



INSTALLATION INSTRUCTIONS

'GOAT' BUMPER

These instructions cover installation for 73-87 GM Trucks & 73-91 GM Suburbans, Blazers, Crewcabs & CUCVs

Part Number: 73-80, 81-87, 81-91 GOAT

CARELESS INSTALLATION AND OPERATION OF THIS PRODUCT CAN RESULT IN SERIOUS INJURY OR EQUIPMENT DAMAGE. READ AND UNDERSTAND ALL SAFETY PRECAUTIONS AND OPERATING INSTRUCTIONS BEFORE INSTALLING AND OPERATING THIS PRODUCT.

This guide identifies potential hazards and has important safety messages

WARNING, CAUTION, NOTICE, & Note are signal words that identify the level of hazard. These are outlined below:

⚠ WARNING signals a hazard that could cause serious injury or death if you do not follow recommendations.

CAUTION signals a hazard that may cause minor to moderate injury if you do not follow recommendations.

NOTICE signals to call attention to important information

Note: to emphasize general information worthy of special attention

CAUTION

PLEASE WORK SAFELY

CAUTION

BEFORE DRILLING INTO ANY VEHICLE CHECK THAT THE AREA TO BE DRILLED IS CLEAR OF ANY WATER LINES, FUEL LINES, ELECTRICAL WIRING, OR KEY MECHANICAL EQUIPMENT. ALWAYS USE CAUTION WHEN DRILLING OR CUTTING ON A VEHICLE.

⚠ WARNING

FAILURE TO INSPECT THE AREA TO BE DRILLED MAY RESULT IN VEHICLE DAMAGE, OR PERSONAL INJURY.

⚠ WARNING

WEAR APPROPRIATE PPE WHEN INSTALLING THIS KIT: GLOVES, HEARING PROTECTION, SAFETY GLASSES/GOGGLES.

Note:

Thank you for your purchase of the **Engineered Vintage 'GOAT' bumper**

Please read these instructions completely before installation of this kit.

These instructions are intended to convey information on how to best mount this kit onto your truck.

This kit is designed to bolt into 1973-87 GM trucks and 1973-91 GM Blazers, Suburbans, CUCVs & Crew cab trucks. Some vehicles with frame reinforcement (CUCV & later year rigs) may require removal of frame reinforcement for this kit to fit.

This kit was designed to mount a variety of winch models onto these trucks. This kit is compatible with Engineered Vintage's Shackle Bracket tow hooks as well as the OEM 73-80 & 81-87 GM tow hooks (and 81-91 hooks on Suburbans, Blazers, & Crewcabs.)

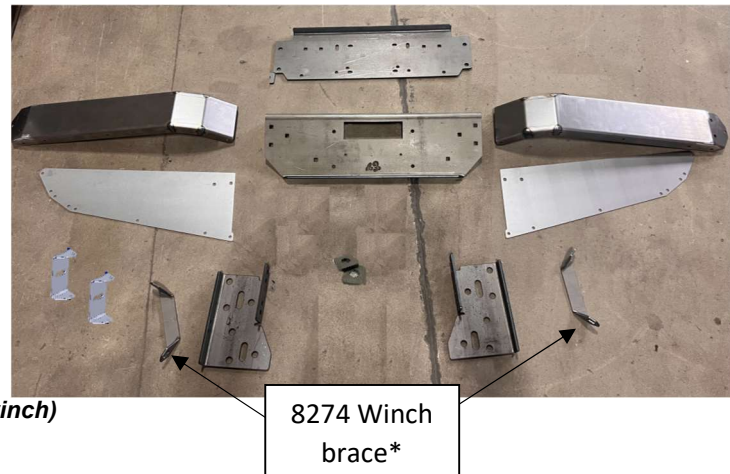


**'GOAT' bumper shown
on 1977 Chevrolet ¾ ton
4x4**

- Other Engineered Vintage products shown (sold separately)
- License plate bracket
- Shackle Bracket Hooks
- HD Triangulation kit
- 77-79 Grille AF proto

'GOAT' Bumper PARTS LIST

QTY	DESCRIPTION
-1-	FRAME BRACKET, DRIVER (LH)
-1-	FRAME BRACKET, PASSENGER (RH)
-1-	CENTER WINCH BASE
-1-	CENTER WINCH FACE
-2-	BUMPER WINGS
-2-	BUMPER WING TOP PLATES
-2-	SPACER PLATES, 1/4" THICK
-2-	OUTER BUMPER BRACE BRACKET
-2-	8274 WINCH BRACE* (<i>*not included unless selected at purchase – only used with WARN 8274 winch</i>)



HARDWARE LIST:

