

Wheel Bearing Problem

Verification Data



Figure 1

Rear Passenger Wheel Bearing Premature Failure

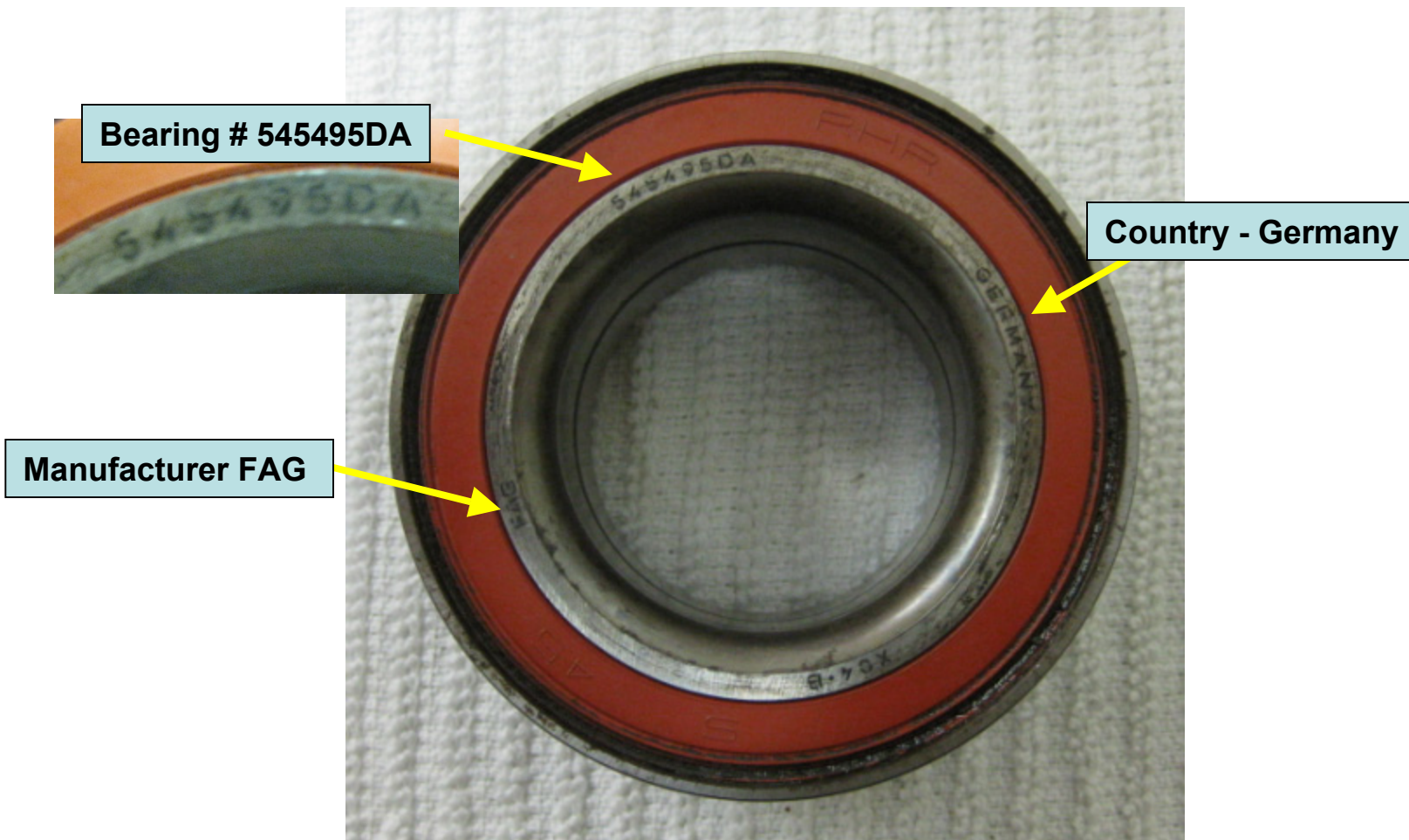


Figure 1C

Rear Passenger Wheel Bearing Premature Failure

Fretting indicates a poor fit as moisture is present at the inner ring to shaft fit. This is present around the entire inner ring.



Figure 3

Rear Passenger Wheel Bearing Premature Failure

The inner ring on the side opposite of the identification showed little fretting.

