

**\*\*DO NOT EXCEED RECOMMENDED VEHICLE TOWING WEIGHT!\*\***

# 60624 SUBKIT CHEVY & GMC 2500 / 3500 SHORT AND LONG BED

10/7/2016

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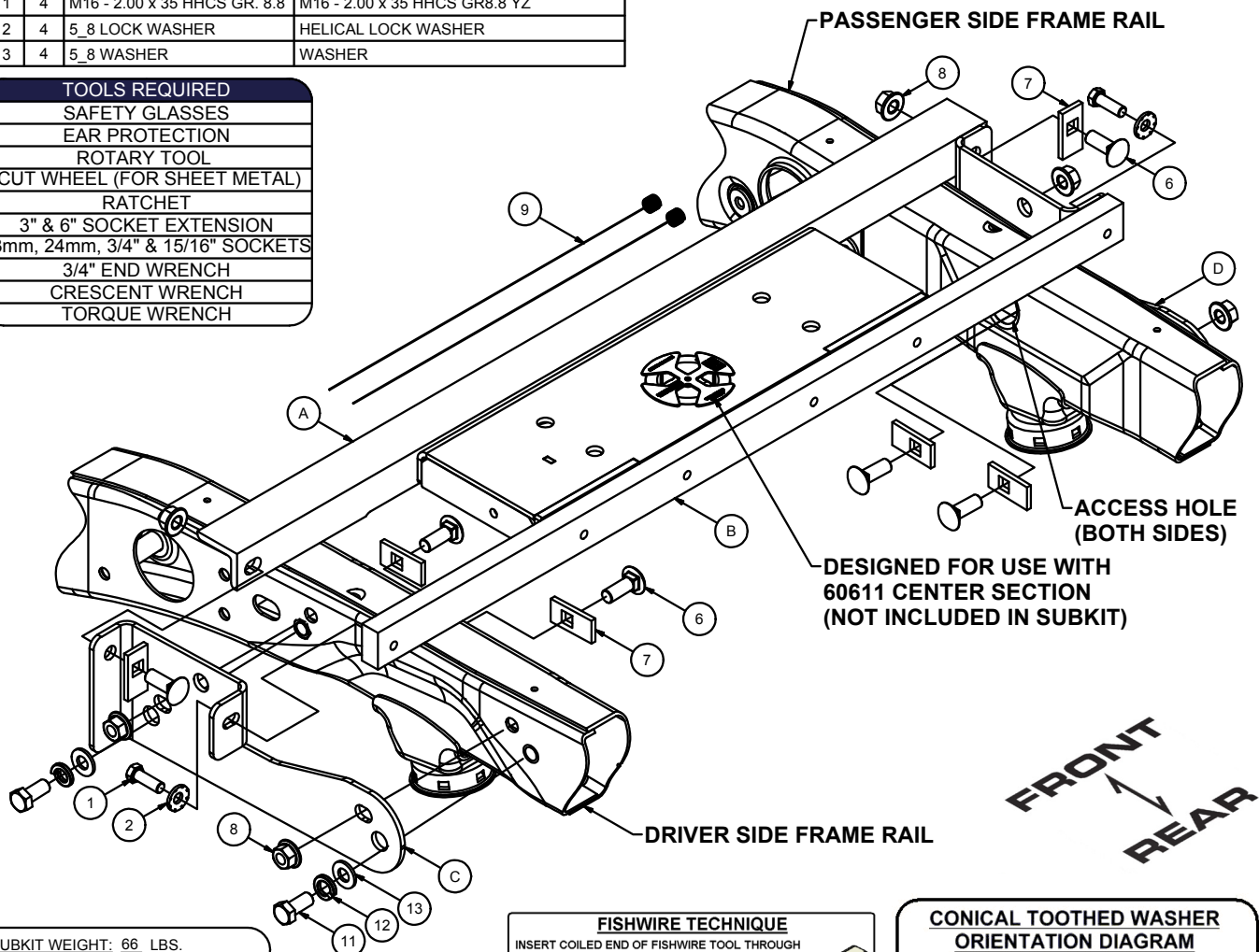
**WARNING!!** BRAKE, FUEL, AND ELECTRICAL LINES MAY NEED TO BE LOOSENED OR REPOSITIONED TO PROVIDE CLEARANCE FOR NEW HARDWARE. ALL MODELS REQUIRE MODIFICATION OR REMOVAL OF HEAT SHIELDS. ON SHORT BED MODELS, CHECK FOR ADEQUATE TURNING CLEARANCE BETWEEN THE FRONT OF ALL TRAILERS AND THE TRUCK CAB. ON TWO WHEEL DRIVE TRUCKS A CLEARANCE CHECK MUST BE PERFORMED WHEN TRUCK IS LOADED AND UNLOADED TO VERIFY THE INVERTED BALL WILL NOT INTERFERE WITH THE TOP OF THE DIFFERENTIAL



