



**BLUE OX®**

**Diamond Hitch**

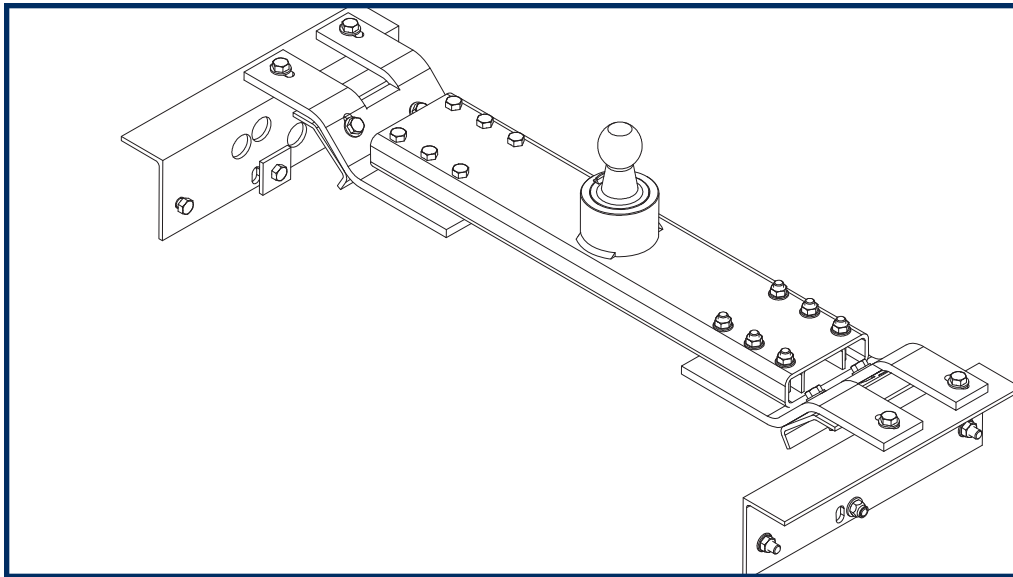
**DH1304**

2007 New Style - 2008-10 Chevy  
GMC 2500 & 3500 Short Box

Serial Number

### Installation Instructions

**Please read these instructions in their entirety before attempting to install or operate this equipment.**



**The Diamond Hitch is rated to 30,000 lbs. Gross Towing Weight and 7,500 lbs. Tongue Weight.**



## WARNING

Refer to your vehicle's owner's manual for maximum towing capacity. **DO NOT** overload your vehicle - failure to follow vehicle manufacturer's recommendations could result in damage to your vehicle, personal injury or death.



## WARNING

Failure to read and follow these instructions could result in separation of the trailer from the truck, causing property damage, loss of towed vehicle, personal injury or death.

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Page 1 of 11

292-6653 Rev. I

4/15/11

DH1304  
2007 Newstyle-2008-10  
Chevy/GMC 2500 & 3500 Short Box  
Installation Instructions



## WARNINGS

1. Clamp Z brackets in place to insure ball location prior to cutting hole in bed of truck.
2. Insure vertical clearance for the ball when in the stored position by verifying it will not hit brake lines etc.
2. Do not use any open flame under the truck bed to cut or weld. There is extreme danger of explosion or fire.
3. Vehicle must be securely blocked and brakes set before beginning to work underneath the vehicle.
4. Do not clamp hitch over any wiring or brake lines.
5. Always make sure trailer is loaded slightly tongue heavy. Do not pull a trailer that is lighter on the tongue end.
6. The installer must instruct the operator on proper ball installation and locking procedures.
7. Be sure the user receives all instructional materials.

If the diamond hitch is in an accident, it must be replaced. **DO NOT** use it again! An accident can cause unseen damage and using it again could result in more damage or serious injury. **DO NOT** use the diamond hitch if it is damaged or missing parts.

