

60645 SUBKIT

FORD F-250, F-350

7/17/2014

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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	1	1_2 FISHWIRE	1/2" FISHWIRE
2	10	HFN 1213, GR8	HEX FLANGE NUT
3	9	1/2-13 x 1 1/2, GR8	CARRIAGE BOLT
4	1	1/2-13 x 1 1/4, GR8	CARRIAGE BOLT
5	1	CM-SP17	.250 x 1.25 x 2.50" SQUARE HOLE SPACER
6	4	5/8-11 x 1 1_2, GR8	CARRIAGE BOLT
7	4	CM-SP9	.250 x 1.25 x 2.50" SQUARE HOLE SPACER
8	4	5/8-11	HEX FLANGE NUT
9	2	3_4 - 10 HFN, GR8	HEX FLANGE NUT
10	2	3_4 - 10 x 2.5, GR8	CARRIAGE BOLT
11	2	1/2 PNBR	1/2" PUSHNUT BOLT RETAINER
12	2	60645-CBS	.375 x 1.38 x 2.50" CARRIAGE SPACER

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
A	2	60645-CA	2.00 x 2.00 x .375" CROSS ARM
B	1	60645-DSWA	DRIVER SIDE PLATE
C	1	60645-PSWA	PASSENGER SIDE PLATE

