Behind the Wheels Podcast Transcription
Season 2, Episode 3: Let's Talk About Truck Classes 3 – 6!

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
I'm Doug Mason.

DAVE WALTERS
And I'm Dave Walters.

MIKE YAGLEY
So today we're going to be talking a little bit about medium duty trucks, and medium duty application, and the axle end. Specifically, the wheel on those medium duty applications. Now medium duty means a lot of different things to a lot of different people. I was looking online, just looking at some of the different definitions of medium duty, and honestly, they are all over the map. So we're not referencing these websites. I'm not talking about just some mom-and-pop website, these are either OEMs or other folks who are very, very knowledgeable about the trucking industry. And there is often not a clear definition. Some people will say class seven is medium duty. Some people will say its axles out of class six. There's all these different definitions of what medium duty is.

MIKE YAGLEY
And I think for today's discussion on medium duty, I think we're going to just have to start by defining what medium duty is for the sake of this discussion. So I'm going to open it up here to Dave and Doug, and let's sort of hash that out to start this thing out.

DAVE WALTERS
I'll throw this out. At TMC we've always defined medium duty as non-CDL drivers. So that would be class three through six, where seven and eight need CDLs. And when you get a CDL, then you're regulated by the CSA scores and that kind of stuff. So they always said medium duties are non-CDL drivers, class three through six. So I'll throw that one out first.

DOUG MASON
And I think that, when I think of medium duty, I think of the actual different areas where you look at the trucking, "Well that's not a semi, it's got to be a medium duty truck." And some of the markets that that runs into is, you've got the RV market. But you're going to be able to realize that really those are medium duty trucks, a large portion of them. You have the growing last mile market, if you want to call it that, where you have all of these box trucks like the old bread trucks.

DOUG MASON
I think about the old workhorse vehicles being medium duty. Tow trucks, those are medium duty. Other work truck type vehicles that are not class eight, but they're work trucks. When you think of the Ford, and GM, and Chevy, and all those larger pickup trucks with duallys on them, those are medium duty trucks. And so that's kind of what rolls through my mind. And for all of those various applications, only have so much variety in the wheels that they take as opposed to the class eight or the heavy-duty market, which really runs 22.5"s primarily 90% of the wheels, where it's very different in the medium duty market. Right Mike?

MIKE YAGLEY
Well, absolutely Doug. I'm used to seeing those heavy duty like Dave said. He said the CDL guys, those professional drivers, they're typically driving in the big rig. You're seeing those 22.5" wheels. All of them run on 10 bolt holes, on 285.75 millimeter bolt circles. If you take all the bolt holes and you do a connect the dots from one to the other, the diameter of that circle is going to be 285.75 millimeters, so that is heavy duty. And medium duty is pretty much everything else until you get to the passenger world. And I really liked the TMC definition of that breakdown of CDL professional drivers, and we'll call it non-professional drivers.

MIKE YAGLEY
So that really cleans up a lot of confusion, at least I think it does. Now that we've sort of defined the domain, the area we're going to be talking about, the kind of trucks we're talking about, Doug you mentioned the RV market. I think you mentioned tow trucks, you've got garbage trucks are in medium duty, I think. There's so much variation in that medium duty market. Either one of you guys want to comment on the size of the medium duty market versus the heavy-duty market?

DAVE WALTERS
I know for a fact the medium duty market is much larger than the heavy-duty market. But when we talk at TMC about that market, and again, I'll just throw this out for debate amongst us, but it's very more OEM-driven. The OEMs have a lot more control in a lot of this with the wheel sizes, and different varieties, and different stuff. So every fleet would love to have one wheel fit all vehicles. You don't see that normally when you get into medium duty.

DOUG MASON
That was my life for a number of years. I won't talk about the OEMs, but there's one OEM who has a large, large portion of what we would call the medium duty market, class three through class six. And obviously they run all their own bolt circles, wheel sizes. They have all their own test parameters. And the other OEMs don't necessarily follow along with that as you get into these smaller vehicles. The fact that it's so splintered I would say, in terms of the different sizes, applications.

DOUG MASON
And you're right. A fleet would love to just say, "Hey, we have the same bolt-up parameters on all of our wheels and away we go," that's not case for this. And we have wheels that run from 16" x 5.5" wide, to 19.5" x 7.5", maybe some even 8.25" I think, widths we have some 19.5". So the load range again, huge. So there's so much variation that there really isn't the ability to have the same standardization as you would have in the heavy duty segment. So that's a good point Dave.

MIKE YAGLEY
One other thing is I did spend a little bit of time in the medium duty segment, and what struck me was even the OEMs are beholden a little bit to the big bodybuilders. I was working closely at that time with one of the big OEMs in the medium duty space and he took me along to go visit some of the big bodybuilders and all he wanted was to make sure they didn't go to the competitor OEM. And the bodybuilders were sort of looking at these chassis that he was trying to push. They were looking at them really as a module. When it came to the axle end, they weren't really interested in the axle end so much, they were really more interested in the features. What kind of alternator do you have?

