



METALCLOAK

INSTALLATION INSTRUCTIONS

PRODUCT: CJ FRAME-BUILT BUMPER SYSTEM

REV: A | 6-24-10 | II-2100

READ INSTRUCTIONS IN FULL BEFORE INSTALLATION.

QUESTIONS? CALL 916-631-8071 M-F 8:00 AM – 5:00 PM PST

The MetalCloak experience includes the ease of installation of our products. We design for most contingencies, but installation may be different based on different Jeep condition, configuration and/or year.

We are continually trying to improve our products and instructions – please help us by providing feedback and pictures if you find any part of the instructions that do not match your particular Jeep or are not easily understandable.

If you have any difficulties at all, please give us a call. Thank you and enjoy your MetalCloak Products!

IMPORTANT NOTE: We use Stainless Steel Hardware where possible. Therefore, a tube of Silver Anti-seize is provided and should be used on all bolts—only a small amount is needed.

WARRANTY INFORMATION: This article is sold without warranty expressed or implied. No warranty or representation is made as to this products ability to protect the user from injury or death. The user assumes that risk. The effectiveness, warranty and longevity of this equipment are directly related to the manner in which it is INSTALLED, USED and/or MAINTAINED. THE USER ASSUMES ALL RISK. By purchasing this product and opening the packaging, purchasers expressly acknowledge, understand and agree that they take, select and purchase these MetalCloak products from Armored Works, LLC, its affiliates and distributors and agents as is and with all faults. The entire risk as to the quality and performance of these MetalCloak products is with the purchaser. Working on your vehicle can be a dangerous activity. If you are unsure of what you are doing, please leave mechanical or safety critical work to a skilled mechanic. We take no responsibility for the incorrect use and/or installation of MetalCloak products.

Phase 1: Tools & Notes on Installation

Tools Required: This list is the recommended tools for ease of installation. Other versions of the same tool can be used. For example, Allen Wrenches instead of Allen Drive Sockets.



Socket & Ratchet Wrench



9/16" Crescent and/or Box Wrench
3/4" Crescent and/or Box Wrench
15/16" Crescent and/or Box Wrench



Electric or Cordless Drill



Surface Sander or Grinder



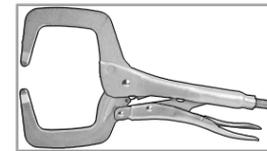
7/32" Allen Drive Socket
5/16" Allen Drive Socket
3/8" Allen Drive Socket



9/16" Hex Drive Socket
3/4" Hex Drive Socket
15/16" Hex Drive Socket



1/2" and 9/16" Drill



Vice-grip Locking Pliers

Installation Notes: Terms may be used in the body of the instructions that you may not be familiar with, if you have any questions feel free to call us at 916-631-8071 M-F 8:00 AM – 5:00 PM PST, or email techhelp@metalcloak.com

HOW TO USE THIS GUIDE: The installation guide contains ALL steps for installing your bumper. Please read and follow the instructions in order of each page top to bottom.

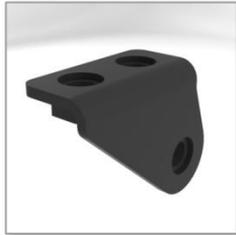
Options: Because of the number of component options we offer, these instructions may contain steps that will not match your particular configuration. You can skip these steps.

Images: Pictures are provided and parts are labeled throughout the instructions. Each text box contains guidance based on the pictures next to it. The text will refer to alphabetical labels (A, B, etc) found in the images.

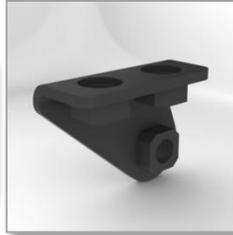
QUESTIONS: Any questions or comments about the instructions? Call us at 916-631-8071 M-F 8:00 AM – 5:00 PM PST.

Phase 1: JEEP Preparation

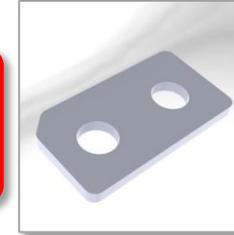
Included Components: The parts below are included with your Bumper to adapt the Frame-Built™ Base to the CJ frame.