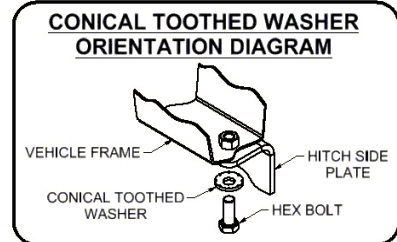
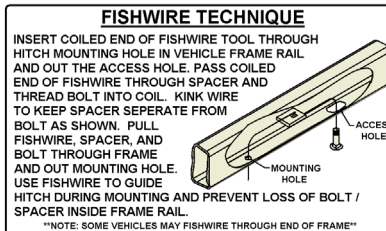
Hardware			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	6	1_2 - 13 x 1 1/2 HEX, GR8	HEX BOLT
2	6	1/2	CONICAL TOOTHED WASHER
3	4	1/2-13 x 1 1/2, GR8	CARRIAGE BOLT
4	1	CM-SP12	.250 x 1.00 x 2.00" SQUARE HOLE SPACER
5	4	HFN 1213, GR8	HEX FLANGE NUT
6	6	5/8-11 x 1 3/4, GR8	CARRIAGE BOLT
7	6	CM-SP9	.250 x 1.25 x 2.50" SQUARE HOLE SPACER
8	6	5/8-11, GR8	HEX FLANGE NUT
9	4	5_8 FISHWIRE	5/8" FISHWIRE
10	2	1/2 PNBR	1/2" PUSHNUT BOLT RETAINER
11	4	M16 - 2.00 x 35 HHCS GR. 8.8	M16 - 2.00 x 35 HHCS GR8.8 YZ
12	4	5_8 LOCK WASHER	HELICAL LOCK WASHER
13	4	5_8 WASHER	WASHER

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
A	1	60624-FCA	FRONT CROSS ARM
B	1	60624-RCA	REAR CROSS ARM
C	1	60624-DS	DRIVER SIDE PLATE
D	1	60624-PS	PASSENGER SIDE PLATE

TOOLS REQUIRED
SAFETY GLASSES
EAR PROTECTION
ROTARY TOOL
CUT WHEEL (FOR SHEET METAL)
RATCHET
3" & 6" SOCKET EXTENSION
13mm, 24mm, 3/4" & 15/16" SOCKETS
3/4" END WRENCH
CRESCENT WRENCH
TORQUE WRENCH



SUBKIT WEIGHT: 66 LBS.  
 INSTALL TIME  
 PROFESSIONAL: 45 MINUTES  
 NOVICE (DIY): 90 MINUTES  
 INSTALL NOTES:  
 - LOWER SPARE TIRE  
 - TRIM HEAT SHIELD  
 - NO MEASURING DRILL LOCATIONS  
 - NO DRILLING INTO FRAME  
 - NO LOWERING EXHAUST



**PERIODICALLY CHECK THIS GOOSENECK HITCH TO ENSURE THAT ALL FASTENERS ARE TIGHT AND THAT ALL STRUCTURAL COMPONENTS ARE SOUND.**

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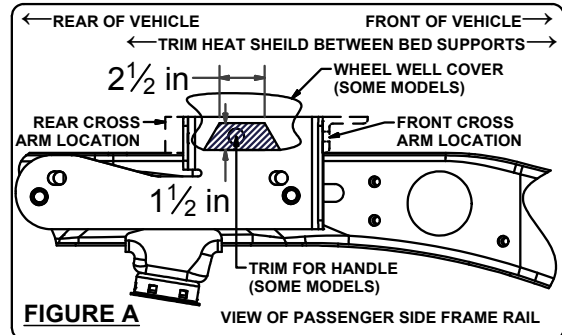
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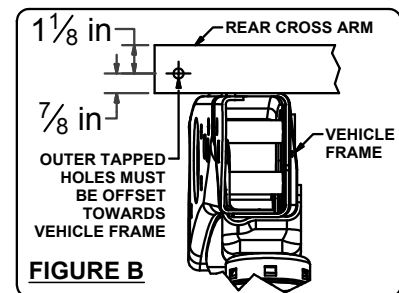
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## INSTALLATION STEPS:

1. Temporarily remove spare tire. The exhaust heat shield will need the width trimmed from it between the bed supports. Hold the gooseneck side plate (C) or (D) against the mounting location on the frame to verify the correct portion to remove, see **FIGURE A**. Use of a rotary cutting tool is recommended for heat shield trimming. On 2016 and newer models, remove the (4) bolts holding the rear heat shield with a 13mm socket and return to owner.

