

# ridetech



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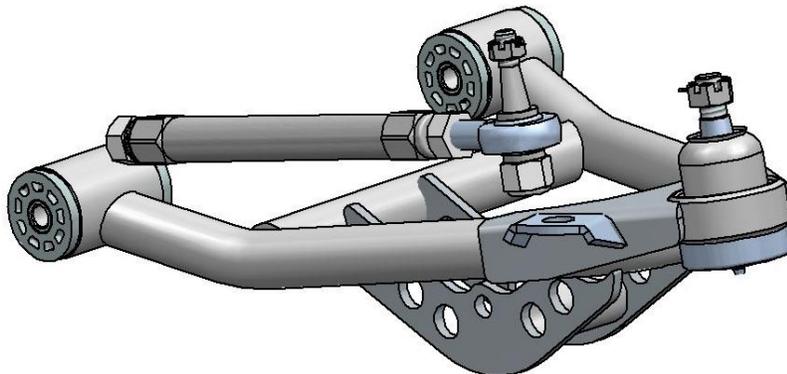
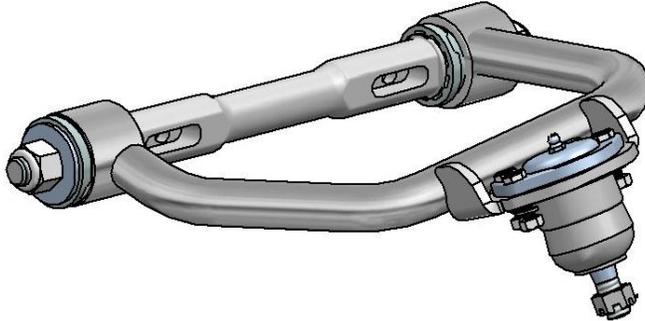
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## Part # 11399599 82-03 S10 Tru-Turn Suspension Package

### Front Components:

1	11323699	Upper Strong Arms
1	11322899	Lower Strong Arms
1	11329500	Tru Turn System





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## 82-03 S10 Upper StrongArms

### Components:

1	90002379	Drivers side arm
1	90002380	Passenger side arm
2	90000913	Upper ball joint
2	90000914	Caster Adjustable Cross shaft w/Hardware
2	70010826	Delrin Bushing – no ledge
2	70010827	Delrin Bushing – small ledge
4	70010759	Delrin Bushing – outer
4	70010807	Zero Offset Caster Slugs

### Hardware:

4	99431009	7/16-14 x 2 1/2" Hex Bolt	Cross shaft to Frame
4	99432001	7/16"-14 Nylok Nut	Cross shaft to Frame
4	99433002	7/16" SAE Flatwasher	Cross shaft to Frame

# STRONG ARMS™

by Air Ride Technologies

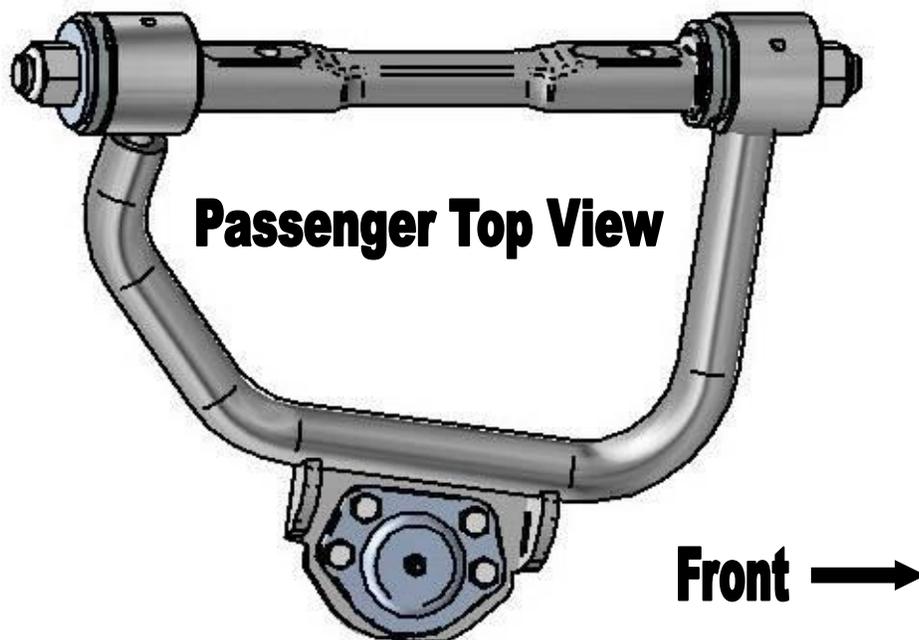


1. Fasten the upper arm to the frame using the supplied hardware. Reinstall the current alignment shims, but **vehicle must be realigned.**

