



Part # 11169525 - 1967-1969 GM F-Body Front TruTurn System



Recommended Tools





1967-1969 GM F-Body TruTurn System Installation Instructions

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IF YOU ARE USING STOCK SIZE DISC BRAKES AND YOUR ROTOR HITS THE TAPERED NUTS, YOU MAY NEED (4) 90001358 TAPERED NUTS. SEE PAGE 7.

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812-482-2932







Spindle Note!

This kit is designed to be used in conjunction with Ridetech Spindles and Control Arms. It may fit other spindles, but we can't guarantee the suspension geometry.

We use 2 different spindle setups with this kit, you will need to make sure you are following the instructions for the correct spindle. The easiest way to determine which spindle you have is by looking at the 4 mounting holes on the face of the spindle. SMOOTH HOLE SPINDLE, all 4 holes are smooth with the bottom 2 being counter sunk from the spindle pin side. THREADED HOLE SPINDLE has 1/2"-20 threads in all 4 holes. See Diagrams below to help you identify your spindle.







Major ComponentsIn the box

Item #	Part #	Description		
1	70012409	Forged Centerlink	1	
2	90003027	Driver Inner Tie Rod End - Straight	1	
3	90003002	Passenger Inner Tie Rod End - Bent	1	
4	90003000	Steering Arm - 1 Set - includes driver and passenger	1pr	
5	90009931	Outer Tie Rod Stud	2	
6	90007500	Billet Tie Rod Adjuster	2	
7	90001590	5/8"-18 x 5/8" ID Heim End	2	
8	90009932	Steering Arm Tapered Nuts	4	
9	90002676	.125" Tie Rod Spacers	4	
SEE PAGE 4	99010095	Hardware Kit	1	







Hardware Shown in DiagramIn the box

QTY	Description	Part Number	ITEM #	
	O SPINDLE	NG ARM TO	STEER	
2	1/2"-20 X 2" Hex Bolt	99502005	12	
2	1/2"-20 x 2 1/4" Hex Bolt	99501010	13	
1	Red Loctite	90002263		
	TUD	R TIE ROD S	OUTEF	
2	5/8"-18 Thick Lock Nut	99622003	14	
2	5/8"-18 Thin Lock Nut	99622006	14	
4	7/16" SAE Flat Washer	99433005	15	
2	7/16"-20 Castle Nut	99432005	16	
2	3/32" Cotter Pin	99952002	17	
	CENTERLINK			
2	3/32" Cotter Pin	99952002	17	
	TIE ROD ADJUSTER			
2	5/8"-18 LH Jam Nut	99800003	18	
2	5/8"-18 RH Jam Nut	99800002	19	
	QTY 2 2 1 2 2 4 2 2 4 2 2 2 2 2 2 2 2	Description QTY > SPINDLE 2 1/2"-20 X 2" Hex Bolt 2 1/2"-20 x 2 1/4" Hex Bolt 2 1/2"-20 x 2 1/4" Hex Bolt 2 Red Loctite 1 TUD 1 5/8"-18 Thick Lock Nut 2 5/8"-18 Thin Lock Nut 2 7/16" SAE Flat Washer 4 7/16"-20 Castle Nut 2 3/32" Cotter Pin 2 3/32" Cotter Pin 2 5/8"-18 LH Jam Nut 2 5/8"-18 RH Jam Nut 2	Part NumberDescriptionQTYNG ARM T > PINDLE1995020051/2"-20 X 2" Hex Bolt2995010101/2"-20 x 2 1/4" Hex Bolt290002263Red Loctite1TIE ROD > U12996220035/8"-18 Thick Lock Nut2996220065/8"-18 Thin Lock Nut2994330057/16" SAE Flat Washer4994320053/32" Cotter Pin2999520023/32" Cotter Pin2999520023/32" Cotter Pin2999520023/32" Cotter Pin2998000035/8"-18 LH Jam Nut2998000025/8"-18 RH Jam Nut2	

DEPENDING OF WHICH SPINDLE YOU ARE INSTALLING THE TRUTURN SYSTEM ON, IT MAY UTILIZE SOME OF THE HARDWARE THAT IS INCLUDED WITH THE SPINDLE. IF SO, IT WILL BE COVERED IN THE INSTRUCTIONS.

