



## Behind the Wheels Podcast Transcription Bonus Episode 7 Meet “The Expert In The Hub World”

### ANNOUNCER

You're listening to Behind the Wheels with Doug Mason, Dave Walters, and Mike Yagley. This is a show where we talk about heavy truck and medium duty axle ends. Doug, Dave, and Mike bring close to 100 years of experience and expertise in the transportation business.

Join us once a month to learn new things about axle ends. Sponsored by Alcoa® Wheels, the global leader in aluminum wheel innovation.

### MIKE YAGLEY

Welcome to another episode of Behind The Wheels. I'm Mike Yagley.

### DOUG MASON

And I'm Doug Mason.

### DAVE WALTERS

And I'm Dave Walters.

### MIKE YAGLEY

Today we have with us, Roger Maye from ConMet, the national service manager. Hey, thank you for joining us Roger.

### ROGER MAYE

Hey, thank you for this opportunity.

### MIKE YAGLEY

Let's start out with just your background. Where do you come from? Tell us a little bit about ConMet.

### ROGER MAYE

We'll start with my background and role into the ConMet.

### DOUG MASON

Sounds good.

### MIKE YAGLEY

Very good.

### ROGER MAYE

I've been at ConMet, if I make May 2nd, 43 years. I spent 7 years in the Foundry. I spent 16 years as quality manager in one of our large hub plants. And the last 21 years I've been on the road doing service. Training, trade shows, skills challenges, just whatever the opportunity is, I raise my hand to go.




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### Bonus Episode 7

### Meet “The Expert In The Hub World”

**MIKE YAGLEY**

Great.

**DOUG MASON**

Perfect.

**ROGER MAYE**

ConMet, been in business since 1964. Started by a company that makes trucks to make aluminum castings. We started aluminum hubs in 1964. We've evolved since then to where we've got the full product offering. Iron aluminum disc brakes, drum brakes. We make a lot of different things as a job shop for the industry. Plastic interior components, aluminum castings on the chassis, and our number one customer is Class 8 Trucks.

**DOUG MASON**

Beautiful, that's what we want to hear.

**MIKE YAGLEY**

Go on Dave.

**DAVE WALTERS**

I was going to say, in our industry, when we come to TMC, like we are this week, there are experts in each field and Roger May is always known as the expert in the hub world. So thank you for joining us.

**DOUG MASON**

So I guess going back into some history then, you were telling us before we started this a little bit of history on the hub, the spindle, and how that all kind of got standardized and TMC's effect in all of that.

**ROGER MAYE**

That's kind of an interesting thing. They invented tapered roller bearings in 1898. Well until 1993, 95 years, you basically adjusted it how you wanted. Techs learn by handed down information and there was really nothing concrete to hand down. So in '93, TMC developed RP-618, eight steps, calibrated torque wrench, calibrated dial indicator, follow the steps. The goal is to dial in 1 to 0.005" end play. We test technicians in skills challenges multiple times a year and they really struggle with that.

**ROGER MAYE**

So in 1995, the industry's changed. ConMet came out with what we call preset wheel ends. The industry calls it pre-adjusted. We control the length of machining in the hub where the cups press in to a really precise number. We have what the industry calls a half stand bearing, and we have a precision machine bearing spacer. The combination of the three of those gives us an assembly that we basically put on the spindle, torque the nuts to a given spec, set the lock, put the lube in, from there periodic inspection for maintenance.

**MIKE YAGLEY**

When I think of a bearing system, there's the inner bearing, there's the outer bearing. How the loads are transferred to those inner and outer bearings is critical, right?

**ROGER MAYE**

With manual adjust. We dial in 0.001" to 0.005" end play using the torque wrench, the dial indicator, and the TMC eight step procedure. And if we look at bearing and seal life, the optimum bearing and seal life is we target 0.0" to about 0.002" preload. Well, it's impossible to measure preload in the field and so we've established for manual adjust the 0.001" to 0.005" range. Which, gives you a bearing life and a seal life that's acceptable. Well, the closer we get to 0.0" to that 0.002" preload, the better the bearing life and the seal life are. So, preset targets 0.0" out of the box, and we give it a system that the technician just torques the spindle nuts, set the lock, and because of the manufacturing tolerance of the components, he doesn't have to do anything other than that, the adjustment's built in.