ID	Qty	Description	Where Used
A	(2) 81-87 (6) 73-80	5/8-11 GR 8 BOLTS, 2" (or 1.5" LONG)	81-87 trucks, use (2) to mount frame brackets to frame ends (center slotted hole) 73-80 trucks, used (6) to mount frame bracket to frame
B	(4) 81-87 (12) 73-80	5/8" washers	Use (2) per 5/8" bolt
C	(2) 81-87 (6) 73-80	5/8" nyloc nuts (or lock washers & nuts)	Use (1) per 5/8" bolt
D	(10) 81-87 (6) 73-80	1/2-13 UNC GR 8 BOLTS, 2" (or 1.5") LONG	81-87 / 91 GM - (4) Used to mount frame brackets to truck frame horn ends (4) used to mount frame brackets to bottom plate (2) used to mount stock bumper stiffener brace to truck frame
E	4	1/2-13 UNC GR 8 BOLTS, 1.5" LONG	(2) Used to mount bottom winch plate to bumper face plate (2) used to mount stock bumper stiffener brace to wing reinforcement bracket
F	28	1/2" washers	Use (2) per 1/2" bolt
G	14	1/2" nyloc nuts (or lock washers & nuts)	Use (1) per 1/2" bolt
H	10	7/16 x 1" CARRIAGE BOLTS	(6) used to mount bumper wings to bumper face plate (4) used to mount 8274 bracket between bottom winch plate & bumper face plate
I	12	7/16" washers	Use (1) per 7/16" bolt Use (2) to secure bumper brace on 81-87/91 trucks
J	12	7/16" nyloc nuts (or lock washers & nuts)	Use (1) per 7/16" bolt Use (2) to secure bumper brace on 81-87/91 trucks
K	20	5/16 BOLTS	(18) used to mount bumper wing tops to bumper wings (2) used to mount bumper stiffener bracket inside bumper wings
L	20	5/16" washers	Use (2) per 5/16" bolt
M	20	5/16" nyloc nuts (or lock washers & nuts)	Use (1) per 5/16" bolt

Installation prep



WARNING As these trucks are between 30 & 40 years old, before installation of this kit the front frame rail ends should be inspected to ensure rigidity and ability to securely hold this winch mount. If there are rust holes or there is other physical damage to frame then frame should be professionally repaired before installation of this product.

If mounting this kit in a 2wd truck or truck without factory tow hook holes drilling of the frame may be required.



WARNING Drilling operations can cause flying chips. **WEAR SAFETY GOGGLES.** Flying chips can cause eye injury.

Recommend spraying all bumper hardware, tow hook bolts (if equipped), steering box bolt, and cross-member bracket bolts with penetrating oil or “bolt loosening spray” the night before installation to ease bumper removal from truck. Bumper hardware can be difficult to remove with rust, road grime, etc accumulated over time on truck.

Remove factory tow hooks from truck.

Remove the front bumper from truck. This requires removal of six ½” bolts (¾” socket/wrench required)

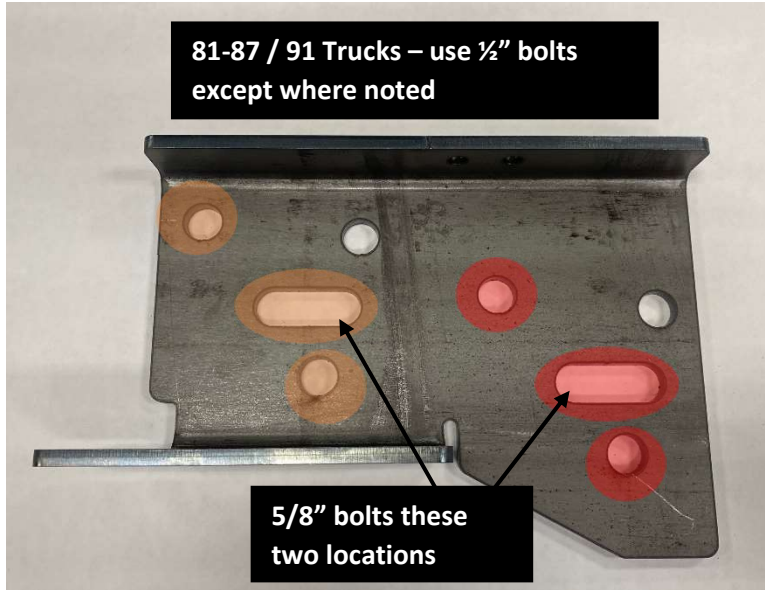
Remove the bumper brackets & outer bumper braces from the bumper (or frame of truck) clean and set aside – the large outside bumper support braces will be re-used to support the outer bumper ends

Once bumper is removed, it is recommended to clean inner frame of grease and debris with pressure washer and/or degreaser.

Once stock bumper is removed and frame is clean – you are ready to install the ‘GOAT’ bumper.

