

**PLEASE READ THESE INSTRUCTIONS ALL THE WAY THROUGH BEFORE STARTING THE INSTALLATION. YOU CAN ALSO FIND A LINK TO AN ACUTAL INSTALLATION AT WWW.HOODLIFT.COM**

**Before you start:** With the hood closed and latched, check carefully to see how far the hood actually comes down. It's normal for Jeeps that have been stressed to have one side of the hood ride a little higher off the fender than the other side. The fit you have now is what you want to have once the installation is done.

### **Installing a Hood Lift™ in your vehicle**

Once installed, the Hood Lift™ will smoothly lift your hood to the position you select and keep it there. You can raise or lower it using only one hand and very little effort. When the hood is within about 12 inches of closing it will be at its "neutral" position. Any lower and it will keep coming down. It takes us about 20 minutes to install a Hood Lift™, however it usually takes someone about an hour the first time. (Much of it reading this, however if you don't, you might wind up with extra holes in your beloved Jeep, dimples in your hood and a hood that just won't work right.)

#### **Items needed for installation:**

Jeep 1972 to present CJ or Wrangler style with metal hood and horizontal brace rods from the firewall to the radiator mount. **Fiberglass Hoods: Be careful tightening screws so you don't strip them!** Of course the same holds true for metal hoods, just not to the same extent.

Safety glasses,  measuring tape,  1/8 inch drill bit,  masking tape  drill motor,  3/8 inch socket or wrench,  medium sized phillips screwdriver (CJ only),  1/2 inch and/or 13mm socket or wrench, (some ball studs are now coming in 13mm instead of the previous 1/2")  1/2 inch and/or 13mm end wrench (2 wrenches will do instead of the socket),  Inch-pounds torque wrench recommended,  (2) 7/16" end wrenches or one end wrench and one 7/16" socket. 1997 and later owners will need an additional tool to remove the screws holding the prop rod.

**See the sketch, page 4, looking into the engine compartment.**

In general, the lower mount for the gas spring will clamp onto your existing horizontal radiator mount brace rod, 6", more or less, from your firewall. The further from the firewall you place it on the radiator brace rod, the more

listing force you will have pushing up. Too far from the firewall and your hood won't go down at all. Don't worry about some bending; they should spring back. The top of the gas spring will pop onto a ball stud attached to a brace you have attached to your hood. The brace is two pieces, one of which slides into the other for adjustability to varying hood sizes. Once the hood braces are installed they won't slide. The front of the brace bolts to a clip you attach to the front of your hood.

You have the choice of six positions (holes) to mount the upper ball stud. The closer to the rear of the hood it is, the higher the hood will open. The gas spring pops right on to the ball stud. To remove it, you need to slip a very small screwdriver under the retaining spring and lift it out a bit to get it to release. Taking off the gas springs will allow you to lay the hood back against your windshield for battery removal or whatever. **Always hold up your hood with your vehicle's hood prop rod if you remove any gas spring from its ball stud. The hood could come down on you unexpectedly if held up by only one gas spring. (Even sooner if held up by no gas springs!)**

Let's begin:

**Caution: Do not over-tighten the 5/16" nut holding on the ball studs. It is self-locking nut that should be tightened to only 15 foot lbs. (Gentle wrist-tight). More might break the ball stud and they are hard to find locally! Also, wrap masking tape around the end of your drill bit so it will only go in 1/8 inch.**

#### **Lower ball stud mounts**

The directions under **Lower Ball Stud Mount**, page 5 will work unless you have installed something else under your hood that will interfere with the gas spring when the hood is lowered. In that case, you might have to install the gas spring on the inside of the horizontal rod. Doing this means you will have to find another position to install the other brackets. The measurements provided herein are only suggestions and can be greatly modified for your particular installation. If you do move the brackets, make sure you have no interference with the air cleaner, gas springs, brackets, prop rod, etc. when your hood is fully closed. It's OK to bend the rods on the rear brackets a little to fit unusual situations. That is why they are made the way they are.