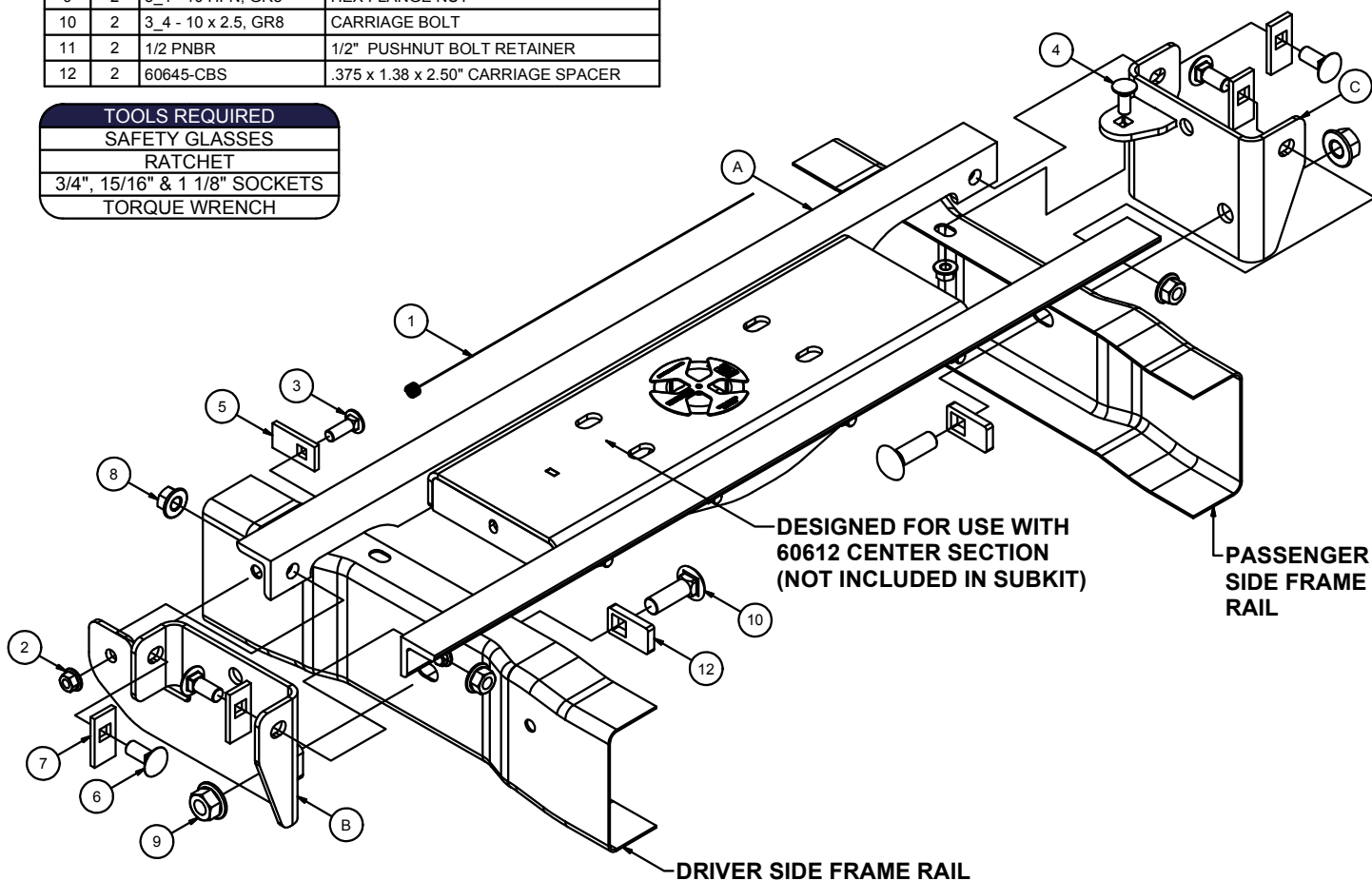
TOOLS REQUIRED

SAFETY GLASSES

RATCHET

3/4", 15/16" & 1 1/8" SOCKETS

TORQUE WRENCH



SUBKIT WEIGHT: 38 LBS.

INSTALL TIME

PROFESSIONAL: 45 MINUTES

NOVICE (DIY): 90 MINUTES

INSTALL NOTES:

- NO MEASURING DRILL LOCATIONS
- NO DRILLING INTO FRAME
- NO LOWERING EXHAUST
- REMOVE HEAT SHIELD

FISHWIRE TECHNIQUE

INSERT COILED END OF FISHWIRE TOOL THROUGH HITCH MOUNTING HOLE IN VEHICLE FRAME RAIL AND OUT THE ACCESS HOLE. PASS COILED END OF FISHWIRE THROUGH SPACER AND THREAD BOLT INTO COIL. KINK WIRE TO KEEP SPACER SEPARATE FROM BOLT AS SHOWN. PULL FISHWIRE, SPACER, AND BOLT THROUGH FRAME AND OUT MOUNTING HOLE. USE FISHWIRE TO GUIDE HITCH DURING MOUNTING AND PREVENT LOSS OF BOLT / SPACER INSIDE FRAME RAIL.

NOTE: SOME VEHICLES MAY FISHWIRE THROUGH END OF FRAME

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

Curt Manufacturing Inc., warrants this product to be free of defects in material and/or workmanship at the time of retail purchase by the original purchaser. If the product is found to be defective, Curt Manufacturing Inc., may repair or replace the product, at their option, when the product is returned, prepaid, with proof of purchase. Alteration to, misuse of, or improper installation of this product voids the warranty. Curt Manufacturing Inc.'s liability is limited to repair or replacement of products found to be defective, and specifically excludes liability for incidental or consequential loss or damage.

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INSTALLATION STEPS:

1. Temporarily remove spare tire.
2. Peel off heat shield which is located under the truck bed above the rear axle.
3. Insert cross arms (A) between the truck bed and frame. The cross arms will be inserted from the outside of the truck in front of the rear tire over the low point on the frame. Insert the first cross arm with the holes facing the front of the truck, as shown in **FIGURE A**. Once it is partially inserted, guide it the rest of the way from underneath the truck. It should span the frame rails and be behind the shock mount bracket on the passenger side. Slide this cross arm as far rearward as possible. Insert the second cross arm in the same manner as the first only positioned so the holes now face the rear of the truck. Do not slide this cross arm rearward yet.
4. Raise the center section into position between the cross arms.
OPTIONAL: Two pushnut bolt retainers (11) are included to give a "helping hand" to the installation process. If desired, put two 1/2" x 1 1/2" carriage bolts (3) in through the centermost slots on the same side of the center section. Be sure the serrations in the bolt retainers 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 B**. **NOTE:** The handle for the gooseneck will come out on the side which the handle guides are located in the center section. Driver side handle placement is shown, see **FIGURE C**. Slide the cross arms to the center section and rotate them into position. The legs of the cross arms with the holes should be against the center section. Attach the cross arms to the center section using eight 1/2" x 1 1/2" carriage bolts (3) and eight 1/2" flange nuts (2). Insert the carriage bolts in through the center and out the cross arms and finger tighten only.
5. Loosely attach driver side plate (B) to frame, see **PAGE 1**. Hold the side plates against the frame and adjust the placement of the cross arms as needed. Attach driver side plate by inserting 1/2" x 1 1/2" carriage bolt (3) with spacer (5) in through the frame and out the plate. **NOTE:** Diesel models will need this hardware fishwired into position. See fishwire technique on **PAGE 1**. Insert 3/4" carriage bolt (10) with spacer (12) through the inside of the frame and out the side plate and attach with 3/4" flange nut (9).
6. Loosely attach the passenger side plate (C) by inserting the 1/2" x 1 1/4" carriage bolt (4) down through the plate tab and frame and attach with 1/2" flange nut (2). Insert 3/4" carriage bolt (10) with spacer (12) through the inside of the frame and out the side plate and attach with 3/4" flange nut (9).

