



# Installation Instructions



Product: **Front Trackbar + Sector Shaft Reinforcement Kit**

Part Number: **PN OGS166**

Application: **Jeep Wrangler JK, 2007+**

## Welcome

CONGRATULATIONS on purchasing the Front Trackbar + Steering Sector Shaft Reinforcement Kit from JKS Manufacturing. We are committed to providing you with the best products available and your satisfaction is our first priority.

## Important

**INSTALLATION REQUIRES WELDING** by a qualified welder or metal fabricator. A bolt-on installation is not possible for this product.

**INSTALLATION REQUIRES OE type steering box.**

**NOT COMPATIBLE WITH TeraFlex track bars.**

**NOT COMPATIBLE WITH frame-mounted track bar drop brackets.**

## Tools Required

- Hydraulic Floor Jack & Jack Stands
- Metric/Standard Socket Wrench Set
- Torque Wrench
- 15/16" Open End Wrench
- Black Marker or Metal Scribe
- Flat Black Spray Paint
- Anti-Seize Lubricant
- Compact Die Grinder with Sanding Wheel (or equivalent tool for removing paint from chassis)
- Welding Equipment
- Assortment of Small Pry Bars \*
- Factory Service Manual (recommended)

\* Indicates tool that may not be necessary for every installation. Thoroughly read instructions in advance to determine which tools will be required for your application.

## Parts

	DESCRIPTION	PART #	QTY
A	Trackbar Chassis Bracket	PN 163010	1
B	7/16" x 1" GR5 Bolt	PN 13155	2
C	7/16" Flat Washer	PN 33084	4
D	7/16" Locking Nut	PN 37266	2
E	Steering Sector Pillow Block	PN 165001	1
F	Spherical Bearing	PN 165100	1
G	Sector Bearing Nut	PN 165002	1
H	7/8" Split Washer	PN 33899	1
I	Pillow Block Frame Mount	PN 165003	1
J	7/16" x 1-3/4" GR8 Bolt	PN 18877	1
K	7/16" Split Washer	PN 33624	1
L	3/8" x 1" GR5 Bolt	PN 13105	2
M	3/8" Flat Washer	PN 33082	2
N	3/8" Split Washer	PN 33622	2
O	Chassis Connector Tube	PN 164001	1
P	Frame Bracket	PN 164002	1
Q	1/2" x 5/8" Rod End	PN LXM8-10	1
R	1/2" x 5/8" LH Rod End	PN LXML8-10	1
S	5/8" Jam Nut	PN 36264	1
T	5/8" LH Jam Nut	PN 36964	1
U	1/2" x 2" GR5 Bolt	PN 17211	2
V	1/2" Flat Washer	PN 33086	4
W	1/2" Locking Nut	PN 37308	2

**FRONT TRACKBAR + SECTOR SHAFT  
REINFORCEMENT KIT**

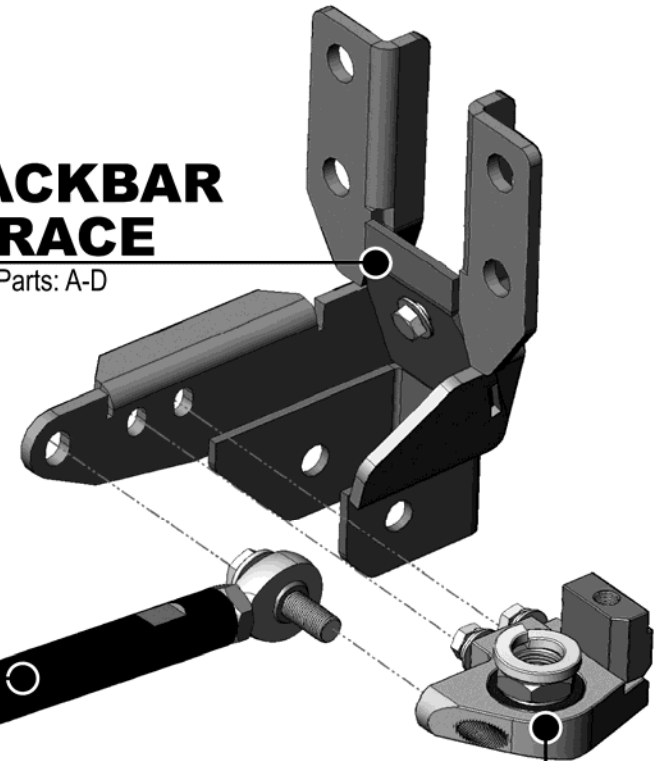
The Front Trackbar + Sector Shaft Reinforcement Kit actually consists of three interconnected products, as illustrated below.

