

# JKS™

## Installation Instructions

Product: **Steering Brace System™**

Part Number: **PN OGS960 / OGS962**

Application: **Jeep® Cherokee XJ, 1984-01**

### Welcome

CONGRATULATIONS on your purchase of a new JKS Steering Brace System! At JKS Manufacturing, we are committed to providing you with the best products available and your satisfaction is our first priority.

READ INSTRUCTIONS THOROUGHLY to familiarize yourself with the required skills and tools BEFORE attempting installation.

### ATTENTION INSTALLER



Review the front bumper re-installation section on page 5 **BEFORE** installing product.

### Important

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

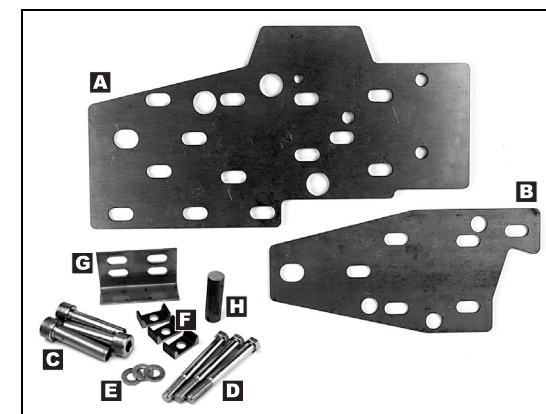
**CHECK STEERING GEAR TORQUE SPECS** on a regular basis.

### Tools Required

- Metric/Standard Socket Wrench Set
- Torque Wrench
- Die Grinder with Sanding/Grinding Wheels (or similar tool for cleaning chassis)
- 5/8" Drill Bit, or *preferably* a Uni-bit (for enlarging holes in chassis)
- Carbide Cutting Tool \* (for enlarging holes in chassis)
- 3/4" Drill Bit (for new tow hook holes)
- C-clamp or Locking Pliers
- Hammer \*
- Factory Service Manual (recommended)
- Welding Equipment
- Satin Black Spray Paint

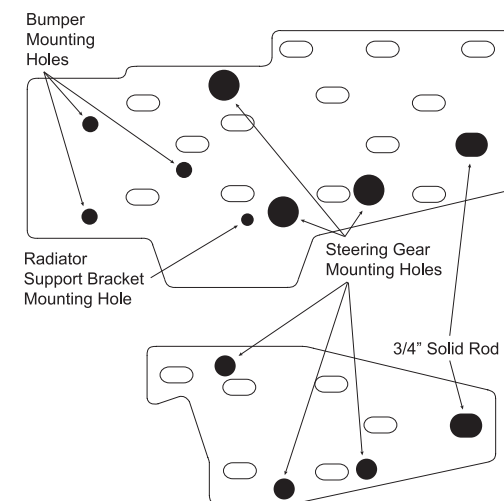
\* Asterisk denotes tools that are not required for some applications. Thoroughly read instructions first to determine which tools will be required for your application.

### Parts



PN OGS960 pictured

	DESCRIPTION	QTY
<b>A</b>	Outer Chassis Plate (3/16")	1
<b>B</b>	Inner Chassis Plate (1/8")	1
<b>C</b>	Support Sleeves	3
<b>D</b>	Steering Gear Mounting Bolts	3
<b>E</b>	Flat Washers	3
<b>F</b>	Installation Spacers	3
<b>G</b>	Tow Hook Support Bracket	1
<b>H</b>	3/4" Solid Rod	1



### HOLE IDENTIFICATION DIAGRAM



## ATTENTION INSTALLER

### IMPORTANT NOTE REGARDING DUAL STEERING BRACE SYSTEM

The following instructions refer to installation of a **single** Steering Brace System (PN OGS960) on the **driver-side** chassis rail only. For a **dual** Steering Brace System (PN OGS962), the additional parts should be installed on the **passenger-side** chassis rail using the same procedures.

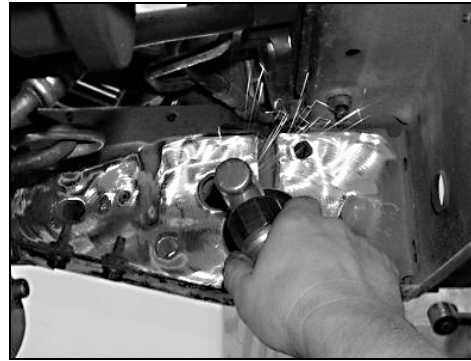
**NOTE:** Some vehicles are factory equipped with steering gear mounting holes on both chassis rails. Otherwise, it will be necessary to drill new holes on the passenger-side chassis rail to accommodate the supplied Support Sleeves.