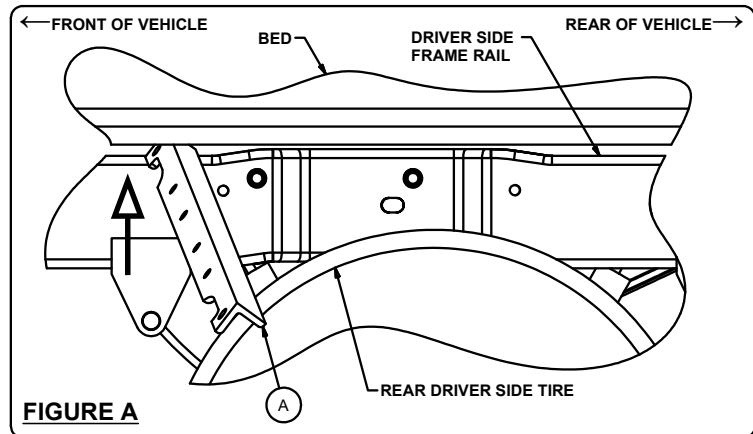


FIGURE A

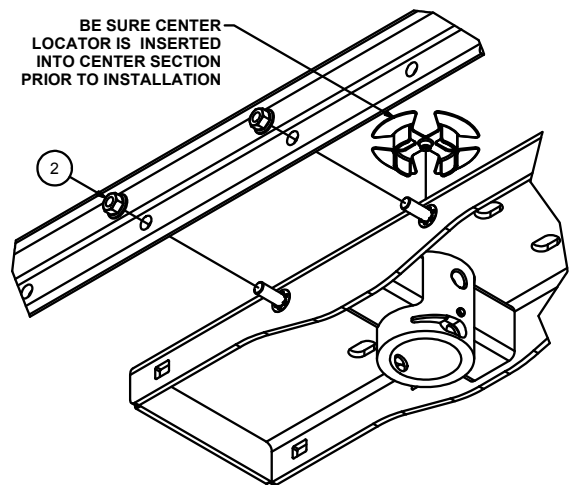
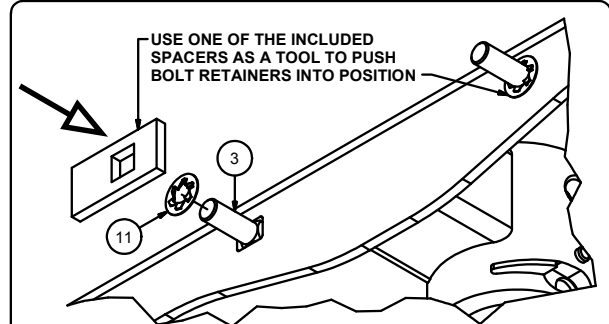


FIGURE B (OPTIONAL "HELPING HAND")