To keep the parts organized, each product has been individually packaged, and for ease of fitment, each product will be installed separately.

For best results, please follow the sequence outlined in these instructions.

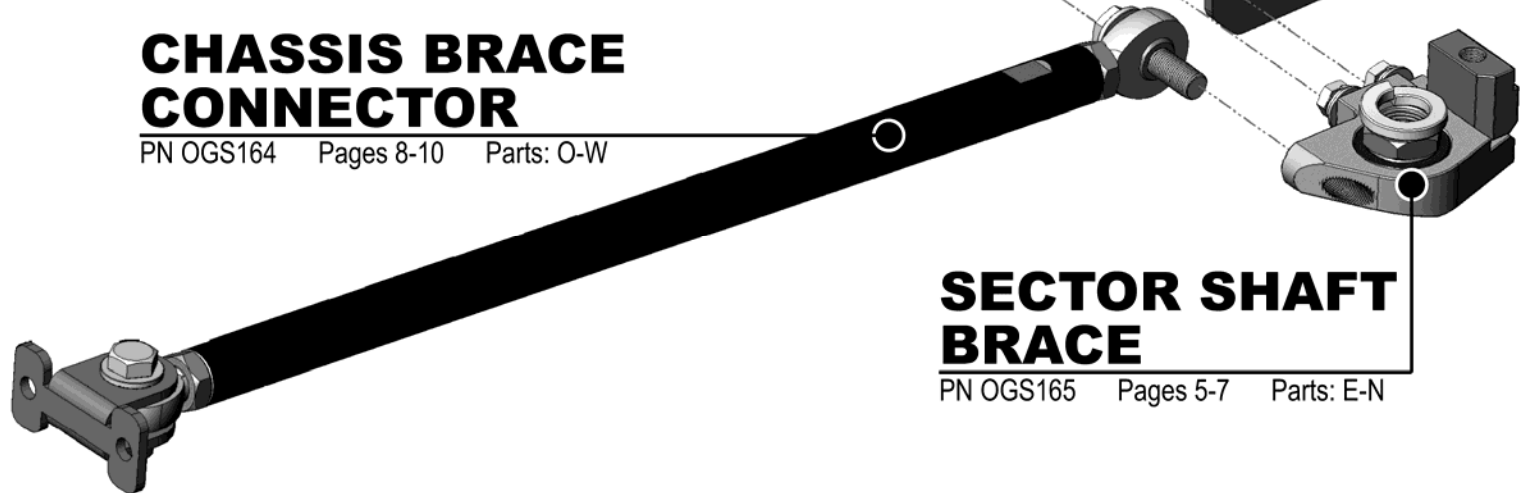
**FRONT TRACKBAR  
CHASSIS BRACE**

PN OGS163 Pages 3-4 Parts: A-D



**CHASSIS BRACE  
CONNECTOR**

PN OGS164 Pages 8-10 Parts: O-W

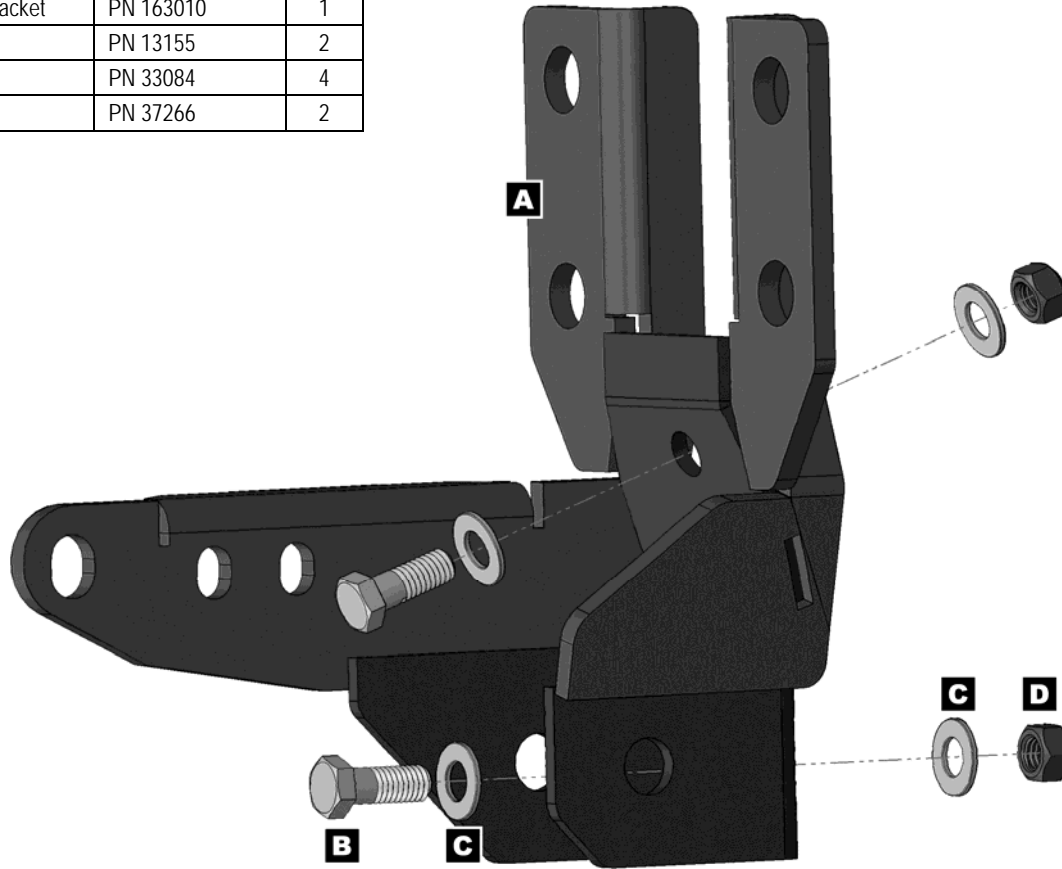


**SECTOR SHAFT  
BRACE**

PN OGS165 Pages 5-7 Parts: E-N

**Parts**

	DESCRIPTION	PART #	QTY
A	Trackbar Chassis Bracket	PN 163010	1
B	7/16" x 1" GR5 Bolt	PN 13155	2
C	7/16" Flat Washer	PN 33084	4
D	7/16" Locking Nut	PN 37266	2



**Installation**

- ❑ 1. **INSTALL TRACKBAR CHASSIS BRACKET**
  - Raise and support the vehicle with jack stands positioned behind the front lower suspension arm brackets.
  - Raise and support the front axle housing with a hydraulic jack to relieve any tension from the track bar mounting bolts.
  - Remove the nut and bolt that secures the front track bar to the factory chassis bracket. Retain the original hardware.
  - Remove the front track bar from the chassis bracket.
  - Remove the four (4) steering box bolts.
  - Position the Trackbar Chassis Bracket (A) over your factory track bar bracket.



- Re-insert the original steering box bolts and thread into mounting holes by hand. Do not tighten yet.

- Insert OE track bar bolt (to keep mounting holes aligned) and loosely install original nut. Do not tighten.