DH1304  
2007 Newstyle-2008-10  
Chevy/GMC 2500 & 3500 Short Box  
Installation Instructions

<b>Parts List</b>			
Ref. No.	Qty.	Part #	Description
1	1	61-6260	Weldment, DH Crossmember, 30",
2	1	101-7189	L-Bracket, Driver, GM, DH1305
3	1	101-7059	L-Bracket, Passenger, GM, DH
4	2	201-0804	7/16-14 x 7 1/2 x 2 1/2 SQ U-Bolt, GRD5
5	4	202-0128	7/16-14 Nylon Lock Nut
6	4	222-0091	Spring, Comp, .60 x 2 L X .049
7	1	102-6781	Z Plate, GM Driver, DH
8	1	102-6782	Z Plate, GM Passenger, DH
9	1	101-7042	Frame Clamp, Driver, DH
10	1	101-7043	Frame Clamp, Passenger, DH
11	12	201-0799	1/2-13 x 3 1/4", Hex Bolt, GR5, ZP3
12	5	290-0451	Spacer, .75 OD x .26 ID x .5 LG
13	8	201-0283	1/2-13 x 2" Hex Bolt, GR5, ZP
14	6	201-0051	1/2-13 x 1 1/2" Hex Bolt, GR5, ZP
15	16	202-0072	1/2-13 Hex Flange Whiz Lock Nut
16	18	203-0005	1/2" Flat Washer, ZP
17	2	102-6772	Spacer, 2 x 2 x 1/4", DH
18	3	250-0216	Rubber Tailpipe Hanger
19	10	202-0185	1/2-13 Hex Nut, Nyl Ins. LK.GD 8,ZP
20	1	62-3604	Ball Assembly, Diamond Hitch