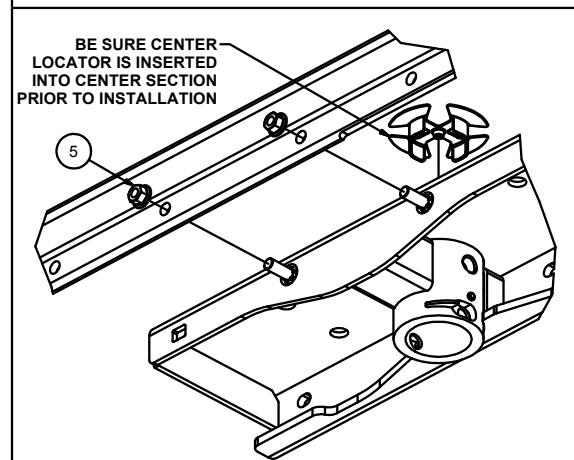
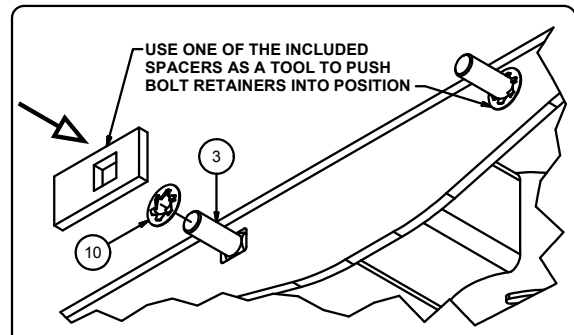


2. Run a 1/2"-13 bolt or 1/2"-13 tap through the rear cross arm's (B) threads to remove powder coating or debris. If present, trim plastic wheel well cover on the driver side (to install cross arms and for the gooseneck handle), see **FIGURE A**. Install rear cross arm by sliding it between the frame and the bottom of the truck bed approximately above the rear tire. Once the rear cross arm spans the frame rails and in the correct location, see **FIGURE A**, rotate the cross arm vertically. **NOTE:** The outside tapped holes in the rear cross arm are offset 1/8" and the cross arm needs to be rotated so the holes are offset towards the frame, see **FIGURE B**. A crescent wrench can be used as a lever on the cross arm to ease rotating process.



3. Install the front cross arm (A) by sliding it between the truck frame and the floor of the truck bed in front of the rear cross arm. **NOTE:** Use a crescent wrench to bend the metal flange below the bed outward to allow the front cross arm to be slid into position. The front cross arm will need to be inserted so the leg without the holes is against the bottom of the bed. The leg with the holes should face the rear of the vehicle, see **FIGURE A**.

4. Loosely attach the center section to the cross arms. **NOTE:** The cylinder in the center section should offset towards the rear of the vehicle. Be sure center locator is inserted into the center section cylinder prior to installing. **OPTIONAL:** Two pushnut bolt retainers (10) are included to give a "helping hand" to the installation process. If desired, put one 1/2" x 1 1/2" carriage bolt (3) through each of centermost slots in the center section on the side that fastens to the front cross arm. Be sure the serrations in the bolt retainer are angled away from the center section and push a bolt retainer onto the two carriage bolts. Use one of the included spacers as a tool to push the bolt retainers into position, see **FIGURE C**. Loosely attach the front cross arm to the center section by using four 1/2" x 1 1/2" carriage bolts (3) and four 1/2" hex flange nuts (5), see **FIGURE D**. **NOTE:** The carriage bolt over the fuel tank should be inserted through the front cross arm with a CM-SP12 spacer (4). Attach the center to the rear cross arm using the four 1/2" x 1 1/2" hex bolts (1) with four 1/2" conical toothed washers (2), see **FIGURE D**.



5. Place the side plates at the mounting locations and adjust the placement of the cross arms as needed.

5a. **On 2015 and older models:** Fishwire two 5/8" x 2" carriage bolts (6) with CM-SP9 spacers (7) in position through access hole. Leave fishwires (9) attached to hardware to prevent loss of hardware inside frame, see fishwire technique on **PAGE 1**. Carefully remove fishwires and attach side plate to frame with 5/8" flange nuts (8).

