

Service Letter

Service Letter No. 429 December, 1994

SUBJECT: Master Piston Applications

MODELS AFFECTED: C317, C317A, 317B, 317C, 317D, 317E, 310, 310A

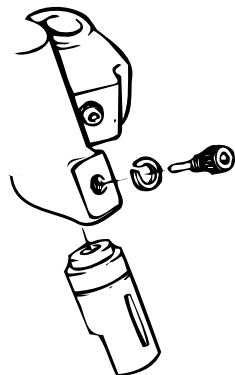
The Model 317/310 Series of engine brakes for Caterpillar 3176 engines has used two different types of master pistons since introduction. This service letter explains the applications and service replacements for the different configurations.

The original master piston design for the Model C317 Engine Brake used an internal return spring and a cylindrical face contacting the rocker arm pad. The internal return spring design required the use of a pin to anchor the spring to the brake housing, which also kept the piston from rotating. This design had two problems. On some pistons, insufficient slot length on the piston would break the anti-rotation pin during operation. This problem was addressed with the Master Piston Group, P/N 017520 (with anti-rotation pins), as well as the Master Piston Group, P/N 019510 (without anti-rotation pins), which was used along with the Upgrade Kit, P/N 019505 (refer to Service Letter No. 328). The other problem with the internal spring design was the installation of the anti-rotation pin had to be done carefully to ensure that the spring was properly seated (refer to Service Letter No. 410).

A new external spring design was released starting with the Model 317B Engine Brake. This design is recognizable by the "elephant's foot" interface with the rocker arm. The external return spring addressed the problems found with the original design. The new design is used on the Models 317C, 310, 310A, 317D and 317E.

Jacobs has introduced a complete retrofit kit (Master Piston Group, P/N 020557) which allows the newer design to be used in Model C317A brake housings (refer to Service Letter No. 419). The Model **C317** brake housings **cannot** be fitted with the Master Piston Group, P/N 020557, due to variation in the depth of the counterbore in the master piston bore. Jacobs recommends the use of the Master Piston Group, P/N 020557, when upgrading the Model C317A with the Upgrade Kit, P/N 019505. Jacobs also recommends the use of the Master Piston Group, P/N 020557, whenever any failures of the older, internal spring pistons in Model C317A brake housings are found. Model C317 repairs should continue to use the Master Piston, P/N 017381 (revision "C" or greater) and related parts.

This is a Jacobs product advisory, and not subject to campaign.



**Original
Master Piston Assembly**



**New Master
Piston Assembly**