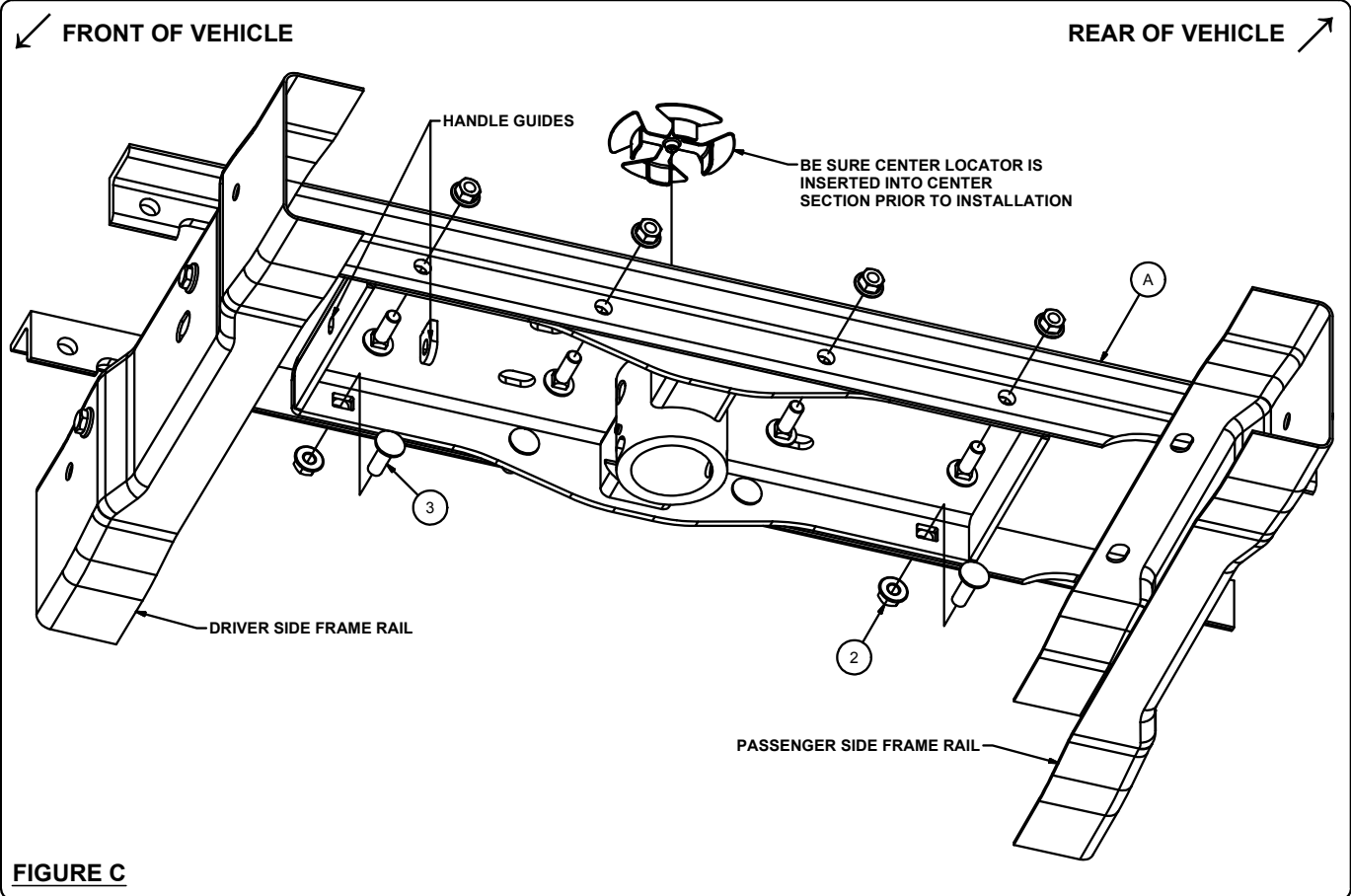
PERIODICALLY CHECK THIS GOOSENECK HITCH TO ENSURE THAT ALL FASTENERS ARE TIGHT AND THAT ALL STRUCTURAL COMPONENTS ARE SOUND.

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7. Loosely attach side plate to the cross arms by inserting the two 5/8" x 1 1/2" carriage bolts (6) with spacers (7) in through the plate and out the cross arms. Attach with two 5/8" flange nuts (8). Repeat on other side.
8. **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 center section to the front and rear cross arms. **Second:** Torque the side plates to the truck frame on both sides. **Third:** Torque the side plates to the front and rear cross arms. Torque all 3/4" fasteners to 380 ft-lbs, 5/8" fasteners to 210 ft-lbs and 1/2" fasteners to 110 ft-lbs.