Frame Adapter Bracket,
Driver's Side



Frame Adapter Bracket,
Passenger's Side

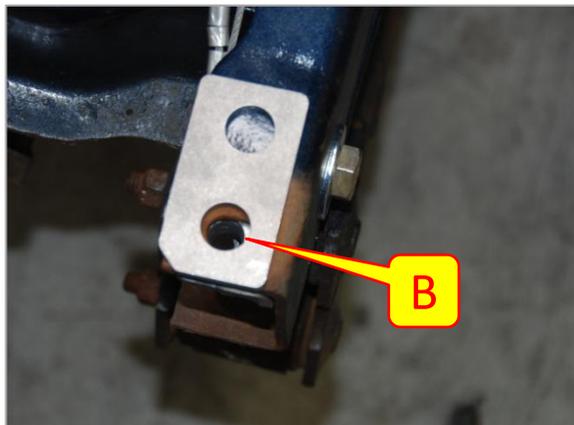
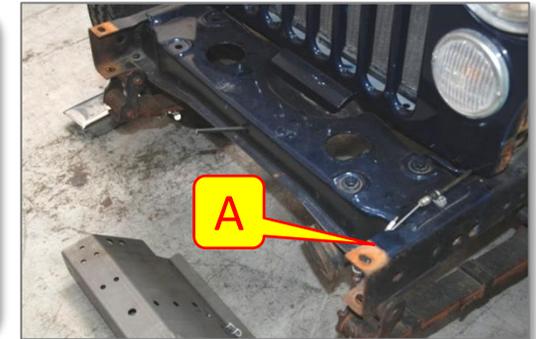


Bumper Spacer (2X)

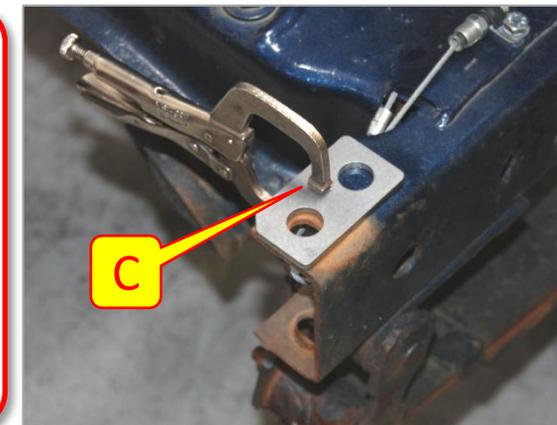
Step 1: Completely remove existing bumper and winch from front frame of the Jeep. You may discard stock hardware.

Step 2: Prepare front frame rails for bumper installation.

Inspect top and bottom of frame rails (A); a stock CJ frame should be free of obstructions. Grind any brackets, welds, or protrusions that are not flush with the top surface or bottom surface of the main frame rails. The Frame-Built™ Base, after proper assembly, may fit snugly over the frame on the front of the Jeep. Therefore the frame rails must be cleared of obstructions that may prevent the Bumper Assembly from sliding into position during the installation process. *NOTE: If significant removal of welds was required to prepare the main frame rails to be flush, fill welding may be required.*



Locate the aluminum Bumper Spacers and align on frame rail. The chamfered corner orients to the front inside corner of the rail. *Make sure the Spacer is parallel to the frame rail (the inside geometry of the frame is not square).* To check alignment you can temporarily install the Bumper Adapter Bracket to ensure the holes are properly aligned (B). Also, if desired you can clamp the Spacer in place and use it as a drill guide once it is properly aligned (C).



