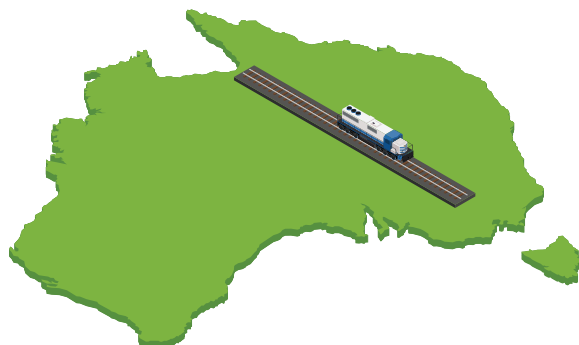


## RAIL CAR DOOR BEARING

### The Challenge:

A major passenger rail operator in Australia was experiencing frequent premature failure of the door-opening mechanism.

Rail cars were taken out of service annually to make repairs at great expense.



Koyo was approached to provide a solution even though the original design was a competitor's

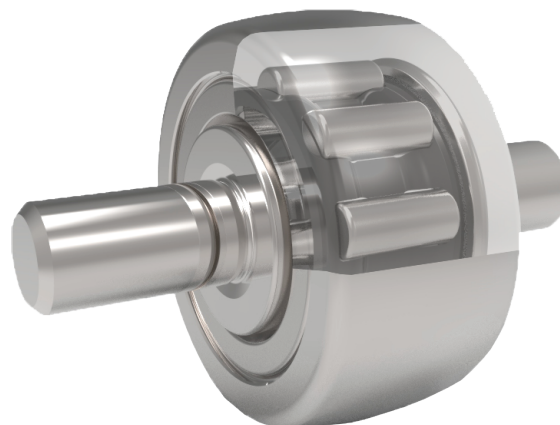
### Analysis:

Koyo Engineers studied the issue and determined that the bearing shafts of the telescoping door mechanism were wearing due to insufficient strength which led to failure of the door mechanism. The bearing seals were also being displaced due to machine marks (grind lead) - this caused loss of lubrication.



### Koyo's Solution:

To eliminate the problem, Koyo Engineers designed a new bearing assembly that included a stronger, tougher shaft with no grind lead.



### Result:

The customer put the new design on an accelerated test intended to simulate a 5-year pattern of use. Ultimately, the test was suspended at the equivalent of 10 years with no apparent damage or wear to the bearing or door mechanism.

With their expectations exceeded, the customer retrofitted their passenger rail cars with Koyo's solution.