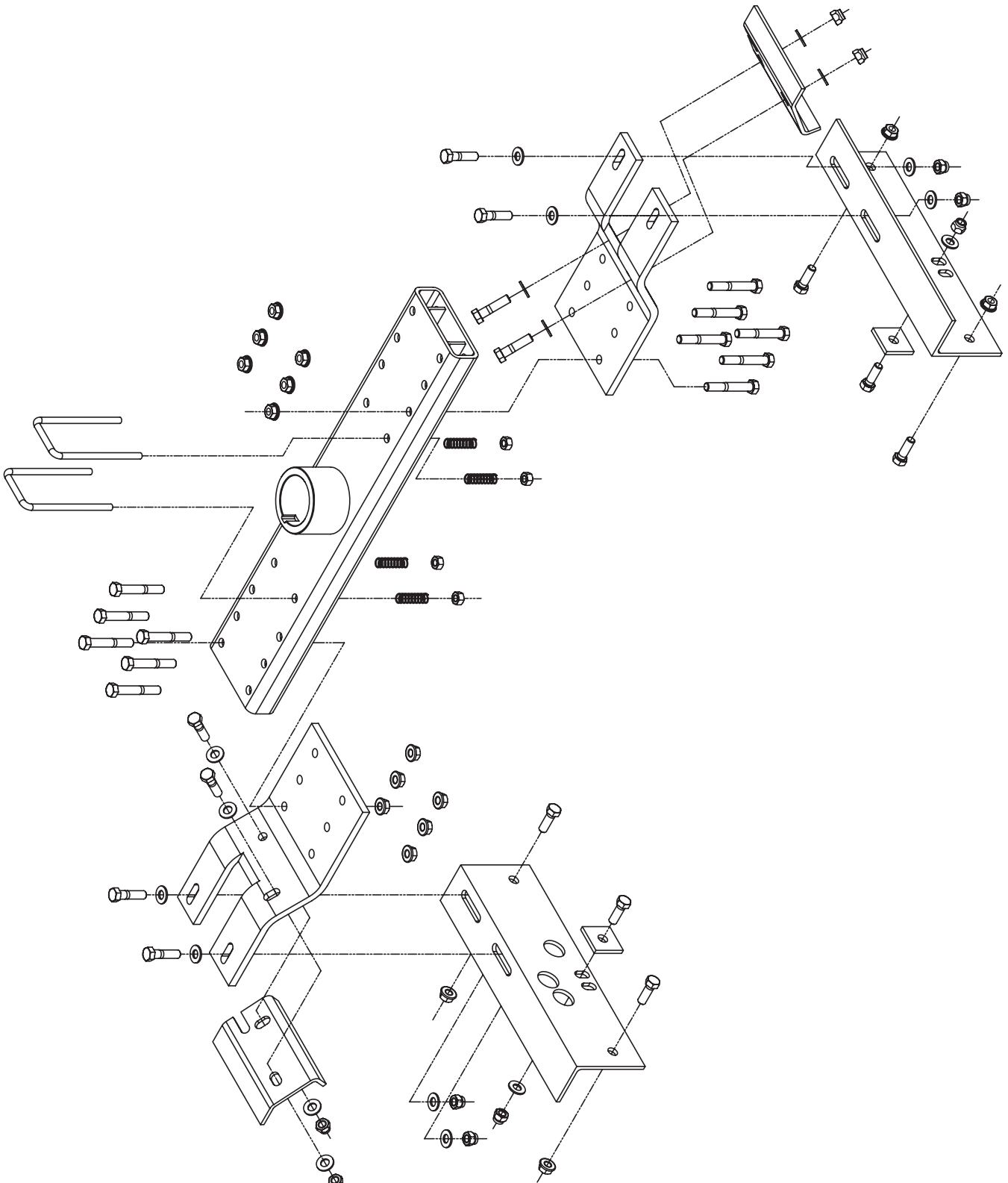
### Tools Required

Tape Measure  
4" Metal Hole Saw  
10MM Socket  
Loctite® RED  
3/4" Socket  
11/16" Socket  
17/32" Drill Bit  
1/2" Drill Bit  
Reciprocating Saw

### Important:

Use only genuine factory replacement parts on your Diamond Hitch. Do **NOT** substitute homemade or non-typical parts. If a bolt is lost or in need of replacement, for your safety and the preservation of your hitch, be sure to use a replacement bolt of the same grade (In most cases it will be Grade 5, please reference the parts list above). Replacement parts may be ordered through your nearest Blue Ox® Dealer or Distributor. Failing to follow and/or altering these installation instructions in either installation or required equipment will void the manufacturer's warranty. Towing behind a non-motorized vehicle will void the warranty.

DH1304  
2007 Newstyle-2008-10  
Chevy/GMC 2500 & 3500 Short Box  
Installation Instructions



DH1304  
2007 Newstyle-2008-10  
Chevy/GMC 2500 & 3500 Short Box  
Installation Instructions



1. Using the jack handle tool, remove the spare tire as per the truck's owner's manual.



2. To assure not drilling the ball hole into the wrong location: On the underside of the bed measure from the rear of the bed (not the tailgate) forward 39" to insure the location of the ball is approximately 1" in front of the center line of the axle and check for Z-Bracket and frame clamp mounting clearances.



3. In the center (appx 25 1/4"), on the topside of the bed, measure from the rear of the bed (not the tailgate) forward 39" and mark.



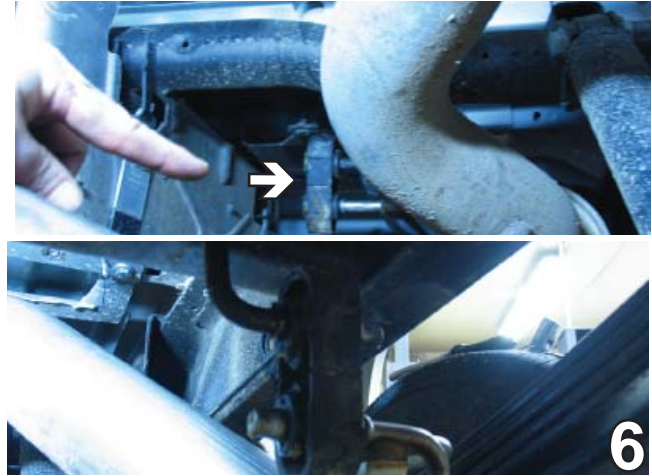
4. Using the reciprocating saw, remove the heat shield from above the exhaust on the passenger's side. Cut heat shield approximately 10" wide and center opening over box cross member. Some models may need to have all of the heat shield removed.

