

Custom Axles for All Applications



Axle Packages

Chassisworks is proud to offer high-quality axle packages from the performance industry leader, Strange Engineering. Kits come with everything needed for a complete axle installation into your new aftermarket or existing factory housing and third member. Two series of axles are available. S-Series induction-hardened axles are suitable for a wide variety of performance applications, including street, strip, or track use. For dedicated drag-racing applications, the thru-hardened Pro Race series can withstand power levels beyond 1,000 hp.

Induction-Hardened Axles (S/S, S/T)

Each axle begins as an SAE 1550 modified steel forging, which then undergoes spline hobbing and CNC machining to meet exact required specifications. To improve resistance to bending loads and wear, a post-machining process of electric coil induction hardening is performed. Induction hardening increases the hardness of the outer surface while maintaining a more ductile axle core, necessary for reliable street use. Both S/S and S/T axles feature precisely machined seats for 1.5635" bearings and special radius rings. The press-fit radius ring minimizes stress concentrations along the bearing shoulder and improves axle-flange stability. Bolt-on billet aluminum brake registers are machined to size based on your particular brake and wheel requirements.

S/S 28- & 31-Spline Axles (28-spline up to 400 hp¹, 31-spline up to 500 hp¹)

For street and handling performance applications, 31-spline S/S axles are recommended. S/S axles can be used with factory 2.891"-bore or aftermarket 3.0625"-bore cases with appropriate differential; posi-traction, torque sensing, locker or spool may be used.

S/S Direct-Replacement C-Clip Axles (30-spline up to 450 hp¹, 31-spline up to 500 hp¹)

The S/S C-clip axles are a direct replacement for OEM C-clip axles. Available in 30-spline for GM 12-bolt rearends (Camaro, Chevelle, Nova) and 31-spline for Ford 8.8" rearends ('94-04 Mustang).

S/T 35-Spline Axles (up to 800 hp¹)

For street/strip applications, the S/T axles feature a larger 1.50"-diameter 35-spline end that is better suited for the extreme levels of torque during launches. Requires 3.250"-bore case with appropriate gear carrier; locker or spool only.

Thru-Hardened Axles (Pro Race)

Strange's Pro Race axles are constructed from Hy-Tuf steel, a high-nickel, ultra-strength steel alloy originally developed for military use. Axle forgings are machined to required specifications then heat-treated in a vertical furnace to achieve a uniform hardness level from the surface through to the center of the shaft. Because of their thru-hardened quality these axles, while torsionally superior to withstand the abusive nature of drag racing, are not suited for high bending loads common with everyday street use. Pro Race axles feature precisely machined seats for 1.5635" bearings and special radius rings. The press-fit radius ring minimizes stress concentrations along the bearing shoulder and improves axle-flange stability. Raised brake registers are machined to size based on your particular brake and wheel requirements.

Pro Race 28-, 30-, & 31-Spline Axles with C-Clip Eliminators

Use with GM 12-bolt and Ford 8.8" rearends for a significant safety improvement in racing applications.

Pro Race 31- & 33-Spline Axles (up to 600 hp¹)

Recommended for drag-race-only use. Pro Race 31- & 33-spline axles must be used with a 3.0625"-bore case with appropriate differential; posi-traction, locker, or spool may be used (33-spline axles for spool only).

Pro Race 35-Spline Axles (up to 1000 hp¹)

Recommended for drag-race-only use. Requires 3.250"-bore case with appropriate gear carrier; locker or spool.

Pro Race 40-Spline Axles (1000 hp¹ and up)

Recommended for drag-race-only use. Requires a case bore of 3.250" or larger with appropriate gear carrier; spool only.



Footnote: 1 - Horsepower ratings provide a guideline based on drag-race launches and adequate traction. Vehicles equipped with street tires and/or performance applications without drag-style launches (i.e., road racing/track days) can exceed listed power levels by a fair amount.