## Upper rear brackets

Passenger and Driver's side are the same. See the sketch looking into the engine compartment for suggested placement. That shows the edge of the bracket plate 1/2 inch outboard of the horizontal brace rod. Other positions may work better for your situation if you have installed air compressors, showers, etc. which may interfere with the brackets when you close the hood. You may have to bend the rod on the bracket a little for best fit. **Suggestion: if interference problems are suspected, use duct tape to temporarily fit up the brackets.**

You are going to use any four holes in the bracket that work out best for you to install it with the sheetmetal screws. The extra holes are there for situations where a pre-drilled hole in the bracket winds up over a hole or void in your hood. With the tape on the drill bit, drill two 1/8" holes first, diagonally across from each other, using the bracket as a pattern. *Be careful to drill only through the hood bracing and not on through your hood.* Then put in two of the hex-head sheetmetal screws using the small lock washers. Then drill the other two holes and install those screws with the lock washers. I like to use an air powered 1/4 inch drive 3/8" socket to drive in the screws. Be careful not to overtighten and strip the holes out. However, if you do, that's another use for the extra holes. There is some latitude in where to place the bracket, so you can always move it and start over, also.

## Upper front left bracket clip

CJ's to 1986. The left side of the hood on CJ's has large oval hole in the front bracing not far from the hood latch bolts. See view 1, page 6. You are going to mount the L-shaped bracket clip adjacent to this hole with the long side on the hood and the short side pointing out. The short side should be nearest the hole. Wearing safety glasses and using the bracket clip as a guide, drill two 1/8" holes in the hood bracing and drive in two sheetmetal cap screws, using a lock washer. If you overtighten these and strip them out, you can drill the holes out and install them with 1/4" bolts.

**1997 and Newer** Position the left front upper bracket clip per the illustration. Wearing safety glasses and using the bracket clip as a template, drill two 1/8 inch holes in the hood bracing. Drive in a cap screw in each hole, using the small lock washers. **1997 and newer: Your Jeep's hood bracing is a little closer to the underside of your hood. Be especially careful to place the bracket clips so when**

**you drive in the sheetmetal screws, they do not touch the under-surface of the hood. If they do, you may dimple your hood!**

Now that the left bracket clip is in place, get one of the front brackets (bent tube with flattened end), slip it on the rear bracket rod with the bend up and bolt it to the front clip with a 1/4-20 bolt and nylock nut. This is where you may have to bend the rod a little to get it all to line up properly. It's OK if it's under a little tension when you are done. It's not going any place.

Now get one of the gas springs and twist it so that you rotate the ball stud openings 180 degrees apart. Snap one of the gas springs on the *lower* ball mount. **Place the body of the spring up and the rod end down.** Then, with the hood in the position you want it to be when it is up, see which hole in the upper bracket lines up with the socket in the gas spring.

Place the upper ball stud in the proper hole, securing it with a 5/16" nylock nut tightened to 15 foot pounds. **Don't overtighten or you will be calling me to send you a new ball stud. They are hard to find locally.** Snap on the gas spring. Now you are about to lower the hood to test for clearance. **But first check for tools, coffee cups, hood latches in the way, etc.** Hold the hood and store the vehicle's hood prop rod. Then slowly lower the hood, peeking in to see how everything clears. (I like to use a small flashlight) It should be OK, however yours might be the one with something in the way and now is the time to check. If you have interference, try moving the upper front brace first. This will leave one or two extra holes that you can leave or put a screw in to make it look as if it's supposed to be there.

*This is also when you may discover you have to re-tighten the u-bolts on the lower ball-stud mount to prevent it from rotating. Sometimes it has to be re-tightened as the u-bolt stretches the first time. After that, it should stay put.*

Replace the hood prop rod so it holds the hood up and proceed.

## Upper right front bracket clip

### CJ's only:

The upper right front bracket clip will use one new screw and one of the screws securing the existing prop rod. You get an extra sheetmetal screw in case you don't have the prop rod screws. See View 2, page 7. Wearing your safety glasses and leaving the prop rod in place holding up the hood, remove the outboard screw (*Don't drop it, it's hard to find unless it lands in your eye! You should be wearing those safety glasses! Remove only the outboard screw*).

Loosen the other (inboard) screw a little so you can slide the bracket clip under the prop-rod mount. Align the hole in the end of the clip with the hole you just removed the outboard screw from. Replace the screw so it goes through the prop rod brace mount and the new clip.