Phase 1: JEEP Preparation

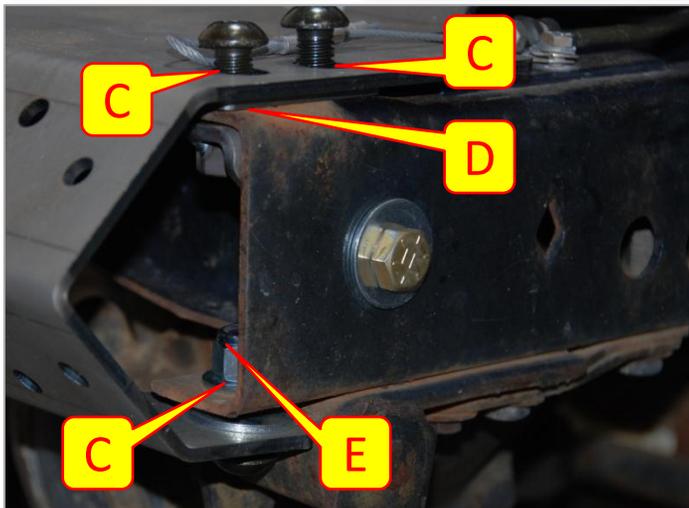
Step 2: Prepare front frame rails for bumper installation (continued).

Mark holes and drill with a 9/16" drill. *NOTE: We recommend center-punching and pre-drilling all holes to ensure accuracy.* Hand-thread 1/2"-13 x 1" Hex Head Screw with oversized 1/2" Washer through the stock hole in the side of the frame rail and into the Bumper Adapter Bracket. Check alignment of the Bracket by hand-threading 1/2"-13 x 1.5" Socket Button Cap Screws through the drilled holes and into the Bracket. Adjust your drilled holes as necessary until the Button Cap Screws fit correctly (A). When all hardware fits, tighten the Hex Head Screw enough to hold the Bracket in place (do not fully tighten just yet).



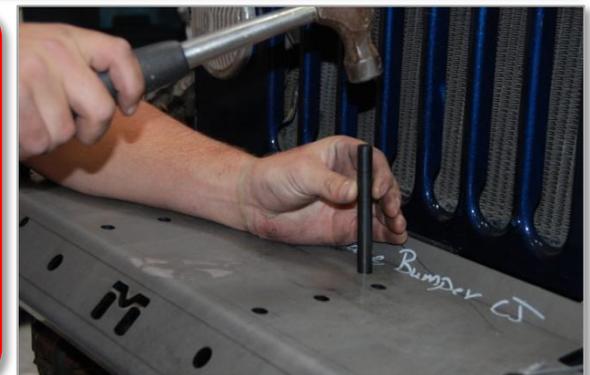
Drill or grind open the stock slots on the bottom of the frame so the included 1/2" hardware will fit. *NOTE: You may want to raise the vehicle by jacking your Jeep on the frame. This allows the suspension to relax and the front shackle to pivot to the rear, allowing better access to the bottom slot (B).*

Put the Base in place and test fit by hand-tightening all six 1/2"-13 x 1.5" Socket Cap Screws in the top and bottom mounting points between the Base and the frame (C, driver's side shown). You will need a 1/2" Nylock Nut(E) for each of the bottom locations to thread the bolt onto. Make any needed adjustments so that the hardware can be started easily by hand. Remember to place the Bumper Spacers on top of the frame between the frame and the Base for a proper fit (D). Paint all holes after drilling/grinding to prevent rust.



IMPORTANT NOTE!! READ "STEP 7" AND CHECK YOUR WINCH ALIGNMENT BEFORE CONTINUING. NEW HOLES MAY NEED TO BE DRILLED TO ACCOMMODATE YOUR WINCH ON THE BUMPER, AND TO PREVENT INTERFERENCE WITH THE HARDWARE THAT ANCHORS THE BASE TO THE FRAME.

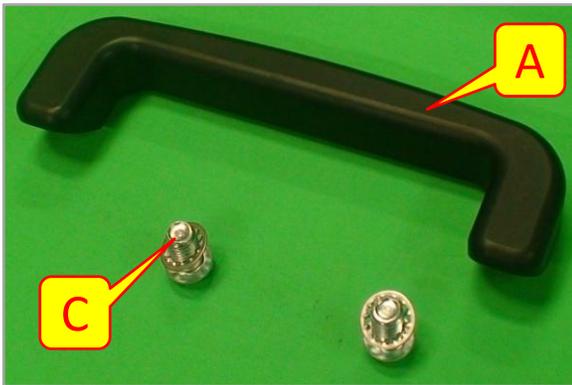
While the Frame-Built™ Base is temporarily installed, mark or center-punch the locations of the two rear 1/2" holes on the CJ's frame. Remove the Base and drill these locations with a 9/16" drill. Paint holes after drilling to prevent rust. *NOTE: If your Base is uncoated, you can use a 1/2" or 33/64" drill and the Base can act as a drill guide (but only prior to coating).*



Phase 2: Pre-Assembly of Bumper

IMPORTANT NOTE: Bumper components must be pre-assembled prior to installation on the Jeep. The following order of assembly should be followed step-by-step for ease of installation.

