



# SCHWEIZER SERVICE LETTER

DL-007  
10 Nov 2000

**SUBJECT:** ORIENTATION OF MAIN ROTOR TRANSMISSION BACKLASH SHIM

**MODELS AFFECTED:** 269D Model Helicopters

**REFERENCE:** HMI Appendix C, Part I

The 269A5175 series main rotor transmission uses a 269A5101 backlash shim between the upper and lower housings. The original design of this shim had two holes; one for the dipstick hole and one for oil flow from the lower housing to the upper housing. This design is orientation sensitive and it is possible to position the shim so the oil passage is blocked, which results in the pinion and ring gear being severely damaged due to lack of lubrication. To prevent this, a tab and an additional oil galley hole was added to the shim to control orientation of the shim. The tab protrudes from the side of the transmission and can be easily seen. With the additional hole, there is no shim top or bottom orientation sensitivity and when the tab is placed at the dipstick boss location, the oil pressure passage will always be open. This made it possible to have a visual confirmation that the oil pressure galley is open.

This design change was not introduced by a new part number and was not noted in the HMI, Appendix C transmission overhaul instructions. Therefore, when ordering a 269A5101 shim after February 1, 2000, you could have received the new design identified with the original part number.

With the introduction of the 269A5175-39 main rotor transmission assembly, the upper and lower housings have been redesigned with an oil level sight glass that replaces the dip stick. The sight glass boss on the side of the housing is in the same location that the tab of the shim is positioned and the tab interferes with the sight glass. This requires the shim tab to be relocated and in turn makes the shim top and bottom orientation sensitive. To relieve this condition, a new 269A5101-3 shim has been introduced that has the tab modified with a 0.60 inch diameter notch to give clearance on the sight glass. The notched tab is located at the sight glass position and has again relieved the shim of orientation sensitivity.

The 269A5101-3 shim replaces the two earlier 269A5101 shim designs and can be used in all 269A5175 series transmissions. When installing a 269A5101 tabbed shim in the 269A5175-39 transmission assemblies, they are to be modified to the 269A5101-3 configuration by filing a 0.55 to 0.60 inch diameter notch in the tab. With this shim installed in a 269A5175-29 assembly, the tab should be seen at the dip stick location. With it installed in the 269A5175-39 transmission, the tab should not be visible because it will be hidden in the sight glass boss.

SCHWEIZER AIRCRAFT CORP.  
  
David J. Roemer, Director  
Customer Support Services