Wheel-Stud Options

There are two types of wheel studs available in a variety of lengths.

Screw-In Studs (1/2")

The standard 1/2" screw-in stud uses a headed fastener threaded through the axle flange from the back side. The wheel is centered by the raised brake register of the axle and driven by the lug-nut contact surfaces. In the case of a tapered (acorn) lug nut, the driving surface is at the unsupported end of the wheel stud. Available lengths: 2", 3".

Drive Studs (5/8" only)

Chrome-moly drive studs are threaded through the flange from the outside and secured on the back by a locking nut. The front-side installation allows quick replacement if ever required. The 11/16"-diameter shaft of the stud increases the contact surface with the wheel bolt hole to more effectively drive the wheel with reduced stud flex and without the need for shoulder-style lug nuts. Aluminum washers and lug nuts are provided. This upgrade is suitable for high-horsepower drag-racing performance applications. Available lengths (given as 11/16" shaft length and overall length from flange): .875"/ 2.063", 1.187"/ 2.375", 1.500"/ 2.688", 1.875"/ 3.125".



Stud Dimensions

| Stud Type | Pitch x Length | Shaft Length | Length From Flange |
|-----------|----------------|--------------|--------------------|
| Screw | 1/2-20 x 2 | - | 1.63" |
| Screw | 1/2-20 x 3 | - | 2.63" |
| Drive | 5/8-18 x 2.362 | .775" | 1.550" |
| Drive | 5/8-18 x 2.875 | .875" | 2.063" |
| Drive | 5/8-18 x 3.187 | 1.187" | 2.375" |
| Drive | 5/8-18 x 3.500 | 1.500" | 2.688" |
| Drive | 5/8-18 x 4.00 | 1.875" | 3.125" |

Axle Packages

Includes axles, radius rings, billet brake registers, bearings, and wheel studs.

| Series | Spline | Studs | Option |
|------------|-------------------|-------|-------------|
| S/S or S/T | 28, 31, or 35 | 1/2" | - |
| | | 5/8" | - |
| Pro Race | 28, 31, 33, or 35 | 1/2" | - |
| | | 5/8" | - |
| | 40 | 5/8" | Solid |
| | 40 | 5/8" | Gun-Drilled |



| Series | Spline |
|---|---------------|
| S/S Direct-Replacement C-Clip Axles (hardware additional) | 30 or 31 |
| S/S with C-Clip Eliminators, 1/2" Studs | 30, 31, or 33 |
| Pro Race with C-Clip Eliminators, 1/2" Studs | 30, 31, or 33 |
| Upgrade to 5/8" Studs | |

Axle Retainers

Precision laser-cut axle-bearing retainers are horseshoe shaped to allow the axle bearing to be installed before the retainers. Allows for fast and easy axle removal.

| Part Number | Housing End |
|-------------|----------------------------|
| 8022 | Small Ford (Early Mustang) |
| 8023 | Olds |
| 8024 | Big Ford (Early) |
| 8025 | Big Ford (Late/Torino) |
| 8026 | Small GM |

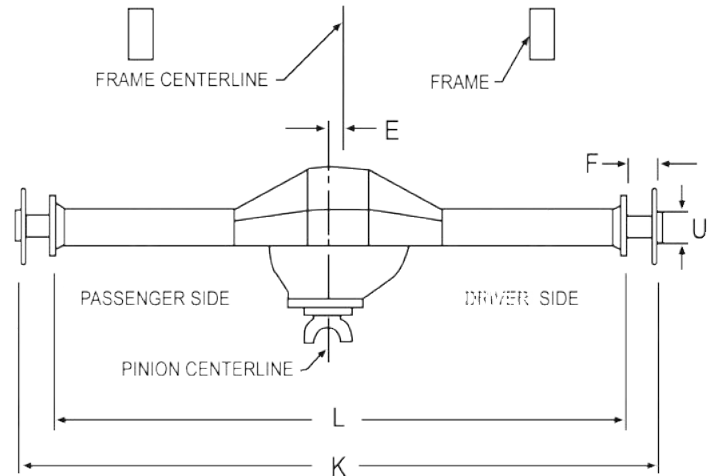


Required Information

You will need to know the following information to correctly place an axle-package order. All dimensions must be physically verified on existing installed components. The complete worksheet with instructions can be downloaded from the Chassisworks website: http://www.cachassisworks.com/cac_worksheets.html.