Begin by installing the frame brackets to truck

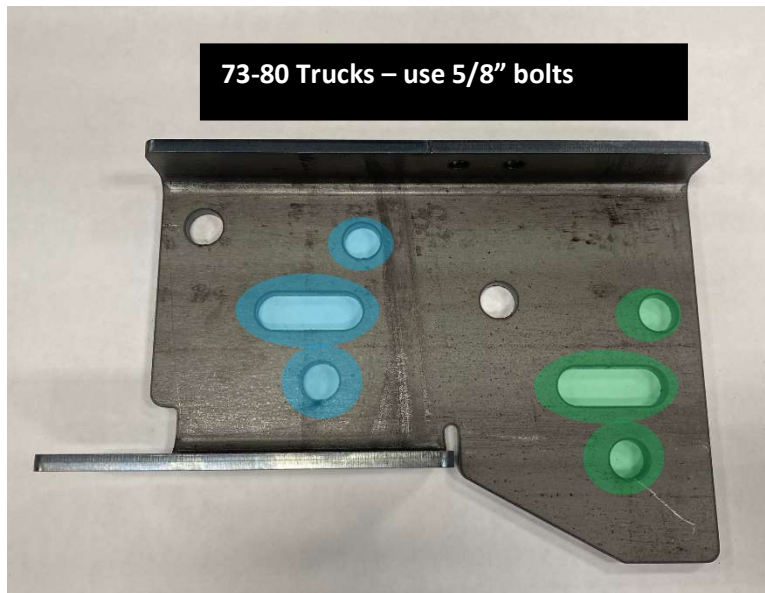




Red holes are for 81-87 pickups / 81-91 Suburban / K5 / Crew cab to bolt onto frame ends

Orange holes are used for stock 81-87 / 91 tow hooks and/or Engineered Vintage Shackle Bracket Tow Hooks

Unmarked holes are not used for 81-87 / 91 trucks



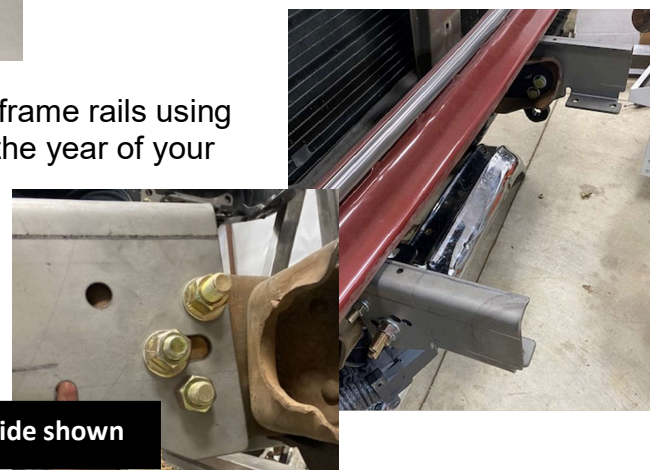
Green holes are for 73-80 GM trucks to bolt frame bracket onto frame ends

Blue holes are for stock 73-80 tow hooks and/or Engineered Vintage Shackle Bracket tow hooks.

Unmarked holes are not used for 73-80 trucks

Install the frame brackets on the outside of the truck frame rails using the correct hole pattern as outlined above based on the year of your truck – the bends on frame brackets should be facing in towards each other as shown at right – use the appropriate bolts to attach frame brackets to truck as detailed above – install using a washer on each side of bolt and lock nuts (or lock washers & nuts) - **leave all bolts loose until bumper is completely installed on truck**

73-80 GM – driver side shown

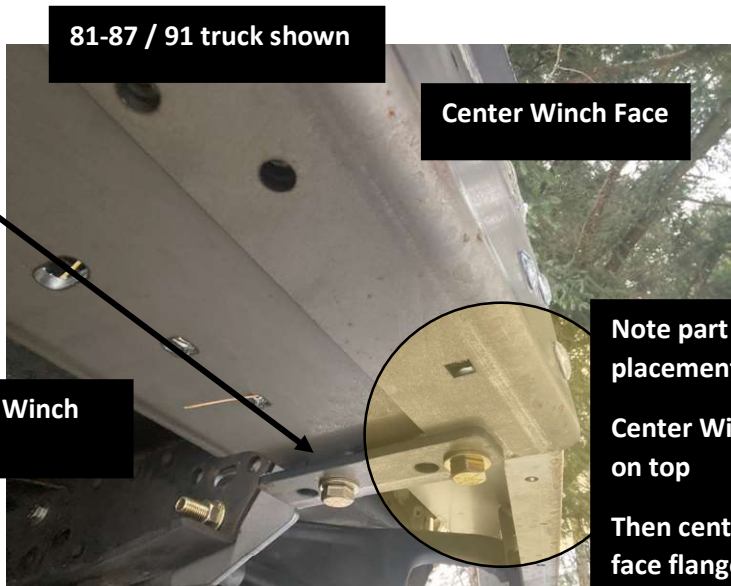


Next, install the Center Winch Base

Place the Center Winch Base plate onto the frame bracket bottom flanges.

