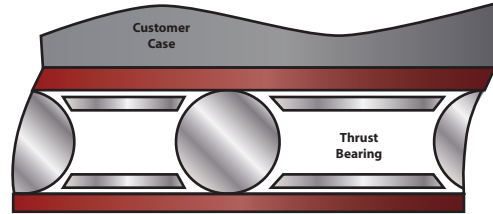


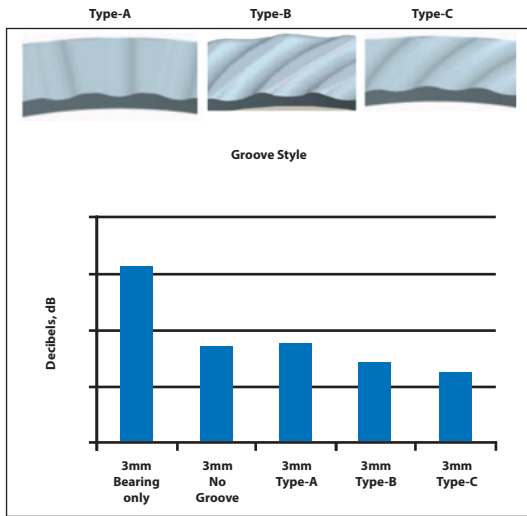
Noise Isolating Thrust Bearing Assembly

The Challenge:

A Leading U.S. auto manufacturer experienced a transmission noise issue during launch validation testing. The customer initially considered the thrust bearings to be the source of the noise.



Original Application:
Thrust Bearing in direct contact with outer shell of customer's transmission case



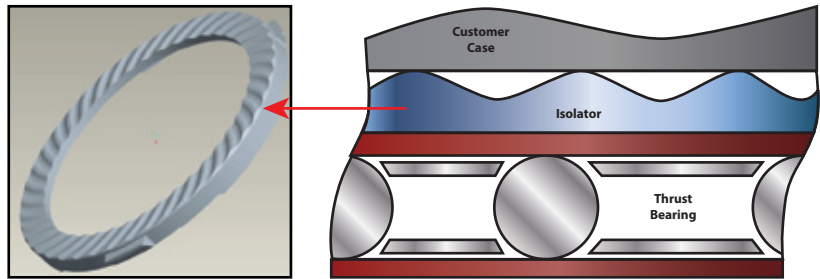
Analysis:

Koyo engineers, in collaboration with the customer, studied internal transmission and vehicle noise test data to identify the root cause of noise.

It was determined that vibrations created within the transmission were being passed through the thrust bearing to the transmission case causing the audible noise.

Koyo's Solution:

A unitized polymer backing ring with an engineered surface pattern designed to isolate internal component noise was developed and tested by Koyo Engineers in just 10 weeks.



Result:

Collaboration with the customer during the 10-week development and testing period confirmed the isolator was effective in eliminating the noise problem. Using this patented Koyo design the customer launched the transmission with no delays and initial quality metrics have been excellent.