INCLUDED WITH THREADED SPINDLE

nin Lock Nut	2	ITEM	Part	Description	ΟΤΥ		
Flat Washer	4	#	Number		~''		
Castle Nut	2	STEER	STEERING ARM TO SPINDLE				
ter Pin	2	20	99502005	1/2"-20 X 2" Hex Bolt	2		
		21	99501009	1/2"-20 x 1 3/4" Hex Bolt	2		
ter Pin	2	22	99503015	1/2" Split Lock Washer	4		
		23	99503014	1/2" SAE Flat Washer	4		
I Jam Nut	2						
H Jam Nut	2						

Getting Started.....

These spindles are designed around stock disc brake spindles and will accept any disc brake set up designed for those. The only modification we discovered to be necessary, was a small trim on the bottom of the stamped ¼" steel caliper bracket that holds the caliper(Refer to the spindle instructions). It is an area that is not stressed and will not cause any loss of strength. Trim only enough to make the caliper bracket clear the spindle. If you are using the factory dust shields, they will also require trimming. If your car came with drum brakes, be sure to swap to the appropriate disc brake master cylinder and valving.

If you are installing this setup with a complete suspension kit, you most likely have the front suspension disassembled. If you have the suspension removed, skip to Step 8.

Spindle Removal

1. Set the parking brake and chock the rear wheels.

2. Raise the front of the vehicle and place floor stands under the lift points. Do not place the floor stands under the lower control arms because spring tension is needed to assist in breaking loose the ball joint studs. If you are just replacing the spindle, leave the shock in place to help prevent the coil spring from coming out.

3. Remove wheel and tire assembly.

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Spindle Removal

4. Remove brake caliper. If it's a drum brake car, the drum will need to be removed to access the steering arm hardware.

! CAUTION: When the brake caliper is removed, do not allow it to hang unsupported from the brake hose. Use a piece of wire or zip tie to support the caliper to prevent damage to the brake line.

- 5. Remove tie rod end from knuckle.
- 6. Remove hub-disc assembly.

7. Remove ball joint studs from knuckle using the following procedure.

a. Place floor jack under the control arm spring seat and raise it until it supports the control arm.

! CAUTION: Floor jack must remain under the control arm spring seat during removal and installation of the spindle to retain the spring and control arm in position.

- **b.** Remove cotter pins from upper and lower ball joint studs.
- c. Loosen ball joint nuts two turns
- **d.** Gently tap knuckle with mallet to free ball joints or use ball joint separator.
- e. Remove ball joint nuts on upper and lower ball joints.
- **f.** Raise the upper control arm by hand and disengage the ball joint stud from the knuckle.
- g. Remove the knuckle from the lower ball joint stud.
- h. Inspect ball joint and tie rod ends for wear or damage. Replace if necessary.

Steering Linkage Removal

8. Remove the centerlink and tie rod assemblies. It isn't necessary to remove the tie rods from the centerlink since they are getting replaced. Retain the OEM castle nuts. Leave the pitman arm and idler arm attached to the car.

Installing Spindle



9. Attach the spindle to the control arms. The spindle is the same for Driver and Passenger.

Torque Specs:

Lower Ball Joint - 65 ftlbs and tighten to line up cotter pin.

Upper Ball Joint - 50 ftlbs and tighten to line up cotter pin.





Attaching Centerlink and Tie Rod Assembly



10. Install the centerlink in place of the OEM centerlink. It should be installed so that the inner tie rods are installed from the rear of the car. Install the factory nuts on the pitman arm and idler arm. Torque to 45 ftlbs and tighten to align the cotter pin hole with the slots in the castle nuts. Install the new cotter pins supplied in the kit.