A portion of the slot in the bracket should line up on the hood bracing and should not be over a hole in that bracing. Wearing safety glasses and using the bracket as your template, drill a 1/8 in. hole and drive in a cap screw with a small star lock washer. Tighten all three screws.

**YJ Wranglers 1987 to 1996** Just position the right front upper brace clip per the illustration. Wearing safety glasses and using the brace as a template, drill two 1/8 inch holes in the hood bracing and drive in two sheetmetal cap screws, using the small star lock washers.

**1997 and Later:** You got lucky here. No holes to drill. The hole and slot in the bracket clip should line up with your existing prop rod bolts. Remove the prop rod (**making sure your hood is supported from closing**) and place the bracket clip under the prop rod mount with the small leg of the "L" shape outboard. Replace the prop rod screws, securing the clip to the hood.

**All Jeeps:** Now get the other front bent bracket tube and install it as you did the first one with the bend up. Get your other gas spring, rotate the end 180 degrees and snap it onto the lower ball stud mount. (**Place the body of the spring up and the rod end down. This keeps the oil inside the gas spring lubricating and sealing the seal around the shaft**) Then, with the hood in the position you want it to be when it is up, see which hole in the upper bracket lines up with the socket of the gas spring.

Place the upper ball stud in the hole that lines up, securing

it with a 5/16" nylock nut tightened to 15 foot pounds. Snap on the gas spring.

It's time for peeky peeky again. After placing the hood prop rod in its "normally closed" bracket, **check for tools, coffee cups, hood latches in the way, etc.** and slowly lower the hood, peeking under looking for interference. When the hood is fully closed, check both sides to see that it goes down as far as it did when you started.

If the top of the upper bracket hits the underside of your hood, you can just grasp it and pull down, putting a slight and un-noticeable bend in the bracket. That usually works. If it *still* hits, you can slit a short piece of vacuum hose tubing and slide it over the bracket as a bumper to avoid scratching the hood interior. This usually means your hood is a lot heavier than stock.. (All that Bondo?)

If everything checks out, You're done! Your hood should come to a smooth dampened stop at the top. If you mount the gas springs body side down, it will go boingy boingy and won't have that dampened stop. The gas spring will not last as long either, since the oil inside is not sitting on the seal.

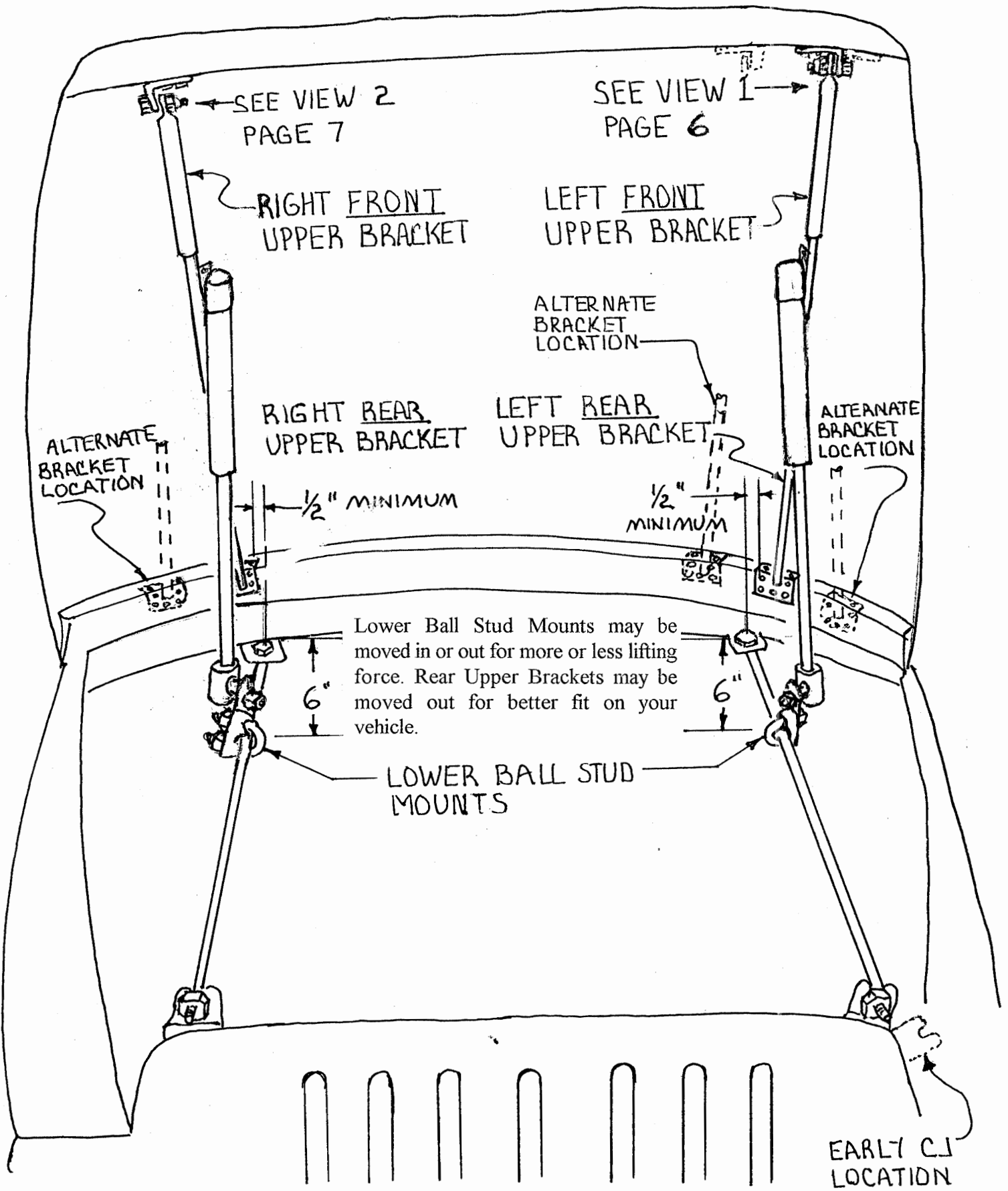
If you want more or less force lifting your hood, you can move the lower ball stud mounts forward for more force and back for less. You can also get extra ball studs for sometimes having your hood high for shows and other times lower for opening in your garage.