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## 60624 SUBKIT CHEVY & GMC 2500 / 3500 SHORT AND LONG BED

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**WARNING!!**



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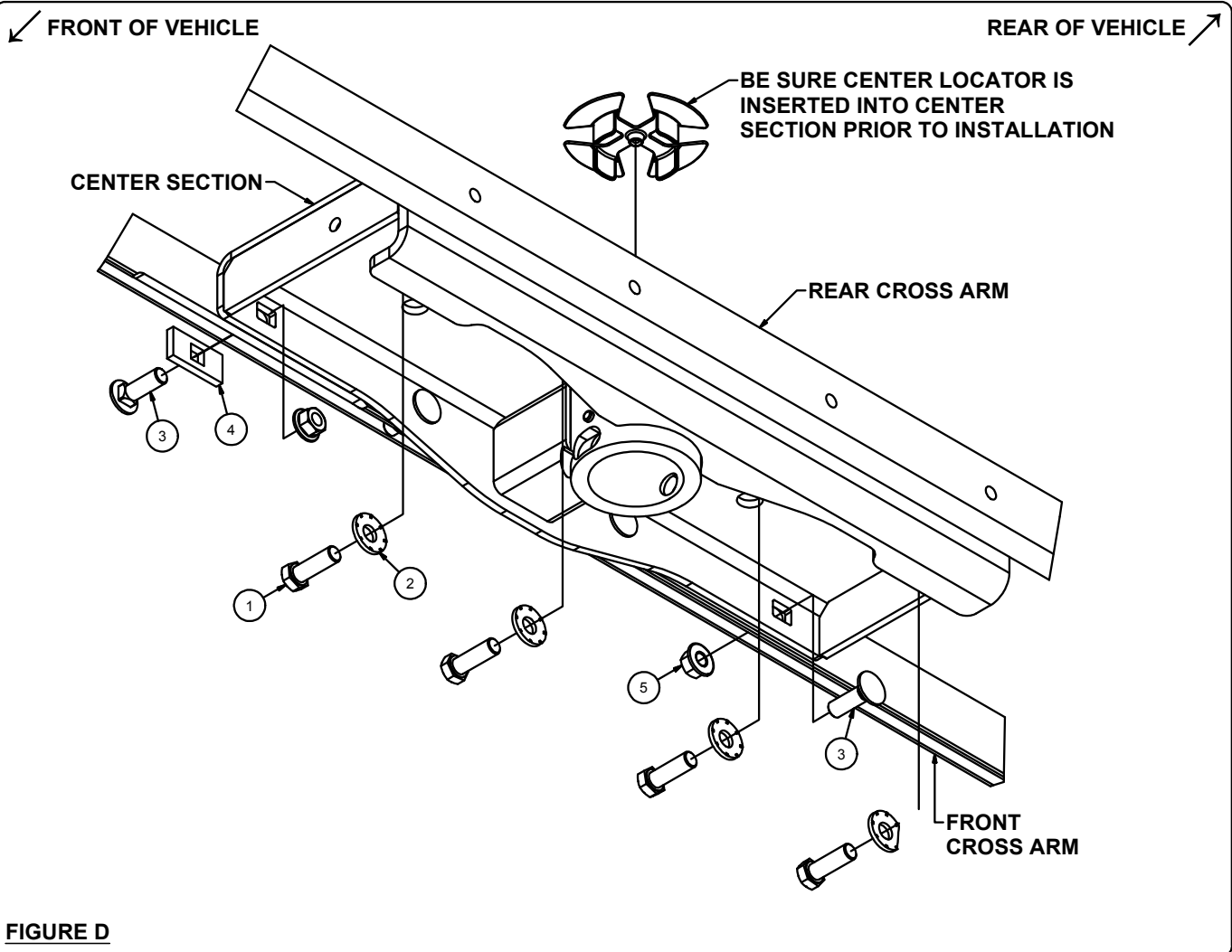


FIGURE D

5b. **On 2016 and newer models:** loosely install the side plate (C) and (D) with the supplied 16mm bolts (11), 5/8" lock washers (12) and 5/8" washers (13) into the existing weldnuts in the frame of the vehicle.

**NOTE:** Slide plate rearward as far as possible (to ensure hitch is square on vehicle). Repeat on other side.

6. Attach side plates to the cross arms. Place 5/8" x 1 3/4" carriage bolt (6) with CM-SP9 spacer (7) through the front flange in the side plate and front cross arm and attach with 5/8" hex flange nut (8). Attach the rear flange on the side plate to the rear cross arm using a 1/2" x 1 1/2" hex bolt (1) with 1/2" conical toothed washer (2), see **PAGE 1**. Repeat on other side.

7. **NOTE:** Be sure the center section is centered on the vehicle by verifying the sides of the center section are in the same location on bed ribs. Torque all fasteners in the following order: **First:** Torque the side plates to the truck frame on both sides. **Second:** Torque the center section to the front and rear cross arms. **Third:** Torque the side plates to the front and rear cross arms. Torque all 5/8" fasteners to 210 ft-lbs, 1/2" fasteners to 110 ft-lbs and 16mm fasteners to 137 lb-ft.

