



CHASSIS MARKET OFFERS SIGNIFICANT GROWTH OPPORTUNITY

Sales of chassis components and technologies are expected to increase in the coming years as new vehicle technologies open opportunities for sales of advanced components by jobbers.

According to Transparency Market Research in a report titled *Automotive Chassis Systems Market – Global Industry Analysis, Size, Share, Growth, Trends and Forecast 2015-2021*, the chassis market in the United States for 2014 was US\$65.50 billion. It is expected to reach US\$86.48 billion by 2021, expanding at 4.1% CAGR between 2015 and 2021.

Part of this growth is being fuelled by the growing age of the automotive fleet on the road. According to the *AIA 2014 Outlook Study*, the average age of light vehicles on Canadian roads is 9.3 years. This provides plenty of opportunities for chassis maintenance and replacement of chassis parts for this set of vehicles. But there is also a growing market for chassis maintenance and service work on new vehicles. *Canadian Auto Dealer*

reported that in November 2015, new auto sales continued their upward trend, during which time 145,426 vehicles were sold, up 4.7% from last year at this same time. Year-to-date sales were recorded at 1,769,611 up some 2.9% from last year, or nearly 50,000 more vehicles ahead of what was reported last year. Projections for the end of December 2015 show that sales could top 1.9 million vehicles being sold in Canada.

Why are these numbers important to jobbers? Many of these new vehicles feature new chassis designs and materials, which present a growing profit centre for jobbers.

Scott Stone, executive vice-president, sales and marketing, with Mevotech, LP, says the push for North American

light duty vehicles to meet the newly adopted CAFE standards for improved fuel efficiency and emissions has meant vehicle manufacturers are changing how vehicles are designed and built. The most obvious change is moving to reducing the weight of vehicles, which in turn means trying to find ways to reduce the weight of components and systems, Stone says.

Kim Plante, senior product manager, steering and suspension products, Federal-Mogul Motorparts, says control arm assemblies are the most visible changes in demand for replacement chassis parts, but the growing popularity of “loaded” control arms is really being driven by convenience and time savings in the service bay. In truth,

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there's a great deal of new technology in almost all steering and suspension components. The materials, hardening processes, tolerances, internal socket designs, bushing formulations – even the chemistry of the dust boot – are all evolving to meet the demands of newer vehicles. Most of these changes aren't apparent to the naked eye, so it's very important to rely on a manufacturer and brand you know and trust.

In chassis components, there is a move away from stamped steel to lighter-weight materials. There are, however, drawbacks. "In some cases, we are seeing more fragile designs than what we saw in the past," Stone continues. "You hear a lot about OE parts being built better today. But some of the trends we are seeing in the chassis environment are that they are taking a little bit of structural integrity out, a little bit of the weight off the vehicle, and the designs are a little bit more fragile."

This trade-off between design integrity and weight provides a unique opportunity for aftermarket chassis providers, according to Stone. Aftermarket providers now make chassis products that last longer and are stronger than OE products, often with better wear and performance characteristics. "It gives the aftermarket a great opportunity to put something out there that is better than what is out there now," Stone claims.

"While reducing weight is a huge issue for the vehicle manufacturer, responsiveness and steering feel are the primary drivers of new chassis technologies. As vehicles get lighter and are equipped with lower profile tire and wheel packages, the feedback from the road to the steering wheel is more important than ever. A technology-focused manufacturer like Federal-Mogul Motorparts and Moog develops and tests parts specifically to meet these new demands and customer expectations. The consumer expects like-new responsiveness and control, and if the car doesn't have that level of dynamic response, there's an increased likelihood of a comeback," says Plante.

John Thody, president and CEO of XRF International Inc., says that the move to producing higher-quality aftermarket chassis components that are lightweight and very durable means jobbers will see producers of lower-quality and cheaper chassis parts fall out of favour. This will translate

into an opportunity to sell more of these higher-quality parts to service professionals, and gain a higher profit point for the jobber.