## Installation

### PREPARE DRIVER-SIDE CHASSIS RAIL

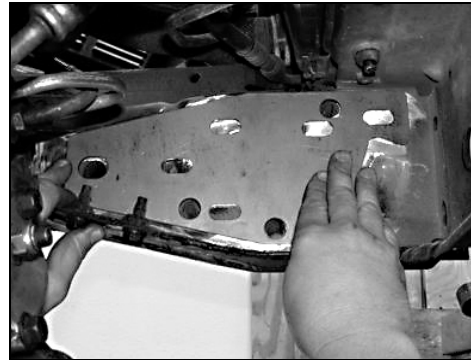
- The following items must be removed from the chassis rail, along with any other components that prevent the Chassis Plates (A & B) from fitting flush against mounting surface. Refer to factory service manual for specific instructions.
  - Tow Hook & Bracket
  - Lower Radiator Support Bracket
  - Front Swaybar
  - Front Bumper & Bracket
- Unbolt the steering gear and adapter plate from the chassis. Temporarily secure the steering gear out of the way – it should not be necessary to disconnect fluid lines or steering shaft. Discard steering gear adapter plate.
- Test fit the Inner and Outer Chassis Plates (A & B) to the chassis rail. Mark an outline of each plate onto chassis surface.

- Completely remove all paint/primer, weld slag/spatter, or other debris from chassis surface (inboard and outboard side) until bare metal is exposed.



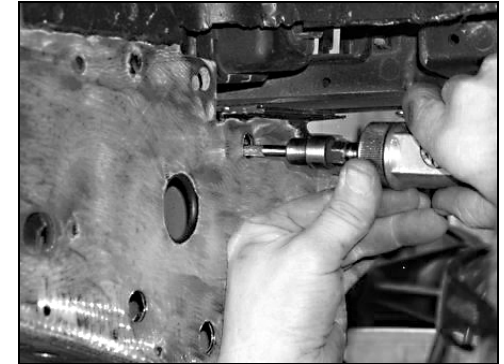
**HINT:** A die grinder with sanding wheel, disc sander, or similar tool is useful for cleaning chassis surface.

- Test fit the Inner and Outer Chassis Plates (A & B) again to check for flush fitment against chassis surface, and to ensure all debris has been removed from the necessary areas.



### ENLARGE STEERING GEAR MOUNTING HOLES IN CHASSIS

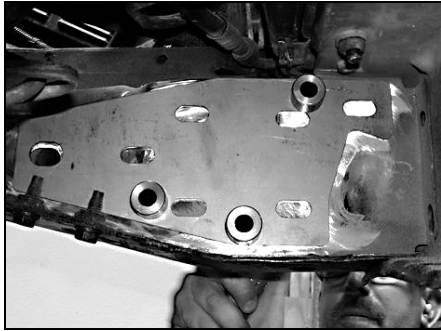
- Locate the three (3) steering gear mounting holes on the inboard and outboard side of chassis rail.
- Enlarge the inboard and outboard mounting holes to approximately 5/8" – or until narrow end of Support Sleeves (C) can be inserted.



**HINT:** A uni-bit (step-drill bit) is useful for enlarging holes to 5/8" – and more effective on the unibody chassis than standard drill bits. A pneumatic die grinder or dremel tool with carbide cutting attachment (shown) is also effective, particularly where clearance is limited.

## ❑ WELD SUPPORT SLEEVES & CHASSIS PLATES TO CHASSIS RAIL

- Position Inner Chassis Plate (B) against inboard side of chassis.
- Insert Support Sleeves (C) into steering gear mounting holes from inboard side of chassis. Once inserted, shoulder of Support Sleeves will hold Inner Chassis Plate (B) in place.

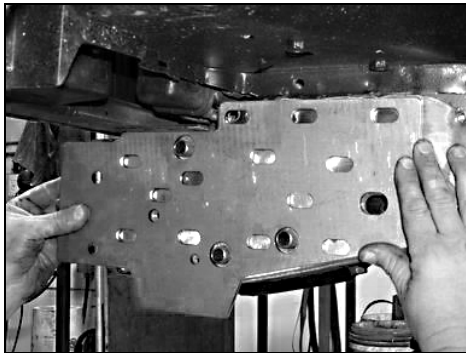


**HINT:** A hammer may be needed to tap Support Sleeves into mounting holes.

- Insert the 3/4" Solid Rod (H) into the large hole in chassis rail. Refer to Hole Identification Diagram on page 1 for assistance.

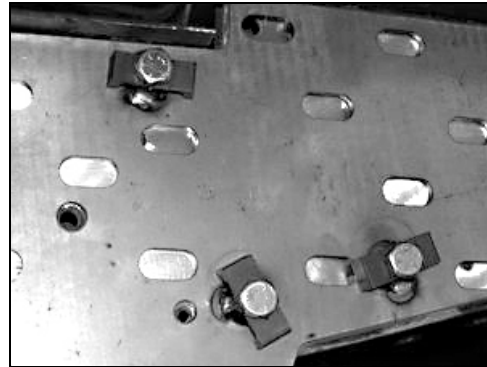
**HINT:** The 3/4" Solid Rod fills a factory tow hook support bracket hole and ties the Inner and Outer Chassis Plates together during the welding portion of installation.