(REFER TO 60611 GOOSENECK HITCH INSTRUCTIONS FOR INSTALLATION COMPLETION AND OPERATING PROCEDURES)

**\*\*\* DO NOT DRILL DIMPLES IN TRUCK BED FOR THE GOOSENECK BALL \*\*\***

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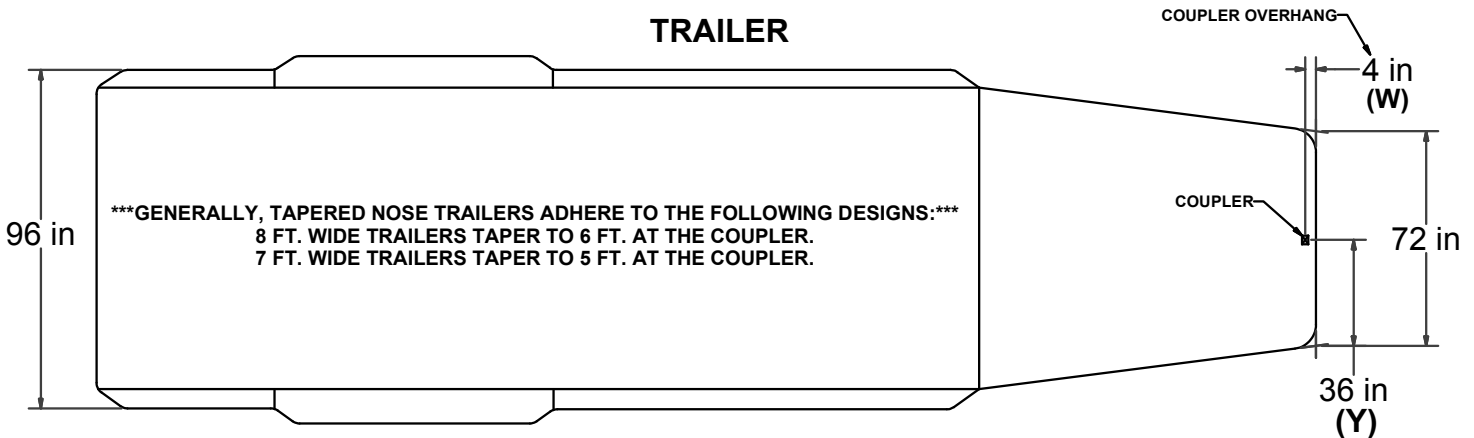
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# CAB TO TRAILER CLEARANCE

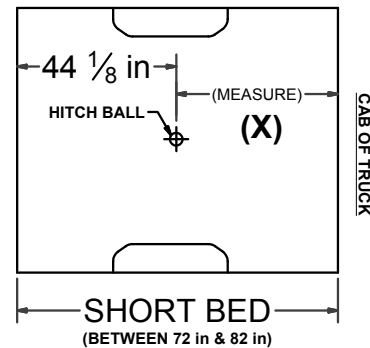
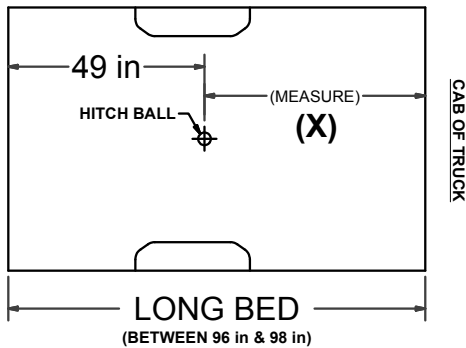
**\*\*REMOVAL OF REAR WINDOW ACCESSORIES MAY BE REQUIRED.\*\***

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## TRAILER



## LONG & SHORT TRUCK BEDS



## CLEARANCE CALCULATION

$$\text{(CAB TO BALL CENTER)} - \frac{1}{2} \text{(TRAILER WIDTH)} = \text{(MINIMUM CLEARANCE)}$$

$$(X) - (Y) = (Z)$$

IF THERE IS AN OVERHANG FROM THE COUPLER THEN THE EQUATION IS:

$$[(X) - (W)] - (Y) = (Z)$$

**\*\*\*IF (Z) IS POSITIVE, TRAILER WILL NOT INTERFERE WITH CAB OF TRUCK.\*\*\***  
**IF (Z) IS NEGATIVE, TRAILER WILL INTERFERE WITH CAB OF TRUCK!!!**

### EXAMPLE:

#### STANDARD TRAILER

$$X - Y = Z$$

$$35 - 36 = -1$$

(TRAILER **WILL INTERFERE** WITH CAB)

#### TRAILER WITH OVERHANG

$$[(X) - (W)] - Y = Z$$

$$[35 - 4] - 36 = -5$$

(TRAILER **WILL INTERFERE** WITH CAB)