Step 1: Mount Fixed Fairlead



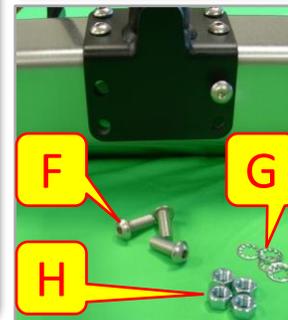
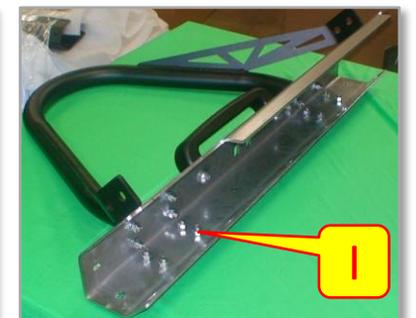
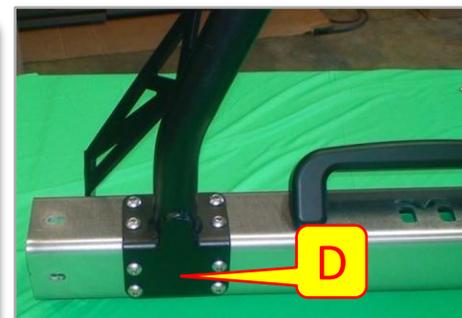
Mount Fixed Fairlead(A) on front upper angled face (B) of Bumper Base using 5/8"-11 x 1" Socket Head Cap Screw and 5/8" Lock Washers (C) provided. Tighten Screws.



Step 2: Mount Front Flanges of Hoop

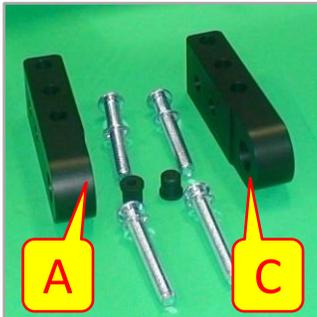


Mount front flanges(D) of Hoop(E) [Winch Guard, Mid-Stinger, Comp Guard, etc.] to the Bumper Base at the upper and lower front angled faces of the base using the 3/8"-16 x 1" Socket Head Cap Screws(F), 3/8" Washers(G) and 3/8"-16 Nylock Nuts(H) provided. Washers assemble on the inner side of bumper(I). Fully tighten hardware.

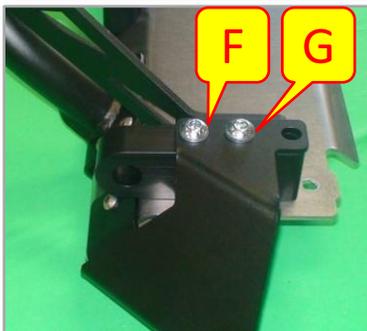
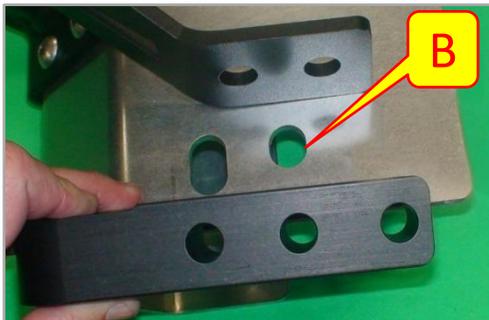