11 & 12. The tie rod adjuster(6) has 2 threads in it; 5/8-18 RH & 5/8"18 LH. The 5/8"-18 LH thread is for the inner tie rod and is marked with a groove on the outside of the adjuster. Thread a 5/8"-18 LH jam nut(18) on each of the inner tie rods(2 & 3). Thread a 5/8-18 RH jam nut(19) on each of the outer heim ends(7). Apply antisieze to the threads of the adjuster. Thread the adjuster onto the inner tie rod, then thread the outer tie rod into the adjuster. You can keep the thread engagement even by starting the inner and outer tie rods the same number of revolutions, then hold the inner tie rod and outer heim from turning while turning the adjuster to thread it on the tie rods. This will thread them in evenly. USE THE SIGHT HOLES IN THE SIDE OF THE TIE ROD ADJUSTER TO ENSURE PROPER THREAD ENGAGEMENT.

NOTE: The Passenger side inner tie rod is bent down to allow clearance of the idler arm. Driver side is straight.





Assembling Steering Arm - SMOOTH HOLE SPINDLE



13. Attach Steering Arm(4) to Spindle(A). $1/2" \times 2"(12)$, $1/2" \times 2 1/4"(13)$ Hex Bolts, & Tapered Nuts(8) are used to attach them. The mounting bosses of the steering arm are 2 different thicknesses. The thicker boss uses the $1/2"-20 \times 2 1/4"$ hex bolt(13). The thin boss will use a $1/2"-20 \times 2"$ bolt(12). The steering arms bolt to the **BOTTOM** set of holes. The Steering Arm is positioned with the Tie Rod End pointing to the rear of the car and toward the engine. **Use Red Loctite (Supplied in the Kit) on the bolts for the tapered nuts.** Torque the bolts to 75 ftlbs.

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Assembling Steering Arm - THREADED HOLE SPINDLE



14. The steering arm(4) will bolt to the **BOTTOM** set of holes in the Ridetech spindle(A) using the supplied 1/2" hardware. The mounting bosses of the steering arm are 2 different thicknesses. The thicker boss uses a 1/2"-20 x 2" hex bolt(20). The thin boss will use a 1/2"-20 x 1 3/4" hex bolt(21). Install a 1/2" split lock washer(22) followed by a 1/2" SAE flat washer(23) on each bolt. **Use Red Loctite (Supplied in the Kit) on the bolts.** Line up the steering arm mounting holes with the bottom 2 holes of the spindle. Insert the hardware through the steering arms, threading the bolts into the spindle. Torque to 100 ftlbs.

Attaching Tie Rods to Centerlink

15. Install inner tie rods into centerlink with the **BENT TIE ROD INSTALLED ON THE PASSENGER SIDE.** Use the 7/16" castle nuts and 3/32" cotter pins that are supplied with the tie rods ends. Insert the tapered end of the tie rod into the taper of the centerlink. Thread the 7/16" castle nut on the stud. Torque to 35 ftlbs and then tighten to align cotter pin hole with slot on castle nut. Install cotter pin. MAKE SURE THE BENT TIE ROD IS INSTALLED ON THE PASSENGER SIDE.





Attaching Outer Tie Rod Stud to Steering Arm



16. Install outer tie rod stud(5) into steering arm(4) using a 7/16" castle nut(16) and 3/32" cotter pin(17). Insert the tapered end of the tie rod stud into the taper of the arm. Thread the 7/16" castle nut on the stud. **Due to machining tolerances, it may be necessary to put a 7/16" flat washer(15) under the castle nut to get the cotter pin hole to line up properly with the slots in the castle nut.** You DO NOT want the cotter pin hole above the castle nut. Torque to 35 ftlbs and then tighten to align cotter pin.

Attaching Heim End - SMOOTH HOLE SPINDLE



17. Slide the heim end(7) onto the tie rod stud(5). Next, thread the **THICK** 5/8"-18 locking nut(14) onto the tie rod stud. Torque nut to 45 ftlbs.

Attaching Heim End - THREADED HOLE SPINDLE



18. Slide [2] .125" spacers(9) on the tie rod stud(5) followed by the heim end(7). Next, thread the THIN 5/8"-18 lock nut(14) on the stud. Torque nut to 45 ftlbs.

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Final Steps

19. Verify all hardware is tight.

Suggested Alignment Specs:

Camber:Street:-.5 degreesCaster:Street:+3.0 to + 5.0 degreesToe:Street: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.