- Position and align the Outer Chassis Plate (A) against the outboard side of chassis.



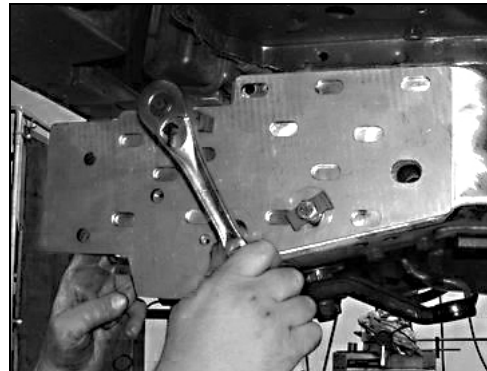
**HINT:** Support Sleeves (C) should protrude through large holes in Outer Chassis Plate (A), but need not be in perfect alignment as any voids surrounding holes will be filled when welded.

- Place the supplied Installation Spacers (F) on the Steering Gear Mounting Bolts (D) and temporarily insert bolts into Support Sleeves (C) from the outboard side of chassis.

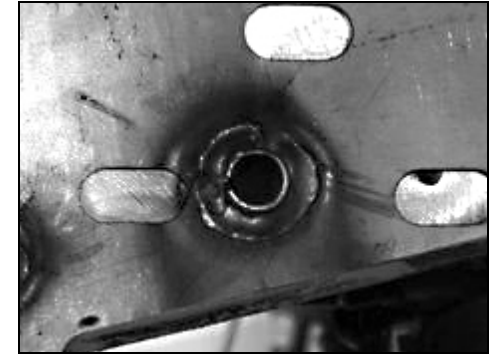


**HINT:** Recessed side of Installation Spacer (F) should face Outer Chassis Plate (A).

- Position steering gear against the inboard side of chassis and align with mounting holes.
- Thread Steering Gear Mounting Bolts (D) into steering gear and lightly snug bolts. Make sure both Chassis Plates (A & B) remain aligned and flush with chassis surface.



- Tack-weld all three (3) Support Sleeves (C) to the Outer Chassis Plate (A).
- Working with one mounting hole at a time, remove a Steering Gear Mounting Bolt (D) and finish welding the Support Sleeve (C) to the Outer Chassis Plate (A), making sure any voids are completely filled.



- After Support Sleeves (C) have been welded to the Outer Chassis Plate (A), secure the steering gear out of the way to gain access to the Inner Chassis Plate (B).
- Weld the shoulder of all three (3) Support Sleeves (C) to the Inner Chassis Plate (B).

## ❑ WELD SUPPORT SLEEVES & CHASSIS PLATES TO CHASSIS RAIL (cont.)

- Rosette weld Inner and Outer Plates (A & B) to chassis at each slotted hole. Although not necessary, Chassis Plates may also be stitch-welded along edges for additional support.



### ATTENTION INSTALLER

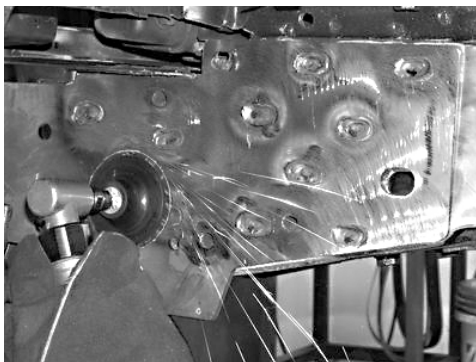
Best results will be achieved by flowing the weld from the Chassis Plates onto the chassis surface. Avoid damaging the unibody chassis by allowing surface to cool off regularly during the welding process, and by stitch-welding along edges. Do **NOT** overheat unibody chassis.



**HINT:** For cleanest appearance, slotted holes can be filled completely and sanded smooth.

- Rosette weld the 3/4" Solid Rod (H) to Inner and Outer Chassis Plates (A & B).
- Once welding is complete, grind any protruding portion of the Support Sleeves (C) on outboard side of chassis until completely flush with Outer Chassis Plate (A).

- Remove any other protrusions from surface of Inner and Outer Chassis Plates (A & B) until smooth and completely flat.