2. Drop ball joint down through upper arm. Slide ball joint boot over stud, then place boot retainer over the boot. Clamp assembly tight w/ the hardware supplied.

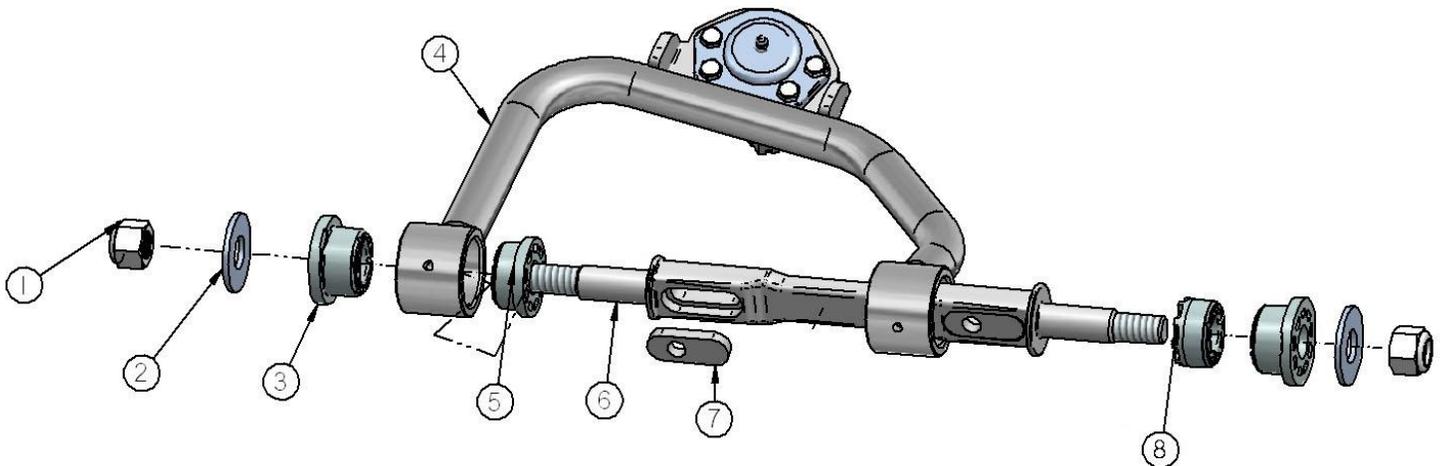
3. Fasten the ball joint to the spindle w/ the new castle nut and cotter pin supplied.