# DH1304

## 2007 Newstyle-2008-10 Chevy/GMC 2500 & 3500 Short Box Installation Instructions



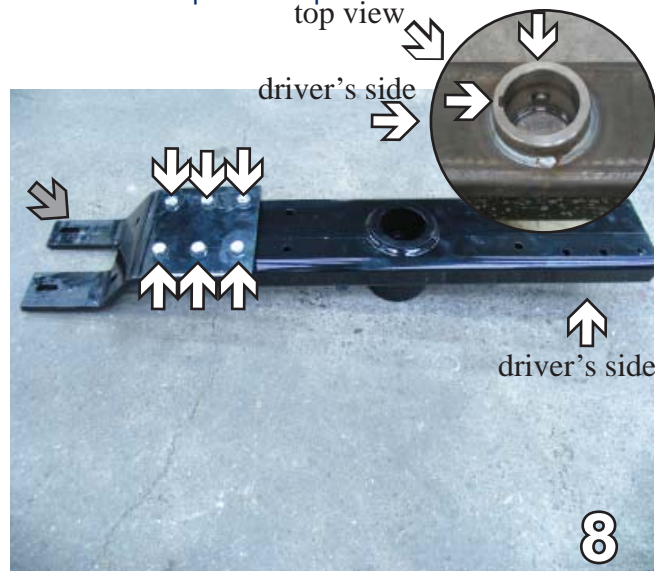
5. Drill a 4" hole with the hole saw in the area marked in Step 4. Installation requires cutting through the bed and bed brace below. Use the hole saw to drill through the bed and bed brace. If hole saw bottoms out, then use the reciprocating saw to cut out the bed brace from the top.



6. Drop the exhaust out of the way by sliding the rubber off of the mount pin. It may be necessary to do this to all three of the mount pins. Spray silicone on pins to help with removal.



7. Above the rear driver's side wheel well, loosen five bolts with the 10MM socket. Slide the bolts upward through the slots and push back through the hole to insure sensor modual is out of the way for Diamond Hitch installation.



8. With the pin toward the front of the vehicle and the locking slot on the driver's side (see top view of inset), install the Z-bracket to the passenger's side of the cross member using six each of the 1/2-13 x 3 1/4" bolts and 1/2-13 whiz nuts. Insert the bolts through the bottom side (photo shows bottom of cross member up). Use Loctite Red on all bolts and torque to 75 ft. lbs. **Note:** The narrow extruded end of Z-bracket should be placed on the front side of box cross member (gray arrow) to assure proper fit. Drop the six 1/2-13 x 3 1/4" bolts through the top driver's side of the cross member (not shown).

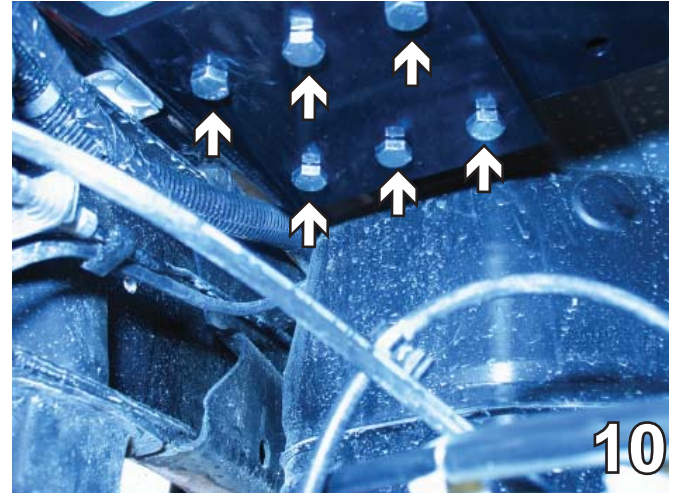
**BE SURE TO USE LOCTITE® RED ON ALL BOLTS BEFORE TIGHTENING. TIGHTEN ALL BOLTS ACCORDING TO TORQUE SPECIFICATIONS.**

DH1304  
2007 Newstyle-2008-10  
Chevy/GMC 2500 & 3500 Short Box  
Installation Instructions

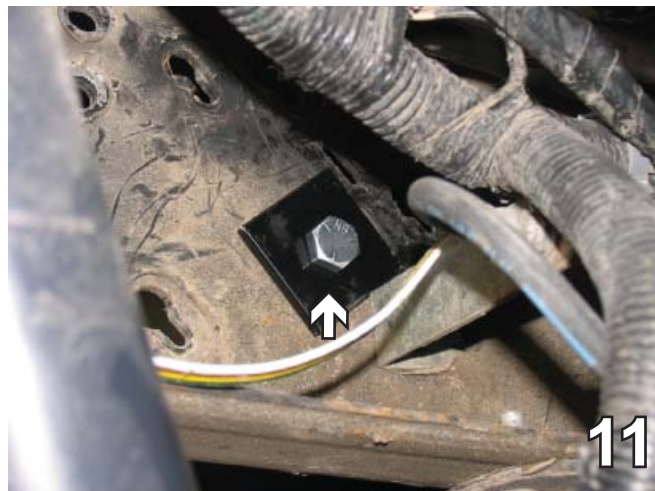


9. Slide the Z-Bracket assembly up over the exhaust onto the passenger's side frame rail. Be sure the narrow extruded end of Z-bracket is on the front side of cross member on both sides of vehicle.

