

Thank you for making the investment in improving your safety and nighttime visibility with the MFC Offroad OEM+ HID upgrade kit. The MFC Offroad HID kit is comprised of top shelf, US spec components, complete digital ballasts with high quality 35 watt componentry. This solution to the inferior OEM lights that come factory with your Jeep are **GUARANTEED TO NOT THROW ANY CODES**. We have the only solution that is 100% plug and play, and provide a proprietary bulb base that fits all three bulb styles that changed throughout the model years. The color temperature matches the DRL light system perfectly as well as the MFC Offroad OEM+ LED fog light system. When combined with the MFC Offroad OEM+ fog light system, there is no comparison of light throw on the market.

Installation is plug and play, all components are waterproof and a solid one hour burn in time is conducted before ever sending out a kit. The 1 hour burn in time will ensure there are no DOA kits received. Included with all kits is a direct connect harness to even test the system directly to the battery, and avoid any connections, where 100% of the time is where troubleshooting always occurs.

Multiple mounting locations can be used inside the engine bay, and we have outlined the best location here within the instructions. Installation can be done direct from within the engine bay, but if you choose to, opening the fender liners can help with installation. This can be accessed from the front of the wheel wells and requires both an 8mm and 10mm socket to remove the bolts holding the plastic liners to the body depending on your model year and trim.

*** Please note a hole will be drilled in the back of your bulb cap to allow the wires and double layer grommet to slide through. This will ensure a watertight pass through and exceptionally clean look. ***

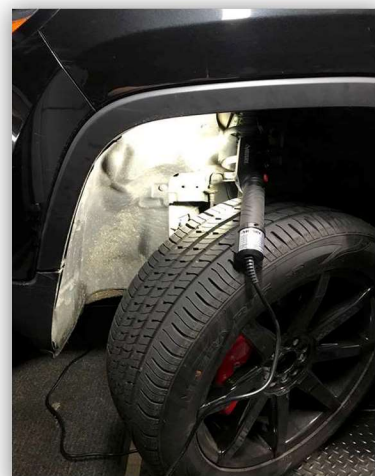
If you have any questions, or get hung up with installation, you may always refer back to the installation video that can be found in the MFC Garage section of the website, or reach out to our technical department that can be found on the "CONTACT US" page of the website.

Tools needed:

1. Drill
2. 7/8" drill bit
3. Phillips head for mounting screws and self tapping ground screw
4. Shop light (if needed)

Step 1:

To access the rear of the headlamps, the easiest way is to go behind the wheel well liner. Turn your wheels hard left or right depending on what side you are working on. You will be able to access the bolts and liner easily this way. The use of a shop light is incredibly handy as it will be entirely impossible to see what you are doing without it.



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Step 2:

You can now access the bolts holding the liner to the body. Depending on your year and trim level, either an 8mm or 10mm socket will need to be used on the three outermost bolts holding the liner. Once these are removed, you can fold back the liner against the tire to hold it in place.

Do not worry if you fold or bend the liner. It is plastic and will return back to it's shape when placed back in its original position. Be sure to not lose these bolts as they can be easily misplaced. Ask us how we know!

Step 3:

Take note of how easy it is to access the back of the headlight housing from the fender liner. This is the way we recommend carrying out the installation.

From here you will access the OEM cover on the back of the headlight housing. Rotate the cap a quarter turn counter clockwise and the cap will come off. Inside the cap is a silica dessicant package that has to be removed to drill the hole. You can remove this and place to the side. You will put this back into the housing before sealing everything back up.

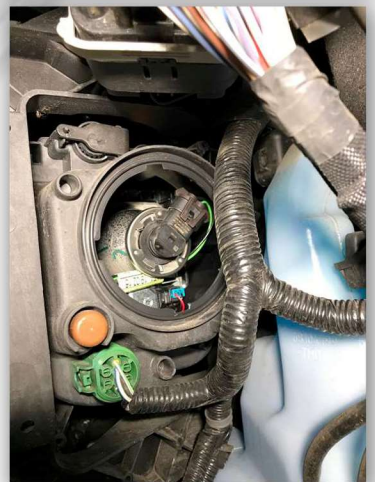
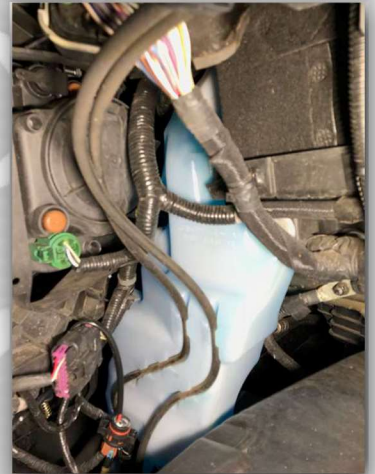
You will now remove the factory bulb in the bulb retainer. This is removed a quarter turn counter clockwise as well. Pull straight out after turning.