4. Tighten the cross shaft nuts enough to create drag on the delrin bushings, the arm should still move.



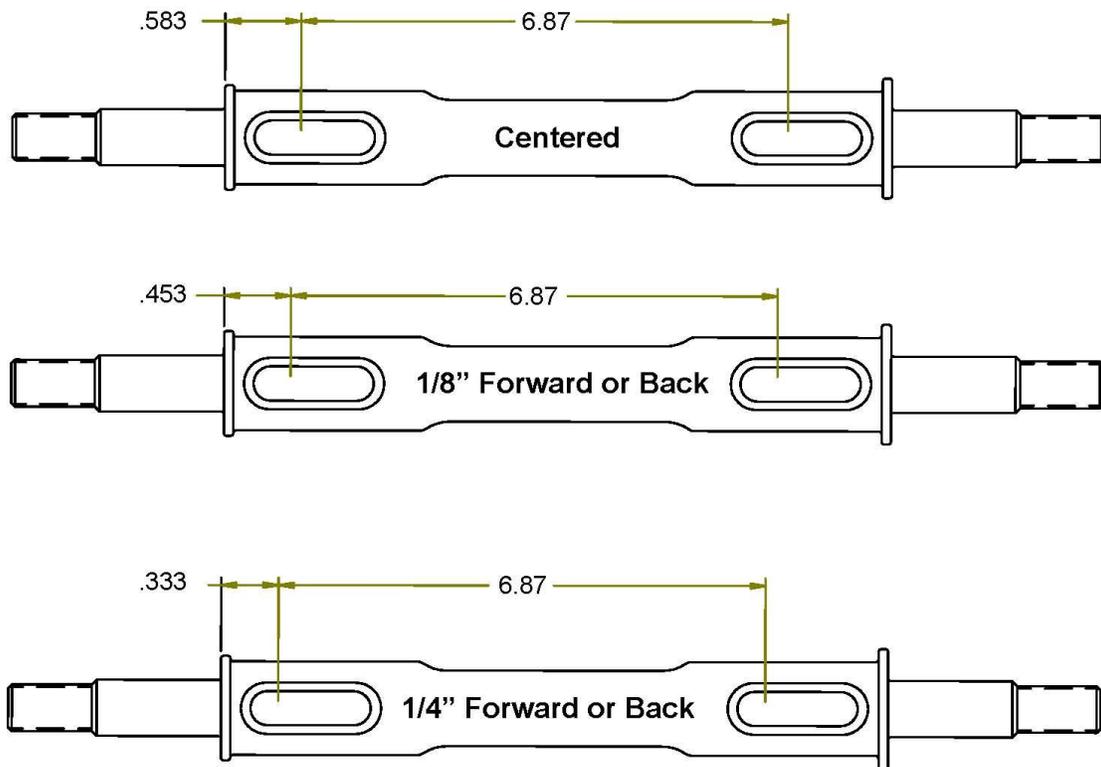
## Passenger Side – Top View

Item #	Description	Qty.
1.	5/8 – 18 Toplock Jam Nut	4
2.	Outer Washer	4
3.	Outer Delrin bushing	4
4.	Passenger side arm	1
4.	Driver side arm	1
5.	Inner Delrin bushing w/ledge	2
6.	Caster Adjustable Cross shaft	2
7.	Caster Slug	2
8.	Inner Delrin bushing no ledge	2



