



Quality Creates Value

WD RNN Bearings for Planetary Gearboxes





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Test details

Modern planetary gearboxes are now being developed with a trend of a smaller size but with an increased power level. This places higher requirements on the rolling bearings being used. WD RNN series full complement cylindrical roller bearings are particularly designed for high power level planetary gearboxes. This type of bearing has features of a heavy load capacity, long lifetime and high reliability, which are critical to the application of planetary gearboxes.

WD laboratory has carried out a group of comparison tests between WD RNN bearings and our competitor's. The test results shown that WD RNN bearings surpass our competitor's in terms of lifetime and reliability.

Brand	No.	Radial load	Rotation speed	Test duration	Test duration/L10h
		(KN)	(r/min)	(hrs)	
WD	WD #1	73.1	500	1646	2.53
	WD #2	73.1	1000	387	1.19
	WD #3	73.1	1000	1727	5.31
Competitor	C #1	73.1	500	1336	2.06
	C #2	73.1	1000	280	0.86
	C #3	73.1	1000	438	1.35
	C #4	73.1	1000	846	2.6

Test Results

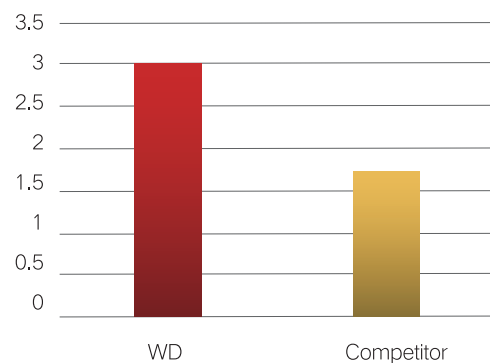
WD		Competitor	
Bearing lifetime	Number of samples	Bearing lifetime	Number of samples
<L10h	0	<L10h	1
>L10h	3	>L10h	3
>2XL10h	2	>2XL10h	2
>5XL10h	1	>5XL10h	0

Conclusion

In the lifetime test, all WD tested samples have a longer lifetime than L10h, max lifetime up to 5.31 times of L10h. No spalling fatigue or other failures in bearing components after test.

1 competitor sample's test duration was less than L10h, the other 3 have longer lifetime than L10h, max lifetime up to 2.6 times of L10h. Spalling fatigue on raceway and rollers, pitted rollers can be found on the samples after test.

Average lifetime (X L10h)

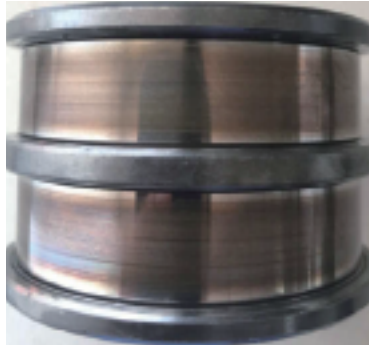
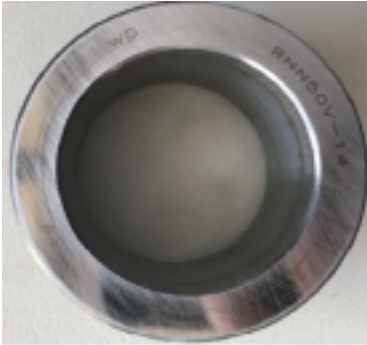




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Condition of bearings after test

► WD



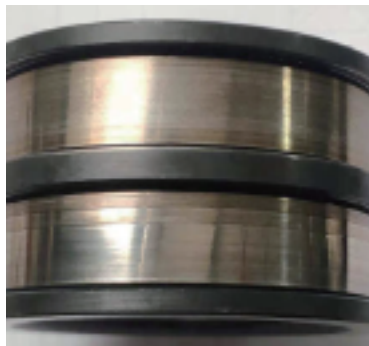
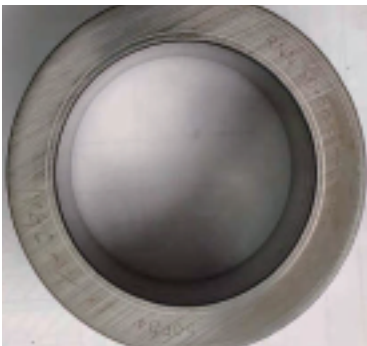
► Competitor



Spalling fatigue on raceway



Spalling fatigue on rollers



Pits on rollers

Why WD is better?

- High quality material and heat treatment
- Advanced manufacturing process
- Optimized internal design for planetary gearboxes
- Total quality management

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