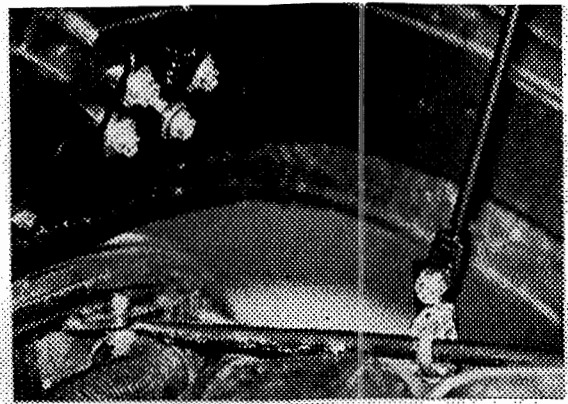
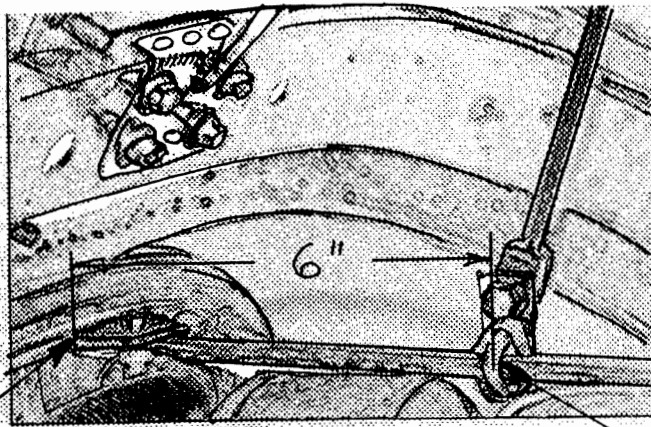
**TIP:** I see many hood latches installed backwards on CJ's and YJ fenders. (1997 and newer have a different style). Happens a lot when someone replaces the original painted one with stainless steel. Look at the slot on the fender mount and see that the long way is outboard. That will let the latch flop outboard instead of inboard and under your descending hood. It is such a subtle difference in appearance that it is often missed.

### Enjoy your HoodLift!

I appreciate your feedback. If you have any questions or comments, you can call me at 1-916-375-1122 or go to my web site, [www.hoodlift.com](http://www.hoodlift.com) for links to a site showing actual installation.

