

A number of auto insurers have recommended or required use of aftermarket crash parts, which are often produced in overseas factories and can be significantly cheaper than the parts from original equipment manufacturers. Unfortunately, the parts might also be cheaper in quality.

Some safety experts are concerned about the internal bumper parts: a bumper beam, bumper isolators, foam, crush cans, brackets, and radiator supports. In a frontal crash, those pieces work together to properly transmit the crash pulse, or vibrations from impact energy that moves through the vehicle, to air-bag sensors and away from the passenger compartment to reduce or prevent injury.

"There's a lot of engineering that goes into making a crash-protection system," says David Zuby, chief research officer for the Insurance Institute for Highway Safety. "You can't willy-nilly change those parts because the system may not work the way it was designed."

In July, Ford reported that its engineers had found alarming differences in two aftermarket parts tested. One bumper bar was made of mild steel, instead of the ultra-high-strength steel that the original Ford part uses. A radiator support was made of plastic instead of the magnesium used in the Ford part. In computer-simulated crash tests, the fakes changed the timing of the crash pulse, which might affect air-bag deployment.

"Differences in material could result in a difference in the timing of the air-bag deployment," says Mike Warwood, Ford's parts marketing and remanufacturing manager. "The air bag might deploy earlier than it should or later than it should. Or it might deploy when it shouldn't or not deploy at all when it should."

Ford's testing follows a demonstration last year by Toby Chess, a master collision-repair instructor, who used a reciprocating saw to easily slice through an aftermarket bumper bar. The saw couldn't cut through the original automaker bumper bar.

Some insurers have suspended use of the bumpers in repairs. In February, the Certified Automotive Parts Association, which certifies the quality of some aftermarket replacement parts (but not bumpers), tested a sample of aftermarket bumpers. It found "serious deficiencies" in metal hardness, material thickness, and fit.

Bottom line

Don't let your insurance company pressure you into using aftermarket collision-repair body parts, especially safety-related ones. If your car has already been repaired, check your invoices or ask your insurer to see whether aftermarket parts were used. If knockoffs were used, demand that they be replaced with original equipment.