(REFER TO 60612 GOOSENECK HITCH INSTRUCTIONS FOR INSTALLATION COMPLETION AND OPERATING PROCEDURES)

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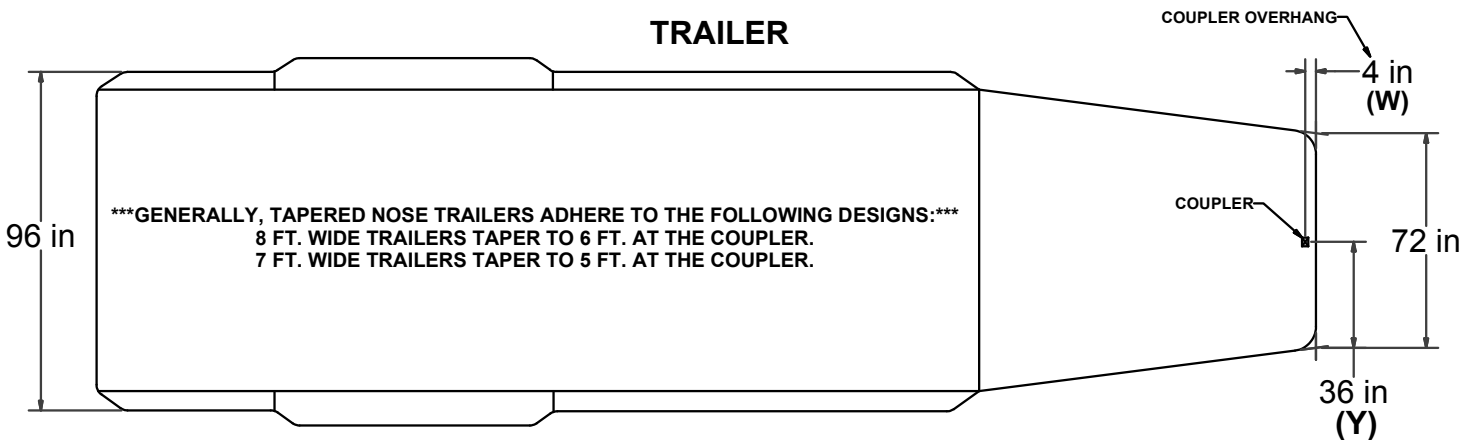
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CAB TO TRAILER CLEARANCE

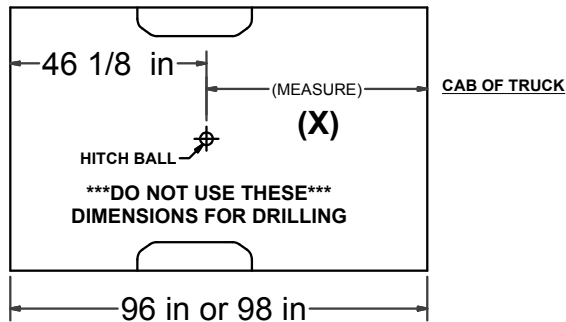
****REMOVAL OF REAR WINDOW ACCESSORIES MAY BE REQUIRED.****

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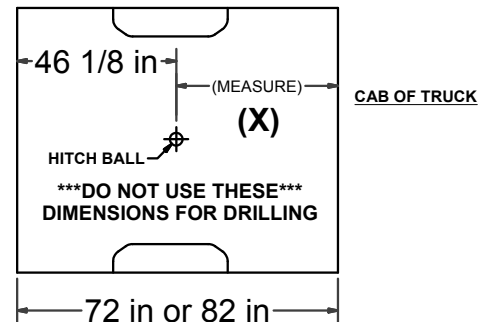
TRAILER



LONG BED



SHORT BED



CLEARANCE CALCULATION

$$\begin{matrix} \text{(CAB TO BALL CENTER)} & - & 1/2 \text{ (TRAILER WIDTH)} & = & \text{(MINIMUM CLEARANCE)} \\ \text{(X)} & - & \text{(Y)} & = & \text{(Z)} \end{matrix}$$