Use the holes marked in **green for 73-80 trucks** & **red holes for 81-87 / 91 trucks**

Install a spacer plate (one on each side) between each frame bracket and center winch base – use 1/2" bolts to secure (recommend bolts installed up from bottom for ground clearance)



Install the front winch plate – should be under bottom winch plate and on top of frame bracket – use 1/2" bolts to secure – use washers on each side of bolts and lock nuts (or lock washers & nuts)

Note part placement here
Center Winch Base on top
Then center winch face flange
Then frame bracket

Once center winch assembly is on truck, it is time to install bumper wings



Bumper wings are installed behind Center Winch Face and attach with (3) 7/16" carriage bolts on each side.

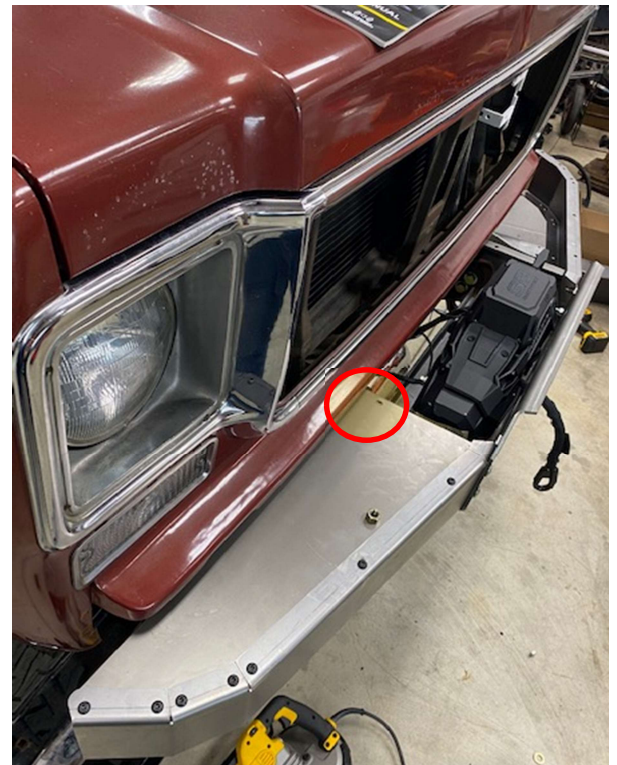
Bumper wings are symmetrical and can be installed on driver or passenger side of truck.



Once wings are bolted to center winch assembly, install bumper wing tops

Bumper wing tops should be installed under the flange on the wings with (9) 5/16" bolts on each side – make sure all bolts are installed before tightening.

Check that hole in center (highlighted) is lined up with frame bracket hole and install 5/16" bolt on each side – install washers and lock nuts as necessary.



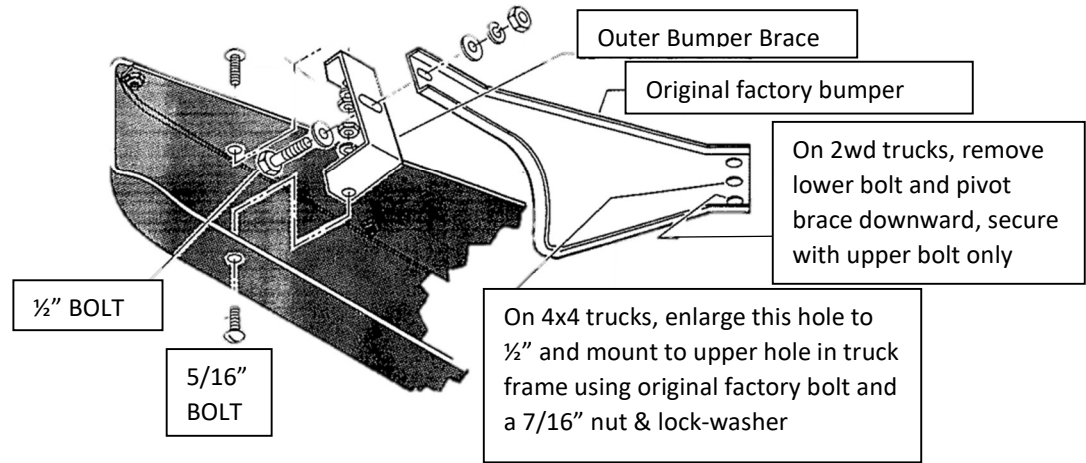
Once tops are installed, install stock bumper outer braces on frame (if they were removed) and line up outer holes with outer bumper brace bracket

Install outer bumper brace bracket in each bumper wing in appropriate hole that lines up with stock bumper outer brace – this may take some trial & error with bracket to line up. Use a 1/2" bolt to attach 'GOAT' bumper brace to stock outer bumper brace.