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**MIKE YAGLEY**

Just put it in and don't touch it again.

**ROGER MAYE**

Right. And we target that optimum place for optimum bearing and seal life. And we came out with that with a system that would use double jam nut, a one piece spindle nut. We didn't care. We just wanted to clamp load. Well, we had this phenomenon in the industry that put all of us in a scramble with wide based tires and two-inch outset wheels. And we saw some harmonics on the vehicle we hadn't seen before. We saw air brake chambers, air dryer brackets, S-cam tubes fatiguing and cracking. We saw some cone race rotation. And so the industry scrambled to address that. And we looked at de-rating vehicles because the two-inch outset wheels, some things that nobody really wanted to do, but that was the downstream. So we looked at changing the track on the axle so we don't have to derate anymore. That's been part of the evolution. And ConMet came up with a spindle nut that's actually built into the hub and provides better clamp, provides a good interface between our washer and the cone race of the bearing to help keep that cone race rotation from taking place.

**DOUG MASON**

Okay. You talked about a preset plus before we got online too, here, is that what you were just describing?

**ROGER MAYE**

Right. That's a unique spindle nut. This part of the assembly built into the hub. It's the half-stand bearings, it's the spacer, it's the precision machining of the hub. Plus it's the unique spindle that becomes the shipping cap that holds it all together. From the time you take it off the skid, that we ship it to the truck or the axle plant with, until it goes on the spindle, we slide it in place. We align the key in the key way of the washer in the spindle nut assembly. We push forward.

**ROGER MAYE**

We catch the first thread. Well, at this point, the seal is not engaged. The seal journal on the hub, or on the spindle. So as we rotate that nut, we index the hub up onto the spindle and we engage the seal in the seal journal. So everything is parallel, slides on smoothly. It keeps from cocking the seal and damaging the seal.

**ROGER MAYE**

So package unit goes out, we torque the nut. And one of the things that we find in testing, technicians are always concerned with, do I loosen the nut or do I tighten the nut to get the lock in? Well, in this case with our spindle nut, there are three holes in the face of the nut. We torque it to the prescribed torque. We find the hole that fits. We put the locking ring in and the assembly's completed. It's going to come away with a, with a five-year, 500,000 mile warranty on a tractor, seven year, 750,000 mile warranty on the trailer. And that's a huge factor if you're the end user.

**MIKE YAGLEY**

Now my simplified understanding of the problems that were going on with the bearing life, with those wide base wheels back in the day, this goes back probably, I don't know, three, five, seven years, something like that.

**ROGER MAYE**

Yeah, further back than that, 10 or 12 years when we really-

**MIKE YAGLEY**

10 or 12, okay.

**ROGER MAYE**

When we really started [crosstalk 00:06:50].

**MIKE YAGLEY**

Time flies when you're having fun right?

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**ROGER MAYE**

It does.

**MIKE YAGLEY**

So basically what ... the way I always thought of it and correct me if I'm wrong, I guess I'd love to be corrected. When you take a wheel and a tire that, the middle of that tire, that's where the load line is.

**ROGER MAYE**

Right. We set it up and we distribute the load between the two bearings. And that's part of the design factor that goes into the hub design is where we're centering that load. And the derating, if you've got 1.1, three-inch offset or less, we don't have to derate.

**ROGER MAYE**

Well, the further out you move that load, the more you're loading, the outer bearing and the greater the derate is from that assembly. So the industry reacted very, very quickly. We came out with axles that took care of it. We got it back into 1.13 or less. The load ratings went back up to where they were to start with.

**MIKE YAGLEY**

So what was happening back in the day, the fleets, they wanted to see that outer wheel, that outer dual, I should say the outer, the outer face of the wide base, roughly as close as they could get to the old width.

**ROGER MAYE**

Yeah, to the original track [crosstalk 00:07:53].

**MIKE YAGLEY**

The original track width.

**DAVE WALTER**

Which would be two inch offsets.

**MIKE YAGLEY**

That's where the two inch offset came from.