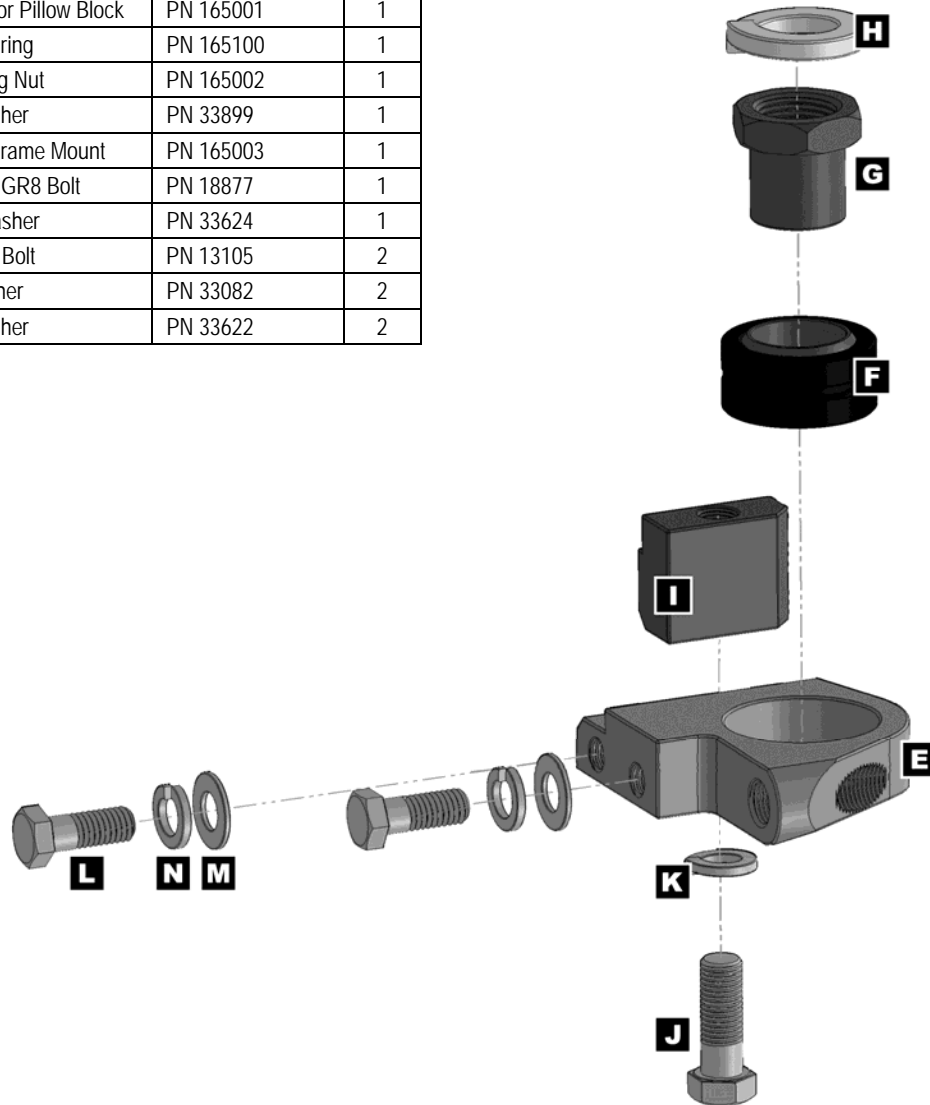
- Make sure steering box aligns perfectly with original position on chassis, and then tighten steering box mounting bolts until snug.
- Insert a 7/16" x 1" Bolt (B) with 7/16" Flat Washer (C) into each of the two holes in the factory track bar bracket and through the Trackbar Chassis Bracket (A). Secure each bolt with another 7/16" Flat Washer (C) and 7/16" Locking Nut (D).
- Tighten both 7/16" nuts to 50 ft-lbs. using a torque wrench.



- Tighten all four (4) steering box bolts to 70 ft-lbs. using a torque wrench.

**Parts**

	DESCRIPTION	PART #	QTY
E	Steering Sector Pillow Block	PN 165001	1
F	Spherical Bearing	PN 165100	1
G	Sector Bearing Nut	PN 165002	1
H	7/8" Split Washer	PN 33899	1
I	Pillow Block Frame Mount	PN 165003	1
J	7/16" x 1-3/4" GR8 Bolt	PN 18877	1
K	7/16" Split Washer	PN 33624	1
L	3/8" x 1" GR5 Bolt	PN 13105	2
M	3/8" Flat Washer	PN 33082	2
N	3/8" Split Washer	PN 33622	2



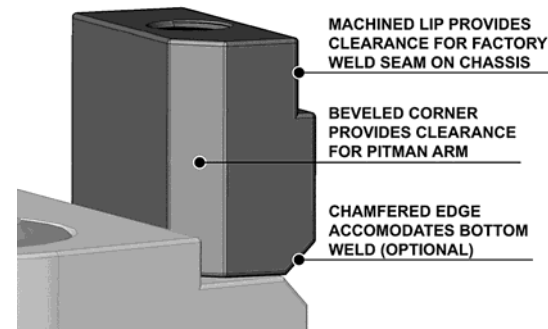
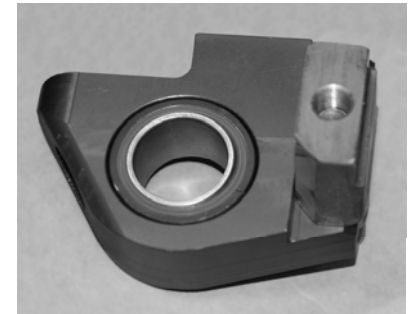
**Installation**

2. **PRE-FIT STEERING SECTOR PILLOW BLOCK**

- Remove original pitman arm nut.
- Install Sector Bearing Nut (G) with 7/8" Split Washer (H) onto sector shaft. Tighten nut to 185 ft-lbs. using a torque wrench.