Phase 2: Pre-Assembly of Bumper

Step 3: Assemble Hi-Mount Shackles and Hi-Mount Bumper Caps



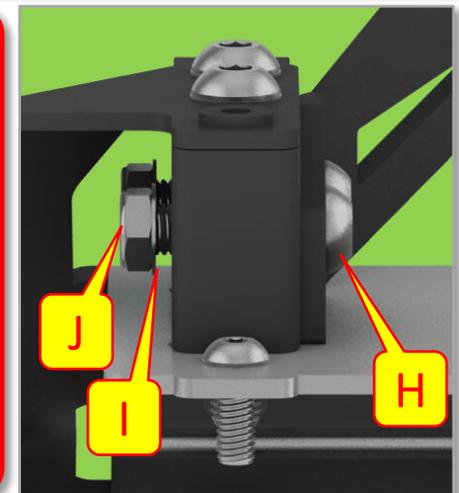
Place Hi Mount Shackles(A) into position on the top surface of Bumper Base aligning the 2 oval holes(B) on the Bumper Base with the front 2 holes in Hi-Mount Shackles. The recessed surface(C) on Hi-Mount Shackle should face toward the center of the Jeep. Position Bumper Caps(D) as shown locating components so the three holes on the Bumper Base, Hi-Mount Shackles, and Hi-Mount Bumper Caps align. Use 3/8"-16 x 1" Socket Head Cap Screws(E), 3/8" Washers and 3/8"-16 Nylon Lock Nuts to assemble Hi-Mount Bumper Caps to the front angled faces of the Bumper Base.



Place the 1/2"-13 UNC X 3-1/2" Socket Head Cap Screws with 1/2" Lock Washers provided through the front most hole(F) and middle hole(G) of the Bumper Base, Upper Shackle Mounts and Bumper Caps.

Fully tighten 3/8"-16 X 1" Socket Head Cap Screws, 3/8" Washers and 3/8"-16 Nylock Nuts(E) on the upper and lower angled faces of the Bumper Base and Bumper Caps.

Assemble Mid-Stinger Support Bracket to Hi Mount Shackle using 1/2"-13 X 2-1/2" Socket Head Cap Screws (H), 1/2" Lock Washer (I) and 1/2"-13 Nylock Jamb Nuts (J). Leave 1/2"-13 Nylock Jamb Nuts LOOSE (G) at this time. These will be tightened after the bumper has been installed on the Jeep.



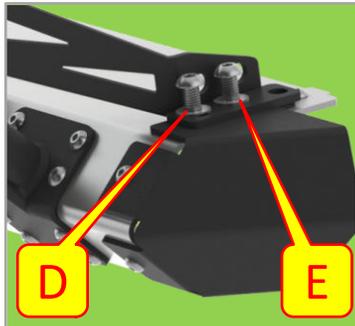
Phase 2: Pre-Assembly of Bumper

Step 4: Assemble Bumper Caps [No Hi-Mount Shackles]

Place Bumper Cap in positions shown. Re-read Step 3 of Phase 2 now. Locate components so that the three holes on the Bumper Base(A) and Bumper Caps(B) align.



Mid-Stinger Support Flanges(C) will mount on top of Bumper Cap and align with the same two holes. Mid-Stinger Support Flanges use the 1/2" Oversize Washers provided with the Stinger.



Place 1/2"-13 x 1.5" Socket Button Cap Screws included with your Frame-Built Bumper through the front most hole(D) and middle hole(E) of the Bumper Base and Bumper Caps.

Fully tighten 3/8"-16 x 1" Socket Head Cap Screws, 3/8" Lock Washers and 3/8"-16 Nylock Nuts on the upper and lower angled faces of the Bumper Base and Mini Bumper Caps at this time.