**DAVE WALTERS**

And the great thing about it is when TMC kind of knew about it, we started to write an RP so we could adjust on this. Like Roger said, we even one step further by doing the axles. Getting an RP out as soon as you could to say anything, that's one point, 1.13 or less can go on this axle but if you're going to do a two, here's where you derate.

**MIKE YAGLEY**

Here's the derate.

**ROGER MAYE**

And one thing, kind of, that I liked about the TMC reaction to this, we have two meetings a year where we do a lot of this work. We had a meeting between these meetings where a group of us got together. People that had a vested interest in this. And we said, 'Hey, we need to react quickly.' And we worked on that RP and we got it out very quickly.

**DOUG MASON**

And again, we'll just put in another plug for those who are listening out there for TMC. If you're a fleet who is not involved or engaged, there's a lot of benefits.

**DOUG MASON**

As you're saying, Roger, if there's issues in the field, they are addressed by TMC. And it's a good organization to be a part of.

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#### ROGER MAYE

Hey, this is where the information starts. And this is the information that everybody in the industry salutes. The biggest teaching tool I have is an RP, a recommended practice. And the reason it's so big is, we know the things that have gone on behind the scenes that everybody's got a chance to have input. Everybody's got a chance to vote. And when it's approved, it's something everybody believes in, solutions that nobody second-guesses in RP.

#### MIKE YAGLEY

Well, there was a lot of work going on. That was one of the areas that I did get involved. I was working with our friends in the tire industry, our friends, some of the axle guys, Alcoa wheels also had a place at the table with this, trying to work through these issues. I remember Phil Arnold from Michelin was deeply involved. That was my trial by fire. That's where I learned about bearings, was dealing with that issue. I hadn't really had much opportunity to get much into the bearing world prior to that. I don't know how bearing works when it's right, but I know when it's wrong is what [crosstalk 00:09:55]

#### ROGER MAYE

A lot of people got an education on things that we had taken for granted prior to that. And it made us look at some things that we hadn't before and the industry came away stronger because of it.

#### MIKE YAGLEY

I think so, absolutely.

#### DOUG MASON

You brought up the warranty that you have on there for a five-year or a seven-year set up, what type of preventative maintenance or maintenance issues need to be taken care of during those five years? Is there much inspection that needs to be done? How is this handled in the field?

#### ROGER MAYE

Very, very simple things, driver pre-trip and a technician PM, and some attention to detail when we're changing tires and changing wheels, got them off the hub. If we do some basic things that things going to live a long time and give good service. But, we miss some of these, we miss an opportunity to find a problem before it happens.

#### MIKE YAGLEY

Can you enumerate the most critical things that they need to be looking at? Let's start with the driver walk around. Is there anything?

#### ROGER MAYE

Okay. Driver pre-trip is really, really basic. It doesn't take a lot of time. We're looking at the lube level in the hub itself. And on a steerer or a trailer lubricated with oil, we've got a site glass in the hubcap. We want to keep it between the marks we want to look for signs of contamination, moisture. It looks kind of like a butterscotch milkshake. It's got a Milky appearance.

#### MIKE YAGLEY

Once it's contaminated.

#### ROGER MAYE

Once it's contaminated. The thing is it only takes one to 2% moisture to contaminate the lube. So, with that, thank goodness, it's got telltale signs and we see what's going on just by the visual inspection. We like to look for darker rusty streaks coming from the wheel bolts. That's the sign that we've got a potential loose fastener. That's one we want to look at. We want to look for broken or missing fasteners.

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#### ROGER MAYE

If we break one fastener, we want to replace three. We want to replace the broken one, the one on either side. If we break too, we want to replace all 10. We don't want an enterprising technician to take a sledgehammer and drive the stud out, put a new stud in and stack some washers up, put a nut on it and pull it in with the impact wrench.

#### MIKE YAGLEY

Something tell me that happened once or twice.

#### ROGER MAYE

Oh it happens, absolutely. We want to take the thing off. We want to support the flange, press the stud in and as it should be.

#### MIKE YAGLEY

Okay, so that's the driver walk around. So now we're talking about PM. A little bit deeper dive to make sure that your hubs are okay.