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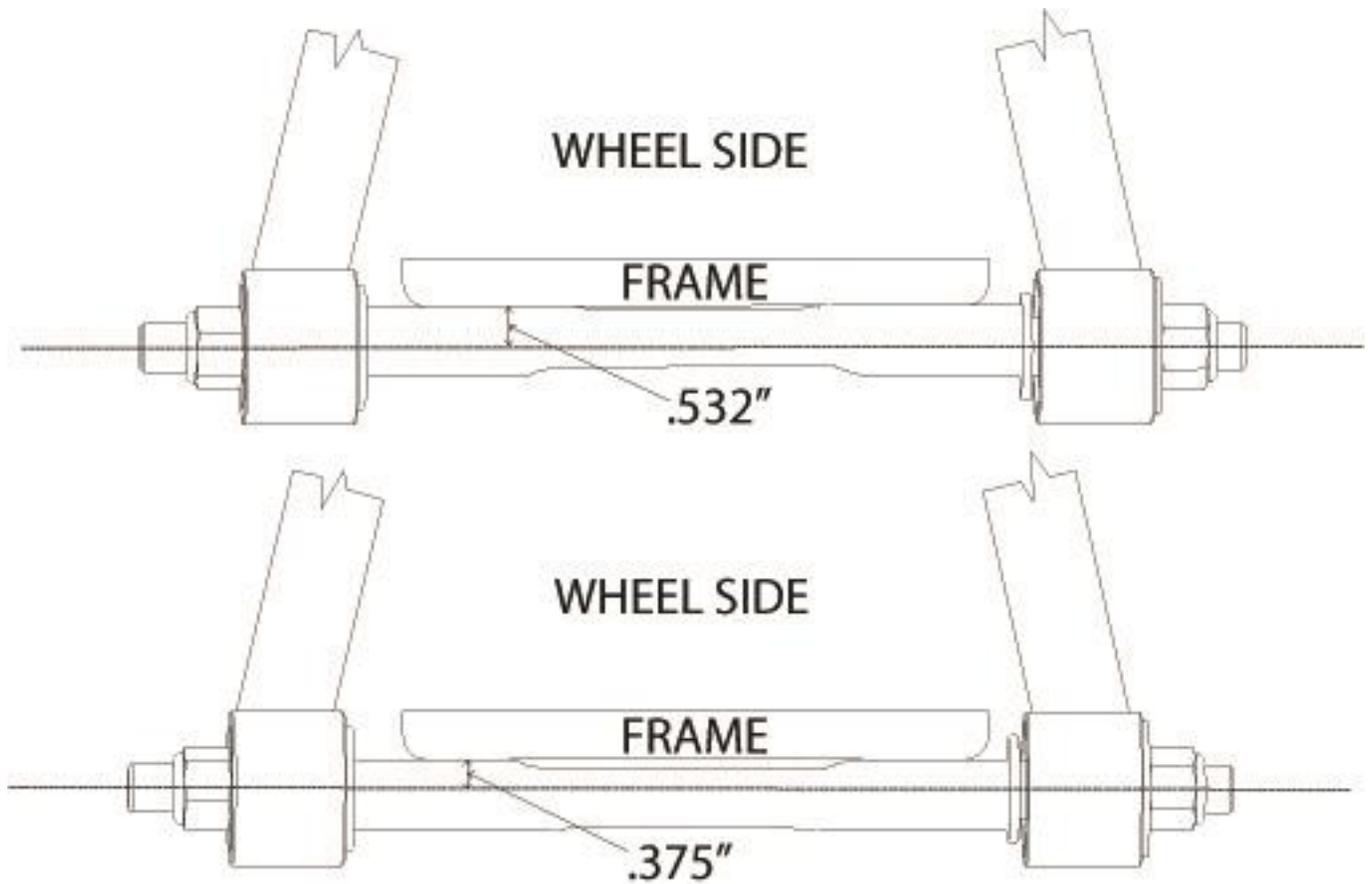
These Strong Arms come equipped with a changeable caster slug setup. This allows you to add or remove caster from the front suspension, if desired. The caster slugs that come in the kit are setup to put the control arm in the centered position, which is approximately 5 degrees of caster. The caster slugs allow you to add or remove caster without having to use a stack of shims. If more or less caster is desired, optional caster slugs can be purchased from your Ridetech dealer or Ridetech.

## Caster Explained:

To understand caster you need to picture an imaginary line that runs through the upper ball joint and extends through the lower ball joint. From the side view the imaginary line will tilt forward or backward. The tilting of this imaginary line is defined as caster.

Caster is measured in degrees by using a caster camber gauge. If the imaginary line described above tilts towards the back of the car, at the top, then you will have positive caster. If the imaginary line tilts forward then you would have negative caster.

Positive caster provides the directional stability in your car. Too much positive caster will make the steering effort difficult. Power steering will allow you to run more positive caster. Negative caster requires less steering effort but can cause the car to wander down the highway.



## Offset Upper Cross Shaft

The cross shaft that is used in the upper control arm is offset. The offset combined with the caster slug option allows you to achieve the alignment setting you desire with minimal shims. To change the direction that the Icon faces, simply spin the cross shaft in the control arm.

If you are after an aggressive **Track or Autocross Alignment**, bolt the control arm to the frame bracket with the arm offset to the inside of the car (like the top illustration). The Ridetech Icon will be facing the engine.

If a **Street Alignment** is desired, bolt the control to the frame bracket with the arm offset to the outside of the car (like the bottom illustration). The Ridetech Icon will be facing the wheel.



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## 82-03 S10 Lower StrongArms For Use w/ Shockwaves or CoilOvers

### Components:

1	90002377	Driver side lower arm
1	90002378	Passenger side lower arm
2	90000896	Ball joint
2	90000516	Inner bushing sleeve
2	90001094	Inner bushing sleeve
8	70010759	Delrin bushing half
4	90002062	Aluminum spacer – Shock to lower arm

### Hardware:

2	99501024	½"-13 x 3 ¼" Gr.5 bolt	Shockwave to lower arm
2	99502001	½"-13 Nylok nut	Shockwave to lower arm
2	99503001	½" Flat Washer	Shockwave to lower arm
2	99121001	M12-1.75 x 90mm Bolt	StrongArm to Frame
2	99122001	M12-1.75 Nylok Nut	StrongArm to Frame
2	99123002	M12-1.75 Flat Washer	StrongArm to Frame
2	99141003	M14-2.0 x 100mm Hex Bolt	StrongArm to Frame
2	99142002	M14-2.0 Nylok Nut	StrongArm to Frame
2	99143001	M14 Flat Washer	StrongArm to Frame

