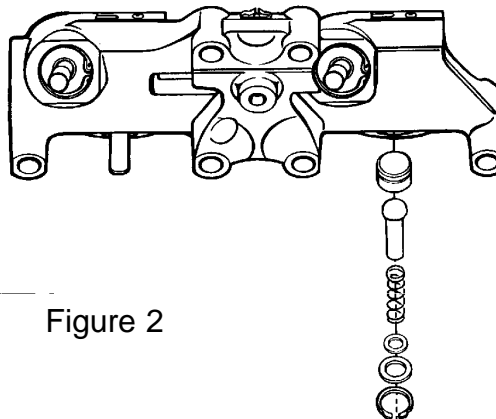


Figure 2

Perform the following steps for all housing assemblies:

1. Remove the housing assembly from the engine.
2. Follow the procedures for removal and inspection of the Master Piston Assembly listed on page 11 of the 340 Series Installation Manual. Remove both Master Piston Assemblies from the housing, and discard the old Retaining Washers.
3. Reinstall the Master Piston Assemblies using the new two-washer retaining system, as shown in Figure 2.
4. Reinstall the engine brake housing as described in the 340 Series Installation Manual.

Warranty Information

Failures of the Master Piston Retaining Washer are covered by the standard Jacobs Vehicle System 3 year/300,000 mile Warranty. When performing a warranty repair to correct a Master Piston Retaining Washer failure, the Master Piston retaining system must be upgraded to the new two-washer system for all six cylinders.

If a vehicle is undergoing service for work that requires removal of the engine brake housings, Jacobs recommends that this upgrade be performed on housings requiring the upgrade. The replacement of the Master Piston retaining system for all six cylinders may be submitted as a warranty claim if the vehicle is within the standard Jacobs Vehicle Systems 3 year/300,000 mile warranty limits. A standard repair time of 0.5 hours will be allowed for service work in this situation. Reference P/N 143-6586 as the key part causing failure on warranty claims for this repair.

Technical support, service parts, and warranty administration for Jake Brake® products applied to Caterpillar engines are now provided by authorized Caterpillar service locations worldwide.