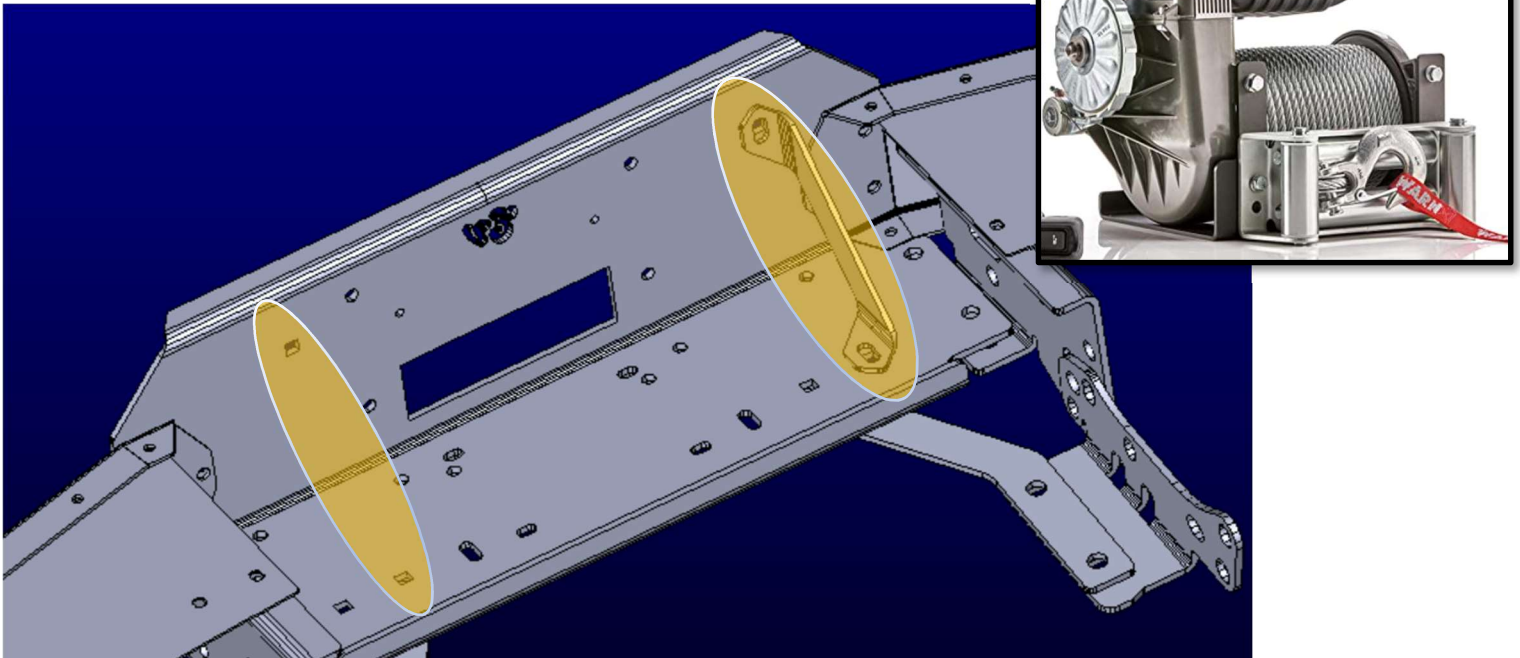
'GOAT' bumper braces can be flipped around and moved to different holes to align. Install a 5/16" bolt in appropriate bottom bumper wing hole to attach bottom of bumper brace



On 81-87/91 models – modify and attach your outer bumper brackets as shown here for both sides of bumper.



If your winch is a WARN 8274, now install the 8274 winch braces on both sides using 7/16 carriage bolts in highlighted locations – tighten these bolts



Once these are installed – it is time to tighten all of the hardware.

Check that bumper is level with truck side to side & front to back.

Once bumper is leveled – tighten all hardware, starting with the frame bracket bolts, then winch assembly bolts, then bumper ends, then outer bumper stiffener bolts.

Tighten to these specs:

Torque Specs

			Wrench Size
1/4" bolts	7	ft-lbs	7/16
5/16" bolts	15	ft-lbs	1/2
3/8" bolts	28	ft-lbs	9/16
7/16" bolts	37	ft-lbs	5/8
1/2" bolts	80	ft-lbs	3/4
5/8" bolts	120	ft-lbs	15/16

Once all bolts are tightened, assembly is complete and winch can be installed per winch manufacturer instructions.