"I expect to see the producers of cheap control arms to go by the wayside," Thody notes. "When the

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consumer pays \$2,000 to \$3,000 for a front-end job, oddly enough he expects it to last. Yet some manufacturers still make the control arms cheaper and cheaper in an effort to attract consumers – but doing a poor job twice is always more expensive than doing it right once. Often, the cheap control arms don’t line up on all three points, making installation difficult, and the raw sharp edges on the stampings will often cut the technician’s hands, putting him off work for a couple of days. My advice? Spend a couple of extra dollars. There will be real benefits over the long run. Quality never goes out of style.”

Stone continues that Mevotech’s “X-Factor”-enhanced chassis component designs offer a higher quality of part to the aftermarket, from chassis parts with increased structural integrity to designs that last longer while maintaining the weight and design characteristics needed to meet the CAFE requirements of new vehicles.

Thody adds that XRF is also pushing the envelope when it comes to innovative designs for chassis products to meet those same CAFE requirements.

“XRF is experimenting with ceramic ball studs and polyoxymethylene bearings, because these components are lightweight, dimensionally stable at all working temperatures, and these components do not oxidize,” he explains. “They can be brought to a mirror finish, further reducing friction and reducing the amount of power required to steer the car. XRF has been experimenting with cryogenics as surface treatments. This works much like heat treatment in reverse: the component is flash-frozen, and then warmed quickly. The freezing shrinks the component and then the warming expands it, removing any surface blemishes and leaving a very smooth,

low-friction tempered surface.”

Another of the major trends jobbers will see with chassis design is a move to modularization of chassis components.

“We see them as loaded control arms with all of the bushings, mounting brackets, and all of the ball joints included,” Stone says. “We see what we call unitized control arms coming to market now. It used to be that you could replace a ball joint if it failed. But in the unitized design, it is all integrated into one piece. So if there is a failure of any one of those components, you replace the whole unit. So this modularization is creating a lot of tailwinds in the category.”

An advantage to service operations of this new modular design is it makes the servicing and replacement of a control arm and other components easier and faster. It enhances safety as well. If a tech needs to replace a worn bushing or ball joint, the modular design ensures that all parts in the control arm assembly are replaced – even if they don’t visibly show any wear but may be close to failing.

“You are getting the whole kit,” Stone continues. “It allows the vehicle to be aligned that much more quickly and more easily, and prevents you from skipping anything in the diagnosis, like a bent control arm or a worn control arm or a bushing that is about to expire. There are a lot of benefits. For the technicians, it is a very efficient way for them to repair the vehicle, and that is a huge deal.”

“Our premium Moog Problem Solver parts have experienced significant growth in recent months, largely due to the severe winter,” adds Plante. “We’ve heard from many jobbers and service providers that the harsh conditions really helped their customers understand the value of premium parts.

In some cases, consumers previously had lower-quality tie rod ends, control arms, and other components installed just last fall, and they were back for replacement in March. It’s a good bet that they agreed to pay a few dollars more for a premium, longer-lasting, and better-performing part the second time.”

“There are still millions of vehicles with the old-style parallelogram front end, millions with the transitional rack and pinion systems, and logically following, increasing demand for the newer style control arm replacement front end,” Thody says. “The systems we are seeing on cars today are transitional, as the OEMs are moving to modular front ends and rear ends. The drive system too will change to modular drives at all four corners, and the load-weight distribution on these vehicles will become more balanced, making it necessary for the front and rear suspension to become more similar [to each other]. This fore and aft similarity will come in the form of modular control arm sets, and these control arms will become similar, if not the same, on all four corners because of the balance of the vehicle and the similar responsibilities of both front and rear suspension.”

Because chassis components are moving to lighter-weight materials, jobbers will need to emphasize to service operations the need for more comprehensive inspection of components, and to do them much sooner, Stone says. “You have to be much more careful on the installation and much more careful on the diagnostics. It used to be that you would not need to check a ball joint, or a stabilizer link kit, for the first three or four service cycles. Now, you need to start checking some of these things to see if there is any early wear, because early wear has a trickledown effect on other components.”

The use of lighter-weight materials also means technicians will need to change the way they install chassis products. The days of torquing components to 11, to quote Spinal Tap’s Nigel Tufnel, needs to be abandoned. Over-torquing will damage the parts. ■ JN