Step 5: Assemble Forward Angle Shackle Mounts



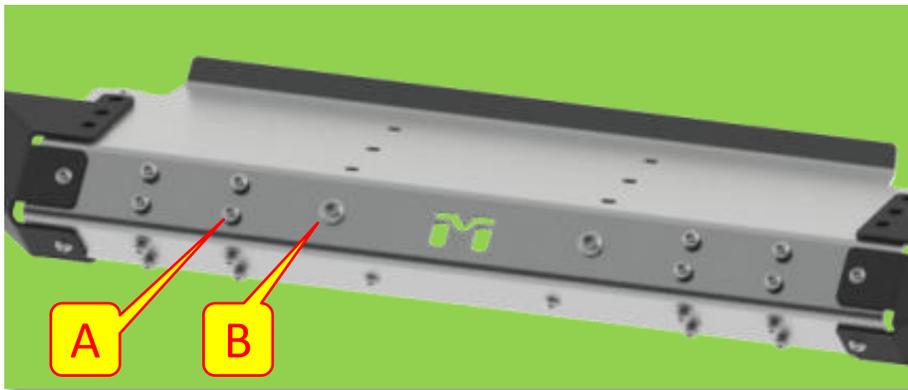
Assemble Forward Angle Shackle Mounts(A) [if a Hoop was NOT purchased] on the forward angled faces of Bumper Base using the 3/8"-16 x 1" Socket Head Cap Screws, 3/8" Washers and 3/8"-16 Nylock Nuts provided.

Phase 2: Pre-Assembly of Bumper

Step 6: Cosmetic Screws

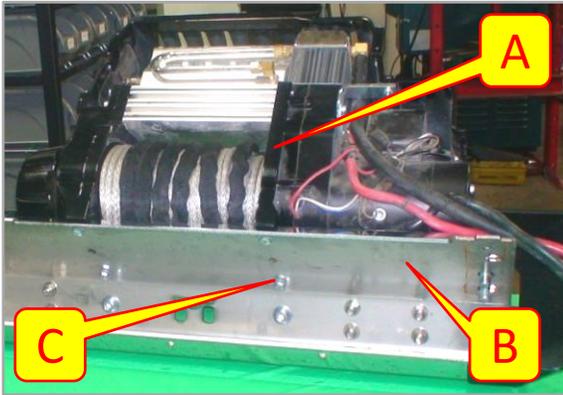
The 3/8"-16 x 1" Socket Head Cap Screws(A), 3/8" Washers and 3/8"-16 Nylock Nuts provided fill empty 3/8" holes on the angled front faces of Bumper Base. The 5/8"-11 x 1" Socket Head Cap Screws(B), 5/8" Lock Washers and 5/8"-11 Nuts provided fill empty 5/8" holes on the upper angled front face of Bumper Base. Do not fill winch mount holes on top of bumper base.

NOTE: If front mount bumper accessories (hoops, front shackles, etc.) were NOT purchased four of the 3/8"-16 x 1" Socket Head Cap Screws(A) must be shortened to a length of 3/4" (via grinding or hack saw) and installed in the 4 positions shown below (C) OR these holes may be left unfilled. This prevents 3/8"-16 x 1" Socket Head Cap Screws(A) from interfering with one another on the back side of bumper base during installation.



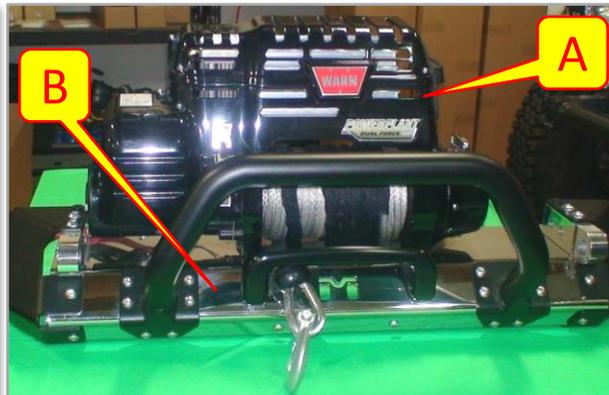
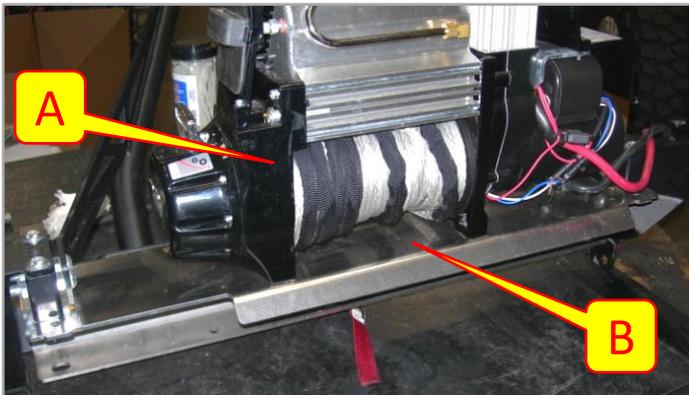
Phase 2: Pre-Assembly of Bumper