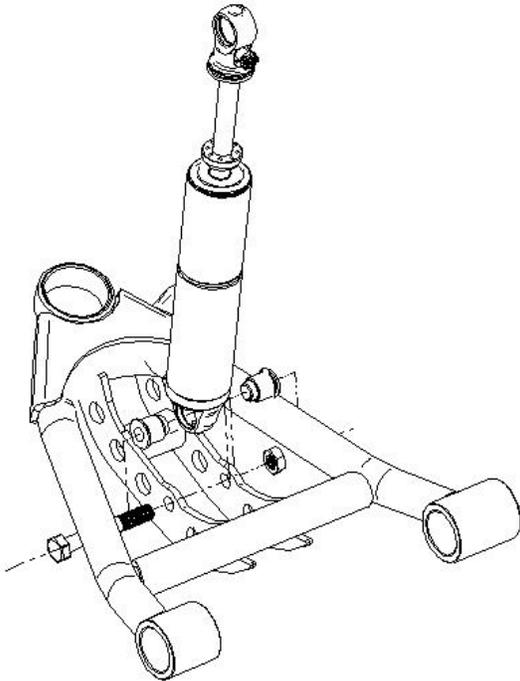
# STRONG ARMS™

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## Installation Instructions



1. After removing the factory lower control arm, clean the bushing mounting surfaces on the frame to make sure they are fairly smooth.
2. Fasten the lower arm to the frame with the hardware supplied with the kit. The front bolt is M12 x 90mm, the rear is M14 x 110mm. Use a Flat Washer & Nylok on each.