#### ROGER MAYE

We want to do everything that the driver does in the pre-trip. We want to look at the fasteners. We want to look at the lube. We want to look for signs of a seal leak. We want the wheels off the ground. We want to spin the wheel free or smooth rotation. Want to listen for noise. We want to check for vibration. And that's as simple as putting your hand on the steering, knuckle, the brake chamber. When you spin the wheel, I like to put a magnet in the lube and see if I pick up any metallic particles.

#### MIKE YAGLEY

Oh, that's a great idea.

#### ROGER MAYE

That's the sign that I've got potential failing bearings. Peeling, spalling, something like that. With the driver or trailer hub, our company has gone so far to put a magnetic fill plug in the barrel of our preset plus hub. So you pull the fill, plug out, it gives me a chance to look at the condition of the lube to check for the moisture contamination and I look at that magnet for signs of metallic particles. It gives me an indication I might have a bearing failure.

#### DAVE WALTER

When you get into the lube, Roger, is there a maintenance interval that you need to change a lube. I know there's synthetic and there's other types.

#### ROGER MAYE

That is very subjective. With the moisture contamination it's very obvious. With semi fluid grease, that we see a lot in trailers, we've got the issue of how long has it been in there? What's the condition of it? Is it still suitable for use? And that's kind of subjective.

#### DOUG MASON

Do you have recommendations just from a timeframe standpoint?

#### ROGER MAYE

Annually, we want the hubcap to come off. We want to do a visual inspection, the condition and the quantity of the lube. Are the big end of the bearing rollers still covered?

#### DOUG MASON

Okay. And if they're not obviously, address it.

#### ROGER MAYE

Exactly.

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#### DAVE WALTERS

Okay, I guess in the industry, Roger, ever since I ... I was one of them that kind of grew up around trucks and my granddad had him and I worked on him. I remember my first day, my granddad says, “You just tighten them up. Stop the wheel, back it off and spin it around and life is good.” Okay.

#### DAVE WALTERS

You’ve been around a long time in the industry, setting the preload. I know with all the stuff, but I mean, all the wives tales, does ant of that stuff add any merit at all?

#### ROGER MAYE

RP-618 is the Bible on that. Techs learn one of three ways. They learn by talking to the old senior guy, they learn by reading service literature and they learn by making mistakes. My product and your product. We can’t afford to make a mistake on it. It can be catastrophic. And so we do these basics and we’re in good shape.

#### MIKE YAGLEY

The big thing is, at least what I’ve seen in the industry, is those techs, they learn with their fingers.

#### ROGER MAYE

They’re hands on, visual learners.

#### MIKE YAGLEY

They’re hands-on guys. And so they need to get in there with that senior guy looking over their shoulder. That’s the best way I think.

#### ROGER MAYE

Well, to a certain point. Sometimes the senior guy might not know the current way. So much is changing in this industry. And if we look at what we’ve got out on the industry now, we see YouTube videos that are telling people how to do it. You go to the website and you’ve got people that are telling you on the website the way to do it. It’s a visual thing. That’s going to be the wave of the future I think.

#### MIKE YAGLEY

You can’t count on those YouTube videos doing it right though.

#### ROGER MAYE

The problem is, YouTube and the internet have no editor. That’s why you consider where you go and you go to the equipment manufacturer, see what they’ve got posted. That’s the information you believe.

#### MIKE YAGLEY

So does ConMet have videos? I’m sure they got material there on your website.

#### ROGER MAYE

We’ve actually got an online hub training program. Where, you can go to our website and call up the hub training program, broken down into segments. You take the segment, you take a little test. If you make a hundred, you move to the next, if not you back up, retake the test until you get a hundred on it. When you complete each segment, then you can print a certificate of completion. So that’s our online training. We use that to supplement our one-on-one, in the dealer, in the service shop training.

#### DOUG MASON

As you go out into the field and as you get calls in for concerns, what are, what are the primary issues that you run into? What are the primary things that you have to deal with people doing incorrectly in the field?