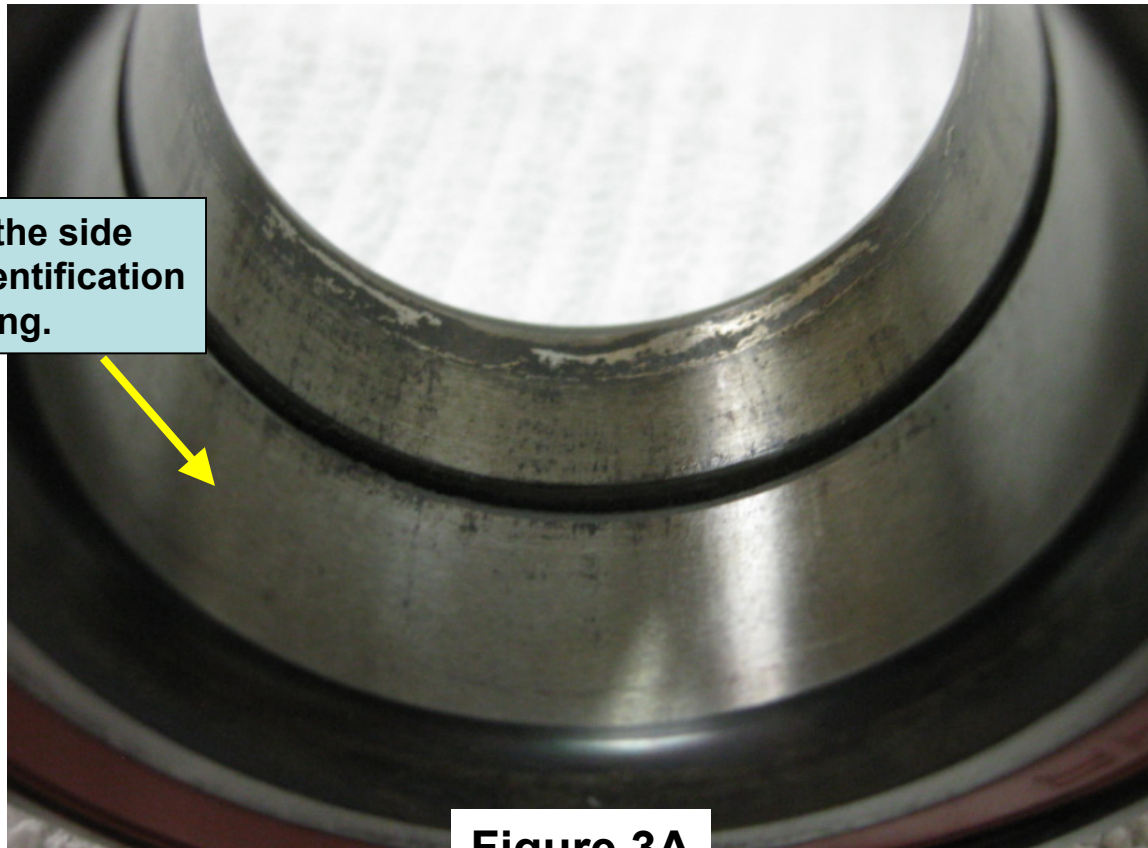


Figure 3A

Rear Passenger Wheel Bearing Premature Failure

The fatigue damage
is consistent with the
inner ring fretting

The fatigue damage



Figure 3B

Rear Passenger Wheel Bearing Premature Failure

The other inner ring showed little temperature and the early stages of fatigue spalling

No significant signs of fretting
On the other inner ring.

