



Jacobs Vehicle Systems™

Jacobs Engine Brake™ Service Letter E489R

SUBJECT: Misdrilled Housings (revises previous engine serial number range)

MODELS AFFECTED: Caterpillar 312A

DATE: April 7, 1999

Introduction

Jacobs Vehicle Systems has discovered that oil passages in some Model 312A housings were not drilled deeply enough. However, through the efforts of Caterpillar dealers and hundreds of customers, it has been determined that the misdrilled housings are limited to a much narrower range of engines than previously believed. The new engine serial number ranges are listed below.

Use of these engine brake housings may result in severe engine damage. These engine brake housings were all factory installed in Caterpillar C-12 engines produced in June and July of 1998. Customers with engines in the affected serial number ranges should immediately switch off the engine brake and have the housings on the engine inspected by a Caterpillar authorized service center. The engine brake should not be used until all housings on the engine have been inspected. Service procedures are listed below.

Impact

The following engines are affected: all C-12 engines with serial numbers from 9NS11644 through 9NS11920 and 9NS12721 through 9NS12783 that have FACTORY INSTALLED Jacobs Engine Brakes. Engines with serial numbers from 9NS11921 through 9NS12720 are not affected as previously thought and do not need to be inspected.

Customers with affected engines should immediately discontinue use of the engine brake. The vehicle should be brought to an authorized Caterpillar service center for inspection of the engine brake housings as soon as possible. If any misdrilled housings are found, they must be replaced. Failure to do so may result in eventual valve to piston contact, and severe engine damage.

NOTE: No aftermarket (non-factory) installations of the Jacobs Engine Brake are affected. Warranty coverage for this procedure will only be provided for inspections of factory-installed Jacobs Engine Brakes.

Service Information

All engines in the affected range should have the following service procedures performed:

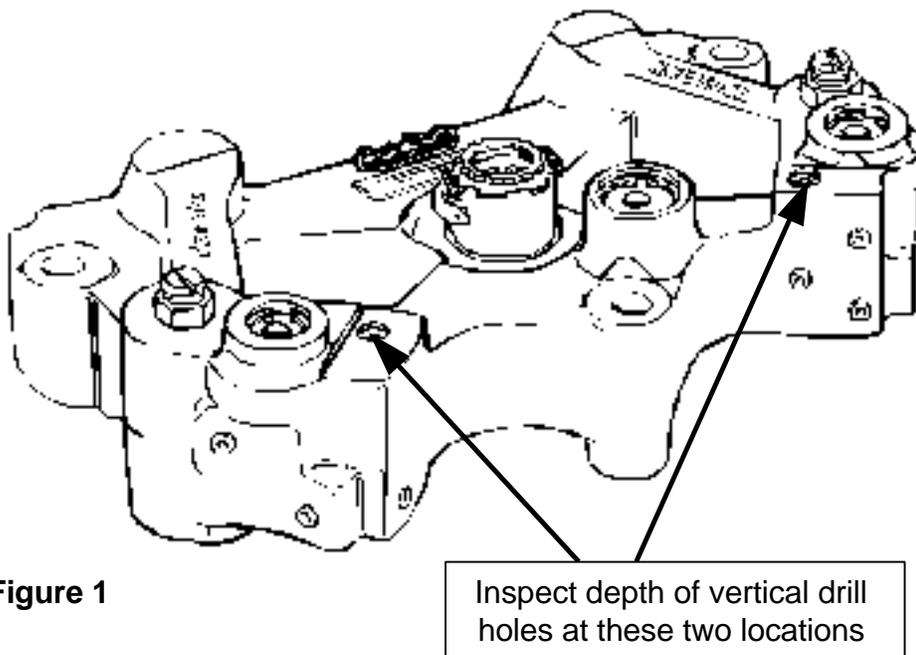
1. Remove the valve covers and Jacobs Engine Brake spacers (removal of valve cover base is not required).
2. With the engine brake housings still installed on the engine, use a 5/32" hex key wrench to remove the two pipe plugs indicated by the arrows in Figure 1. Save the pipe plugs for reinstallation.



Take care not to drop the pipe plugs into the engine, or severe engine damage may result.

3. Using a depth gage, caliper, or similar tool, measure the depth of the drill holes in which the plugs were installed. Record the measured depth of both drill holes along with the housing serial number. If the depth of either hole is less than 1.8" (45.7 mm), the drill hole is too short and the housing must be replaced.

NOTE: Typically, misdrilled holes are significantly shorter than normal – usually measuring about 1.5" (38 mm) or less.



4. For housings that were NOT misdrilled, replace the pipe plugs in the hole, using Loctite #242 thread locking compound or equivalent. Torque the pipe plugs to 108 lb-in. (12 N•m).

NOTE: If a pipe plug is lost or damaged, it may be replaced with Caterpillar P/N 8T-6759.

SERVICE LETTER E489R

- 5. Repeat steps 3 and 4 for all housings on the engine.

If all three housings are misdrilled, replace the housings by using 1 (one) aftermarket kit, P/N 148-7477. If one or two housings are misdrilled, replace each affected housing with 1 (one) individual replacement housing assembly, P/N 126-0158.

Replace all housings as necessary, following the instructions in the engine service manual or Jacobs Installation Manual. Replacement housings and kits are ONLY available through the Caterpillar, Inc. parts distribution system.

- 6. Record the housing serial number of ALL housings inspected and the two drill hole depths for EACH housing, regardless of whether the housing was misdrilled. This information will be required on the warranty claim.

NOTE: It is only important that each housing serial number is listed with the depth measurements for its two drill holes. It is not important to record on which side of the housing each measurement was taken.

- 7. Replace the Jacobs spacers and valve covers, and tighten the cover bolts following the Caterpillar-specified tightening sequence and torque values.
- 8. Contact Jacobs Vehicle Systems with the results of the inspection. Call toll free, 1-800-269-6562. If you cannot reach the toll-free number, dial 1-860-769-7891.

When the automated attendant answers, dial extension 7332. Please leave a message with engine serial number, each housing serial number, and drill hole depths for each housing. Also, please include your name and telephone number in case we need to contact you.

NOTE: While not required for warranty reimbursement, contacting Jacobs as soon as possible after the inspection will assist us in quickly determining the extent of the problem and will help us provide better service.

Warranty Information

Inspection of affected engines and replacement of misdrilled housings is covered under the standard Jacobs Vehicle Systems 3 year/300,000 mile Warranty. When performing a warranty inspection or when replacing a housing due to a failure, all three housings must be inspected on an engine and replaced as necessary.

If no misdrilled housings are found, a standard repair time of 2.5 hours will be allowed for accessing the housings, performing basic inspection to check for drill hole depth, reassembly, and contacting Jacobs. If housing replacement is required, see Caterpillar Time Requirement Guidelines for allowed time for replacement of each housing.

When filing warranty claims, reference P/N 126-0158 as the key part causing failure for this inspection and/or repair. Also indicate in the notes section of the claim each housing serial number and the drill hole depths for each housing.

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