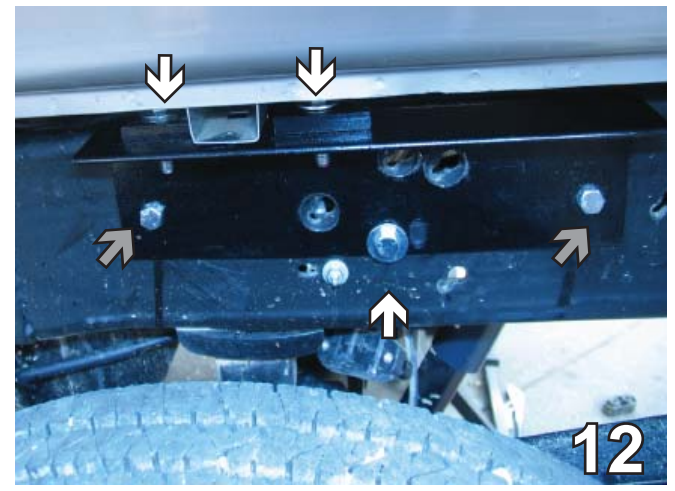
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10. Align the ball hole in the cross member with the hole in the truck bed. Slide the driver's side Z-Bracket up onto the driver's side frame rail. Then lift up on the cross member assembly and allow the bolts to fall into place on the Z-Bracket. Install the 1/2-13 whiz nuts to the bolts. Use Loctite Red on all bolts and torque to 75 ft. lbs.

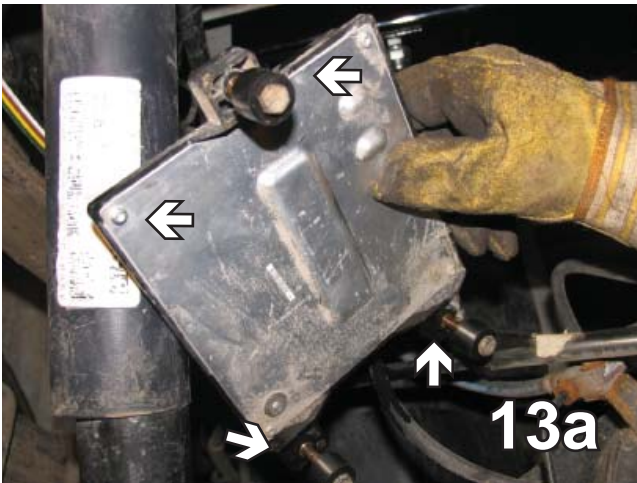


11. On the driver's side inside of the frame, use the 2 x 2 x 1/4" spacer and 1/2-13 x 1 1/2" hex bolt to cover the large hole in the frame as shown above. Do this to both sides of the vehicle. \*\*Be sure to place bolt head on inside of frame for clearance of sensor modual.



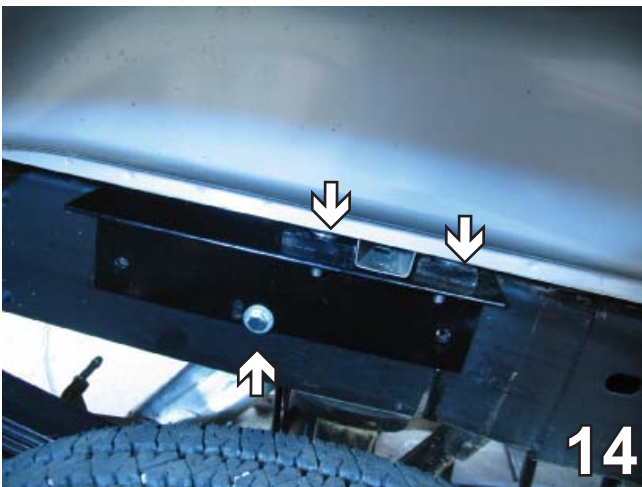
12. On the driver's side outside of the frame, align the lower front slot with the bolt from Step 11 and the three large holes in the L-Bracket with the holes in the vehicle frame. Install 1/2-13 x 2 bolts, 1/2" flat washers and 1/2-13 nylon insert hex nut into Z-bracket and L-bracket (white arrows). Then torque all three bolts using Loctite. Drill end holes into frame with 17/32" drill bit (gray arrows). Install 1/2-13 x 1 1/2" bolts and 1/2-13 whiz nuts and torque. Install the 1/2" flat washers and 1/2-13 nylon nuts to the bolts and hand tighten.