### YOUR CALCULATION:

(CAB TO BALL CENTER) \_\_\_\_\_

(COUPLER OVERHANG) \_\_\_\_\_

1/2 (TRAILER WIDTH) = \_\_\_\_\_

(MINIMUM CLEARANCE) \_\_\_\_\_

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# 60611

# GOOSENECK HITCH

4/16/2014

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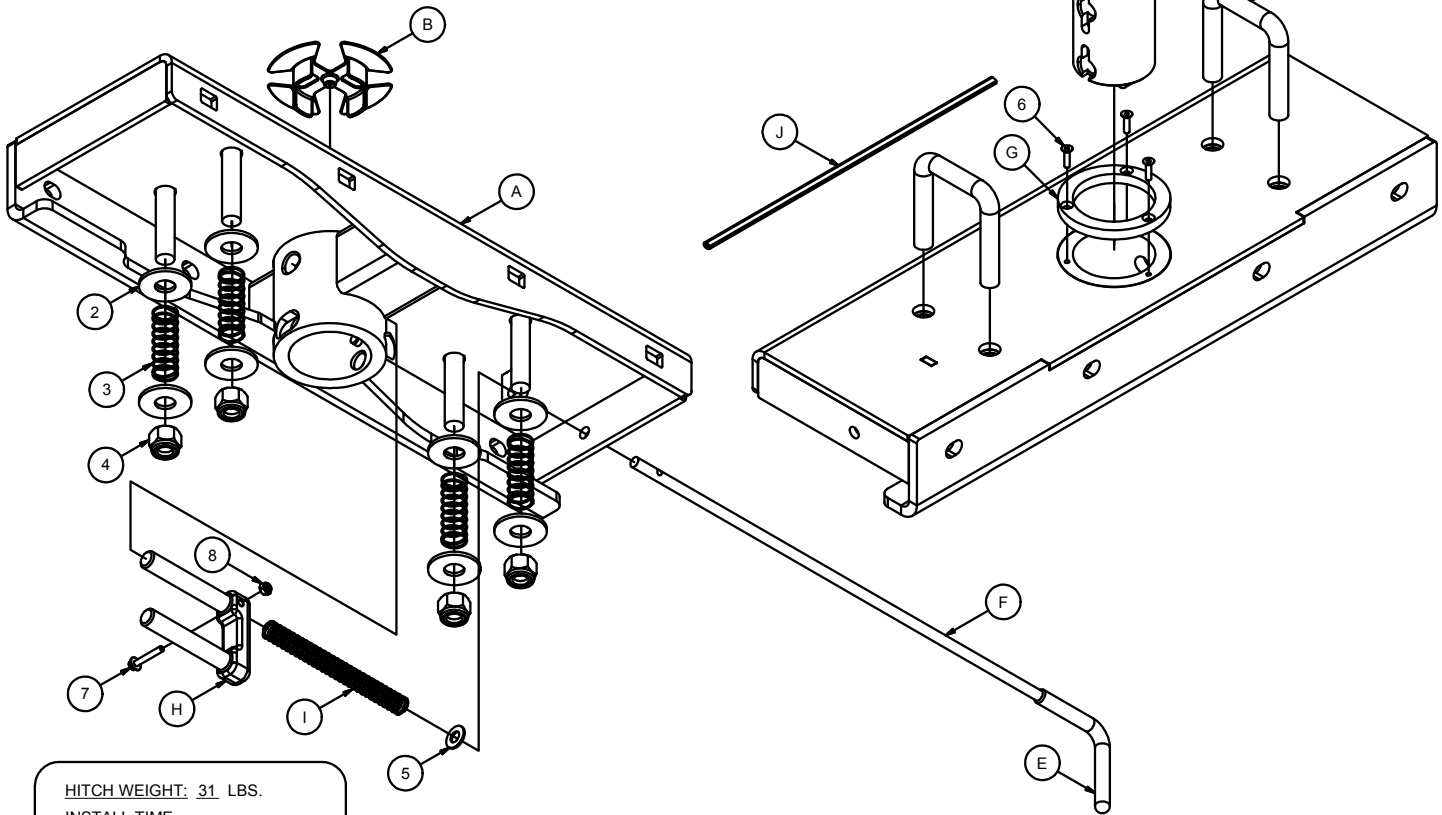
Hardware List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	60612-UB	5/8" - 11 x 2.50" x 3.25" U-BOLT
2	8	5/8"	USS WASHER
3	4	CM-C113-UBS	U-BOLT SPRING
4	4	5_8-11 NYLOCK HEX NUT	5/8"-11-2B UNC NUT
5	2	3/8"	USS WASHER
6	3	#10-32 x 3/4	FLAT HEAD C'SUNK CAP SCREW
7	1	#10-24 x 1.25 HHFS	HEX HEAD FLANGE SCREW
8	1	#10-24 NYLOCK HEX NUT	NYLOCK HEX NUT

