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TJ AXLES



There's good and bad when it comes to the stock TJ axles, but most will find the stock axles to be of decent strength for wheeling on 31-inch tires. Rubicon model Dana 44 axles, however, are well suited for the more extreme trails. (Photo courtesy DaimlerChrysler)

Axles take a beating in any 4x4. In addition to receiving all of the horsepower and torque and distributing it to the drive wheels, the axles are also closer to the ground than any other vehicle component, making them the easiest target for rocks and other trail obstacles. Add a few water crossings and maybe

some mud bogs after that, and you have an idea of what your axles must live through. Amid the axles' two basic functions—supporting the weight of the vehicle and turning the wheels—they're challenged much more with the larger tires and extra weight that come along with an upgraded Jeep.

Despite the odds, I've successfully wheeled a lot of trails in Moab, Utah, and throughout California, riding on 35-inch tires with the stock TJ Dana 30 front axle and the optional Dana 44 rear axle. I did add a few upgrades over time, including Superior Axle & Gear's Super 30 and Super 44 kits, and an OX Locker in the rear, but the front remained an open carrier. Though I did my share of backing up and making repeated attempts at some obstacles, I made it through many trails without breaking any parts. However, my stock axles are now long gone. These days, I run heavier-duty Dynatrac Pro-Rock Dana 60s to ensure worry-free excursions. I never did break those stock axles though, and I've witnessed similar results from other TJ owners' experiences with stock axles—including the begrudged Dana 35c.

Dana 30

The Dana 30 was the only front axle offered in standard model TJs. It's a full-floating unit with 27-spline inner and outer axle shafts, a 7 $\frac{1}{2}$ -inch ring gear, and unit bearing hubs. The axle shafts are rated to 40,000 lbs/inch. The Dana 30 axle employs one of the most common Dana differential covers ever, sharing its



Dynatrac ProRock 60 axles are a great way to go if 35-inch or taller tires and extreme trails are in your future, but the stock TJ axles can still be built to conquer trails if you outfit them properly and keep tire size down.

10-bolt pattern with the Dana 23, 25, and 27 axles, all of which served under earlier Jeep models. The Dana 30 axle itself is also no stranger to Jeeps, having been used in a variety of models, in both front and rear applications, since the 1960s. Earlier versions of the Dana 30 are not compatible with the TJ Dana 30. This includes the previous model Wrangler YJ Dana 30, which, among other reasons, is a reverse cut, high-pinion unit as opposed to the standard cut, low-pinion of the TJ

Dana 30. The Wrangler TJ and Wrangler YJ Dana 30s are both full-time unit-bearing assemblies with a fixed spindle and do not use traditional locking hubs. The use of unit bearing hubs means that the front axle components turn continuously, even when the vehicle is in 2WD.

Since the front end is rarely required to endure the weight and torque typically put upon the rear axle, the stock Dana 30 is usually up to the task of moderate to fairly extreme off-road use, depending on



Though still considered a light-duty axle, the front Dana 30 is typically more reliable than the rear Dana 35c, especially with some aftermarket upgrades. When paired with a Dana 44 rear axle, the Dana 30 front can be used effectively on trails.



The Dana 35c is the TJ's standard rear axle. It's a pretty good unit for street drivers, but has earned nicknames such as "Turdy5" for its penchant for failure on the trail. To the Dana Corporation's credit, however, breakage typically occurs only after lockers and larger-than-stock tires are installed.

Identifying Dana Axles

As I've previously indicated, all Jeep TJs use axles made by the Dana Corporation. To aid in identifying these axles, Dana stamps a complete Bill of Material (BOM) number and the manufacturing date on the axle tube. This information can often be difficult to read due to grease and dirt buildup, but if your TJ is equipped with the factory axle assemblies, it's there, so keep scrubbing the axle tubes until you see it. Dana axles also typically have the axle model number cast

into one of the webs of the housing, and each axle should have a gear tag ratio attached to the diff cover bolts. This tag is often missing from many diff covers that I see, particularly if an aftermarket cover or cover skid plate has been installed. Not to worry, however, because the number stamped on the axle tube should be enough for most axle parts vendors to determine what components the factory used in the assembly of your differentials.