

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



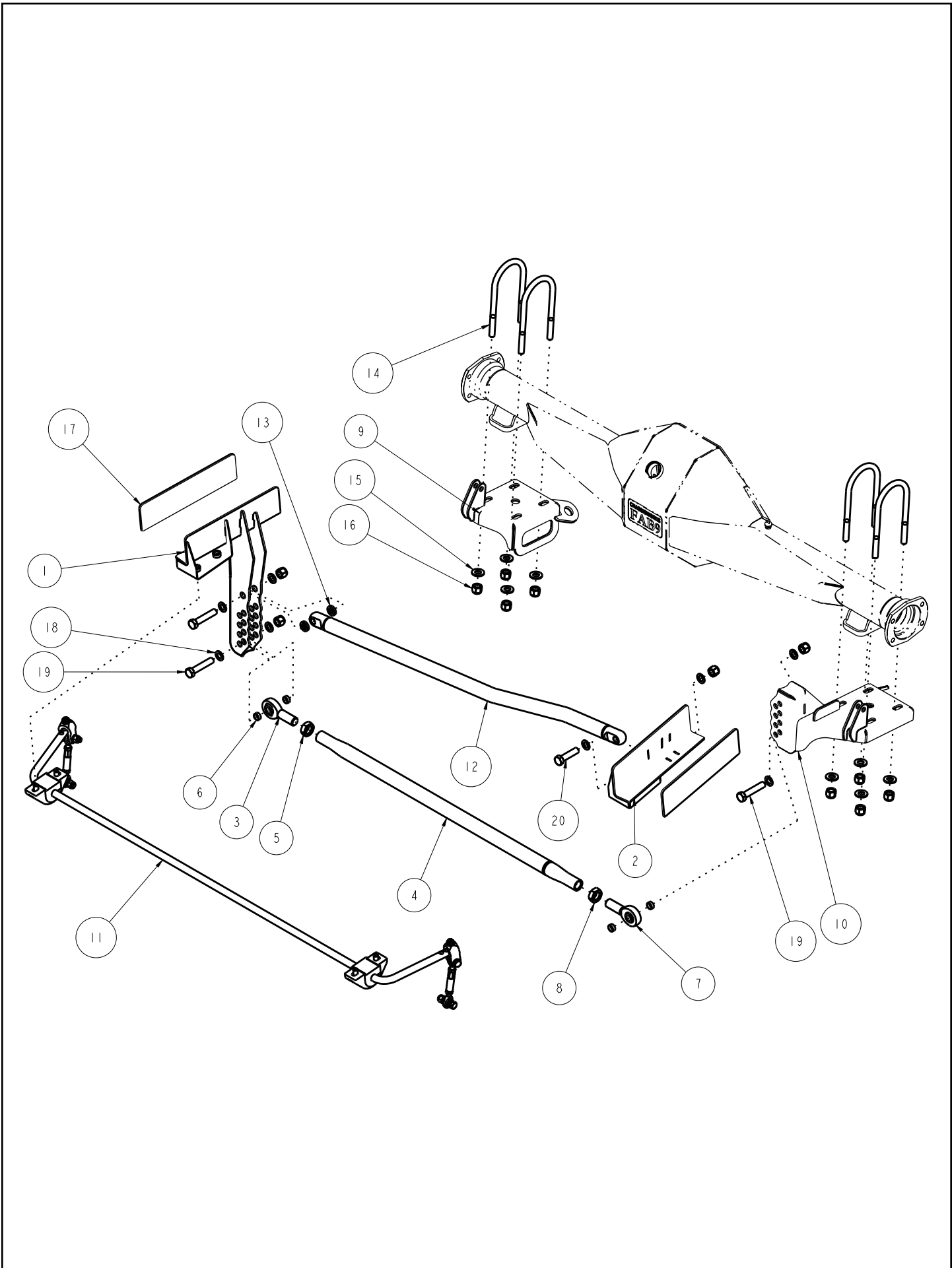
## TCP PHL-M10 Panhard Bar System for 1964-73 Mustang and 1967-73 Cougar



**Description:** Weld-in panhard bar system for use with leaf-spring suspensions. Lateral suspension locator device, adjustable for various ride heights and roll center height.

