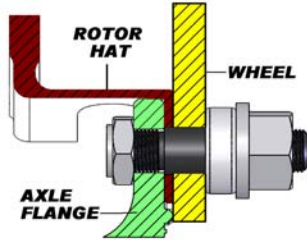


## Strange Wheel Studs, Axles & Bearings

- Strange C-Clip Axles, C-Clip Eliminator Kits & Brake Kits have separate instructions
- Consult wheel manufacturer to ensure lug nut torque spec provided below is safe for the specific wheel type.

- **Shoulder Style Studs**– Ensure measurement “A” is able to fully engage into the wheel. The “A” dimension needs to be slightly greater than the combined thickness of the brake hat or drum and thickness of the wheel.

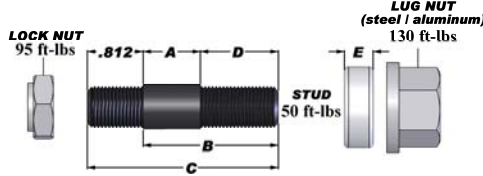
### Shoulder Style Assembly



<b>5/8" Lug Nut</b>	<b>Torque</b>
Steel & Aluminum	130 ft-lbs

<b>Axle Type</b>	<b>Flange Thickness</b>
40 Spline Race Axle	0.438
Race Axles	0.312
Alloy Axles	0.420

### Shoulder Style Titanium & Chrome-Moly 5/8"-18 Stud Kits



When .250" or .688" aluminum washers are needed to substitute for standard .4375" thick washers, add the following suffix to the stud kit part number:  
**S= .250" washers**  
**L= .688" washers**

Kit #	Stud Material	Lug Nut Material	A	B	C	D	E
A1037TS	Titanium	Steel	.875	2.063	2.875	1.188	.4375
A1037TA	Titanium	Aluminum	.875	2.063	2.875	1.188	.4375
A1036	Chrome-Moly	Steel	.775	1.550	2.362	0.775	.250
A1037	Chrome-Moly	Steel	.875	2.063	2.875	1.188	.4375
A1037MD	Chrome-Moly	Steel	.875	1.760	2.572	0.885	.250
A1038	Chrome-Moly	Steel	1.187	2.375	3.187	1.188	.4375
A1039	Chrome-Moly	Steel	1.500	2.688	3.500	1.188	.4375
A1041	Chrome-Moly	Steel	1.875	3.125	4.000	1.250	.4375

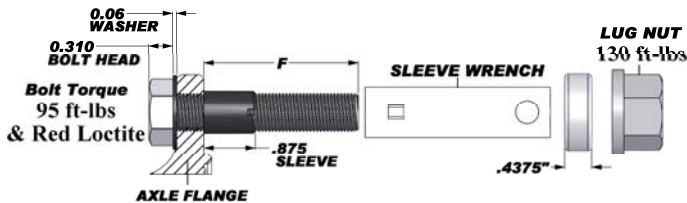
- **Bolt Head Style Studs**- To calculate length ("F") protruding through the axle to mount the rotor and wheel on use the following method:

For **A1025 & A1026** kits: "F" = Bolt Thread Length - 0.120" - Axle Flange Thickness

For **A1027** kit: "F" = Bolt Thread Length - 0.060" - Axle Flange Thickness

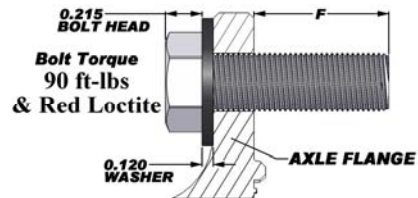
- Ensure the combined thickness of the bolt head and washer does not interfere with parking brake components. 5/8" bolts with modified heads are available and washers can be removed if clearance is an issue. However, if washers are not used, the inboard side of the axle must be **modified with a 3/64" chamfer** on the stud holes to allow bolt to fully engage. All 1/2" bolts feature a thin head.