DH1304  
2007 Newstyle-2008-10  
Chevy/GMC 2500 & 3500 Short Box  
Installation Instructions



13. On the driver's side, remove the five bolts from the sensor module loosened in Step 7 and install the .75 OD x .26 ID x .5 spacers onto the bolts. Then reinstall sensor module to its original position. On the driver's side, reinstall the sensor module and five bolts loosened in Step 7 to their original location and retighten bolts.

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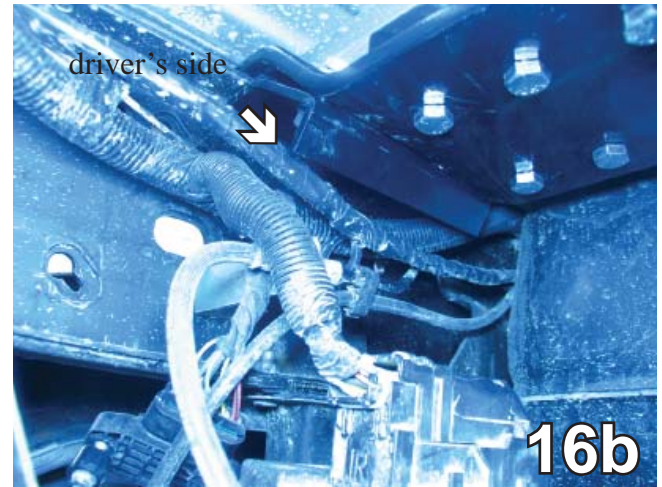
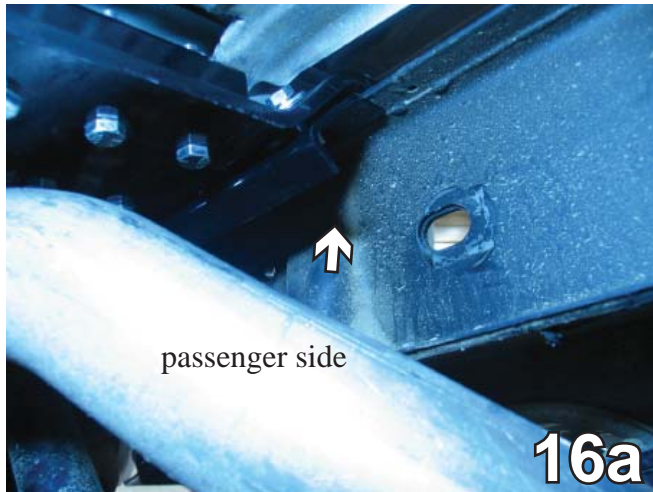


14. On the passenger side outside of the frame, align the lower front slot with the bolt from Step 11 and the three large holes in the L-Bracket with the holes in the vehicle frame. Install 1/2-13 x 2 bolts, 1/2" flat washers and 1/2-13 nylon insert hex nut into Z-bracket and L-bracket (white arrows). Then torque all three bolts using Loctite.



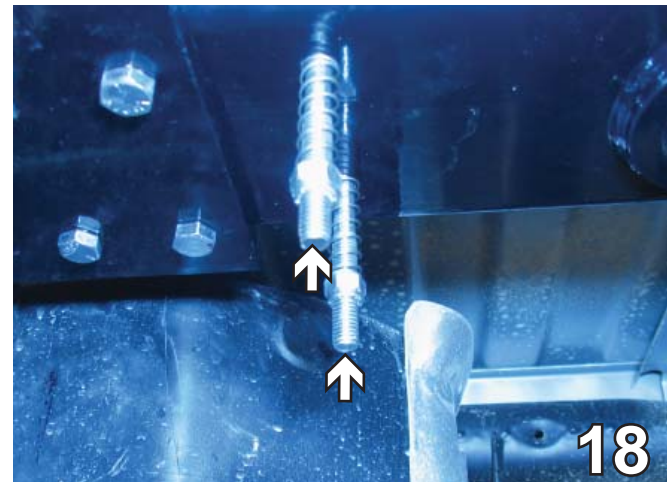
15. Using the L-Bracket as a template, drill the outside two holes with the 17/32" drill bit. Install the 1/2-13 x 1 1/2" hex bolts and 1/2-13 whiz nuts. Use Loctite Red on all bolts and torque to 75 ft. lbs. Do this to both sides of the vehicle.

