

DOUBLE YOUR MINI'S CAPACITY BY ADDING A TRAILER HITCH

By Dave Cornell

While I love the way my Mini drives and handles, it leaves just a bit to be desired in the cargo carrying area. After considering a car hauler and a roof rack, one too expensive and the other too awkward, I thought about a small trailer that I can hook on when needed and leave at home when I don't. Seeing the ad in MC² for Mini Do More Trailers & Towing Accessories (www.MiniDoMore.com). I ordered the receiver hitch, the drawbar in the Mini Cooper tool bag and the Tow Wiring Harness. As you can see from the following, installation was straightforward.

Installing the Trailer Hitch Receiver

First, find a good place to work. The installation requires jacking up the car and some crawling under it, so work in a place you can do this comfortably. Plus, if anything goes wrong, can you just close a door and keep things safe and secure? My garage seemed just perfect.

Start by washing the car. During this installation we will be removing and reinstalling body parts and we don't want to scratch these parts with road grit.

The installation instructions are on the website; you can print out a copy now and follow along with me. They are really very clear and have lots of pictures. Even for those of you less than mechanically inclined, this is not really very hard.

Check your order and make certain that you got all the correct pieces. When everything is fully disassembled, that's not the time to find out that some critical part is missing. Re-read the instructions before you begin. Note that you're going to be removing and installing long and clumsy parts. This job will be a lot easier with a helper.

(1) Lay out the parts and the tools required – the instructions have a list. The yellow blocks on the right hand side of the picture are wheel chocks. Now jack the car up and put it on the jack stands. Remove the rear wheels.

Following the instructions, begin to remove the rear bumper cover. As you remove the fasteners, put them somewhere so that you can identify them for re-installation.



(2) Gently pull out the rear fender flair and remove the fastener.

(3) Remove the two hatch lid buffers and the bumper cover will come off with a gentle tug.

(4) Have something to catch the bumper cover, since it is still connected to the car with various lights. Mine just had side marker lights. Gently twist and pull these to disconnect them.

Once the bumper cover was loose, I put it in the box that the hitch had come in to keep it from getting scratched while I proceeded with the installation.

Now comes the clumsiest part of the installation. This isn't hard but you will be removing rather long parts that are attached to the car with wiring. That box you used to support the bumper cover will help here.

Per the instructions, on my MCS I had to remove two plastic screws holding the heat shield to the aluminum bumper substructure. These are at the very left and right ends of the substructure in the wheel wells.

(5) Then remove the 12mm bolts holding the substructure to the car. If you loosen all eight of them first, without removing any and then remove three on each end, the substructure will still be held in place by one bolt at each end. Make sure you have something to catch the substructure then remove the final bolts. The wiring harness does not have a lot of slack here, so on my car, the substructure was completely free on the left side but hung up on the harness on the right.

At this point, the aluminum substructure and the black metal plate we will be replacing with the hitch are held together by two 10mm plastic nuts and attached to the car by the wiring harness. The harness is attached with plastic butterfly clips. If you just gently pull on the wire, the butterfly wings will fold up and the wire will slip free.

(6) Remove the (2) 10mm plastic nuts and you can set the black metal plate and the foam insert aside.

(7) This picture shows the removed metal plate and the foam insert in front with the receiver hitch which will replace them in back. The metal plate will be recycled. The foam insert

could be cut to fit around the hitch receiver, but I just recycled that as well.

That was easy, right? Now we begin the actual installation!

(8) Carefully put the hitch and aluminum substructure into place, making certain that the wiring harness is not hung up, and put one 12mm bolt in on each side to secure them. Then bolt up the remaining six bolts and torque all eight bolts to 17 ft/lbs. per the instructions.

Use the wire ties that came with the kit to hold the wire harness in place.

If your car is a 2002 through 2004 Cooper or an MCS with the light in the center of the rear bumper cover, refer to the instructions and cut out the black plastic lip as shown. My car is a 2006 and does not have the backup light in the bumper cover so I did not have to cut anything.

(9) At this point I put the drawbar in place which showed how little space there would be to put the drawbar pin in when the bumper cover is replaced. Not much! I pushed the heat shield around a bit to get a little more room. Do *not* let the heat shield touch the muffler or the exhaust pipes or it will conduct heat, not shield heat.