**HINT:** A power sanding/grinding wheel or similar tool is useful for smoothing chassis surface.

## ❑ MOUNT TOW HOOK BRACKET

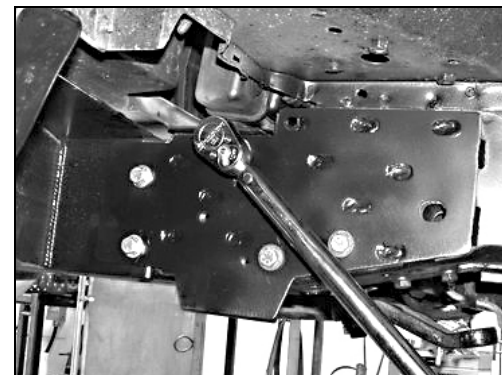
- Position the Tow Hook Support Bracket (G) against the underside of chassis rail with the slotted holes facing up. Clamp the non-slotted side of bracket to the Outer Chassis Plate (A).



- Weld edges and bottom seam of Tow Hook Support Bracket (G) to Outer Chassis Plate (A).
- Rosette weld slotted holes of Tow Hook Support Bracket (G) to underside of chassis rail.
- Once all welding and final sanding/grinding is complete, any bare metal must be painted to prevent corrosion. There should be no exposed metal visible when painted properly.

## ❑ MOUNT STEERING GEAR TO CHASSIS

- Place a Flat Washer (E) on each Steering Gear Mounting Bolt (D) and insert bolts into Support Sleeves (C) from the outboard side of chassis.
- Position steering gear against the inboard side of chassis and align with mounting holes.
- Thread bolts into steering gear and tighten to 55-60 ft-lb. using a torque wrench.



## ❑ RE-INSTALL RELATED COMPONENTS

- Re-install radiator support bracket to original mounting location. Enlarge the upper mounting holes of support bracket if they don't line up.
- Re-install front swaybar to original location.
- Install original tow hook on vertical surface of Tow Hook Support Bracket (G) where welded to the Outer Chassis Plate (A). Drill new mounting holes using a 3/4" drill bit and install tow hook using original mounting hardware.







## READ BEFORE INSTALLING

**Additional modifications may be necessary to re-install the front bumper to the reinforced chassis.** Once installed, the Chassis Plates (A & B) increase the overall width of the chassis rail, which may prevent the bumper mounting brackets from fitting as intended.



Review each of the following options **BEFORE** determining the best configuration for your application.



**TRIAL FIT** the parts to familiarize yourself with any installation complications.



**OPTION 3** requires pre-installation modifications to the Outer Chassis Plate, and is only suggested if **OPTIONS 1 & 2** are not possible.

## ❑ INSTALL FRONT BUMPER

**The following steps are general fitment suggestions only.** The actual installation procedure will depend on the bumper-to-chassis mounting configuration.

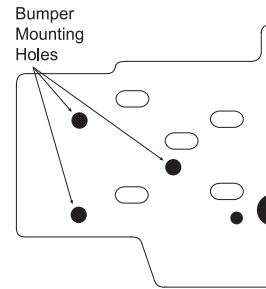
**Fabrication is required for most applications,** and should only be performed by a qualified metal fabricator or welder. When installed correctly, the front bumper will be **SECURELY** attached to the Outer Chassis Plate so that any winch loading is transferred to the chassis rails and large tubular support member that spans them.

**1**

### OPTION 1 Bolt-On Mounting Bracket

Choose this option if the front bumper will fit the reinforced chassis without interference.

Install the front bumper with the mounting bracket positioned outboard of the Outer Chassis Plate (A). Use the new bumper mounting holes located at the front of the chassis plate – see illustration below. If necessary, re-drill any mounting holes or trim Chassis Plate to fit.



**2**

### OPTION 2 Modify Bumper Bracket

Choose this option if the front bumper will not fit the reinforced chassis.

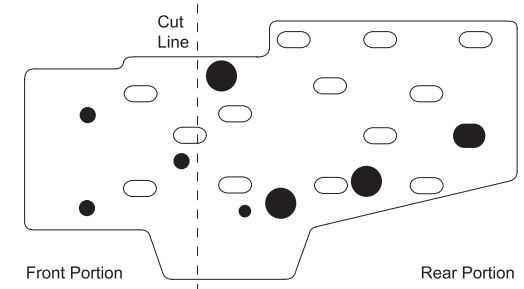
Modify the bumper mounting bracket to accommodate the additional 3/16" thickness of the Outer Chassis Plate (A). Install the front bumper with the mounting bracket positioned outboard of the Outer Chassis Plate. Use the new bumper mounting holes located at the front of the chassis plate. If necessary, re-drill any mounting holes or trim Chassis Plate to fit.

**3**

### OPTION 3 Modify SBS Chassis Plate

Choose this option if modification of bumper mounting bracket is not possible, or ineffective.

Before installing Outer Chassis Plate (A), cut in half as indicated in the illustration and discard the front portion. Install the rear portion of chassis plate as instructed. Mount bumper to original mounting holes in chassis. If necessary, re-drill any mounting holes or trim Chassis Plate to fit.



## Maintenance

Check Steering Gear Mounting Bolt (D) torque specifications regularly.

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