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#### ROGER MAYE

You know, that varies from every phone call. And there’s probably no one answer there that’s right because I get so many simple things. The best part of it is people call to ask the question rather than trying to do it incorrectly. And that’s the reason Dave and I are in the industry and our phone numbers are right there. Call the factory service people. We want to help you. We have a toll free customer service number and they ask a lot of the questions there the first call. If not, they find us and we do a conference call to take care of it.

#### ROGER MAYE

The big thing I see is questions about spindle nuts. Questions about identifying the wheel end. TMC has had a section that we tried to identify a wheel ends and we basically had to agree to disagree that we didn’t have a standard way of doing it. Well, I’m real proud of what we did with our preset plus product.

#### ROGER MAYE

We actually put the identification. We say ConMet, preset plus. 300 or 500 foot pounds of torque, a steer torques at 300 a drive and a trailer torque at 500. And we say, red locking ring required.

#### MIKE YAGLEY

And it’s all right there.

#### ROGER MAYE

It’s on the face of the spindle nut. So once you take the hubcap off, we tell you what you’re working on. We tell you how to work on it. And the work instruction is built into the product.

#### MIKE YAGLEY

So is it fair to say the most important thing is that driver walk around, take a look at the lube, take a look at the color of it, take a look at the level. And then of course the PM.

#### ROGER MAYE

Yeah, look for seal leaks, just the basic visual things. And it’s very, very easy to do. The next piece of the puzzle on the driver or the technician PM is check for chucking. And I ask about that and people typically don’t know what it is. One thing that ConMet and TMC disagree on, TMC says annually, a hundred thousand miles. We want you to measure the end plate on the wheel. Well, we think that’s probably going to generate more problems than you’re going to find.

#### ROGER MAYE

ConMet’s going to tell you to check for chucking. And that is a matter of jacking the wheel up, take a pry bar and a place to leverage. Put your hand on top of the tire, pushed out on the tire bar, feel for loose motion in the bearings. You’ll feel the top of the wheel move as you apply the pressure to it.

#### MIKE YAGLEY

It’ll start to cock a little bit.

#### ROGER MAYE

Yes and you feel a little bit of a bump in the bearings. We call that checking for chucking. If we feel that movement, that’s the one I want you to measure in endplay on. And one caution, kingpin wear feels just like loose bearings. So if you’re checking a steer hub and you get that little bit of loose motion grease the kingpins. The grease is going to dampen the wear and the play in the kingpin. And it’s going to make you just feel the wheel bearing.

#### ROGER MAYE

So grease the kingpin and if it goes away, then you know you were looking at loose kingpins. If it stays there, that’s the one I want you to measure. And we say above 0.006 of an inch, I want you to pull it apart. Inspect it, find out what the issue is.



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#### MIKE YAGLEY

Basically, what you want to do is keep them from touching that wheel bearing. If they can help it. One, it's going to cause more problems than it's going to solve. You don't want to play with it, just-

#### ROGER MAYE

Absolutely. The basics of inspection are really, really quick. If your technician knows how to do this, you've got the wheels off the ground, spin it. Check for noise, check for vibration, check for chucking, put your magnet in the lube or pull the magnetic fill plug, look at the condition. Look at the quantity. Look for signs of foreign material. We are good.

#### ROGER MAYE

The next step is,, after you've been driving check the operating temperature of the hub. And that's as simple as walking around and laying your hand on it. If one is noticeably hotter than the other, that's the one we want to look at. Now, the question comes, how hot is too hot? We say ambient plus 150 degrees. So if it's a 75 degree day, I add 150, that hub should never operate over 225 degrees.

#### MIKE YAGLEY

That's going to burn your finger.

#### ROGER MAYE

That's going to burn your finger. That's the rule.

#### DAVE WALTERS

But you'll know.

#### DOUG MASON

But you'll know.

#### ROGER MAYE

But you'll know, you'll know.

#### MIKE YAGLEY

Be ready when you're touching that thing. Be ready for that 220-

#### DOUG MASON

I got a good story on temperature just real quick, just a sidebar. I used to work in a permanent mold shop.

#### MIKE YAGLEY

Are we going.

#### ROGER MAYE

Me too.