'GOAT' bumper installed on 1977 Chevrolet ¾ ton 4x4 with WARN 8274 winch and Engineered Vintage Shackle Bracket Tow Hooks (sold separately)

Also shown with our Grille AF (Aluminum Fabricated Grille)



'GOAT' bumper installed on 1987 Chevrolet ¾ ton 4x4

Installation of Engineered Vintage Shackle Brackets (sold separately) or stock GM tow hooks

The holes in the 'GOAT' frame brackets are for installation of stock factory tow hooks OR Engineered Vintage's popular Shackle Bracket Tow Hooks.

Shackle Bracket PARTS LIST

QTY DESCRIPTION
 -2- SHACKLE BRACKET TOW HOOKS



73-80 Shackle Bracket Hooks

73-80 Shackle Bracket Hardware kit
 (bagged separately)

ID	Qty	Description	Where Used
A	6	5/8-11 UNC GR 8 BOLTS, 2" LONG	(6) - Used to secure Shackle bracket to frame bracket
B	6	5/8 washers	Use (1) per bolt
C	6	5/8 lock nuts (or lock washers & nuts)	Use (1) per bolt

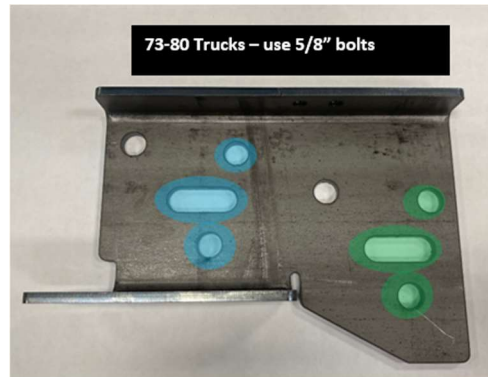
****OR****

81-87 Shackle Bracket Hardware Kit (bagged separately)

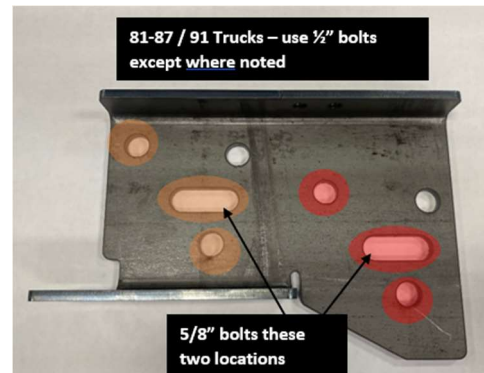
ID	Qty	Description	Where Used
A	2	5/8-11 UNC GR 8 BOLTS, 2" LONG	Used in center slotted hole
B	2	5/8 washers	Use (1) per bolt
C	2	5/8 lock nuts (or lock washers & nuts)	Use (1) per bolt
D	4	½-13 UNC GR 8 BOLTS, 2" LONG	(2) – Use in top and bottom holes
E	4	1/2" washers	Use (1) per bolt
F	4	½" lock nuts (or lock washers & nuts)	Use (1) per bolt

Shackle Bracket Installation

Install the 'GOAT' bumper per normal instructions. Install the 73-80 Shackle Brackets in blue holes shown, with 5/8 grade 8 hardware.



Install the 81-87 Shackle Brackets in the orange highlighted holes with 1/2" hardware in top and bottom holes and 5/8 hardware in slotted holes



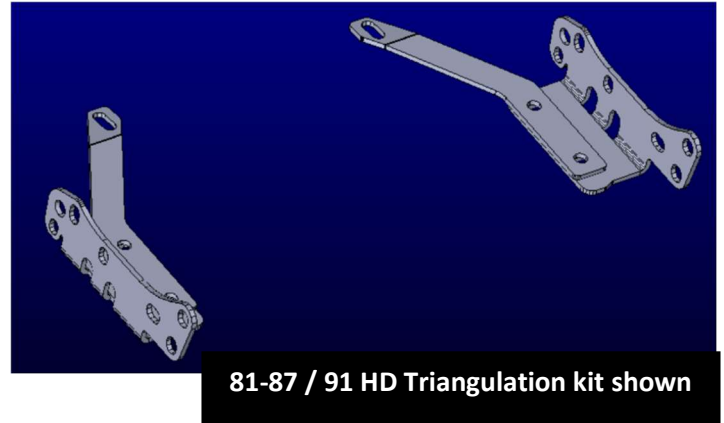
Installation of HD Triangulation Kit (sold separately)

If you plan to use your 'GOAT' bumper for heavy duty winching with a winch greater than 9K lb pulling capacity, we recommend our optional accessory (sold separately): The HD Triangulation Kit. This kit ties the 'GOAT' bumper into the truck frame in additional places and significantly reinforces the front frame horns of these trucks.