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) _____

60612

GOOSENECK HITCH

1/30/2013

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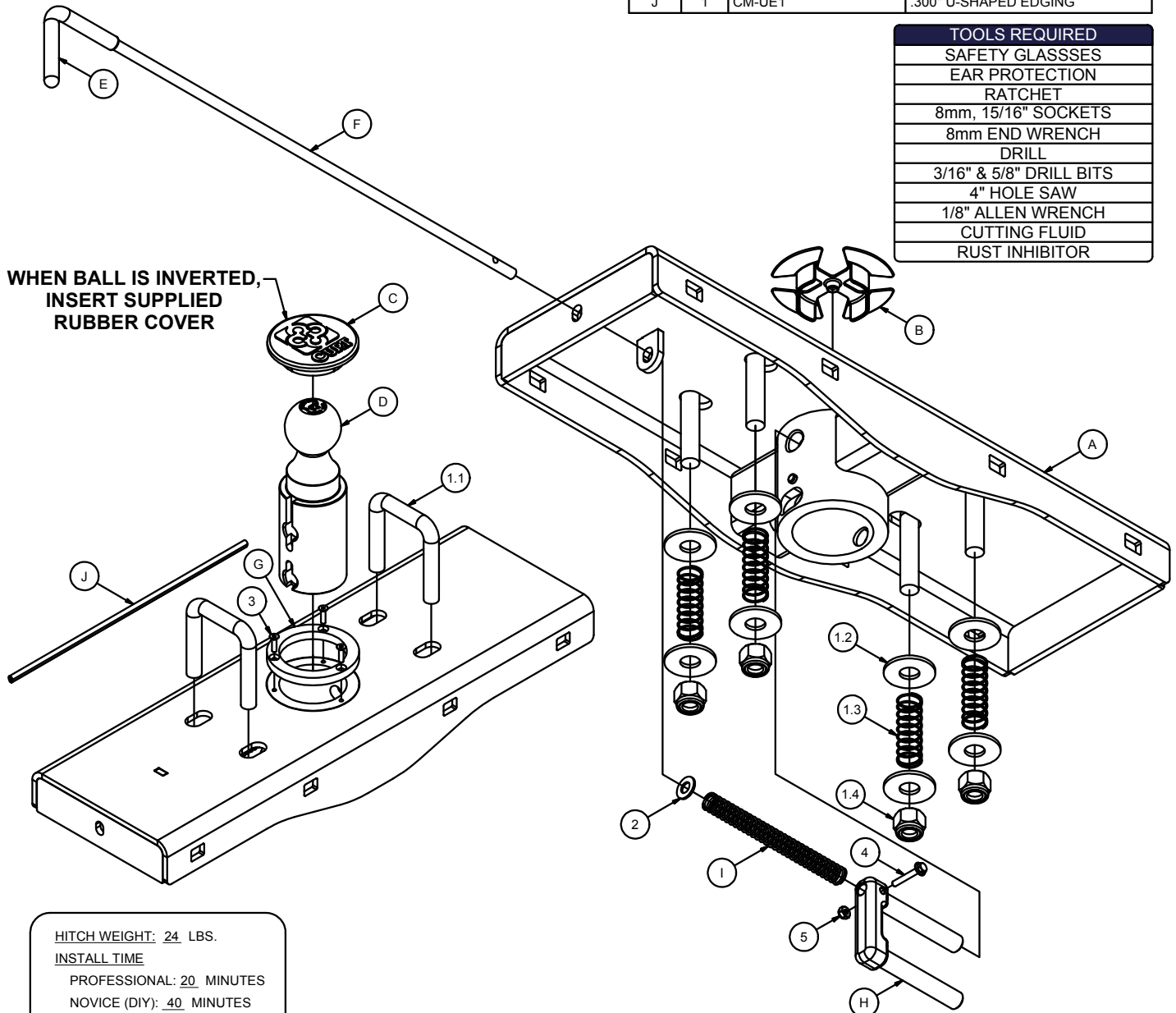
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Hardware List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	60612-CLA	SAFETY CHAIN LOOP ASSEMBLY
1.1	1	60612-UB	5/8" - 11 x 2.50" x 3.25" U-BOLT
1.2	4	5/8"	WASHER WIDE
1.3	2	CM-C113-UBS	U-BOLT SPRING
1.4	2	5_8-11 NYLOCK HEX NUT	5/8"-11-2B UNC NUT
2	2	3/8"	WASHER
3	3	#10-32 x 3/4	FLAT HEAD C'SUNK CAP SCREW
4	1	#10-24 x 1.25 HHFS	HEX HEAD FLANGE SCREW
5	1	#10-24 NYLOCK HEX NUT	NYLOCK HEX NUT

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
A	1	60612-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" & 5/8" DRILL BITS
4" HOLE SAW
1/8" ALLEN WRENCH
CUTTING FLUID
RUST INHIBITOR



