

READ ALL INSTRUCTIONS COMPLETELY AND THOROUGHLY UNDERSTAND THEM BEFORE DOING ANYTHING.  
CALL TOTAL CONTROL PRODUCTS TECH SUPPORT (916) 388-0288 IF YOU NEED ASSISTANCE.

## INSTALLATION GUIDE



### TCP SPND-04

70-73 MUSTANG SPINDLES WITH GRANADA OUTER TIE-ROD TAPER



**Description:** Direct replacement spindle for early Mustangs and other classic Fords. Features '68-'73 disc brake caliper mount with '70-'73 large bearing size axle and '75-80 Granada outer tie-rod taper.

**Note:** Upper caliper bracket hole through upright must be drilled out to mount OEM caliper bracket. Fits aftermarket brakes for '70-73 Mustang.

# APPLICATIONS

Model	Year	Installation Requirement
Comet	1960-1977	<b>Balljoints:</b> Factory or aftermarket interchangeable upper and lower balljoints. Direct bolt-on for all applications listed.  <b>Outer Tie-Rods:</b> Requires TCP Bumpsteer Kit (TCP TIER-21) or 1975-1980 Granada outer tie-rod (MOOG ES445RL)  <b>Brake Options:</b> <b>Aftermarket</b> (Wilwood): 13" Performance (WW 140-10220), 11" Street (WW 140-11073), 12" Street (WW 140-11074)  <b>OEM</b> (Disc): Cougar 68-73, Comet 68-71, Fairlane 68-70, Falcon 68-70, Montego 68-71, Mustang 68-73, Torino 71 (68-69 hubs must change to 70-73 wheel bearings (Must drill out upper caliper bracket mounting hole)  <b>Wheel Bearings:</b> 70-73 Mustang Large/Inner Bearing: 1.377" ID - Small/Outer Bearing: .865" ID
Cougar	1967-1973	
Cyclone	1964-1971	
Fairlane	1966-1971	
Falcon	1960-1970	
Maverick	1970-1977	
Montego	1968-1971	
Mustang	1964-1973	
Ranchero	1960-1971	
Torino	1968-1971	
Comet	1960-1965	<b>6-cylinder Vehicles:</b> Must upgrade to TCP Rack & Pinion or OEM V8 steering system.
Falcon	1960-1965	
Mustang	1964-1966	
Ranchero	1960-1965	

# INSTRUCTIONS

## Remove OEM Components

1. Raise the front end of the car and secure with jack stands. The wheels must not be in contact with the ground.
2. Remove wheels, making note of which side of vehicle they were removed from.
3. Remove brake system. Brake calipers can be secured to vehicle during installation without disconnecting brake lines.
4. Remove cotter pins at the upper balljoint, lower balljoint, and outer tie rod
5. Loosen all three castle nuts leaving approximately three threads engaged to prevent the spindle or lower control arm from falling during the next step.



6. Use a pickle fork or similar tool to separate the three joints.
7. Remove the castle nut at the outer tie rod and allow the tie-rod assembly to hang freely.
8. Remove the castle nut at lower balljoint and allow the lower control arm and strut rod to hang freely.
9. Remove the castle nut at the upper balljoint. Be prepared to catch the weight of the spindle as the castle nut is removed.

### Chassis/Component Inspection

10. Inspect the remaining components and sheet metal for signs of wear or fatigue. Worn bushings, torn boots, and damaged balljoints or tie rods should be replaced before proceeding.



### Installation

11. Insert the lower balljoint stud into tapered seat of spindle and thread the castle nut onto the stud. The stud should seat firmly with no looseness or rocking.

NOTE: TCP lower control arms include the additional spacer shown in the photo. The spacer is not used with factory lower control arms.

12. Tighten the castle nut to 60 lb-ft., and check the alignment with the cotter pin hole. Tighten the castle nut until the cotter pin can be inserted through the slots and the hole in the ball joint stud. Do not exceed 75 lb-ft.

**DO NOT LOOSEN THE CASTLE NUT TO ALIGN THE COTTER PIN.**

13. Insert the cotter pin and bend the ends over flat against threads.



14. Place the upper balljoint stud into the spindle. Tighten the castle nut to 50 lb-ft., and check the alignment with the cotter pin hole. Tighten the castle nut until the cotter pin can be inserted through the slots and the hole in the ball joint stud. Do not exceed 65 lb-ft.

**DO NOT LOOSEN THE CASTLE NUT TO ALIGN THE COTTER PIN.**



15. Install the outer tie rod onto the spindle's steering arm. Torque to 30-40 lb-ft.
16. Reinstall the brake system and check all mounting hardware.
17. Lubricate balljoints and tie rods.
18. Install wheels to their original location and torque lug nuts.



# ALIGNMENT

*The vehicle must be professionally inspected and aligned prior to regular use.*

While our spindle does duplicate the original spindle geometry, it is possible your original spindles may have been bent or damaged during their service life.

If a trailer is not available, your alignment will need to be somewhat close to final specs in order to safely drive your vehicle to the alignment shop. Visually determine if the front wheels look straight. They should not appear to “toe” (left to right) -in or -out. The outside of the wheels should be very close to vertical. A few degrees of negative camber (leaning in) is acceptable.

	Street Performance		Road Course		Drag Strip	
	Manual	Power	Manual	Power	Manual	Power
<b>Caster</b>	2-1/2° to 3° (+)	3-1/2° to 4° (+)	2-1/2° to 3° (+)	3-1/2° to 4° (+)	4° to 6° (+)	4° to 6° (+)
<b>Camber</b>	0° to 1/2° (-)	0° to 1/2° (-)	1-1/2° to 2° (-)	1-1/2° to 2° (-)	0°	0°
<b>Toe (total)</b>	1/16" to 1/8" in	1/16" to 1/8" in	1/16" out to 1/16" in	1/16" out to 1/16" in	1/16" to 1/8" in	1/16" to 1/8" in

Our recommended alignment specs serve as a starting point for your particular application. Installed components, driver preference, and specific application will have a great affect on the correct settings for your vehicle.

## TORQUE SPECIFICATIONS

Fastener Description	Location	Torque Value
Upper Balljoint Castle Nut	Balljoint to Upper Spindle	50-65 lb-ft
Lower Balljoint Castle Nut	Balljoint to Lower Spindle	60-75 lb-ft
Outer Tie Rod Castle Nut	Tie Rod to Steering Arm	30-40 lb-ft

**WARRANTY NOTICE:**

There are NO WARRANTIES, either expressed or implied. Neither the seller nor manufacturer will be liable for any loss, damage or injury, direct or indirect, arising from the use or inability to determine the appropriate use of any products. Before any attempt at installation, all drawings and/or instruction sheets should be completely reviewed to determine the suitability of the product for its intended use. In this connection, the user assumes all responsibility and risk. We reserve the right to change specification without notice. Further, Chris Alston's Chassisworks, Inc., makes **NO GUARANTEE** in reference to any specific class legality of any component. **ALL PRODUCTS ARE INTENDED FOR RACING AND OFF-ROAD USE AND MAY NOT BE LEGALLY USED ON THE HIGHWAY.** The products offered for sale are true race-car components and, in all cases, require some fabrication skill. **NO PRODUCT OR SERVICE IS DESIGNED OR INTENDED TO PREVENT INJURY OR DEATH.**

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