The HD Triangulation Kit consists of (4) additional ¼" steel brackets

HD Triangulation Kit LIST

QTY	DESCRIPTION
-1-	FRAME BRACKET, DRIVER (LH)
-1-	FRAME BRACKET, PASSENGER (RH)
-1-	STRAP, DRIVER (LH)
-1-	STRAP, PASSENGER (RH)



HD Triangulation hardware kit (bagged separately)

ID	Qty	Description	Where Used
A	2	½-13 UNC GR 8 BOLTS, 2" LONG	(2) - Used to secure drilled hole between frame bracket and frame
B	4	½-13 UNC GR 8 BOLTS, 1.5" LONG	Used to secure straps to frame bracket
C	12	1/2" washers	Use (2) per 1/2" bolt
D	6	1/2" nyloc nuts (or lock washers & nuts)	Use (1) per 1/2" bolt
E	2	7/16 x 1" CARRIAGE BOLTS	Used to secure winch straps to bottom winch plate
F	2	7/16" washers	Use (1) per 7/16" bolt
G	2	7/16" nyloc nuts (or lock washers & nuts)	Use (1) per 7/16" bolt

HD Triangulation Kit 73-80 GM Truck Installation

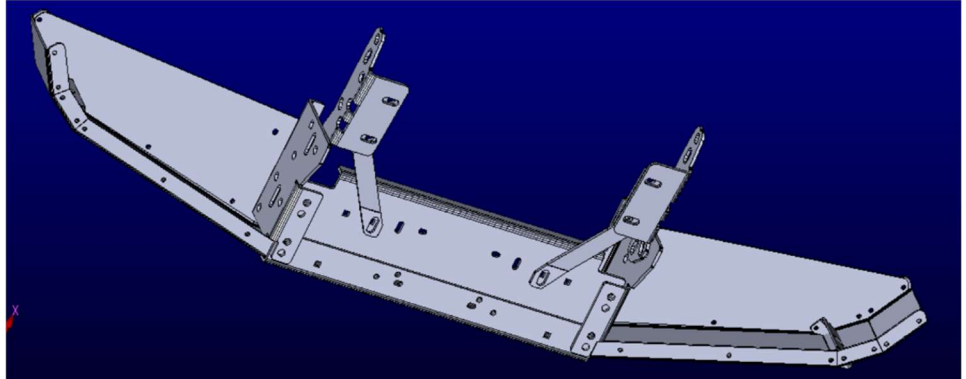
Install the 'GOAT' bumper per normal instructions. With top frame horn bolt tight, loosen the bottom two bolts in each frame horn & remove. Remove the outer bumper support bolt.

Install the inner frame bracket as shown at right. Reinstall all hardware. It is recommended to drill hole in frame rail and install additional ½" bolt for ultimate strength.



Attach strap bracket on top of inner frame bracket with (2) 1/2" bolts so that front hole in strap aligns with 7/16 hole in winch plate. Use 7/16 carriage bolt at attach strap to winch plate. Be sure to check winch clearance to bolt head – it may be necessary to flip bolt (so that head is on opposite side) for winch clearance.

View from underneath truck on 73-80 HD Triangulation Kit installation:



HD Triangulation Kit 81-87/91 GM Truck Installation

To install in an 81-87/91 truck, begin by removing this brace

Remove stock cross-member to frame brace on driver side (requires 9/16 socket / wrench & 5/8 socket / wrench)
Clean and set aside the bolts in pic. Clean frame under bracket.



Once cross-member to frame bracket has been removed and frame is clean, test fit driver side inner frame bracket into frame rail. **If your truck is a CUCV model or has an inner frame reinforcement riveted into frame skip to next section for removal of inner frame reinforcement brackets.**

Install the 'GOAT' bumper per normal instructions. With top frame horn bolt tight, loosen the bottom two bolts in each frame horn & remove. Remove the outer bumper support bolts (shown at far right)

Install the inner frame bracket as shown at right. Reinstall all hardware. It is recommended to drill hole in frame rail and install additional 1/2" bolt for ultimate strength.