DH1304  
2007 Newstyle-2008-10  
Chevy/GMC 2500 & 3500 Short Box  
Installation Instructions



16. Sandwich the frame rail between the Z-bracket and frame clamp. Attach the frame clamp to the Z-bracket using the 1/2-13 x 2" hex bolts, 1/2" flat washers and 1/2-13 hex nylon nuts. **Note:** Be sure that frame clamp cut out slot is on forward side of Z-bracket for proper placement. Do this to both sides of the vehicle. Reinstall the exhaust to its original location. **\*\*Note:** It may be necessary to use the included tailpipe hanger in order to obtain enough clearance.

**The dimensional variations between otherwise identical vehicles can be considerable. While the Diamond Hitch was designed for easy installation, it may be necessary to tailor the exhaust system slightly to compensate for auto manufacturer's tolerances or midyear modifications. These minor adjustments may include bending the exhaust. Place a short piece of 2" x 4" between the exhaust pipe and the Diamond Hitch then carefully lift up on the end of the tailpipe with a floor jack or change the angle of the hanger bracket to acquire an adequate high clearance for the tailpipe.**



17. Using the cross tube as a template, drill four holes up through the cross tube into the truck bed for the breakaway cable tie points, with the 1/2" drill bit.
18. Drop the 7/16-14 x 6 x 2 1/2" U-bolts through the holes in the bed and install the springs and 7/16-14 lock nuts. Tighten the nuts until they are against the spring, without compressing it.

DH1304  
2007 Newstyle-2008-10  
Chevy/GMC 2500 & 3500 Short Box  
Operating instructions

### Installing the Inverta Ball



1. Align pin (see grey arrow) with slot in hitch (see white arrow). Drop into receiver cylinder and depress locking tab.



2. Twist the ball 30 degrees clockwise while lifting slightly until ball drops into position and locking tab snaps in place.

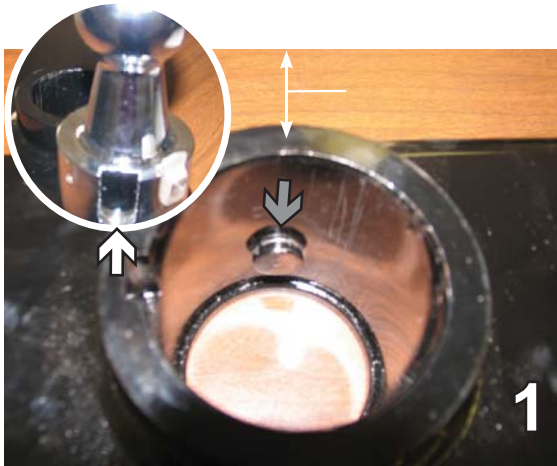
### Removing the Inverta Ball



1. Push in the locking tab and then lift and rotate the ball assembly counterclockwise. Continue rotating and lifting until the ball stud clears the receiver cylinder.

DH1304  
2007 Newstyle-2008-10  
Chevy/GMC 2500 & 3500 Short Box  
Operating Instructions

## Storing the Inverta Ball



1. Align pin with storage slot in hitch.



2. Push in the locking tab and let the ball assembly drop into the receiver cylinder.

3. Pull the ball straight up to remove it from the stored position.

## Customer Service Commitment

Blue Ox is committed to providing you with exceptional customer care throughout your lifetime with our products. Our team is here to assist you with any questions you may have regarding the performance of your product. Simply call 1-800-228-9289 and you can speak with our customer care team.

Additionally, please visit our website to see which rallies our Destination America team will be attending. For a nominal fee, our service technician will service your towing system to ensure it's in proper working condition. Also as a commitment to our customers, should you visit our factory you can stay at our full service Blue Ox campground at no charge along with enjoying a factory tour.

Again thank you for being our customer and for the confidence you have shown in the performance of our products. It is because of customers like you we enjoy the success we have today.