#### DOUG MASON

So we did all kinds of dye coding going on. We had a gentleman who was years and years in the field and he was teaching us how to do this properly. This was when I was young kid. About five of us out there doing it. And so we said, "Well, how do you check the temperature?" He goes, "Okay, you need to be at this temperature." I said, "Well, how do you check temperature?" He goes, "You could just put your finger on and touch it. Okay?" Oh, sure.

#### DOUG MASON

I'm like, I ain't doing that. One of the guys who was with me. He goes, oh, okay and he puts his finger on this, this mold that just came out of the oven.

#### ROGER MAYE

It left his fingerprint.

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#### DOUG MASON

Left his fingerprint.

#### ROGER MAYE

The whole end of his finger [crosstalk 00:20:24].

#### DOUG MASON

He jumped off of there. And the old gentlemen just started laughing and he goes, what'd you have you do? And he'd look at his thumb and his thumb's got this callous. It's about a half a high. He's been doing it for 30 years. He goes, "That's how you tell if ti's hot enough." So, you got to be careful.

#### ROGER MAYE

I'm a little more scientific than that. Infrared thermometer, use the infrared thermometer. It's really, really easy. And if you find one that's noticeably hotter than the others, one that's above the range, that's the one I want to check. And with these simple things, I'm convinced we're going to keep wheels on trucks. We're going to be safe.

#### DAVE WALTERS

See, when Doug told that story, I remember when I was a kid again, my granddad told me lots of wives tales. He save, "Take that Rose, bud, heat that bearing up. When the spit bounces off of it, it's ready to go." And I'm like, "There's got to be a more scientific ..." No. That is what you do. And I'm like, okay.

#### DAVE WALTERS

So I mean, the wives tales are out there. Me and Roger lives them every day. The one question I got for you, Roger, aluminum hubs are really a big part of the market, especially on tractors. Do you see any difference between a steel hub and an aluminum hub maintenance issues or anything the general public or the technician should look at when they're dealing with one or the other?

#### ROGER MAYE

You know, as far as function they're doing exactly the same job. You put aluminum on you save weight because of the physical properties of aluminum, there's considerations that we have to have, you be careful when you make the wheels to the aluminum hub, that we don't scrape the pilots on it. Across the board, whether it's the iron or aluminum, we want to cleaning the mating surfaces. We want to clean the backside of your wheel. We want to clean both sides of the drum. We want to clean the mating surface on the hub itself. We want to clean the little step on the pilot where we seat the drum. We want to make sure that we've got all the foreign material off there.

#### ROGER MAYE

Our procedure is clock a pilot to 12 o'clock, seat the drum, seat the wheel, put the top bolt on, snug it up to hold everything in place. Rest of the nuts on. Starting at the top, in sequence, star pattern, 450 to 500 foot pounds, final torque with a torque control device. And that is not an impact wrench.

#### DOUG MASON

We've had numerous discussions on that this week.

#### ROGER MAYE

Yes and-

#### MIKE YAGLEY:

That's a favorite discussion for us wheel guys.

#### ROGER MAYE

Absolutely and the hubs side of it too. That's a favorite discussion for us because we can over torque the thing. And it's probably-

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**MIKE YAGLEY**

Yeah, you own those studs.

**ROGER MAYE**

We own the studs. We can stretch the studs. And I've got a real seat of the pants way to do that. When we've got the wheels off, take a new wheel boat, engage the threads of that wheel boat with the threads of your stud. If they don't match up, that's one that's been over torqued and we call that necking.

**DOUG MASON**

That's a great idea.

**ROGER MAYE**

When Dave was in high school, he told me some necking stories and this is a little different. This is different. This is, this is not what made Dave smile hear. We're worried about over torquing that stud and stretching it to where the threads don't engage anymore and we've got the potential for failure then.

**MIKE YAGLEY**

And that's a real quick check. I mean, one of the things we've talked about in the past was taking a nut and walking it down that stud, but it'd be a lot faster to just take a new stud-

**ROGER MAYE**

The same thing.

**MIKE YAGLEY**

... and then check it that you could do that real quick.