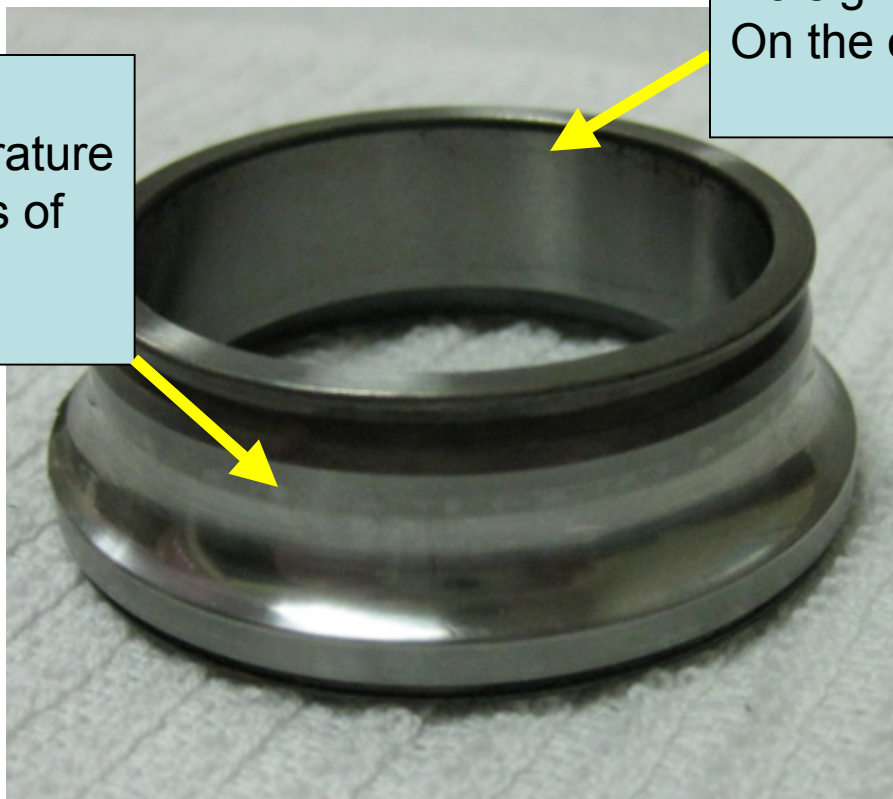


Figure 3C

Rear Passenger Wheel Bearing Premature Failure

The outer ring proof that the bearing was spinning in the housing . The damage is consistent with rotation