**Applications:** Mustang '64-73, Cougar '67-73

**Fitment:** Does not fit with factory staggered shocks. Both shocks must mount forward of the rearend housing.



ITEM	QTY	PART NO.	DESCRIPTION
1	1	7902-023	FRAME BRACKET ASSEMBLY, DRIVER, LEAF SPRING PANHARD BAR, 64-73 MUSTANG
2	1	7902-024	FRAME BRACKET ASSEMBLY,PSGR, LEAF SPRING PANHARD BAR, 64-73 MUSTANG
3	1	3112-075X050-R	ROD END, 3/4-16 RIGHT x 1/2 BORE, 4130, NYLON, KMX12-8
4	1	7907-75-30.87-S	RADIUS ROD, 3/4-16 THREAD x 30.87 LONG, SATIN
5	1	3102-075-16RC	JAM NUT, 3/4-16 RIGHT, CLEAR ZINC
6	4	1000	MISALIGNMENT BUSHING Ø1/2 BORE x .250
7	1	3112-075X050-L	ROD END, 3/4-16 LEFT x 1/2 BORE, 4130, NYLON, KMXL12-8
8	1	3102-075-16LY	JAM NUT, 3/4-16 LEFT, YELLOW ZINC
9	1	7902-010	REAR LEAF SPRING PLATE ASSY DRIVER, PANHARD BAR, 64-73 MUSTANG
10	1	7902-011	REAR LEAF SPRING PLATE ASSY, PASSENGER, PANHARD BAR, 64-73 MUSTANG
11	1	TCP PHA-M10	ANTI-ROLL BAR, Ø5/8, ADJUSTABLE LINK, PANHARD BAR, 64-73 MUSTANG (OPTIONAL PART)
12	1	7902-020	PANHAR BAR ASSY, LEAF SPRING, 64-73 MUSTANG
13	2	3140-1628-006	SLEEVE, SPACER, Ø7/8 x 1/2 x .188
14	4	3147-300.50-650	U-BOLT, AXLE TUBE, 1/2-20 x 3.00 x 6.50 (OPTIONAL PART)
15	8	3157-050S-C	WASHER, 1/2 SAE, ZINC PLATED, 1/2 ID x 1 1/16 OD x 3/32 THICK (OPTIONAL PART)
16	12	3101-050-20C	LOCKNUT, 1/2-20, GRADE 5, NYLON INSERT, CLEAR ZINC (OPTIONAL PARTS - 4 INCLUDED WITH PANHARD BAR)
17	2	7902-035	FRAME RAIL STRAP, LEAF SPRING PANHARD BAR, 64-73 MUSTANG
18	8	3109-050-S-2-Y	AIRCRAFT WASHER 1/2 x .062 THICK
19	3	3100-050F2.50Y	HEX BOLT, 1/2-20 x 2 1/2, GRADE 8, YELLOW ZINC
20	1	3100-050F2.00Y	HEX BOLT, 1/2-20 x 2, GRADE 8, YELLOW ZINC

DESCRIPTION		<b>PANHARD BAR ASSEMBLY, LEAF SPRING SUSPENSION, 64-73 MUSTANG</b>	
<i>Chris Alston's</i> <b>CHASSISWORKS INC.</b>		PART NO.	
8661 YOUNGER CREEK DRIVE SACRAMENTO, CA 95828 (916) 388-0288 FAX 388-0295		<b>TCP PHL-M10</b>	
		2/6/15	DWG: TCP_PHL-M10

# PARTS LIST

## TCP PHL-M10 - Panhard Bar System for Leaf-Spring Suspension, '64-73 Mustang

Qty	Part Number	Description
1	7902-011	Leaf spring plate, passenger side
1	7902-020	Support tube welded assembly, 1-1/4" welded tube
1	7902-023	Frame bracket, driver side
1	7902-024	Frame bracket, passenger side
2	7902-035	Outside frame rail strap
1	7907-75-30.87-S	Radius rod, aluminum, 3/4-16 RH and LH swedged ends

## 7918-PHLM10 - Hardware Bag

Qty	Part Number	Description
4	1000	Misalignment bushing
1	3100-050F2.00Y	Bolt, 1/2-20 x 2", hex head Grade 8
3	3100-050F2.50Y	Bolt, 1/2-20 x 2-1/2", hex head Grade 8
4	3101-050-20C	Locknut, 1/2-20 nylon insert, plated
1	3102-075-16LY	Jam nut, 3/4-16 LH, yellow zinc
1	3102-075-16RC	Jam nut, 3/4-16 RH, clear zinc
8	3109-050-S-2-Y	Aircraft washer, 1/2" small OD
1	3112-075X050-L	Rod end, 3/4-16 LH x 1/2" bore
1	3112-075X050-R	Rod end, 3/4-16 RH x 1/2" bore
2	3140-1628-006	Spacer 1/2" ID x 7/8" OD x .188"