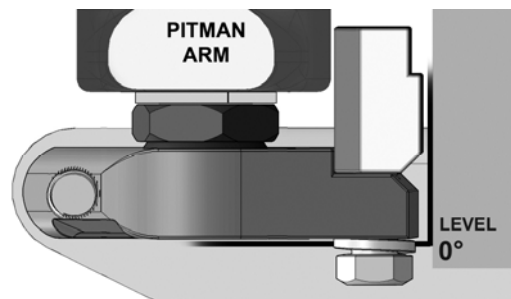
- Loosely install Pillow Block Frame Mount (I) on Steering Sector Pillow Block (E) with the 7/16" x 1-3/4" Bolt (J) and 7/16" Split Washer (K) exactly as illustrated below.



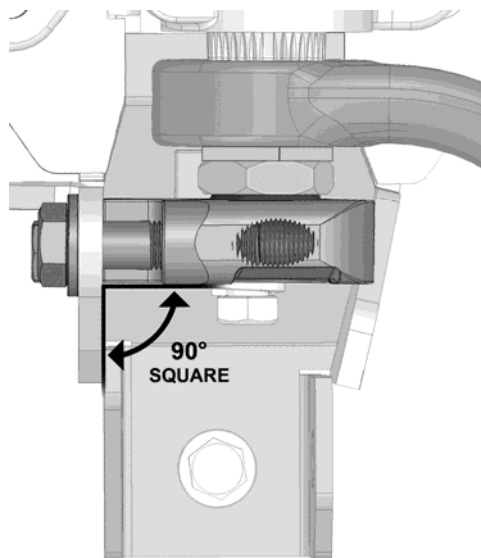
- Place a 3/8" Split Washer (N) and 3/8" Flat Washer (M) onto supplied 3/8" x 1" Bolts (L).
- Slide Pillow Block assembly onto Sector Bearing Nut (G) and insert both 3/8" Bolts through the Trackbar Chassis Bracket (A) and into threaded holes in Pillow Block to hold the assembly in position. Finger tighten bolts.
- For alignment purposes, also insert one of the 1/2" x 2" Bolts (U) – supplied with Chassis Brace Connector PN OGS164 – through Trackbar Chassis Bracket (A) and into the corresponding hole in Pillow Block (E). Finger tighten 1/2" Bolt.
- Raise the Steering Sector Pillow Block (E) as high on Sector Bearing Nut (G) as possible. **HINT: Holes in Trackbar Chassis Bracket are elongated to compensate for factory variances on elevation of steering box.**



- Make sure Steering Sector Pillow Block (E) is level side-to-side.



- Make sure Steering Sector Pillow Block is square to Trackbar Chassis Bracket (A). **HINT: Pillow block does not need to be perfectly level front-to-back because Spherical Bearing (F) will compensate for misalignment.**



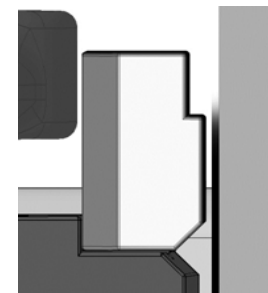
- If necessary, adjust front-to-back angle of Steering Sector Pillow Block until square with Trackbar Chassis Bracket. **HINT: A pry bar may be useful for applying leverage to pillow block while fine tuning the side-to-side or front-to-back alignment.**



- Once Steering Sector Pillow Block (E) is properly positioned, add tension to both 3/8" x 1" Bolts (L) and 1/2" x 2" Bolt (U) until snug to prevent Pillow Block from accidentally moving.

### 3. INSTALL PILLOW BLOCK FRAME MOUNT ON CHASSIS

- With mounting bolts snug, turn your attention to the Pillow Block Frame Mount (I). Make sure weld-on mount is square to Pillow Block while positioned as close to chassis as possible.



**HINT: A small gap between the weld-on mount and chassis is normal and acceptable, as long as gap is consistent from front-to-back.**

- Use a marker or scribe to outline the location of Pillow Block Frame Mount (I) onto chassis. Make sure both sides and bottom of mount are clearly transferred to chassis as this indicates where paint needs to be removed prior to welding.
- Remove the two 3/8" Bolts and 1/2" Bolt holding the Pillow Block to Trackbar Chassis Bracket, and slide the Pillow Block off of the Sector Bearing Nut.
- Remove paint from area on chassis where edges of Pillow Block Frame Mount (I) are marked. **HINT: If you cannot reach the area with a sanding tool, a piece of emory cloth or sandpaper may be useful.**