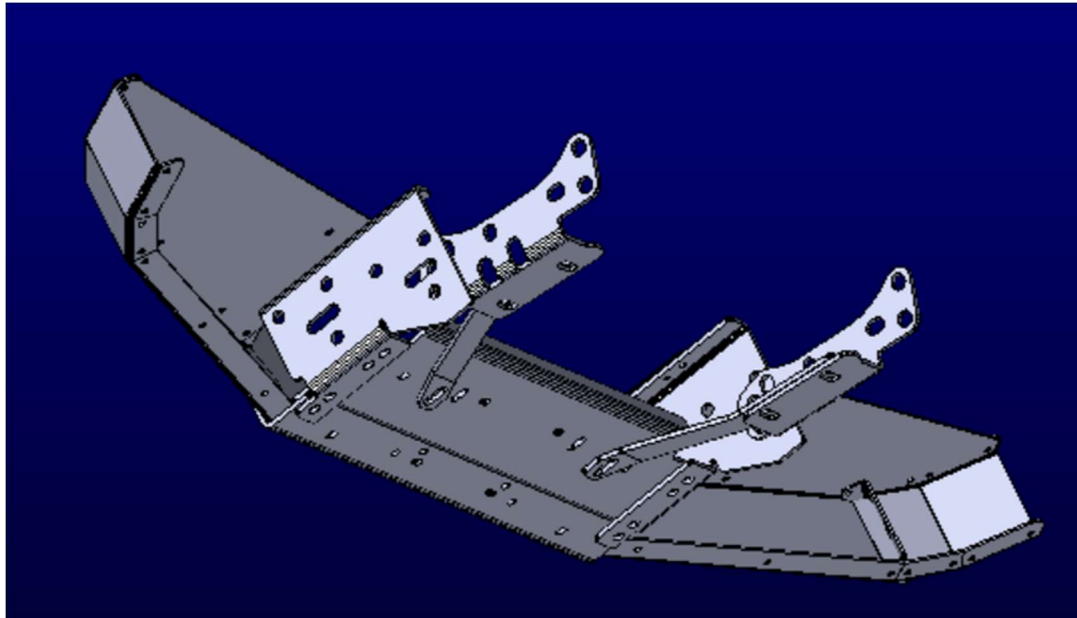


Attach strap bracket on top of inner frame bracket with (2) 1/2" bolts so that front hole in strap aligns with 7/16 hole in winch plate. Use 7/16 carriage bolt attach strap to winch

plate. Be sure to check winch clearance to bolt head – it may be necessary to flip bolt (so that head is on opposite side) for winch clearance.

Slot holes in factory brace and re-install if desired

View from underneath truck on 81-87/91 HD Triangulation Kit installation:



Prepping CUCV and/or frame reinforced trucks for install of HD Triangulation Kit

If your truck is a CUCV or has the later model tow hook reinforcement bracket, these brackets may need to be removed for installation of the HD Triangulation Kit. Remove all bolts from bracket and remove the reinforcement plates by drilling / grinding / cutting out rivets.

CAUTION

BEFORE DRILLING INTO ANY VEHICLE CHECK THAT THE AREA TO BE DRILLED IS CLEAR OF ANY WATER LINES, FUEL LINES, ELECTRICAL WIRING, OR KEY MECHANICAL EQUIPMENT. ALWAYS USE CAUTION WHEN DRILLING OR CUTTING ON A VEHICLE.

⚠ WARNING

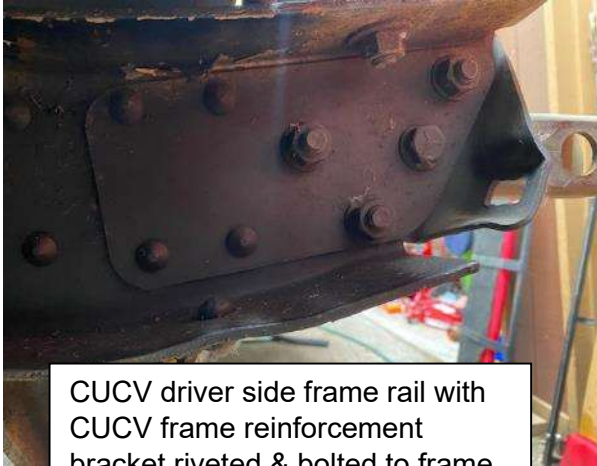
FAILURE TO INSPECT THE AREA TO BE DRILLED MAY RESULT IN VEHICLE DAMAGE, OR PERSONAL INJURY.



WARNING

WEAR APPROPRIATE PPE WHEN INSTALLING THIS KIT: GLOVES, HEARING PROTECTION, SAFETY GLASSES/GOGGLES.

Do one side of truck at a time



CUCV driver side frame rail with CUCV frame reinforcement bracket riveted & bolted to frame



81-87 (81-91 K5, Suburban, Crew) frame rail with tow hook frame reinforcement bracket riveted to frame

NOTICE

If your state requires your vehicle to have a front license plate, check out our License Plate Flip kit or license plate mouting bracket (both sold separately) on our website.

Recommended care:

Regular washing with fresh water and mild car wash detergent followed by rinsing and drying with a soft towel is the best minimum care. Beyond that, any cleaner/wax recommended for automotive finishes will work well to remove minor stains and scuffs and provide protection.

Thank you and check out our other products at:

Engineered Vintage.com