### Bolt Head Style Traditional 5/8"-18 Stud Kit



Kit #	Bolt Thread Length	Lug Nut Torque
A1027	3"	130 ft-lbs

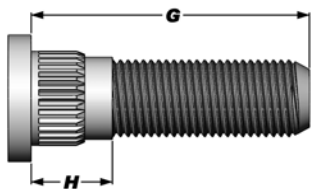
### Bolt Head Style 1/2"-20 Stud Kits



Kit #	Bolt Thread Length	Lug Nut Torque
A1025	2"	90 ft-lbs
A1026	3"	

- **Press-in Wheel Studs**

### Press-in Wheel Studs (Alloy axles only)



Part #	Thread	G	H	Lug Nut Torque
A3121	1/2"-20	1.970	.530	90 ft-lbs
A3130	7/16"-20	1.500	.344	80 ft-lbs
A3132 (metric)	M12-1.5	41.55 (mm)	8 (mm)	85 ft-lbs
A3151	1/2"-20	1.600	.563	90 ft-lbs
A3162	1/2"-20	1.650	.438	90 ft-lbs

S/T Series 35 spline axles are warranted against breakage to the original buyer for a period of three years. Strange Pro Race 33, 35, & 40 spline axles are warranted against spline breakage to the original buyer for a period of five years. This warranty shall not apply to any product which has been repaired or altered in anyway so as in our judgement affects its performance; nor which has been subject to misuse, abuse, negligence or any other occurrence beyond the control of Strange Engineering. Strange axles are designed for competition purposes. Accordingly, use of said product, or modification to or construction of a vehicle for those purposes may create dangerous conditions which could cause bodily injury, and the buyer hereby assumes all risks associated with any such modifications.

## Kits: Strange Wheel Studs, Axles & Bearings

### Installation Instructions:

1. Inspect the rear end housing for straightness. If the housing has been narrowed, inspect the housing ends for squareness.

2. Clean bolts or studs and install into axle flange until 0.250" thread remains. Apply red Loctite and torque to spec. (Refer to page 1 for assembly views.)

**A. Shoulder Style Studs** torque to **50 ft-lbs** from the wheel side of the axle. Then use a 1/4" allen wrench to hold the stud from backing out and torque the lock nut to **95 ft-lbs**.

**B. A1027 5/8" Bolt Head Style Studs** torque to **95 ft-lbs** & Loctite.

**C. A1025 & A1026 1/2" Bolt Head Style Studs** torque to **90 ft-lbs** & Loctite

**D. Press-in Wheel Studs** must be installed using a hydraulic press. Ensure the stud seats flat against the axle flange.

3. For 40 spline axle applications, install the radius ring on the axle by hand with the large 0.165" ID radius facing toward the axle flange. All other applications will have the radius rings or sleeves already pressed on the axle.

4. Slip the bearing retainer plate over the axle. This plate is replaced by the caliper mounting bracket if a Strange or aftermarket brake kit is utilized.

Consult brake kit instructions for more information.

5. Pressing only on the inner race, use a hydraulic press to install the new bearing on the axle. Apply a slight coating of oil to the axle shaft bearing surface to aid in bearing installation. Bearing must be pressed on evenly and rest squarely on the axle's bearing shoulder without a gap.

**A1013**– Tapered bearing is designed for the seal to be on the outside of the bearing. Step on the O.D. must face outboard. The retaining plate will push the seal in once the nuts on the housing end are tightened.

**A1019, A1020, A1021**– O-ring on the O.D. of the bearing must face outboard.

**A1022OB**– Bearing and retaining plate are one piece.

**A1022**– Bearing and retaining plate are separate pieces. Spirolox faces outboard.

**A1023**– Inboard axle seals in stock rear end housing must be removed if present. O-ring must face inboard. The bearing is fully sealed and does not require the inboard axle seal.

