

Thordon Rides the Trolley Bus



Typical Trolley Bus owned by Mass Urban Transit Company (MUTC) in Pardubice, Czech Republic

While Thordon's water lubricated materials have revolutionized marine applications, our durable materials are increasingly proving useful in other industries where dry run applications are common. The most recent example was in the Czech Republic, a nation with 13 trolley bus systems.

Mass Urban Transit Company (MUTC) in the city of Pardubice was spending far too much time and money on replacing parts of their Hardy Clutches, which consist of a carrier plate and three damper elements.

"We knew ThorPlas-Blue works better than bronze in many applications, but this was a bit of a special

case because it was fitted in a damper plate of an air compressor," says Maarten Jansen, Thordon's Regional Manager. "Normally, more flexible elements are used, by they did not last."

Thordon's Business Development Manager, Greg Auger recommended replacing the clutch's Pertinax part with Thordon's shock-resistant XL, and replacing the Tecamid part with the durable ThorPlas-Blue. Because Thordon materials had not been used in buses before, the only way to know if they would withstand the shock loads was to test them. The bus company agreed to try the parts for two months.



MUTC public trolley bus hardy clutch system



MUTC disassembled trolley bus hardy clutch system

"I was convinced we could increase the lifetime of this part by several times," says Jan Piroutek, Thordon's Czech representative. "The guys in MUTC Pardubice didn't believe that, so I agreed to deliver them three testing sets for free."

The first test piece was installed in the worst bus of the fleet, Bus #342, which had the shortest service interval. MUTC agreed to operate this trolley bus for two months with the Thordon parts. Because the Thordon bearing cost more than the original, the condition was that Thordon had to last at least twice as long.

After two months, Jan Piroutek travelled on the bus for its entire route, to the end station and back to the start. As the Thordon material is used in a compressor which is frequently switched on and off, he wanted to know the number of starts and stops along the route. With pen, paper and clocks, Piroutek listened and counted the number of times the mechanism ran through its cycle. To his surprise, the number was 550 cycles per day, the same count as two months before.

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*Maarten Jansen,
Thordon Bearings*

"When they dismantled the Hardy clutch a week later," says Piroutek, "they found almost all Thordon pieces intact. Only ThorPlas-Blue had very small dimensional changes of less than 0.5 mm."

Another two and a half months later,

the technical manager asked Piroutek to do his next inspection of the clutch. He was certain they would have to replace the ThorPlas-Blue parts, but they were still working after 20 weeks of operation. With the old parts, Bus #342 had to be repaired every 3 to 4 weeks.

"Thinking outside the box" has led to another success for Thordon and its client, MUTC. "The test has worked out positively," says Maarten Jansen, "and we are currently testing with other bus companies as well and on different applications, with the aim to lengthen service intervals and save on repair and labour costs." **NW**



Replacement of clutch Pentinax part with Thordon XL



Replacement of clutch Tecamid parts with ThorPlas-Blue



Lifetime lubricated grease and oil-free ThorPlas-Blue bearings