MIKE YAGLEY
How many points can I connect here? It's like they were looking at ways that that chassis would service their body building… what they wanted to do with the chassis. When it went to below the chassis, when you start getting into things like the axle end, that was a low priority for them. And that's sort of what we're seeing here, is you don't have that standardization. Like I said, in my experience working with those bodybuilders for a couple of years was that that was an afterthought. And it sort of shows up in the maintenance organizations where you just have all sorts of bolts circles, all sorts of wheel sizes. It's just all over the map, what the maintenance organizations have to be working with.

DOUG MASON
I got it. Just one other comment to throw in here Mike, you just made me think of this. Again, all of the variation with all the different suppliers in the medium duty or work truck segment. And it made me think of the NTEA, the National Truck Equipment Association, which really is the work truck association and the majority of what they deal with would be the medium duty segment. And like you said, all of the bodybuilders, all the equipment that can be put on these vehicles, they're all built by different suppliers and added at different points.

DOUG MASON
And so it's a very unique industry. Like you said Dave, they're very different than the commercial truck, a class eight segment where you go to an OEM, you tell them what you want and they build a truck to what you want and the way it comes. There's not as much add-on afterwards. Whereas in the case of the medium duty market, a chassis gets made by the OEM and gets modified in so many different ways for all different applications that are used that we kind of walked through already, that handle a medium duty segment. So it does make sense, it comes on wheels. And whatever [crosstalk 00:09:01] it comes on, they take it.

MIKE YAGLEY
That's right. We had a show already on steel versus aluminum in the heavy-duty segment. And the medium duty segment, the steel versus aluminum discussion changes dramatically when we're talking about the benefits of steel and the benefits of aluminum in that medium duty segment. Like my experience working with the bodybuilders briefly, Doug, what you just said, those medium duty guys typically are going to look at the wheels and they're going to say, "Well, are they round? Okay, let's go."

MIKE YAGLEY
And they're looking for different features. There's a lot of benefits to steel. You've got low cost, for that segment, there's a lot of things that steel has to offer. One of the things aluminum does play in, we do play in that space, aluminum wheels play in that space. And so those customers who are looking at aluminum, what are the things that they're telling us are the real benefits of aluminum that they're seeing in the medium duty applications? Dave?

DAVE WALTERS
I'll bring up, in my years of going out with a lot of salespeople and doing calls with different types of fleets, when we went into medium duty fleets, the success stories that I can tell was a private fleet was very image driven. And we used to give them a set of wheels to basically put on a vehicle. And when the owner would see how good that vehicle would look, he wanted his company's name to have that image. So we did very well in the private fleet with image-conscience people, because they wanted that look to be so professional when that vehicle was delivering the product that these people made going out to customers. So image was definitely a big factor in my experience.

DOUG MASON
And Dave, one other thing that we ran into, I was again, working in the medium duty segment, more heavily a few years back and working with the sales guys as well, and where we saw a drive was fleets that were in areas where corrosion would take place and where they would keep their vehicles. A lot of medium duty fleets to keep the vehicles significantly longer than a typical heavy-duty fleet. And we would find people 10, 15 plus years that they would hang on to these trucks before they would replace them. And in that case, there was a lot of refurbishment that had to take place on steel wheels over time. And if you keep that vehicle 10, 15 years, that cycle increases two, three, four times. And then there becomes the payback where you get the look like you were talking about, which they liked, but there was also a bigger financial benefit.

DOUG MASON
We saw that as another driving force. And you would see that even outside of some of these fleets, like in the RV market. You'll find in the RV market a pretty heavy dose of aluminum wheels. Reason for that, maintenance. Guys who are driving big RVs, they don't want to mess with the wheels. They don't want to mess around with them at all. Whether it's the small RVs, I won't say any specific names, but there's some European RV manufacturers, vehicle manufacturers that's pretty heavy in the market here, and they are pretty much all aluminum wheels. And then in the heavier ones, which almost get into the class eight size, they're running 22.5" with the big old RVs. And again, it's a from a maintenance perspective. But I agree with you that the two main driving forces are appearance, and if there's a push for the payback, it's really where there's a heavy corrosion maintenance concerns that would drive you to an aluminum wheel.

MIKE YAGLEY
One of the things we talked about here you just mentioned was the importance of image. And you see a lot of these tow trucks driving around with simulators. And as you look around in the medium duty space, there are an awful lot of simulators out there. Just to try and give that aluminum wheel or chromed wheel, I don't know exactly. I'm assuming they're going after an aluminum wheel look to try and get the look without having to go aluminum. I'm assuming it's mostly because they probably don't know aluminum is available. Dave, do you have any comments on simulators?

DAVE WALTERS
Yes I do. I have not been a fan of simulators in any industry. And years ago, we actually went into the quite a few fire truck shows, which fire trucks at that time was pretty prevalent on simulators. And what we really found out was simulators cover up maintenance issues. If you have a broken stud or a loose cap nut, or if you have a cracked wheel or leaking wheel seal, that all covers up those issues. And the last thing you want to be doing is rushing to a fire and have a maintenance issue. But what we've found is that's really true in every industry. And just to kind of give you an idea of how important it is, CVSA will not give you a sticker if you have wheel covers on, or... they need to look at those issues.

