

## Shaky Wheel

Posted by Salanis42 - 31 Dec 2010 14:17

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The left rear wheel on my 924S seems to be loose and shaky. Not an unbalanced wheel that vibrates when moving. I can physically move the wheel a couple degrees when it is off of the ground.

Trying to diagnose the most likely culprit. Here are a couple of my thoughts, and what I've done to diagnose them:

Wheel bearing: don't know. It's not making any noise, and it would have had to have given up pretty significantly pretty suddenly for that to be the culprit.

Hub/Axle bolt: Seems likely this could have slipped. But it kind of doesn't look that way. Plus, I can't break it free when hopping up and down on the end of a breaker bar. If it had slipped loose, seems like it would be ready to come loose even farther. To take this thing off, I think I'm going to need a pretty hefty impact wrench. Torque spec is ~320 ft\*lbs.

Something else?: Maybe there's something deeper in the hub assembly that needs to get tightened up. Feeling around the back of the hub with my fingers, I didn't notice anything. Most likely if there is, I'll need to get behind the hub, and I'm back to needing a mondo impact wrench again.

The control arm is solid. Also, the brake caliper assembly does not move with the rotor and hub.

Any thoughts or suggestions? Should I just bite the bullet and take it to a reputable shop to get it repaired?

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## Re: Shaky Wheel

Posted by 944Racer72 - 31 Dec 2010 17:57

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It is most likely the wheel nut or the wheel bearing. The nut may have backed off over time but will still be hard to remove. Since it is the left rear and braking action will tend to make that nut back off, I'm going with that as the culprit. Heat from the brakes may tend to worsen that as well.

Don't early cars and 924S have cotter pins and castle nuts? Late cars don't but I thought early did.

The late type locking nuts are supposed to be single use as the locking feature wears. I had a problem with mine backing off a few years ago and starting running an anti-rotation cam lock type nut designed for big trucks and buses as lug nuts. It worked great with no issues and is re-usable infinitely. I've got to look up the name of the company. I've been meaning to post that in a thread as a recommendation since I "Beta tested" them all last season.

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I have a 600 LBFT impact if you need to borrow it but I think you need to get that nut off and see what is going on in there.

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### **Re: Shaky Wheel**

Posted by Salanis42 - 31 Dec 2010 23:18

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No cotter pin. Just a bolt. Not even a pounded in detent like on a Miata.

I'm planning to pick up some penetrating grease in the next day or two, let it soak in, and try to hit it with some more torque a bit later. That will tell me what's up on bolt vs. bearing.

I really REALLY hope it's just the bolt.

In the shop manual, some of them have an allen bolt on the nut that clamps it down (I think on the fronts). I guess the no cotter pin or bolt is standard for most with aluminum control arms.

For the 600lb impact, where are you located, and is that neumatic or electric?

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### **Re: Shaky Wheel**

Posted by 944Racer72 - 01 Jan 2011 11:04

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I didn't realize you had aluminum arms. You have the late design.

The "bolt" you see poking through the arm is the end of the axle; I call it the stub axle. It is splined into a hub that rides in the bearing and that big nut holds everything together. The nut is a locking nut and it is supposed to be replaced any time it is removed because the locking feature wears when removed.

My guess is that the nut has backed off over time because it wasn't replaced when removed and likely wasn't properly torqued. Most people don't have a torque wrench capable of reaching the correct torque.

The bad news is that running with the nut loose may damage the bearing. I "fixed" my loose nut (after almost losing the wheel in a race) but when I went back and checked the bearing later, it was loose and didn't spin freely. There was no noise to indicate a problem.

Here is the replacement nut that I've been using instead of the factory lock nut: [www.disc-lock.com/safety-wheel-nut?item=93](http://www.disc-lock.com/safety-wheel-nut?item=93)

I'm in Santa Clara and my impact wrench is pneumatic. You can try the penetrating oil but I don't think you'll have any luck.

If you have to replace the bearing, you'll also need a press. I use dry ice to shrink the bearings first before pressing in the new bearings.

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### Re: Shaky Wheel

Posted by Big Dog - 01 Jan 2011 11:28

I did not know about the one use nut. I did not replace mine when I changed the rear bearings. Thanks for that information. I now have a correction item.

I put my car on an open trailer and took it to an alignment shop that I use and they hit the nuts with their big impact gun. I took it home, changed the bearings and took it back to tighten the nuts. Since I use them, they did not charge anything to do this.

Big Dog

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## Re: Shaky Wheel

Posted by Salanis42 - 01 Jan 2011 11:56

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**944Racer72 wrote:**

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I'm in Santa Clara and my impact wrench is pneumatic. You can try the penetrating oil but I don't think you'll have any luck.

If you have to replace the bearing, you'll also need a press. I use dry ice to shrink the bearings first before pressing in the new bearings.

Thanks on the tip about the nut. Do you happen to know which size you used?

I'm in Sacramento. You're way out of the way for me. I think I'm going to try to track down someone more local to help me out.

I'm thinking I should probably go ahead and just replace the bearing while I'm at it. I will see what local shops estimate for doing the work.

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