- With bare metal exposed on chassis, the Steering Sector Pillow Block (E) must be re-installed so that the Pillow Block Frame Mount (I) can be tack welded in place. Slide the Pillow Block assembly back onto the Sector Bearing Nut (G) and re-insert the two 3/8" Bolts (L) and 1/2" Bolt (U) to hold the Pillow Block in position.
- Re-adjust the Steering Sector Pillow Block (E) until level side-to-side and square to Trackbar Chassis Bracket (A) as before.
- Once the Pillow Block is properly positioned, add tension to the two 3/8" Bolts (L) and 1/2" Bolt (U) until snug to prevent the Pillow Block from accidentally moving.
- With mounting bolts snug, make sure the Pillow Block Frame Mount (I) is square to Pillow Block and positioned as close to chassis as possible. Remember, a small gap between the weld-on mount and chassis is normal and acceptable, as long as gap is consistent from front-to-back.



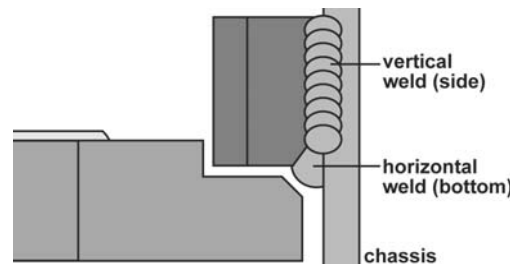
- While holding the Frame Mount (I) in place, carefully tack weld both sides of the weld-on mount directly to the chassis. **HINT:** It may be helpful to apply slight pressure from above using a pry bar to ensure Frame Mount remains flush against Pillow Block.
- Once the Frame Mount (I) is securely tacked in the desired position, remove the two 3/8" Bolts and 1/2" Bolt and slide the Sector Shaft Pillow Block off of the Sector Bearing Nut.



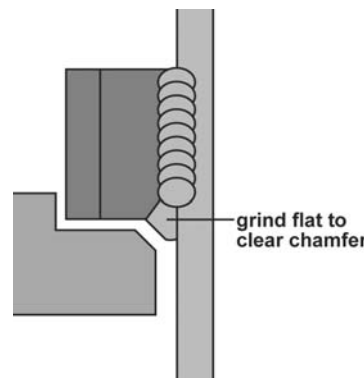
- Make sure you can access both sides of Frame Mount (I) with welder. If necessary, the Trackbar Chassis Bracket (A), Sector Bearing Nut (G) and/or pitman arm can be temporarily removed for better accessibility.
- Completely weld both sides of Pillow Block Frame Mount (I) to chassis.



- Bottom of Frame Mount may also be welded to chassis as long as bead does not interfere with re-installation of Pillow Block. **HINT:** Edges of weld-on mount and Pillow Block are chamfered to provide clearance for small weld bead.



If weld bead interferes with re-installation of Pillow Block, you must remove any protrusions using a grinding wheel for proper fitment.