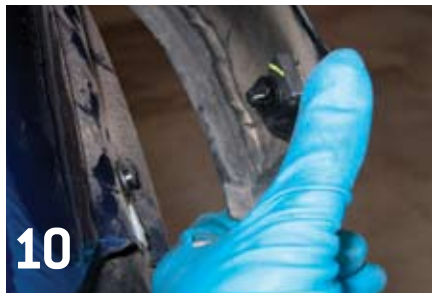
I realized that when the bumper cover was put back on, you would have to lay on your back to put the pin into the receiver. Further, and more importantly, your hands will be right next to very hot mufflers and exhaust pipes. This means that to use this hitch, the drawbar should be put in and removed *only* when the car is cold! Better to leave the drawbar in place and bark your shins on it than risk burning your hands!

(10) When I pulled the fender flare off on one side, the "B" clip broke. I guess that this has happened before because my kit came with two new clips. The clip just slides out of a slit on the fender flare and the new one just slides back in place. The picture shows the new one on the flare and the old one still in place on the body. Carefully pry the old one out, without scratching any paint.

Since my car is an MCS, I reattached the heat shield to the aluminum substructure with the plastic screws before doing anything else. Next, I put the bumper cover, still in the box the hitch came in, behind the car and put blocks under that to get it more or less into position. I reconnected the lights and tested them.

Then I put the bumper cover back into place. Note the three height locators for the bumper cover. Make certain that you have the cover in the correct alignment before you began to reattach it. This is another good place to have that helper. Nothing is very heavy but the bumper cover is fairly clumsy for one person to locate alone.

Most of the fasteners holding the bumper cover are plastic and they break easily, especially if your car is older. Sometimes I wonder how these things stay together at all because they appear to be so flimsy. If you cannot get the fasteners to



work, leave the bumper cover off and get new ones from your dealer. It may be a hassle but they are not that expensive compared to having your bumper cover fall off later which will be very expensive and a real hassle.

Reverse the disassembly instructions to reassemble everything. If you tighten all the screws and bolts just half way, things will stay in place but with enough slop to allow you to line everything up.

Now, with the bumper cover in place, practice installing and removing the drawbar again; there is not much room but it can be done.

Finally, replace the wheels, remove the jack stands, tighten the lug nuts and clean up. If you have any pieces left over other than the metal plate, foam insert, or broken clips, please reread the instructions before you throw anything away. Tomorrow we will install the wiring harness.

This part of the project took me about four hours total from washing the car to final clean-up. It could have been done much more quickly if I wasn't taking pictures. It was really fairly easy, the worst part being the clumsiness of the long parts.

But we're not done yet. MiniDoMore sells some nice accessories that slide into the hitch receiver, including a cargo box carrier, bike rack, and golf club carrier, but I'm going to be towing a trailer, which means I need the wiring to activate signal and brake lights on the trailer. So that's next.

Wiring the Trailer Hitch Connector

(11) Following the instructions that came with the wiring harness, I laid out the parts and tools to be certain that I had everything to complete the installation. Oh, I also read the instructions one time through to be certain that I either understood everything or at least knew where I might have some problems.

The Modulite unit in the kit gets information from the various wires that control the car's signal lights, and then, through the power line connected to the battery, it activates the appropriate lights on the trailer. The unit as received is all set up to be installed on the left (drivers) side of the car as the instructions indicate.

This install will involve some contortions to get at the tail light clips, which are tucked back inside the access covers. If you have big hands or are not very flexible, you might want to get some help to do parts of this installation.

(12) Start by remove the access covers on each side in the boot. Then, on each side, look in and locate the taillight clips. A flashlight will help here. These snap into place in place in the taillight fixtures but a gentle tug will disconnect them. Don't pull on the wires, pull only on the clips. When they are disconnected, they look like this.

The harness from MiniDoMore has a long green wire to run over to the right (passenger)

side of the car to get the signal for right turns. To make a clean install, I want to run the wire in a safe and secure location, so I'll put it under the boot back edge plastic trim cover, just like the installation instructions call for.

Leave the carpet in place over the battery compartment for the time being. The trim cover is held in place by three double pin plastic clips. To remove the inner pin I just used my fingernails. To remove the outer clips I used a small screwdriver and gently pried them out.