**A1024**– Bearing is symmetrical and can be installed in either orientation.

Not intended for use with drum brakes. A separate O-ring must be installed in the housing end to seal the O.D. of the bearing before the bearing is installed. Aftermarket brakes and housing ends must be used.

6. Use a hydraulic press to install the wedding ring. Press evenly and check that the wedding ring seats on the axle bearing. The wedding ring is a press fit and should seat firmly against the bearing. There should not be any gap between the bearing and the wedding ring. **Do NOT weld the wedding rings to the axle.**

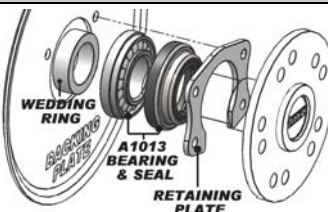
7. Check the engagement of the axle splines. Coat the axle splines with grease and install the axles into the axle housing and carrier. Remove the axles and measure the amount of spline engagement. Minimum spline engagement is one inch. **NOTE:** Some posi-units will only accept only 7/8" engagement.

8. Lug nuts should be torqued after every round. Clean and lightly lubricate threads with oil. **Torque 1/2" lug nuts to 90 ft-lbs and 5/8" lug nuts to 130 ft-lbs**

**Ensure to apply anti-seize to lug nuts.**

**NOTE:** Consult wheel manufacturer to ensure lug nut torque spec is safe for specific wheel type as some aluminum wheels may begin to crush.

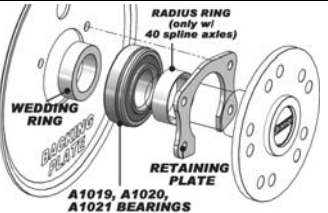
**A1013 Tapered Bearing**



- Step on bearing must face outboard

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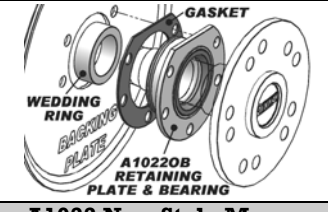
**A1019, A1020 & A1021 Ball Bearings**



- O-ring must face outboard

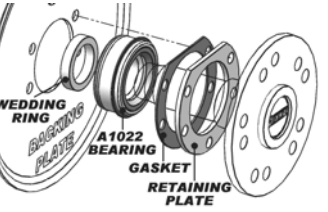
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**A1022OB Old Style Mopar Ball Bearing (nonadjustable)**




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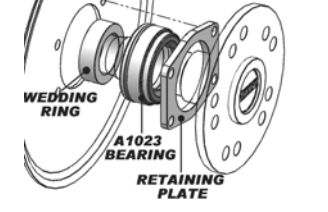
**A1022 New Style Mopar Ball Bearing (nonadjustable)**



- Spirolox must face outboard

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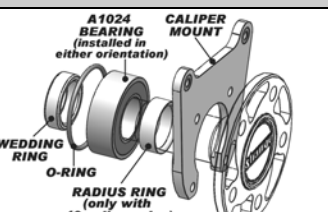
**A1023 Small Ford (early Mustang) Ball Bearing**



- O-ring must face inboard.  
- Inboard axle seals must be removed from factory rear-end housing

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**A1024 Double Row Ball Bearing**



- Separate o-ring must be installed in the housing end before the bearing.  
- Requires aftermarket brakes and housing ends

Bearing Information & Dimensions			
Part #	Inside Dia.	Outside Dia.	Bearing Type
A1013	1.562	3.150	Tapered
A1019	1.772	3.150	Ball
A1020	1.531	3.150	Ball
A1021	1.562	3.150	Ball
A1022OB	1.562	2.875	Ball
A1022	1.562	2.875	Ball
A1023	1.562	2.835	Ball
A1024	1.772	3.350	Double Row Ball

Lug nut Torque Sequence	
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<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center;">4</div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center;">5</div> </div>	<div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; display: flex; align-items: center; justify-content: center;">2</div>