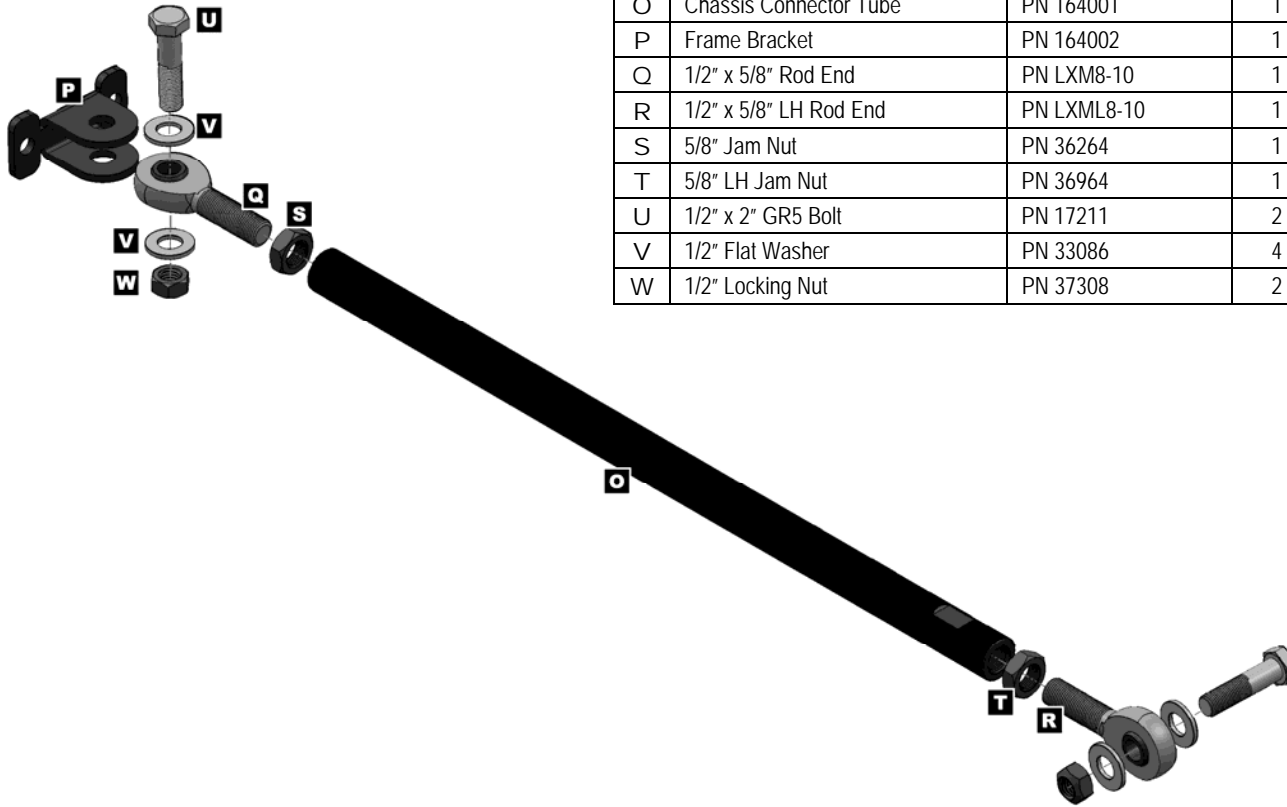
- Allow welded area to cool. Then apply black spray paint to Frame Mount (I) and any bare metal to protect the surfaces from corrosion.

#### 4. INSTALL STEERING SECTOR PILLOW BLOCK

- Apply a small amount of anti-seize lubricant to threads of two 3/8" x 1" Bolts (L) and 1/2" x 2" Bolt (U).
- Slide Steering Sector Pillow Block (E) onto Sector Bearing Nut (G) and loosely install the two 3/8" Bolts (L) and 1/2" Bolt (U). Do not tighten bolts yet.
- Next insert the 7/16" x 1-3/4" Bolt (J) with 7/16" Split Washer (K) into hole in Pillow Block. Thread the 7/16" Bolt into Pillow Block Frame Mount (I) by hand, but do not tighten yet.
- Starting with the two 3/8" Bolts (L), slowly and evenly tighten all four mounting bolts until snug. **Do not fully tighten any of the four mounting bolts yet.**

### Parts

	DESCRIPTION	PART #	QTY
O	Chassis Connector Tube	PN 164001	1
P	Frame Bracket	PN 164002	1
Q	1/2" x 5/8" Rod End	PN LXM8-10	1
R	1/2" x 5/8" LH Rod End	PN LXML8-10	1
S	5/8" Jam Nut	PN 36264	1
T	5/8" LH Jam Nut	PN 36964	1
U	1/2" x 2" GR5 Bolt	PN 17211	2
V	1/2" Flat Washer	PN 33086	4
W	1/2" Locking Nut	PN 37308	2



### Installation

- ❑ **5. MOUNT CONNECTOR TO CHASSIS BRACKET**
  - Assemble Chassis Brace Connector by completely threading a 5/8" Jam Nut (S and T) onto each 1/2" x 5/8" Rod End (Q and R), and then inserting a rod end into each end of the Chassis Connector Tube (O). Leave approximately 1/2" of thread showing between end of tube and jam nuts.
  - Remove the 1/2" x 2" Bolt (U) from the Steering Sector Pillow Block (E). Then loosen both 3/8" x 1" Bolts (L) and the 7/16" Bolt (J) just enough to allow the Rod End (Q or R) to be inserted between the Chassis Bracket and Pillow Block.
  - Locate the slotted end of the Chassis Connector Tube (O) and slide the rod end closest to it between the Chassis Bracket and Pillow Block. Re-insert the 1/2" x 2" Bolt (U) and finger tighten.
  - Starting with the two 3/8" Bolts (L), slowly and evenly tighten all four mounting bolts until snug. **Do not tighten only one bolt at a time – all bolts should be tightened together.**
  - Using a torque wrench, continue to tighten the two 3/8" Bolts (L) to 35 ft-lbs., and tighten the 7/16" Bolt (J) to 50 ft-lbs. Do not fully tighten the 1/2" Bolt (U) until specified later in these instructions.