(13) Leaning over and looking in from the top, here is what these look like.

(14) Once the three pins are out, pull the lower part of the cover toward the front of the car to clear the steel tabs that the jack bag and your new receiver hitch bag clip to and then pull up on it to release four clips you cannot see. Here I am propping up the cover so you can see it. The four yellow dots are the clips.

The instructions say that on 2003 models this cover has a power unit in it. If so, disconnect the wire so you can set the cover aside. My car does not have a power unit so I just set the cover aside, carefully so as to not scratch it.

To make room to run this green wire and the power wire, we loosen the plastic boot liner on the driver's side. We do not need to remove this cover, just remove the three screws that hold it in place so we can move it around to run our wires. Don't forget to put these screws and the pins we pulled out earlier in a good place so you can find them later.

(15) Now we are going to install the Modulite unit in the driver's side access cover area. The unit already has hook and loop fastener (Velcro) attached to it so we just need to clean the metal so the adhesive will adhere. On my car, there is a threaded stud about where the unit could go so I installed my Modulite unit on the stud as shown. If your car does not have the stud, just follow the instructions and stick the unit in place with the hook and loop fastener.

Now we are ready to begin the actual wiring of the harness. First, we want to run the long green wire over to the passenger side of the boot to pick up the right turn signal. Fish the wire under the left side boot cover we loosened up earlier and across the boot to the right side. You could wiretie the green wire to the bundle in a couple of places. If you have an MCS, you will be running the black wire with the fuse in it to the battery part way along this same area so you can also tie in the black power wire at the same time once that's installed.

The instructions say to run all of the wires first before attaching any, but since this is the only wire going to the right side, I just connected it and began to close up the boot as I went along. To do so, fish the green wire under the right side boot cover and into the access area, removing the three screws on this side



cover to make this easier in the same way you did on the left.

(16) Since I am jumping ahead and connecting the green wire on the right hand side, I jumped ahead in the instructions and found which wire on the right hand light clip I was supposed to attach to the green wire. The instructions for my car said to connect the green wire to the Blue/Brown wire from the right side tail light clip. Please check the instructions for your car; other models or years of cars may be different.

(17) The kit came with nice blue plastic connectors to do the wire attachment. If you look at the connectors, they are two cylinders molded together with a clasp on a hinge but look more closely. One of the cylinders goes through, the other is blocked off.

To use the connector, put the wire from the Modulite unit into the blocked off cylinder, the one next to the hinge, and put the correct wire from the car into the cylinder that goes through. Now, fold the clasp over and, with pliers, squeeze the clasp together, driving the metal blade through the insulation of the wires. Do not squeeze too hard as we are not trying to cut the wires in half. We just want to drive the metal blade through the insulation and into the metal of the wire to pick up the signal.

Now, re-read the instructions. Did you connect the correct wires? Auto parts stores will carry these or other similar types of connectors if you have a "Homer Simpson" moment.

Replace or retighten the right side boot cover screws. If you feel correctly that you have connected this side correctly, go ahead and replace the tail light clip. Make sure it locked back into place. Replace the right side access cover. For the rest of us, just tighten the right side cover screws but leave everything else open.

(18) Next, back on the driver's side, the instructions have us connect the ground wire. This is very easy. Locate the ground stud back in the access area. It is attached to the car body and has a bundle of brown wires running to a connector attached to it. Just loosen and remove the 10mm nut, slip the ring connector on the white wire onto the stud and reattach the bolt. Try to run the white wire out of the way before you attach the ring connector.

Now run the power line as described in the instructions. Cooper owners, since you have a front-mounted battery, you have two options on getting power to the Modulite unit but, since I have an MCS, I cannot show you what to do. Just follow the instructions or, if necessary, have a trailer specialist run the power line.

We MCS owners have this part easy: the battery is right there in front of us and MINI even used a terminal with an auxiliary power post already built in. It even has a nut already on it!

(19) Just fish the black power line, the one with the yellow wire with the fuse in it, under the boot side cover just like you did with the green wire. The fuse makes this quite a bit harder. Do *not* yank on the fuse unit. You do not want to break the connection between the black wire and yellow wire with the fuse or the Modulite unit will not get power.