Figure 4

Passenger Wheel Bearing Premature Failure

The outer ring spinning
damage close-up of damage

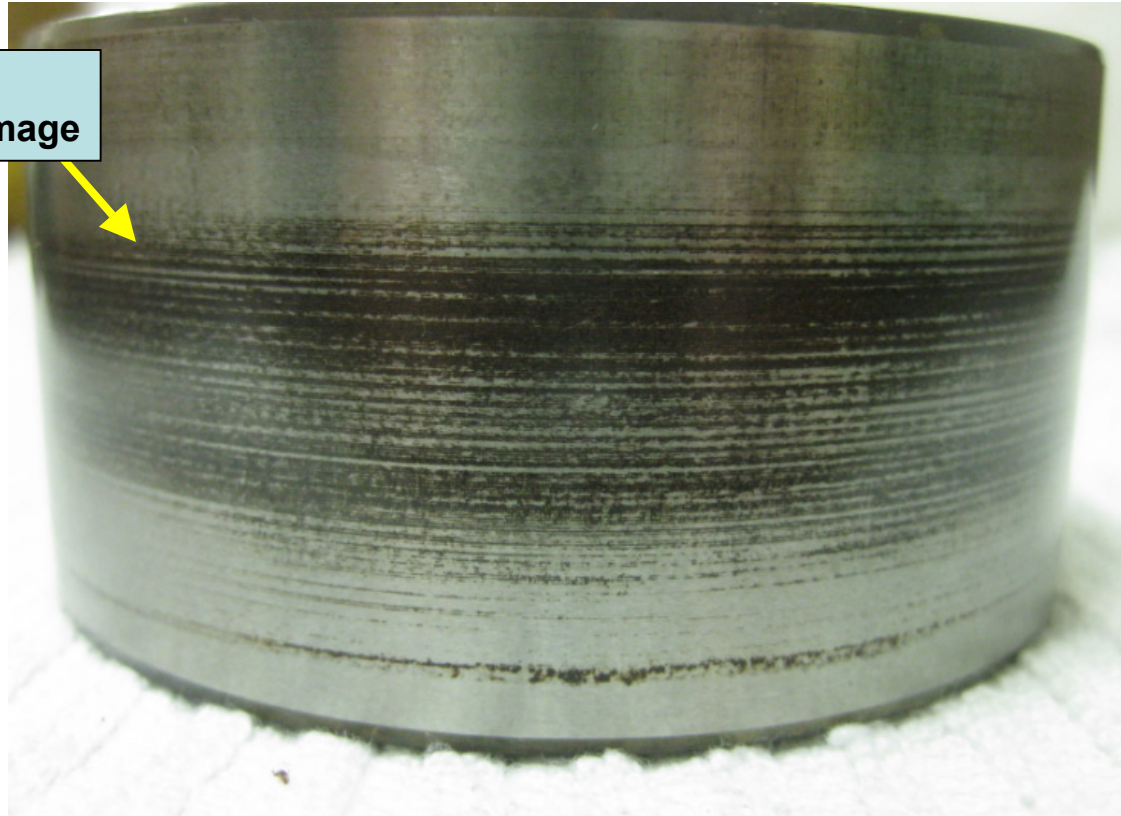


Figure 4A

Rear Passenger Wheel Bearing Premature Failure



Figure 5

Rear Passenger Wheel Bearing Premature Failure

Degrees C	Color of Metal	Degrees F
215	Very Faint Yellow	420
221	Very Pale Yellow	430
226	Light Yellow	440
232	Pale Straw Yellow	450
237	Straw Yellow	460
243	Deep Straw Yellow	470
249	Dark Yellow	480
254	Yellow Brown	490
260	Brown Yellow	500
265	Spotted Red Brown	510
271	Brown Purple	520
276	Light Purple	530
282	Full Purple	540
288	Dark Purple	550
293	Full Blue	560
299	Dark Blue	570
315	Very Dark Blue	600
332	Blue Green	630
537	Black Red	1000
649	Blood Red	1200
746	Low Cherry Red	1375
774	Medium Cherry Red	1425

The discoloration was in the brown yellow range or about 500F. Enough to damage the lubrication.

