

# INTUNE

A close-up photograph of a male technician wearing safety glasses and gloves, working on the underside of a vehicle. He is focused on a component, possibly a shock absorber or strut, near a tire. The background is dark and industrial.

## CHASSIS TALK:

### A QUICK GUIDE TO A SMOOTH RIDE

**Let's keep this simple.** As your vehicle rolls down a rough stretch of highway, a pothole-cratered city street or a gravel backroad, its suspension system works to help smooth out the ride. Typically the components associated with that are springs, struts, shocks and control arms.

Additional chassis components complement the suspension parts to enable steering and enhance handling around corners. All those parts under the vehicle get a workout, as they're constantly subjected to movement and are also exposed to the elements.

Over time, those suspension and chassis parts can wear out and could potentially fail, requiring attention. Identifying worn parts before they fail can help prevent a larger or potentially more expensive repair, so ask your ACDelco-affiliated Professional Service Centre representative about a complete chassis inspection.

In the meantime, we've highlighted the major components and terms you're likely to hear when talk about chassis parts comes up in the shop.

**Alignment** – It's not a component, but an essential procedure to help verify the chassis/suspension components are within specification, which helps provide directional stability and even tire wear. Alignments should also be performed after tire replacement.

**Ball joints** – These ball-in-socket links connect the steering system to the front wheels, allowing for up-and-down movement and side-to-side turning while supporting the weight of the vehicle. They may be worn if you notice looser, somewhat erratic steering or wandering on the road. You may also hear a clunking noise, particularly when turning.

**Bushings** – There typically are many bushings located in the front and rear suspension systems. They're used to isolate a variety of components to help create smooth, quiet driving. Generally made from rubberized materials, they can wear and harden over time, creating excessive clearance that can lead to clunking or rattling.

**Coil springs** – Most vehicles incorporate them in the front and often the rear suspensions. They're used in conjunction with dampers such as shock absorbers or struts to help provide a smooth ride.

**Control arms** – They connect the steering system to the chassis. Some systems use upper and lower control arms with coil springs and shocks sandwiched between them, while others use a lower control arm with

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a strut assembly that incorporates a combined coil spring/strut assembly. The ball joints attach to the ends of the control arms. Control arms themselves rarely wear out, but related bushings or the ball joints may need servicing, sometimes involving the whole control arm assembly.

**CV joints** – Most front-wheel-drive and all-wheel-drive vehicles and many four-wheel-drive vehicles use constant velocity joints, also called CV joints. On a conventional front-drive vehicle, there are four of them: two inner joints that link the transmission with driveshafts and two outer joints that link the ends of the driveshafts with the wheels. They are packed with grease and each is covered with a protective boot. Grease leaking from a damaged boot can allow moisture and dirt to damage the joint. You may notice a clunking or clicking noise while turning and moving, such as turning into a parking space.

**Shock absorbers/struts** – Shocks and struts are essentially designed to do the same thing: dampen the bouncing movement generated by springs. Shocks are mounted near the spring, while the strut has the spring integrated into the strut assembly that supports the vehicle's weight. Struts are typically found on cars, while shocks are more common on trucks and SUVs. Some vehicles use both, often incorporating struts in the front and shocks in the rear.

**Stabilizer bar/sway bar links** – Most vehicles these days have at least a front stabilizer bar – also known as a sway bar – and often a rear stabilizer bar to help reduce a vehicle's leaning when it goes around a corner. The bar is connected to the suspension with rubberized links that can rattle or clunk — and even separate from the vehicle — when they've worn.

**Tie rods (inner and outer)** – They connect the steering linkage to the corresponding knuckles at the wheels and allow for up-and-down movement and turning. Tie rods are also used in some rear suspensions. Tie rod replacement generally requires an alignment.

When it comes to servicing the chassis components on your vehicle, ACDelco is the go-to choice for most vehicles on the road. Ask your Professional Service Centre representative for more details.

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## WHAT'S THAT SMELL?



A sweet odour in your car that may or may not be accompanied by a greasy mist on the windshield or damp carpet beneath the dashboard can indicate a leak in the heater core. That's because engine coolant – also known as antifreeze – circulates through the heater core like a radiator to provide interior warmth, and it typically has a sweet, almost syrupy odour. If you catch a whiff of it, have your vehicle inspected right away.

## FAST FACT

At almost 8,000 kilometers, the Trans-Canada Highway is one of the longest national highways in the world. Stretching from St. John's, NL to Victoria, BC, the highway links 10 provinces from the Atlantic to Pacific Ocean.

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