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
A	1	60611-WA	GOOSENECK CENTER SECTION
B	1	60611-CL	CENTER LOCATOR / TRIM SHIELD
C	1	66165	RUBBER COVER
D	1	CM-C60-B	TURNOVER BALL COMPLETE
E	1	CM-C60-H	VINYL HANDLE GRIP
F	1	CM-C60-R	.375" HANDLE ROD
G	1	CM-C600-CR	3.75 DIA. x .375" CHROME RING
H	1	CM-C600-CLP	CAST LOCK PIN
I	1	CM-C60-CS	7.5 LB COMPRESSION SPRING
J	1	CM-UE1	.300" U-SHAPED EDGING

TOOLS REQUIRED
SAFETY GLASSES
EAR PROTECTION
RATCHET
8mm & 15/16" SOCKETS
8mm END WRENCH
DRILL
3/16" DRILL BIT
5/8" & 4" HOLE SAW
1/8" ALLEN WRENCH
CUTTING FLUID
RUST INHIBITOR

**NOTE:** A SMALL RIGHT ANGLE DRILL, A SHORT PILOT BIT AND A 3/4" STEP BIT MAY EASE THE INSTALL PROCESS

**WHEN BALL IS INVERTED,  
INSERT SUPPLIED  
RUBBER COVER**



**HITCH WEIGHT:** 31 LBS.

**INSTALL TIME**

PROFESSIONAL: 20 MINUTES

NOVICE (DIY): 40 MINUTES

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**60611**

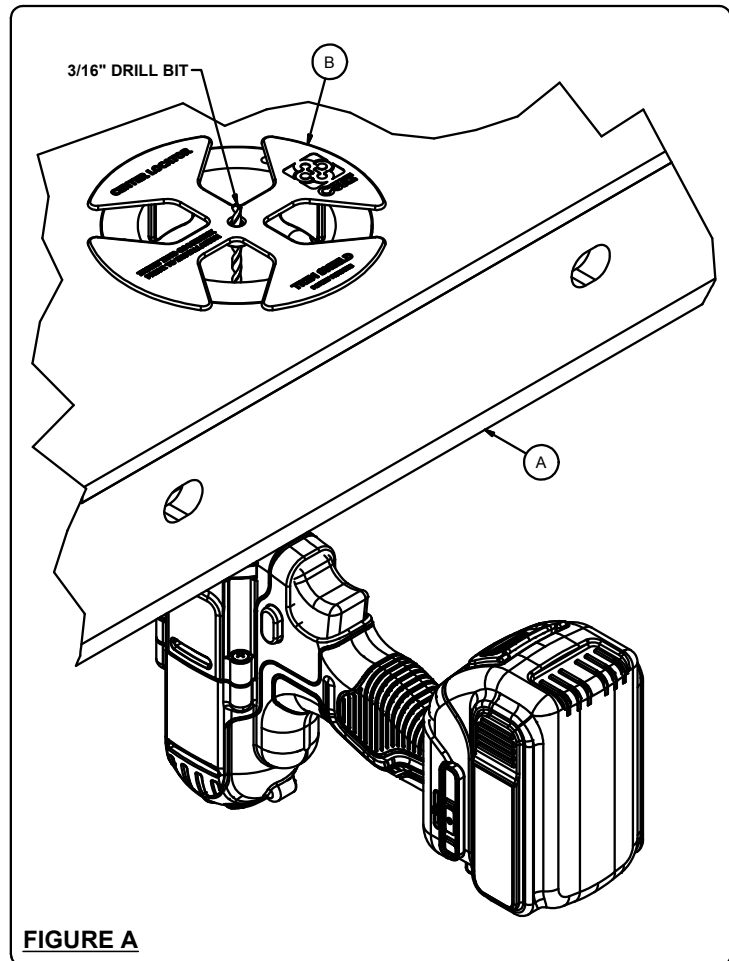
## GOOSENECK HITCH

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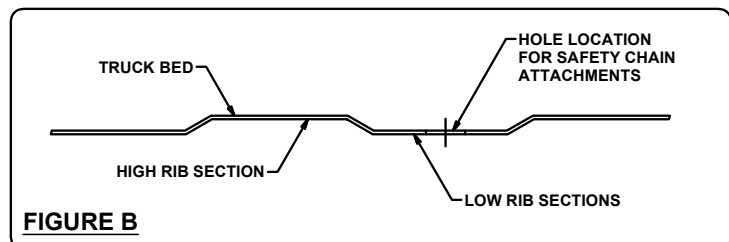
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### INSTALLATION STEPS: (After subkit installation)

