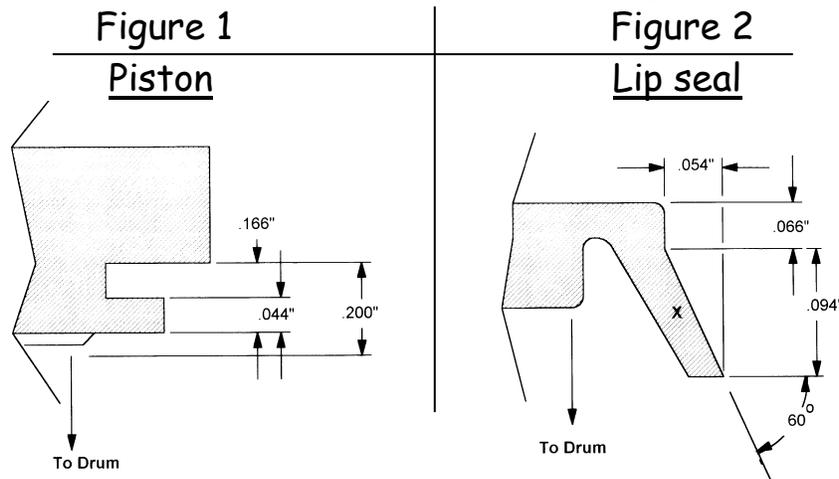


### 4L80E Direct Clutch Lip Seal

Approximately four years ago, the industry technical services recommended the use of long lip seals on the Direct drum in order to correct the common "Loss of reverse when hot" condition. Precision International agreed and responded to that recommendation by changing from the original short lip seals to the TH400 long lip versions. We have received feedback as to the success of this change and still support it. It has come to our attention, however, that some of our competitors have switched back to the original short lip seals due to their contention that the lip may extend beyond the lower part of the piston, therefore, bottoming in the drum.

We have analyzed several pistons, including the latest available from General Motors, and found the fit and function of the long lip seals to be perfect - no bottoming of the lip was noted, nor is possible, due to the extended "stops" on the bottom of the piston. See Figure 1 below.



In Reference to Figure 2 (above): With a free lip angle of 60° and a lip that is .160" high, the lip has a length of X = .108". With the addition of the .066" of the base above the lip, the maximum height of the seal can only reach .174". This should provide enough clearance for the piston. As you can see in Fig. 1, the height of the groove for the seal to the bottom of the piston is .200". This leaves .026" clearance at the point where the lip is bent to an



absolute maximum 90° angle.



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