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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 four holes for safety chain loops from underneath the truck bed using a 5/8" drill bit. Use the center section (A) as a guide. Drill holes should go through the low rib sections, see **FIGURE B**. **NOTE:** Drill holes should be to the outside of slots in the center section on Ford models and to the inside of slots on Ram models, see **FIGURE A**.
3. Drill hole from top of truck using 4" hole saw, take caution to not drill through the center locator / trim shield (B). **NOTE:** The use of cutting fluid will ease this process. Remove the center locator by pulling it up through the hole.
4. Deburr cut 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 (3).
6. Place two U-bolts (1.1) down through the holes drilled in step 2.
7. From underneath the truck place a washer (1.2), a spring (1.3), a washer (1.2) and a 5/8" nut (1.4) 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, 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 (2) and the compression spring (I) over handle before inserting the handle (F) into the lock pin (H). Insert handle into locking pin and secure with a hex head flange screw (4) and nylock nut (5), see **PAGE 1**. **NOTE:** If needed, add or remove a 3/8" washer (2) to ensure proper pull length of locking pin.
11. If removed, reinstall plastic wheel well covers. **NOTE:** Some models may require trimming of the plastic wheel well cover. Trim as needed for reinstallation and access to the handle. Reinstall spare tire.

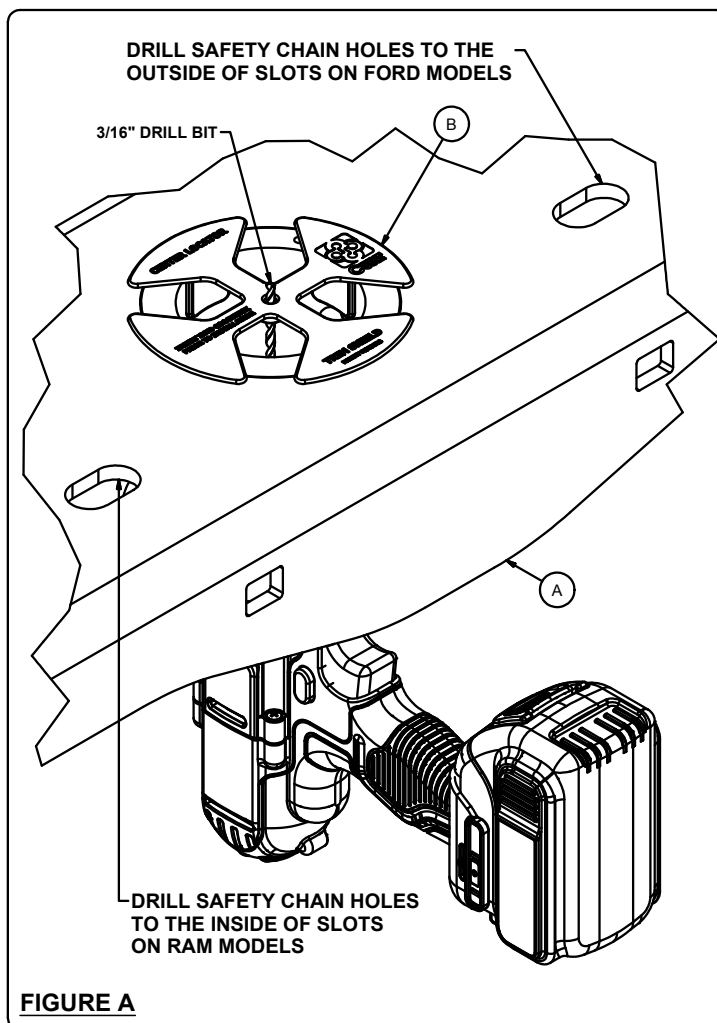


FIGURE A

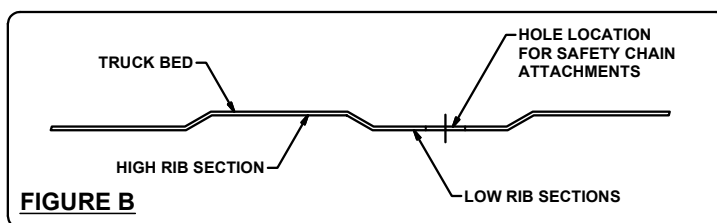


FIGURE B

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

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60612 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(s).
- 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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