DAVE WALTERS
So I mean, simulators basically cover up issues. And the other thing in the firetruck industry, these guys when they're rushed into a fire as most of the fire chiefs explained to us at this convention, that these guys have both feet on the ground, one on the gas pedal and one on the brake. And a lot of heat builds up and simulators definitely hold in heat compared to dissipating heat like aluminum wheels do. So I've never been a fan of simulators and you combine an aluminum wheel to get the appearance and have a lot more benefits.

MIKE YAGLEY
Doug do you have anything to add to that?

DOUG MASON
No. I mean very similar situations that we've seen and you'll find again, in a simulator it looks nice and it's called a simulator because it's trying to simulate the look of something. And again, I would say either a chrome-plated wheel or an aluminum wheel, which would be biased towards obviously. But yeah, we saw the same thing in the market for transport vehicles. I think of the vehicles at the airport, right, that run people back and forward. And that's a pretty heavy market for simulators. And we saw the same type of situation in some of I guess, the Northeast areas specifically, again, going to the corrosion and the maintenance that needs to be seen to be taken care of is one of the main concerns there. So that's all I would have to say to add to what Dave has there.

MIKE YAGLEY
So one of the things that you also see in the medium duty space is where the stud standout is not really sufficient to... When they design the axle end, a lot of the OEMs will assume they're going to go with steel. And so the stud standout is the distance that the stud stands out from the hub. And so a lot of the time you're stuck with either steel, you can go duals, if you have to dual up, you're going with steel. Because there's not enough stud there to really hold on the two aluminums and a lot of these applications. Or if a lot of people are doing the steel on the inner and an aluminum on the outer, if they want to get the look, but then they still have that problem of... You have a steel inner and that has its own issues. Doug, you got any thoughts? I know you did a lot of work in the medium duty space trying to work through those issues. Do you have any comments?

DOUG MASON
Yeah, I mean, where it came from, and again, a lot of these vehicles have had the same hub configurations for decades. And so the tooling is all in place. No one's going to change anything really moving forward because of the cost to do so. And these assets have basically been run through. So they're making money on them, which is what they should be doing. But what we found is it does stand out in some instances. But the bigger issue that we would run into would be the pilot tabs. When you're looking at a hub piloted wheel, you want to make sure that you have enough engagement of that pilot for the inner and the outer dual both. And so that's where a lot of the issue came in. And as there's been advancements in aluminum wheel manufacturing, as well as alloys, they have no changed alloys here in the field, the thickness of the hub has dramatically decreased.

DOUG MASON
And to the point, just as an example, it still makes me surprised, but we have one RV that we build a specific wheel for that is less than 10 millimeters thick in the hub. That's pretty thin. And that allows for a dual setup. And there's a large segment of that RV market that wants aluminum wheels all the way around and that meets the desire of that particular market. So that's what has to happen, is improvements in the material and the processing to actually conform to the hub that isn't going to change. It's going to stay the same. So that's what we've found that we had to work through when we found customers who wanted aluminum wheels, but because of the OEs were not willing to change either stud length or pilot tab length the wheel had to accommodate. So it's actually driven improvements in wheel technology, even in the medium duty segment that we can carry on to the heavy duty segment.

MIKE YAGLEY
Very good. I think that about covers steel and aluminum, the applications for medium duty. I think that we've covered a lot of things here. First of all is that the CDL is... at least for this discussion, we're sticking with the TMC definition that the CDL, those professional drivers, that's going to be heavy duty. And medium duty is going to be those non-CDL guys. Typically, that work truck space, that medium duty space is mostly going to be interested in cost. It's a very cost sensitive business. And so we see an awful lot of steel wheels that's that speaks the language of that business. But there are the folks out there who are looking for image, or maybe where aluminum really makes sense for them. Once they see the aluminum on their vehicles, then that's like, "Wow. Yeah, that's what I want to say about myself."

MIKE YAGLEY
And then there's also the refurbishment benefit of aluminum that you'll see out there, especially in those areas in the Northeast where you're going to have a lot of corrosion. We talked a little bit about simulators and the problems with simulators and then probably the biggest issue that I think Dave brought up was the safety issue. Like Dave mentioned, you can't get the sticker from CVSA if you have a simulator on there, because you don't know if your wheel has a crack in it. And then finally, we talked a little bit about the technology. The way medium duty is one of the areas that has pushed at least Alcoa Wheels. And I think it's pushing the whole aluminum industry. The only way that you can get the technology to thin that rim enough where you can go six on. When I say six on that means you have the duals in the rear, the singles of course in the steer, so that's six wheels for two axles.

MIKE YAGLEY
That technology has allowed aluminum to thin that mounting flange enough where you can put those duals on and that really is what those customers are looking for. I think that about does it. Thank you guys for joining us and thank you everybody for joining us for this discussion on medium duty. And if you want to get in touch with us so you can catch us at alcoawheels.com. Just click on the podcast tab and you can send us a note. We'd love to hear from you. We're very interested in any questions or comments you might have. I guess that does it. Thanks, we'll see you next time.

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