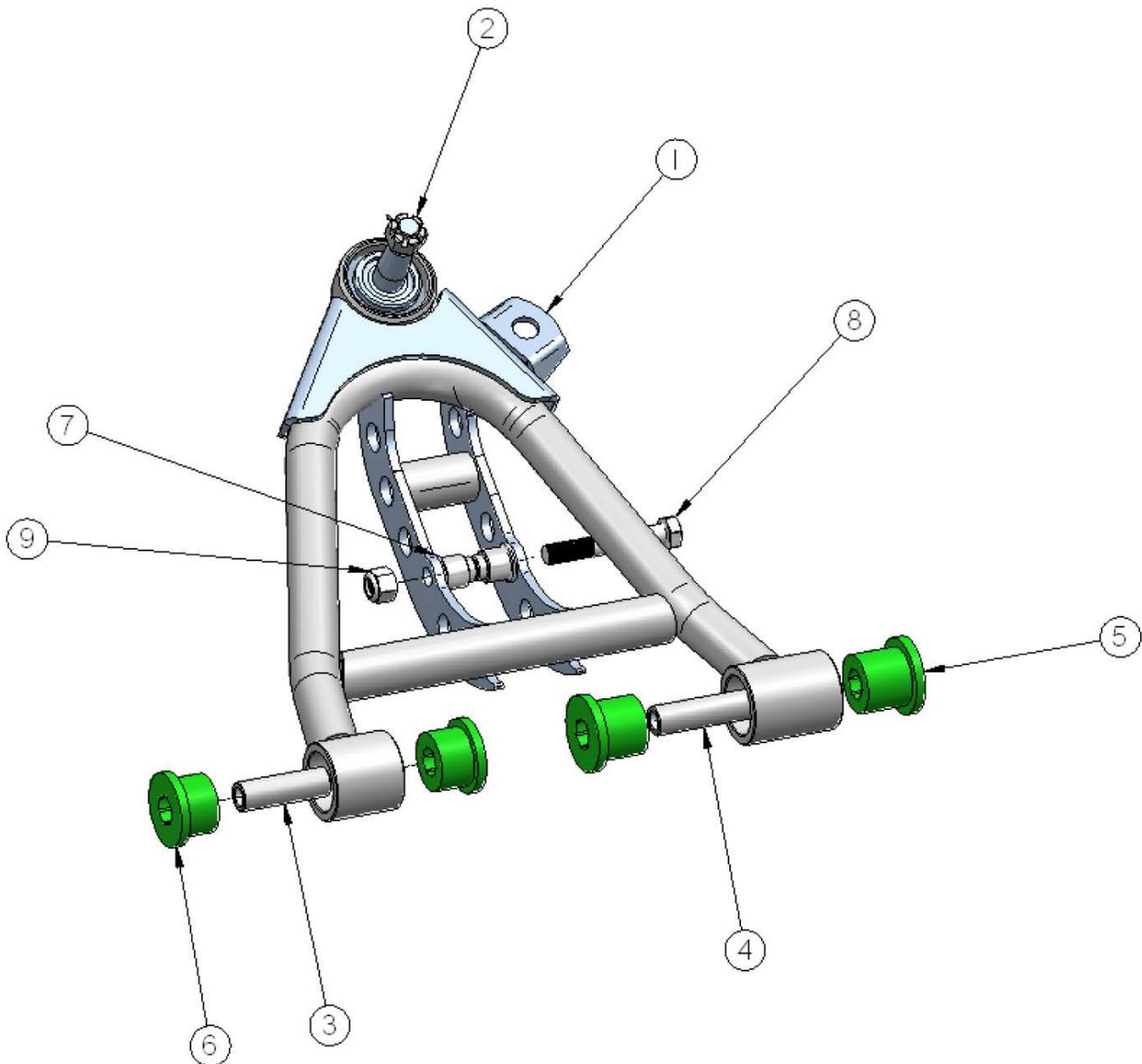


3. Swing the lower StrongArm up to the shock and secure with the  $\frac{1}{2}$ " x  $3\frac{1}{4}$ " bolt, flat washer, and Nylok nut, an aluminum spacer must be installed on each side of the bearing.
4. Slide the ball joint boot over the stud, then push the stud up through the spindle. Secure w/ the new castle nut and cotter pin supplied.
5. Grease the ball joints.

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Item #	Description	Qty.
1.	Driver side arm	1
2.	Ball Joint	1
3.	Inner bushing sleeve – narrow	1
4.	Inner bushing sleeve – wide	1
5.	Delrin bushing half	2
6.	Delrin bushing half	2
7.	Aluminum bearing spacer	2
8.	1/2"-13 x 3 1/4" bolt	1
9.	1/2"-13 Nylok nut	1