## Optional Components

Qty	Part Number	Description
1	TCP PHA-M10	Sliding-link anti-roll bar, adjustable rate
1	TCP PHS-M10	Leaf spring plate, driver side (required for anti-roll bar)
1 set	TCP LSP-03	U-bolt set, 1/2 x 6-1/2" for 3" axle tubes

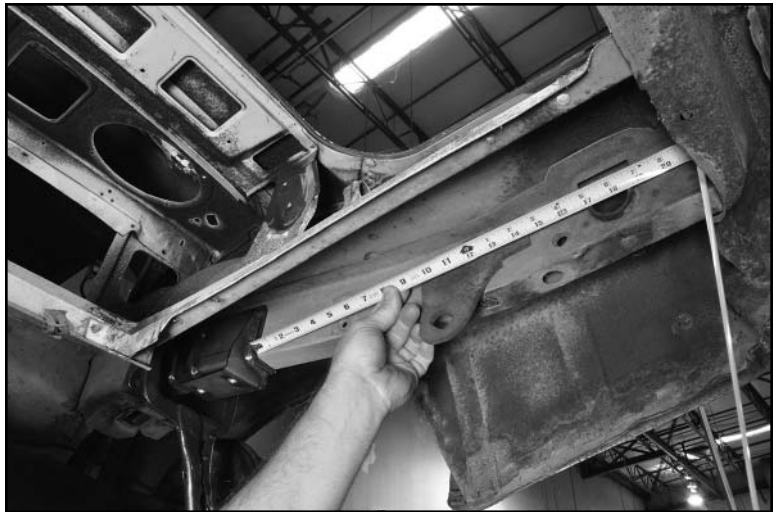
# INSTRUCTIONS

*NOTE: A 1965 Mustang was used for the following images and may show slight differences from the later Mustang platforms. The installation procedure is identical.*

1. Remove truck liner and any wiring from areas of trunk floor that will be affected by heat from welding. This is done to reduce the risk of damage and potential fire.
2. Safely support the vehicle chassis with jack stands or a lift. The leaf-spring brackets will later be disconnected from the springs during installation.
3. Temporarily relocate fuel and brake lines, or battery cables that are near the installation area. Some installations may require lines to be rerouted or modified.
4. The rear exhaust system may require modification or removal for panhard bar installation.
5. Verify that the chassis is level.



6. Position the passenger-side frame bracket 17-1/16" forward of the inside edge of rear spring-bushing sleeve.



7. With the bracket in the correct position, clamp the bracket and outside support strap to secure.



8. Mark the bracket and support strap outline onto the frame rail.



9. Use a scotch-brite pad to remove any paint or coating material along the weld area.



10. Reposition the bracket and support strap 17-1/16" forward of the rear spring bushing.



11. Make sure the anti-roll bar pads are level to the ground, then tack weld the bracket and strap to the rail.



12. Use the same position measurement of 17-1/16" for the driver-side bracket. Follow the same weld-prep procedure.
13. The bracket can be checked for levelness at the anti-roll bar pad or the backside of the extension before tack welding.
14. Completely weld both brackets at this time. Once cooled, the entire bracket and weld area should be painted.



### 15. Passenger-Side Leaf Spring Plate

Unbolt and replace the passenger side leaf spring plate with the included panhard bar plate. Torque specification will depend upon bolt size.