**ROGER MAYE**

Hey, as quick as you can engage it, you can see if you've damage that stud. And so we're going to make the thing up on clean surfaces. That's the critical portion. Clock the pilot to 12, seat to drum, seat the wheel. If we don't seat the drum and we have it off position, this is, getting back to Dave's original question about aluminum hubs, if I torque a bottom bolt first, I've torqued things out of position. And as I torque the top bolt is going to shave the pilot on aluminum hub. It's going to be a pinched port that's going to potentially crack the drum, potentially damage the wheel and-

**MIKE YAGLEY**

Potentially cock the wheel too.

**ROGER MAYE**

Yes, we've got safety issues.

**DOUG MASON**

Down the road you got a problem.

**ROGER MAYE**

We've got tire wear issues. But the thing about it, to do it right is very, very simple. Pilot at 12 o'clock, seat the drum, seat the wheel, star pattern. Torque control device, which is not an impact wrench. We want the final rotation of that nut with a torque control device.

**ROGER MAYE**

The piece of this that we preach, and David I preach the same message and it's the TMC message, retorque at 50 to a hundred miles. We get this phenomenon called joint relaxation. We go down the road at speed with a load in a turn and things tend to settle in.

## Behind the Wheels Podcast Transcription

### Bonus Episode 7

### Meet "The Expert In The Hub World"

#### ROGER MAYE

And my Canadian customers are much more religious about this because they have a potential of a \$50,000 fine. If you lose a wheel on a public road, truck or trailer, \$50,000 fine. They actually attach a tag to the dash of the tractor, said, driver, you've got to stop at 50 to 100 miles and have these bolts retorqued. That's the piece that we preach in the United States. But the follow through is not that good. Unless you have a wheel off and then I've got a customer with a new religion. He calls up wanting to know the right way to do it.

#### MIKE YAGLEY

At least with us, we say about five miles or so with the aluminum wheel. But I think, 50 miles if you're-

#### DOUG MASON

As long as you're doing it.

#### MIKE YAGLEY

As long as you're doing it.

#### ROGER MAYE

As long as you're doing it, doing it. In other words, let the joint relaxation take place, let it do what it's going to do. Let it settle in and retorque.

#### ROGER MAYE

Now I came up to Pennsylvania, Dave's old hometown, to a customer that says, "I am cracking hubs. I need help." I fly up from North Carolina, I get my rental car. I drive into his parking lot and I park 30 feet away from his first truck there and I know immediately what he's done wrong. He has put anti-seize on the stud, the full length of the stud. And I said, "Oh my gosh, what, what did you do that for?" He says, "Well, we've got all this calcium chloride up here. We're trying to keep ice off the roads." And says, "It's killing my trucks and I put wheel bolts on that. I can't get back off. So I put this anti-seize on so that it will come back off."

#### ROGER MAYE

Well, unfortunately it changes the coefficient of friction. The spec is two drops of oil on the outer two or three threads. One drop of oil between the body of the nut and the washer on hub pilot.

#### MIKE YAGLEY

Work it in a little bit.

#### ROGER MAYE

Torque it, everything's good. So with his anti-seize, [crosstalk 00:26:27].

#### MIKE YAGLEY

With his fix, he broke it.

#### ROGER MAYE

His fix, and I don't know if he was using a torque wrench or if he's using an impact wrench. Bottom line was, it was enough force on that joint. He's breaking the flange off of the hub.

#### MIKE YAGLEY

We were talking to a guy where-

#### DOUG MASON

Breaking the flange right off the hub?

#### ROGER MAYE

Breaking the flange off the hub. That much torque.

#### MIKE YAGLEY

If you put an impact wrench, you can go 1200 foot power, real quick.



**Behind the Wheels Podcast Transcription**  
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**ROGER MAYE**

And if you buy a one inch impact wrench, they're rated 1700 in a lot of cases.

**DOUG MASON**

Oh my goodness.

**ROGER MAYE**

We're looking for 450 to 500.

**DOUG MASON**

Well, Roger, this has been a great conversation. Thank you for joining us here on Behind The Wheels. Hopefully we can get into the show notes some links to your website with some of the information that we talked about and we'll see you next time.

**ROGER MAYE**

Thank you for the opportunity.

**DAVE WALTERS**

Thank you so much.

**DOUG MASON**

Really appreciate it.

**DAVE WALTERS**

Thank you, thank you.

**ANNOUNCER**

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