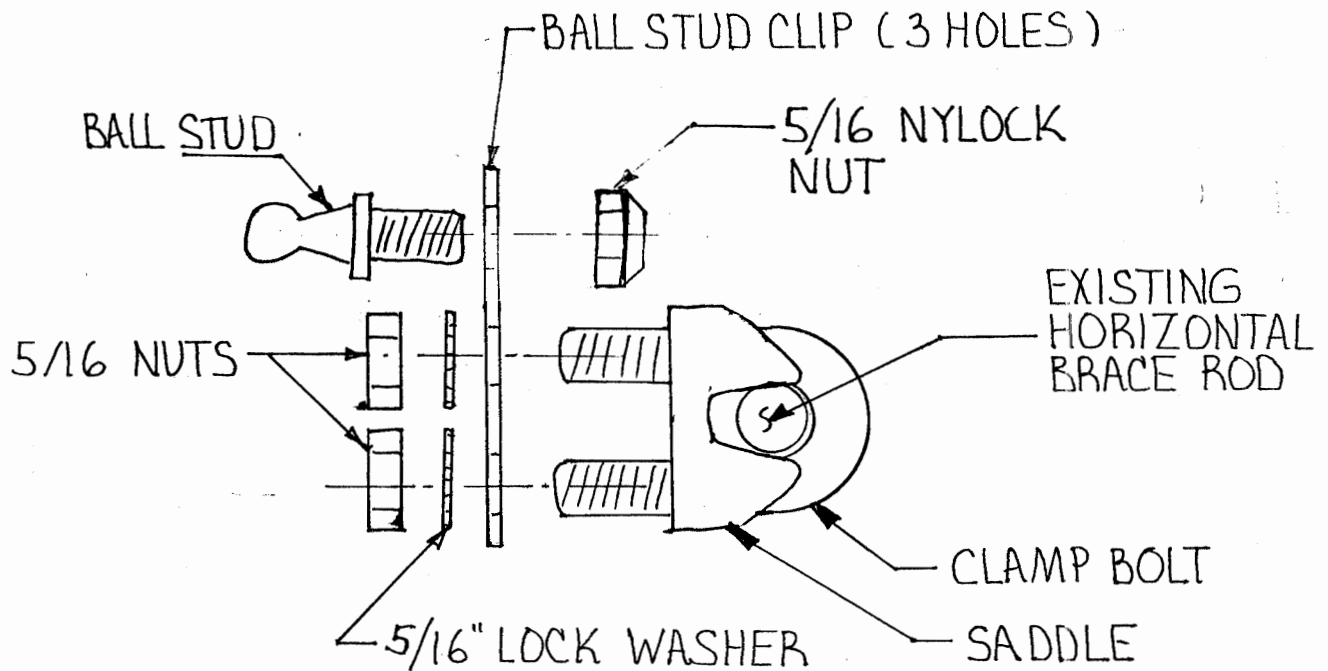
Jim Piatt





FIREWALL

LOWER BALL STUD MOUNT

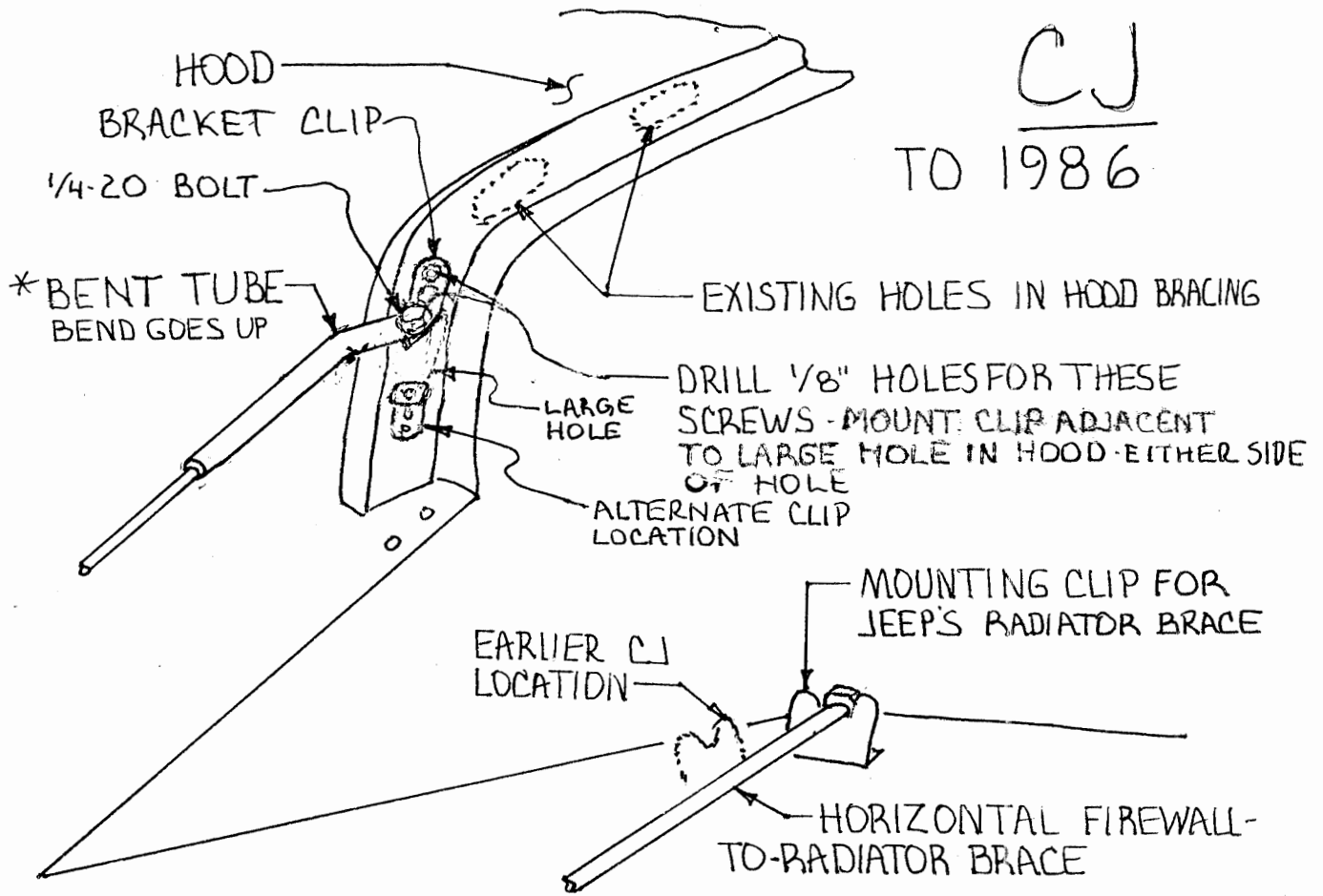


### Lower Ball Stud Mount

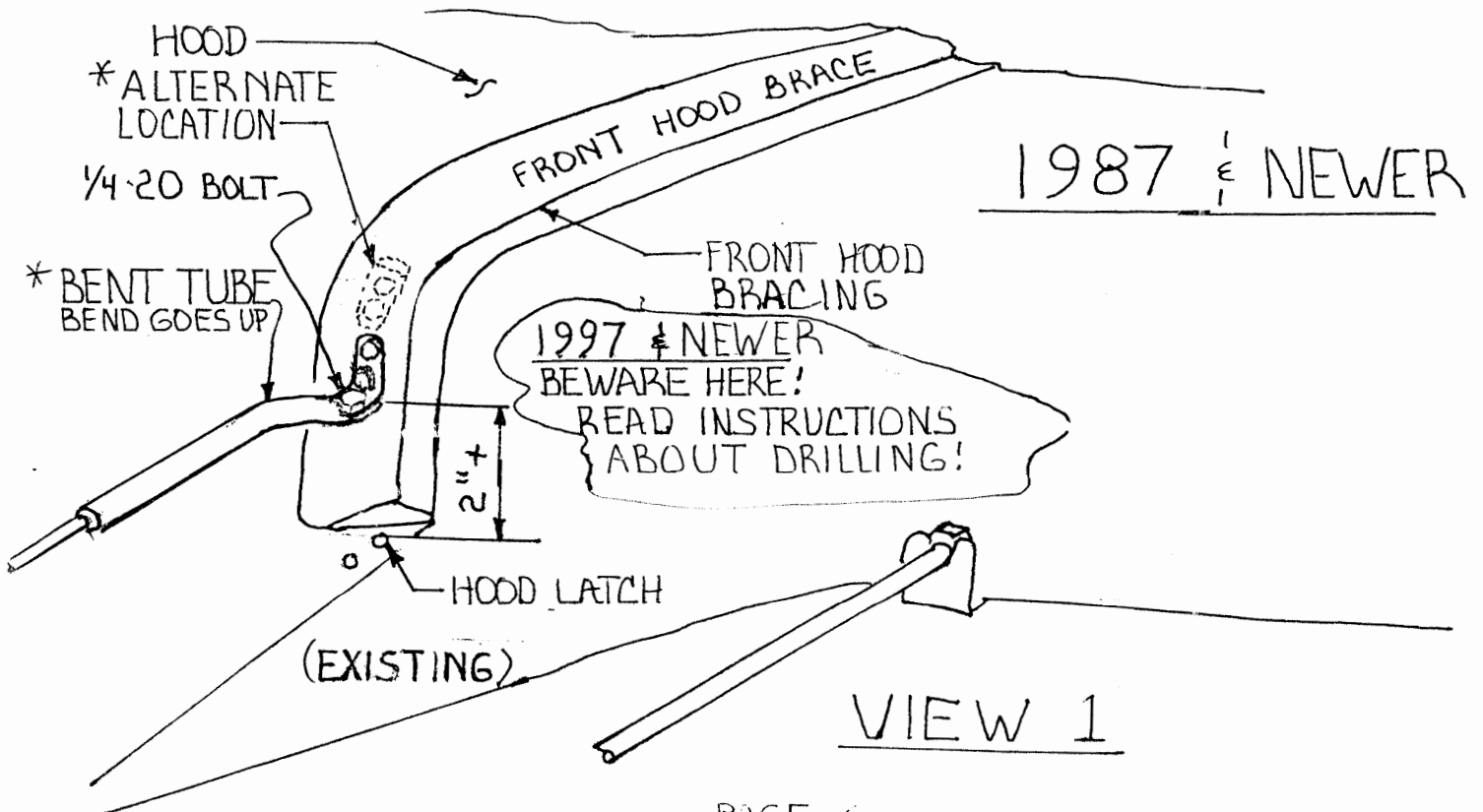
First, attach the ball stud in one of the end holes in the flat clip using a 5/16" nylock (self locking) nut. Tighten to 15 foot pounds. Then slide the u-shaped clamp bolt over your existing Jeep's horizontal firewall-to-radiator brace six inches from the firewall. The threads should be facing out toward your fenders. Put on the saddle, then the clip with the ball stud on top, also facing out.

If you have problems getting the clamp bolt to align with the holes in the clip, use vice grip pliers to squeeze the clamp bolts together until they align, but do this *after* the clamp bolt is on the horizontal rod. Otherwise it might not go on.