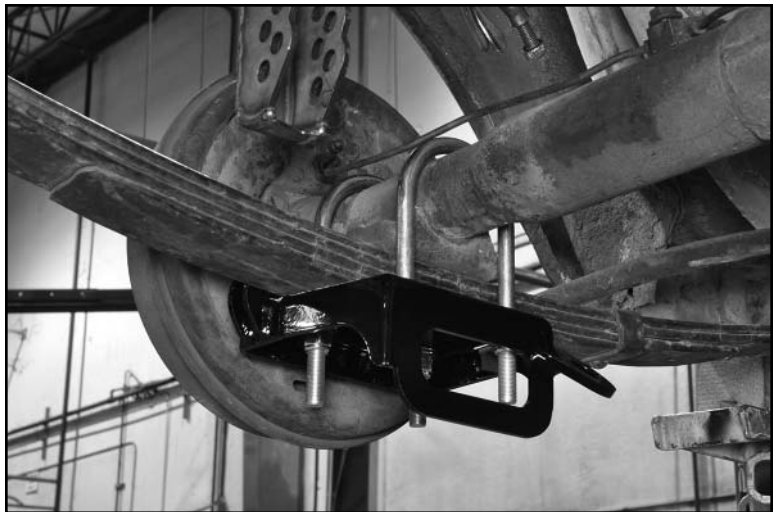


In addition to factory shock mount, the passenger-side spring plate features multiple adjustment holes for the panhard bar, the anti-roll-bar endlink mount, and a tie-down loop.



#### 16. Driver-Side Leaf Spring Plate (OPTION)

The driver side plate is not required for installation or operation of the panhard bar.



It does however feature the driver's side endlink mounts and is therefore required for installation of the sliding-link anti-roll bar, also optional.



17. The bent end of the welded support tube mounts to the passenger-side frame bracket. The tube must be rotated so that it jogs away from the rearend housing. Refer to the assembly diagram for clarification.

Secure using 1/2" x 2" bolt, two flat washers, and locknut. Do not tighten hardware at this time.



18. Secure driver's side end of support tube to uppermost hole on bracket using 1/2" x 2-1/2" bolt, two flat washer, two 3/16"-thick spacers, and locknut. Tighten to 60 lb-ft.



19. The passenger side hardware can now be tightened to 60 lb-ft.



20. Thread the jam nut onto the rod end until there are 4-5 threads above the nut.

**NOTE:**

The knurled marking on the radius rod indicates the left-hand threaded end.  
Yellow zinc jam nut is left-hand threaded.

21. Screw each rod end into the radius rod until the jam nut touches. The remaining threads should be equal at opposite ends of the rod.



*The following steps should be performed with the weight of the vehicle on the suspension; either on the ground or with two jack stands placed along the axle tubes. The suspension should be resting at ride height.*

22. The assembled panhard bar is initially positioned at the bottom hole of the chassis bracket. The bar may be raised after test driving the vehicle.

Secure using 1/2" x 2-1/2" bolt, two flat washers, two 1/4"-thick misalignment spacers, and locknut. Tighten to 60 lb-ft.



23. The opposite end of the panhard bar must be installed at the hole on the axle bracket that positions the bar closest to level. Rotating the radius rod will lengthen or shorten the bar as needed. Do not rotate the free rod end with the radius rod.

There must be at least 3/4" thread engagement between the rod end and radius rod and **no more than 9 threads exposed above the jam nut.**



24. Secure using 1/2" x 2-1/2" bolt, two flat washers, two 1/4"-thick misalignment spacers, and locknut. Tighten to 60 lb-ft.
25. Without rotating the radius rod, tighten both jam nuts to lock the neutral adjustment. At no time with the vehicle resting at ride height should the panhard bar be preloaded.



## Testing and Adjustment

The panhard bar provides positive lateral location beyond what the leaf springs and bushings can provide. Expect a noticeable improvement in cornering stability and more linear motion when transitioning into and out of turns. The panhard bar's location, specifically the center point of the bar, determines the rear suspension roll center and adjusting its height affects the understeer/oversteer characteristics of the vehicle. When adjusting bar height, both ends must be raised or lowered the same number of holes to maintain the bar's levelness.

**Lower Positions (understeer)** - The lowest positions of adjustment tune toward a vehicle that understeers or pushes when cornering. This is considered to be a safe starting point.

**Higher Positions (oversteer)** - The higher positions of adjustment tune toward oversteer and should only be used by drivers with performance driving experience.

Many variables influence what the 'correct' panhard bar position will be for each vehicle. Front suspension and modifications, relative tire sizes, ride height, spring rates, driver ability, and more all affect which position makes the car faster or more importantly make the driver more comfortable and confident.

**Make incremental changes to the bar height until you find an adjustment you are comfortable with.**

26. THE BAR MUST BE POSITIONED CLOSEST TO LEVEL WHEN AT RIDE HEIGHT.

27. Tighten panhard bar mounting hardware and jam nuts after each adjustment.

**WARRANTY NOTICE:**

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