Again, just like the green wire, run the black wire to the battery, following the wire bundle that runs across the boot at back, using the channel in the sheet metal of the boot for other wires. Wire tie the black wire along the existing wire bundle.

Do *not* actually connect this wire just yet as we do not want to make the Modulite unit "hot" until we have connected all of the other wires.

We can close up some more of the boot now. Replace the three screws in the left side boot cover and replace the back edge plastic cover. Locate the four back edge cover clips into their holes then press them into place. Work the cover over the trunk latch as you do this then work the front edge of the cover over the tabs for the jack and receiver hitch.

Carefully work the boot gasket back into place over the cover. Fold the carpet down first, and then replace the three clips and pins that go in the front edge of the back edge cover.

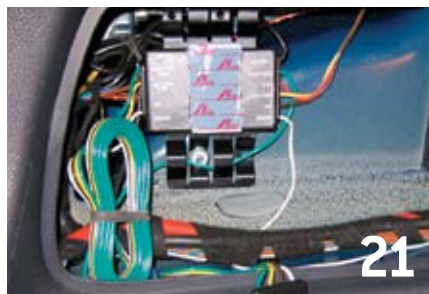
(20) Now there are just three wires for lights left to connect. Follow your instructions and use the blue connectors to attach each wire from the Modulite unit to the correct wire on the car. Check your work and make sure you made these last connections correctly.

The wires from the Modulite unit may seem a bit long and but before you cut some off check that you can still plug the taillight clip back in. I just left the wires as is. Plug the taillight connector back in place and make sure it locked.

(21) Tuck all of the wires back as necessary for a clean install. I store a pair of work gloves back here so I made sure that everything was neat and tidy.

Okay, now that we have all of the wires for the lights connected, let's power up the Modulite unit. Back at the battery, lift the red plastic cover and connect the ring terminal from the fuse end of the black/yellow wire to the auxiliary power post on the positive terminal on the battery. Tuck any loose wire down into the battery hole for protection, put the red cover down and check your work.

(22) Done yet? Do you have any spare parts left over? We didn't put the access covers on but these are all we should have left. Before we do, let's test our work. Make sure the brake lights, taillights and turn signals work on both sides of the car. If so, put the receiver hitch in, hook up the trailer, and check again to make



sure that all the brake lights operate in synch with the car lights.

Installing the wiring took just over an hour, because I like to be careful around wiring, and the boot is not the most comfortable or easiest place to work. Thanks to Colorado Motor Car Company for letting me hook up to their Little Guy Rascal trailer to test my wiring. I just might buy one of these!

More than One Way to Tow a Trailer

As careful readers will have noted, two companies supplying trailer kits for the Mini advertise in the pages of MC² Magazine, MiniDoMore (www.minidomore.com) and MiniFini (www.minifini.com) which also supplies the trailer accessories sold through your MINI dealer. We believe the kits and accessories supplied by both vendors are of very high quality, but there are some differences that readers may wish to take into account in making their decisions.

The base for each of these kits is a component that installs behind the rear bumper cover, bolting to the chassis in place of the stock black metal plate, and both install in pretty much the manner illustrated in these instructions.

However, there are some differences in design between the kits from the two suppliers.

The kit provided by MiniDoMore has an integral trailer hitch receiver which fits through the opening that is used on the later Cooper S models for the optional fog light. By comparison, the kit provided by MiniFini has two separate receivers that fit through the decorative grilles in the MCS. The trailer hitch receiver is a separate component that slides into the two receivers extending through the grille.

Both companies supply other accessories that mount to their kits, including cargo racks, bike racks, and racks for other types of sports equipment. The MiniDoMore accessories slide directly into the trailer hitch receiver, and other standard accessories designed for a trailer hitch can be used as well. MiniFini has designed its own accessories that slide into the two bumper receivers and are specifically designed for the MINI.

Both companies also supply wiring kits to activate the trailer signal lights, which install in the same general manner, as shown in the instructions on these pages.

We'll leave it to you to compare the designs and prices of the two suppliers, but whichever way you go, we're sure that you'll be pleased with the product and it will significantly increase the flexibility of your MINI for travel, motorsports, and other outdoor activities.