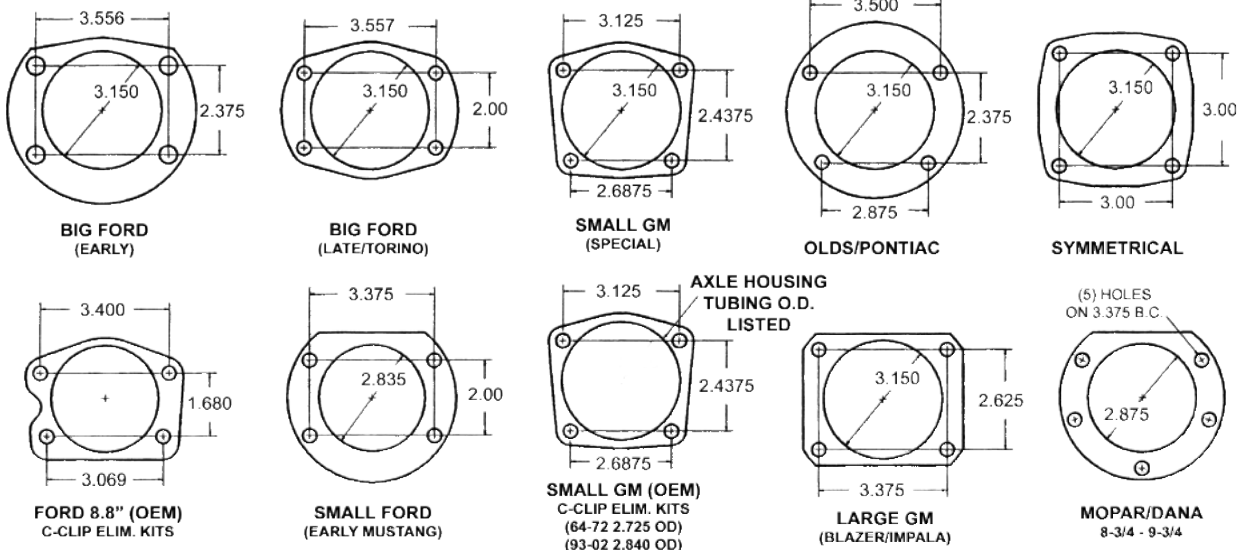
Housing Dimensions

| | |
|-----|--|
| E = | Pinion offset is the relationship of the pinion centerline to the centerline of the chassis. |
| F = | Axle-flange offset is the distance from the housing end to the axle flange. |
| K = | Rear end width from axle flange to axle flange without disc-brake-rotor hat or brake drum installed. |
| L = | Rear end width from housing end to housing end. |
| U = | Diameter of the axle pilot for your brake drum or disc-brake-rotor hat. |



Housing-End Type

Choose from the following housing ends shown.



Carrier Type

Torque sensing, posi-traction, locker or spool. Manufacturer and model number will also be helpful.

Brake Type

Disc or drum, manufacturer, model number, and center bore diameter (U) are required.

Bolt Pattern

Common OEM patterns: Chevy Cars - 5 on 4.75", Ford & Mopar Cars - 5 on 4.50", Ford 8.8" 4-lug rear - 4 on 4.25", Ford 8.8" 5-lug rear - 5 on 4.50", Early Olds/Pontiac - 5 on 5.00".

All prices subject to change. Current pricing available at www.cachassisworks.com.



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