Step 7: Install Winch



Follow Manufacturer's installation instructions. Assemble Winch(A) on top face of Bumper Base(B) using hardware provided by the Winch Manufacturer(C). Be sure to use flat washers and lock washers when mounting the Winch to Bumper Base. Do not use hardware provided by MetalCloak to mount winch.

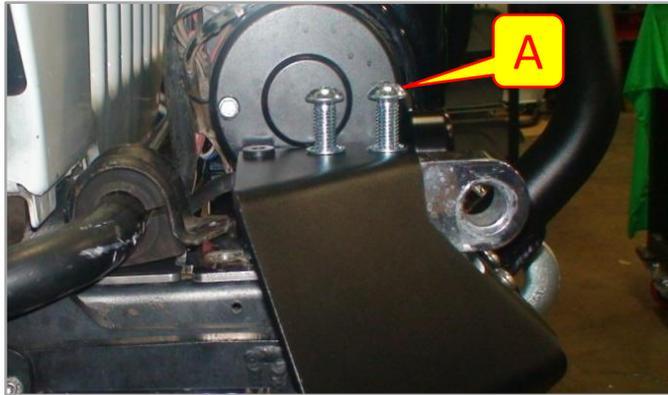
NOTE: If a Roller Fairlead is to be used mount the Roller Fairlead Bracket(D) before installing the winch.



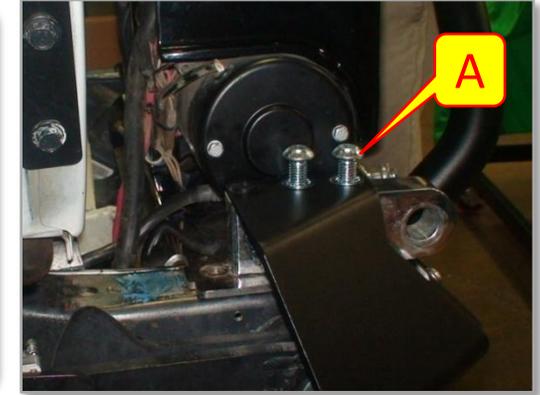
IMPORTANT NOTE!! Due to the narrower frame of the CJ Jeep models, some winches will require drilling a new bolt pattern for the mounting of the Winch, especially with either the **Mid-Stinger or Full-Stinger**, or for a larger winch such as the **Warn PowerPlant Winch**. Follow the manufacturer's suggested hole pattern. New holes may also be required for the 1/2"-13 x 2.5" Socket Button Cap Screws (used to anchor the Base to the Jeep's frame) to prevent interference with the winch.

Phase 3: Frame-Built™ Bumper Final Installation

Step 1: Position Bumper Assembly on main frame rails.



Lift the four 1/2"-13 X 3 1/2" Socket Head Cap Screws(A) [or four 1/2"-13 x 1.5" if you do not have Hi-Mount Shackles] until end of bolts are flush with the inside surfaces of the Bumper Base, this will prevent bolts from hitting main frame rails during installation. Slide Bumper Assembly into position over the main frame rails of the Jeep. Don't forget the Bumper Spacers (B-see Phase 1).