Figure 5A

Rear Passenger Wheel Bearing Premature Failure

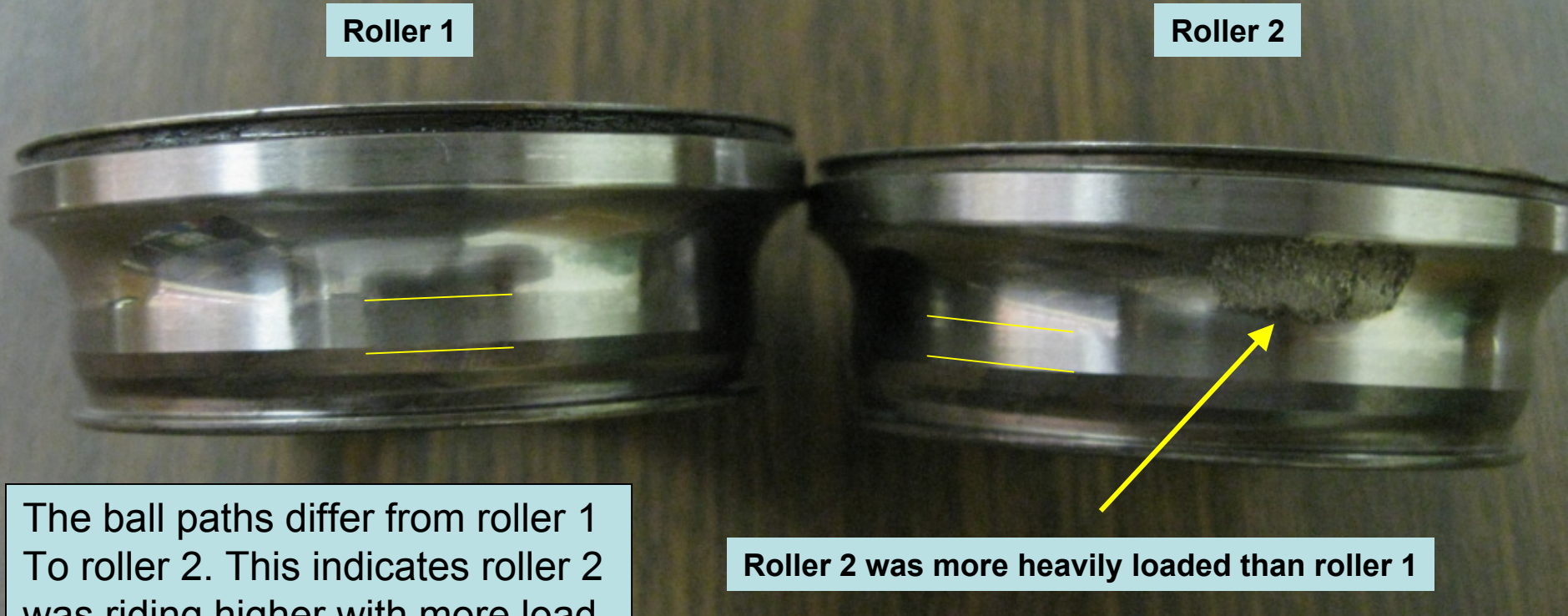


Figure 5B

Inner Ring 1 Race Path

Inner Ring 1 Race Width Outer Edge

Roller path

Inner Ring 2 Race Path

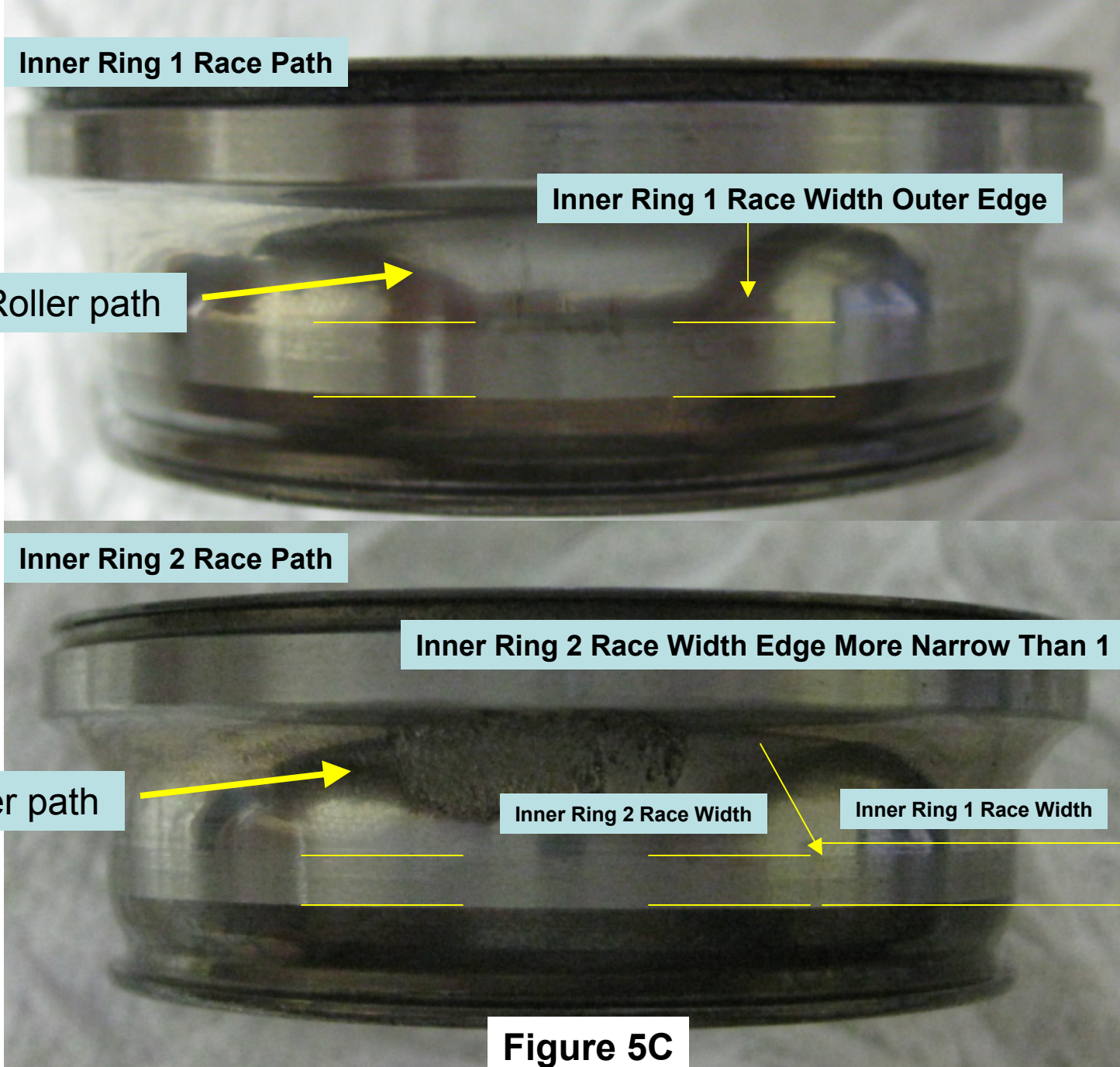
Inner Ring 2 Race Width Edge More Narrow Than 1

Roller path

Inner Ring 2 Race Width

Inner Ring 1 Race Width

Figure 5C



Rear Passenger Wheel Bearing Premature Failure



Figure 5D

Rear Passenger Wheel Bearing Premature Failure

The roller cage side 1 is in tact with no apparent damage except where cuts to open were made.