1. Drill pilot hole from underneath the truck bed through the hole in center locator / trim shield (B) using a 3/16" drill bit, see **FIGURE A**.
2. Drill two holes for safety chain loops from underneath the truck bed using a 5/8" hole saw. **NOTE:** A short pilot bit with a small right angle drill will ease the process of drilling over the exhaust. Finish these two holes above the bed. Use the center section (A) as a drill guide. **NOTE:** Drill holes should go through the low rib section in the truck bed, see **FIGURE B**.
3. Drill hole from top of truck using 4" hole saw using caution to not drill through the center locator / trim shield (B). **NOTE:** Use cutting fluid to ease this process. Remove the center locator by pulling it up through the hole.
4. Deburr holes and spray exposed metal with rust inhibitor. **OPTIONAL:** Insert rubber edging (J) around 4" hole.
5. Place chrome ring (G) into position and fasten with three flat head cap screws (6).
6. Place two U-bolts (1) down through the holes drilled in step 2.
7. From underneath the truck place a washer (2), a spring (3), a washer (2) and a nut (4) on each of the four U-bolt legs. Tighten the nuts until flush with the bottom of the U-bolt, see **PAGE 1**.
8. Insert cast lock pin (H) into the ball cylinder with handle hole located on top.
9. Insert handle (F) from outside vehicle on the driver side, through the holes center section, see **PAGE 1**. **NOTE:** Some models may require use of a pliers to bend the metal flange below the bed outward to allow the handle to move without interference.
10. Slide one 3/8" washer (5) and the compression spring (I) over handle before inserting the handle rod (F) into the lock pin (H). Insert handle into locking pin and secure with hex head flange screw (7) and nylock nut (8), see **PAGE 1**. **NOTE:** If needed, add or remove a 3/8" washer (5) to ensure proper pull length of lock pin.
11. Reinstall spare tire.



**FIGURE A**



**FIGURE B**

**PERIODICALLY CHECK THIS GOOSENECK HITCH TO ENSURE THAT ALL FASTENERS ARE TIGHT AND THAT ALL STRUCTURAL COMPONENTS ARE SOUND.**

**60611**

## **GOOSENECK HITCH**

**PAGE 3 OF 3**

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### **60611 OPERATION:**

1. Place handle in the unlock position by pulling it out as far as possible and rotating it clockwise. **NOTE:** Never operate vehicle with the handle in the unlocked position.
2. Insert ball into the desired position in the cylinder by aligning the ball groove with the cylinder pin. If the groove and pin are not aligned simply rotate the ball until it drops into place.
3. Place handle in the lock position by rotating it counter clockwise until locking pin snaps back into position.

### **BEFORE TOWING THE FIRST TIME:**

- Verify adequate turning clearance between the truck cab / box corners and trailer(s).
- Check truck box clearance. There should be a minimum clearance of 6" between the bottom of the trailer(s) overhang and the top of the box sides.
- Verify the inverted ball will not interfere with the top of the differential when hauling heavy loads. This is especially important on two wheel drive models.
- Verify all hardware is torqued to the proper specification.
- Verify the trailer safety chain length. Too much slack in the chain may prevent maintaining control in the event of separation. Leave only enough slack to allow full turning without interference.
- Verify the trailer attachments to the safety chain loops are secure (cannot be shaken free during towing).

### **BEFORE TOWING EVERY TIME:**

- Ensure all fasteners are tight and that all structural components are sound. **NOTE:** Do not tow trailer with worn or damaged parts.
- Attach trailer securely to both of the safety chain loops.
- Ensure the handle is in the lock position and that the locking pin passes completely through the ball and both walls of the hitch cylinder.
- Ensure the trailer weight does not exceed any part of your towing system. Be sure load is heavier towards front of the trailer while not exceeding the hitch tongue weight. Be sure trailer load is secured to prevent shifting and centered from left to right. **NOTE:** Never load the trailer heavier behind the trailer axle.
- Check trailer tires to ensure they are inflated to the proper specification.
- Verify trailer lights, electric brakes and breakaway switches are working properly.

### **MAINTENANCE:**

- Keep hitch ball, cylinder and trailer coupler lubricated regularly. Use silicone spray or equivalent to prevent wear / rust.
- Keep hitch assembly and trailer coupler free of dirt and other foreign debris.

### **WARNING!!**

- Vehicle performance (braking, handling, acceleration, turning radius) can be drastically affected by the trailer. Allow additional time / space for stopping, changing lanes, passing and turning.
- Do not tow more than one trailer at a time. This may cause loss of control.

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