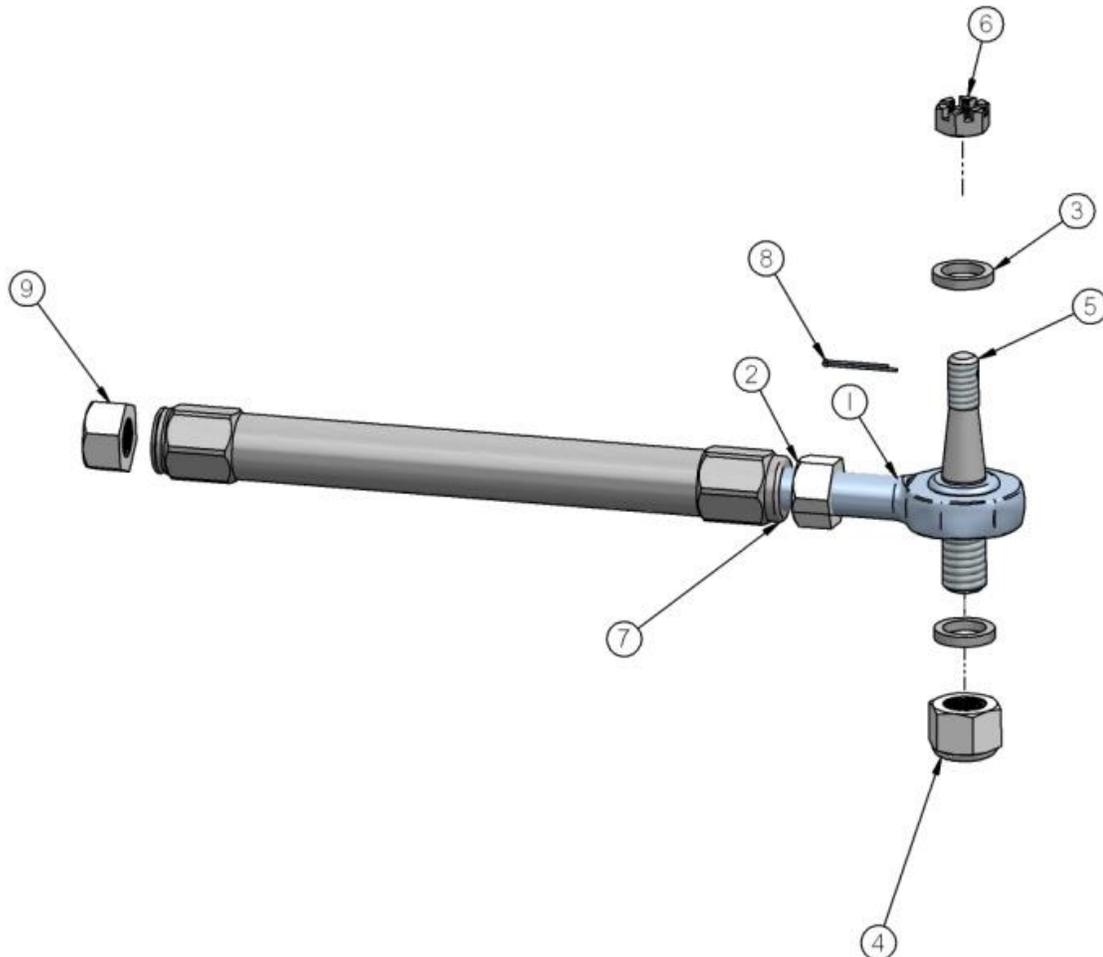


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### 82-03 S10 TruTurn System without Spindles



Item #	Part #	Description-Specification	Qty.
1.	90001590	Heim end	2
2.	99800002	5/8"-18 RH jam nut	2
3.	90002373	Heim End Spacer	4
4.	99622003	5/8"-18 Lock Nut-35 ft lbs	2
5.	90002374	Tie Rod Stud	2
6.	99432005	7/16"-20 castle nut-35 ft lbs	2
7.	90002375	Adjusting sleeve	2
8.	99952002	3/32" cotter pin	2
9.	99800003	5/8"-18 LH jam nut	2
	90003058	Inner Tie Rod (not shown)	2





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### Installation instructions:

**NOTE:** The number in (#) is the number of the part in the drawing on the previous page.

1. Raise and safely support the front of your vehicle at a comfortable working level
2. Remove the existing inner & outer tie rod.
3. Install the (5) Tie Rod Stud into your factory spindle using the (6)7/16" castle nut. Torque the nut to 35 ft lbs and install (8) cotter pin. **NOTE:** If none of the holes line up tighten the nut until you can get the hole to line up with a slot.
4. Install the (7) Right Hand thread nut onto the (1) heim end and (9) Left hand nut onto the factory tie rod.
5. Antiseize the threads on the factory tie rod and heim end to prevent the threads from galling.
6. The left hand threaded side of the (7) adjuster goes onto the NEW inner tie rod; it has a groove cut into the end of the adjuster. You will want the thread engagement the same on the tie rod end and the heim, the easy way to do this is set then nut on the tie rod 1 1/4" from the end of the tie rod and thread the adjuster on so that it touches the nut.
7. Install the heim end into the other end of the adjuster. Start by threading the lock nut all the way on the heim end and thread the heim end into the adjuster so that it touches the nut.
8. Install the heim end side of the tie rod onto the tie rod stud using the (3) aluminum spacer on top and bottom of the heim end and then install the (4)5/8" lock nut. Torque nut to 35 ft lbs.
9. Set the center to center length of the tie rod assembly to 17 3/4" by turning the adjuster out. This will get you close on the toe setting but it will need to be aligned.
10. Adjust the camber and toe roughly until you can get the vehicle to a proper alignment shop. The recommended alignment settings are:

Camber - -.5 to -1.5 [within .3 from side to side]

Caster - 4 to 7 degrees positive

Toe - 1/16" to 1/8" toe in

Feel free to experiment with alternative alignment settings that may be more appropriate for your particular driving style.

### Installation notes:

- A. **MAKE SURE** that the cotter pins are properly installed in all appropriate places [C] to ensure that the castle nuts do not become loose and fail. These are VERY important connections!