Figure 6

Rear Passenger Wheel Bearing Premature Failure

The roller cage side 2 is in tact with no apparent damage except where cuts to open were made.



Figure 6A

Rear Passenger Wheel Bearing Premature Failure

Bearing Seals - side 1 No apparent problems except where the cuts to open were made

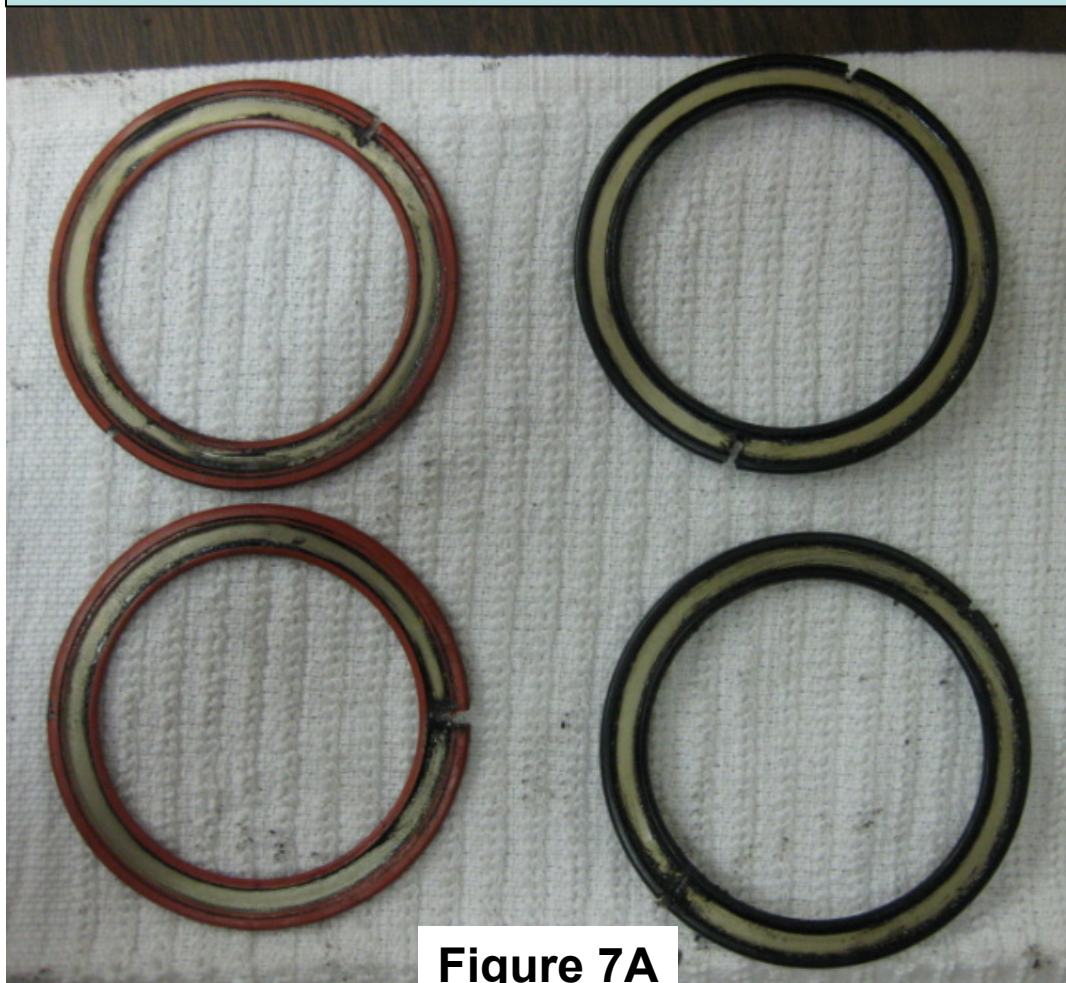


Figure 7A

Rear Passenger Wheel Bearing Premature Failure

Bearing Seals - side 2 No apparent problems except where the cuts to open were made



Figure 7B