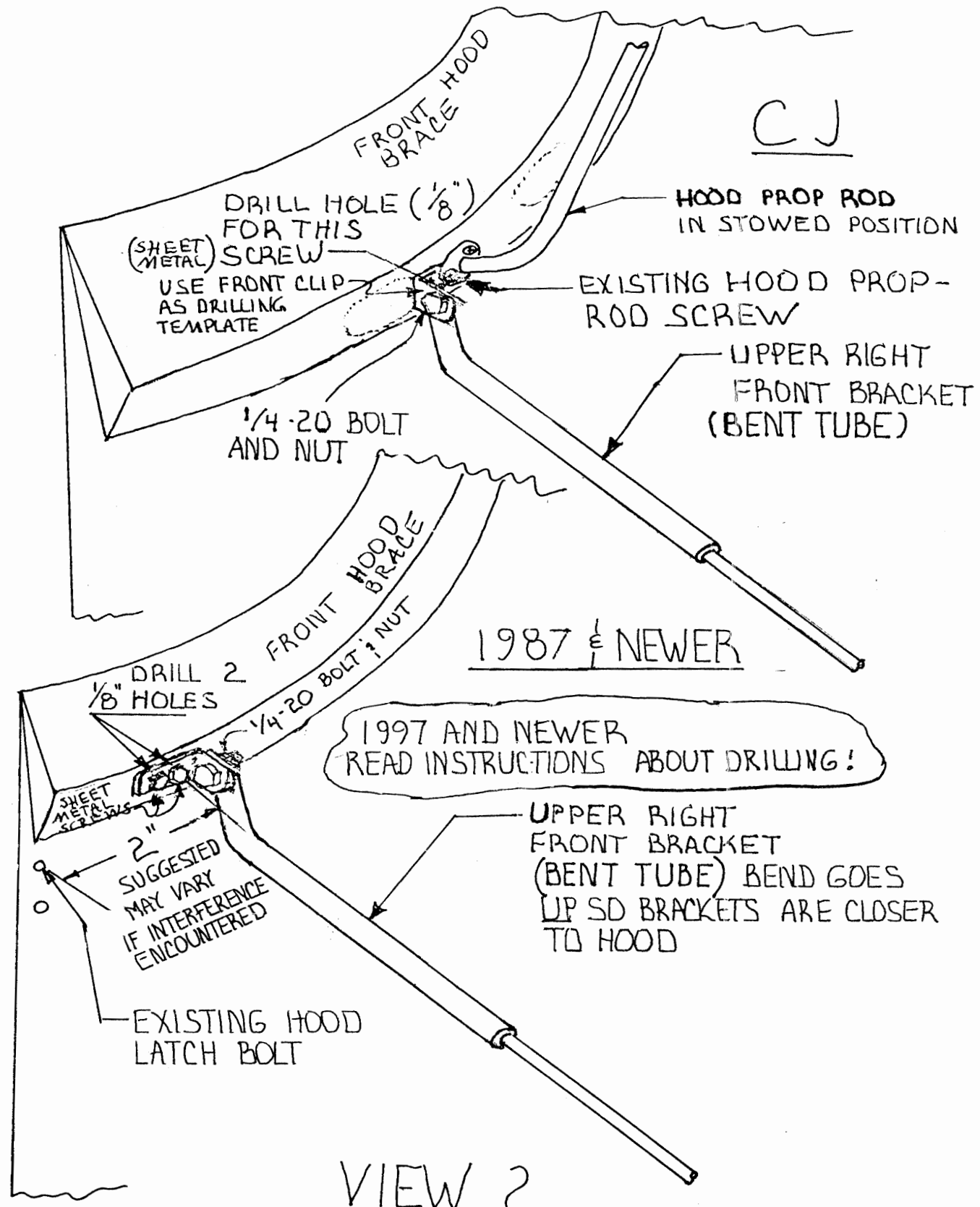
Making sure the ball stud stays horizontal, put on the lockwashers and 5/16 inch nuts and tighten the nuts on the clamp bolts to 30 foot pounds to start with. This may not be enough to prevent the mount from rotating with the weight of the hood on it, so you may have to re-tighten the nuts, especially when the u-bolt stretches.



\* BEND IN TUBE GOES UP SO BRACKET IS CLOSER TO HOOD



CJ



VIEW 2

UNDERSIDE OF HOOD RIGHT SIDE



## HoodLift Material List

Quan	Part	Finish	Part Number	price	Total price
2	Gas Springs	Black	100	\$37.50	75.00
2	Rear Brace	Powder coat	101	\$20.00	40.00
2	Front Brace	Powder coat	102	\$15.00	30.00
2	Front Bracket Clip	Powder Coat	103	\$5.00	10.00
2	Ball Stud Clip	Powder coat	300	\$2.00	4.00
4	Ball Studs	Zinc Chromate	301	\$2.00	8.00
2	1/4-20x5/8" cap scre	Zinc Chromate, grade 5	404	\$0.10	0.20
2	1/4-20 nylock nuts	Zinc Chromate	405	\$0.05	0.10
4	5/16-18 locknuts	Zinc Chromate	400	\$0.40	1.60
2	1/4" Brace clamp	Powder coat/zinc	401	\$1.00	2.00
4	5/16" internal tooth lock washer	Zinc Chromate		\$0.10	0.40
12	1/4" internal tooth lock washer	Zinc Chromate	402	\$0.05	0.60
2	labels		500	\$0.25	0.50
12	#14 x 1/2" Hex washer head sheet	Zinc Chromate	403	\$0.15	1.80
	metal screw				

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