Step 4:

You will now use the 7/8" drill bit with the cordless drill to create a hole in the cap that was removed from the back of the headlamp. Be sure to drill it center so a complete seal can be made for the included wire grommet.

Step 5:

Insert the wiring through the new hole. You may have to make a small notch in the cap to allow the connector to slide through. This depends on how versatile you are in sliding the connection through. A picture of that notch is seen below.



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Step 6:

When reassembling the connections inside the headlamp housing, please note that the wiring is polarity sensitive. This means that if your lights do not turn on after installation, you DO NOT have the positive and negative wires correctly oriented. Jeep is known for having reverse polarity at the connection terminals. The best way to figure this out is with a 12 volt light tester as seen to the right. With this tool you can confirm which wire is positive, and reduce the amount of stress during install. If you have reverse polarity, you will flip the connection that comes out of the headlamp housing that goes to the input side of the ballast. Simply connect it opposite of normal. This will in turn correctly orientate the tabs inside the connector.

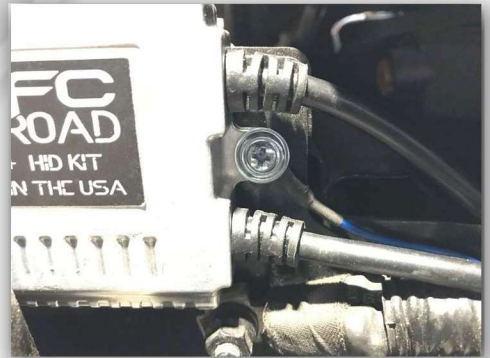


Place the bulb into the hold of the projector and do a quarter turn clockwise to secure it into the retention tabs. You may now place the OEM cap back into location and ensure all wires are tucked back inside of the housing as to not interfere closing of the cap.

Step 7:

In order to mount the ballasts and ignitors, we have included self tapping screws that will aid in securing them to the engine bay metal. The cleanest and best locations for mounting are seen in the following pictures.

You will notice that the blue wire with the circular terminal is also included in the mounting of the ballast. This is a mandatory ground wire that needs to be properly grounded for the system to work. Failure to ground it as shown voids the warranty. This wire needs to be directly under the self tapping screw head.



TROUBLESHOOTING

1. If the lights do not turn on after installation, please refer back to the step outlining reverse polarity. 99% of the time, this is the issue. Be sure to know how to test with the 12 volt light tester we recommend.
2. If, after installation you notice a slight shadow at the 7 o'clock position, slight trimming of the tabs is necessary. This is due to the bulb retainers on the back of the projector are varying in alignment. This does not create a problem with halogen bulbs, but only HID where a ceramic filament wire can cause a shadow. The trimming of the tabs will remove this issue. You will be able to further clock them so the shadow sits at the beam pattern cut off.
3. If the beam pattern is scattered all over the wall, or you have a hot spot in your beam pattern, this is due to the bulb not being seated correctly. One of the tabs on the bulb is not seated in the metal retention tabs on the back of the projector.
4. Please note, these instructions show the silver ballast system. The black ballast system is identical, with an upgraded bulb design, and installation is exactly the same.
5. If after all these techniques are exhausted and the units still do not power on, we recommend to test the unit directly to the battery with the included direct connect harness. Once you power them up this way you can rest knowing that the system is working, and you just need to figure out the connections. Either the reverse polarity issue is present, or your connections are not sound. At each connection, you can use the volt tester to see if power is there. If no power is there, we recommend to chase the connection backwards to see where you actually start having power. Then you can confirm to make sure where each connection can be 100% connected. A pair of channel locks will allow you to clamp down hard enough for a good connection.