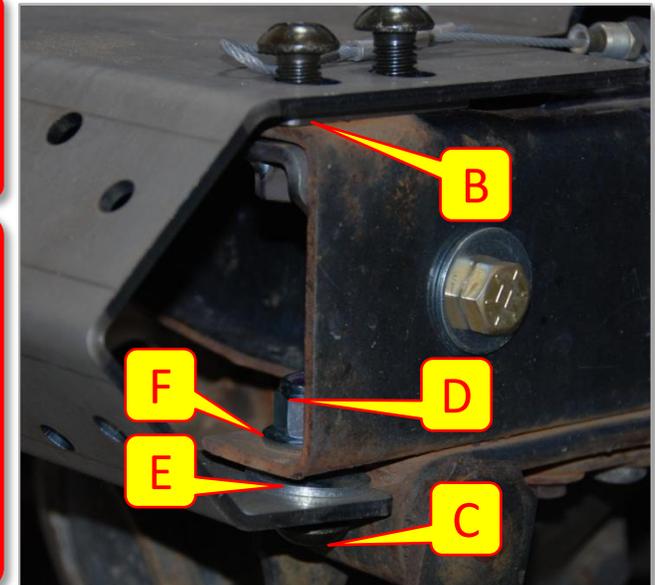
Align and loosely thread the four 1/2"-13 X 3 1/2" Socket Head Cap Screws(A) [or four 1/2"-13 x 1.5" Screws] with the four 1/2"-13 threaded holes on the Adapter Brackets. The Frame Built™ Bumper may fit tightly on the main frame rails, it will take a little patience to get proper alignment. Just get the threads on the bolts started - **do not tighten bolts.**

Step 2: Position Lower Bumper Mounting Bolts



Align two of the 1/2"- 13 x 1.5" Socket Cap Screws(C) through the bottom of the Bumper Caps, Bumper Base and frame with the included washers and into the two included 1/2"-13 Nylock Nuts (D).

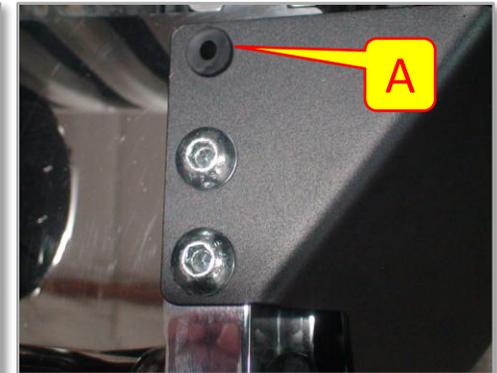
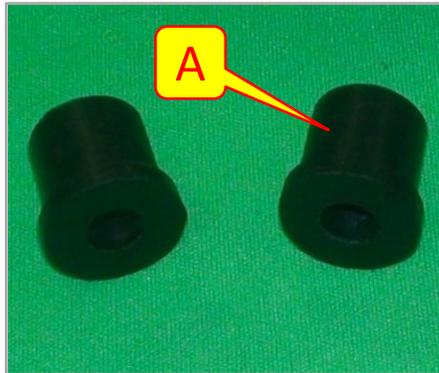
The correct order for hardware in the bottom mounting positions is as follows: 1/2"-13 x 1.5" Socket Cap Screw (C), bumper Base flange, 1/2" Oversized Washer (E), Jeep frame rail, 1/2" Standard Washer (F) and finally the 1/2"-13 Nylock Nut (D).
NOTE: the image to the right is shown with no accessories for illustration only; all accessories should be on the bumper prior to final installation.



Phase 3: Frame-Built™ Bumper Installation

Step 3: Insert Rubber Hole Plugs

Two Rubber Hole Plugs(A) cover the two mounting holes not used by either the CJ. Start the plug in open hole by hand and push with small allen wrench in center of Rubber Hole Plug to insert.



Step 4: Install frame anchor bolts in back of Frame-Built™ Bumper Base.

Insert two 1/2"-13 x 2.5" Socket Button Screws into the back two holes of the Bumper Base (behind the winch mounts), through four 1/2" Standard Washers between the Bumper Base and the frame. The frame holes should have been drilled in Phase 1, Step 2. A final 1/2" Washer and 1/2"-13 Nylock Nut go on the underside of the frame.

Step 5: Carefully and fully tighten all nuts, bolts and screws to complete the Frame-Built™ Bumper Installation.



Phase 4: Enjoy your Frame-Built™ Bumper



Remember to post your pic of your Frame-Built Bumper on your favorite forum and at [Facebook.com/metalcloak](https://www.facebook.com/metalcloak).

BITE BACK