**HINT:** The extra 1/2" Locking Nut (W) & 1/2" Flat Washer (V) supplied with Front Trackbar Chassis Brace are not used when mounting to Steering Sector Pillow Block (E).



## 6. MOUNT CONNECTOR TO PASSENGER-SIDE CHASSIS RAIL

- On opposite end of Chassis Connector Tube (O), install weld-on Frame Bracket (P) using a 1/2" x 2" Bolt (U), two 1/2" Flat Washers (V) and 1/2" Locking Nut (W). Tighten hardware until snug.
- Position Frame Bracket (P) on passenger-side chassis rail with bottom of mounting flange located just above radius on chassis.



- On factory 6-cylinder engine applications, Frame Bracket (P) should be located directly across from driver-side mounting point.
- On Hemi 8-cylinder engine applications, Frame Bracket (P) should be located further toward rear of vehicle to allow Chassis Connector Tube (O) to clear the engine oil filter. Leave enough distance between Connector Tube and filter to allow for "engine torqueing", and to accommodate oil filter changes.

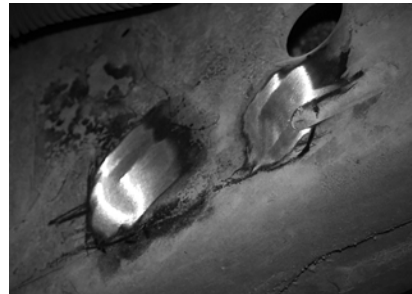


Photos in this document illustrate installation on Hemi 8-cylinder application.

- Make sure 1/2" x 5/8" Rod Ends (Q and R) do not bottom out on either Trackbar Chassis Bracket (A) or weld-on Frame Bracket (P).
- Twist the Chassis Connector Tube (O) to lengthen the member until Frame Bracket (P) is pressed firmly against desired mounting location on chassis.
- Transfer perimeter of mounting flanges and location of plug weld holes onto chassis using a marker or scribe.



- Twist the Chassis Connector Tube (O) in opposite direction to shorten the member and move the Frame Bracket (P) out of position.
- Remove any paint from area on chassis where location of plug weld holes are marked.



**HINT:** A die grinder with a sanding wheel is useful for removing paint from chassis.

- Reposition Frame Bracket (P) and lengthen the Chassis Connector Tube (O) until weld-on bracket is pressed firmly against desired mounting location on chassis.
- Tack weld Frame Bracket (P) to chassis rail.

- Remove the 1/2" hardware that secures the Rod End to Frame Bracket (P) and move the Chassis Connector Tube (O) out of position for easier access to plug weld holes.



- Fuse the Frame Bracket (P) to chassis by plug welding each side of the mounting flange.



- Allow welded area to cool. Then apply black spray paint to Frame Bracket and any bare metal to protect the surfaces from corrosion.
- Move Chassis Connector Tube (O) back into position and secure Rod End to Frame Bracket (P). Tighten hardware until snug.
- If necessary, twist Chassis Connector Tube (O) until you reach neutral resistance.
- Fully tighten both 5/8" Jam Nuts (S and T) against Chassis Connector Tube (O).



- Using a torque wrench, tighten the 1/2" x 2" Bolt (U) on passenger-side to 60 ft-lbs. Tighten the other 1/2" x 2" Bolt (U) that threads into the aluminum Steering Sector Pillow Block (E) to 35 ft-lbs.
- Apply anti-seize lubricant to bolt threads of original track bar mounting hardware.
- Re-install the track bar at the chassis bracket. Insert the original bolt and nut and lightly snug the hardware. **Do not tighten original track bar hardware until vehicle has been lowered and suspension is supporting full vehicle weight.**



- Lower vehicle to ground and tighten track bar bolt to 125 ft-lbs.

**If you encounter any problems with your installation and setup, please contact JKS Manufacturing for technical assistance.**

<b>JKS Technical Support</b>	
<b>Phone</b>	(308) 762-6949
<b>E-mail</b>	tech@jksmfg.com

## **Maintenance**

Check torque specifications regularly.

Regular cleaning with pressurized water is recommended to maximize reliability.

---

© 2011 JKS Manufacturing, Inc & Aftermarketing, LLC  
Revision Date 7/2/2011