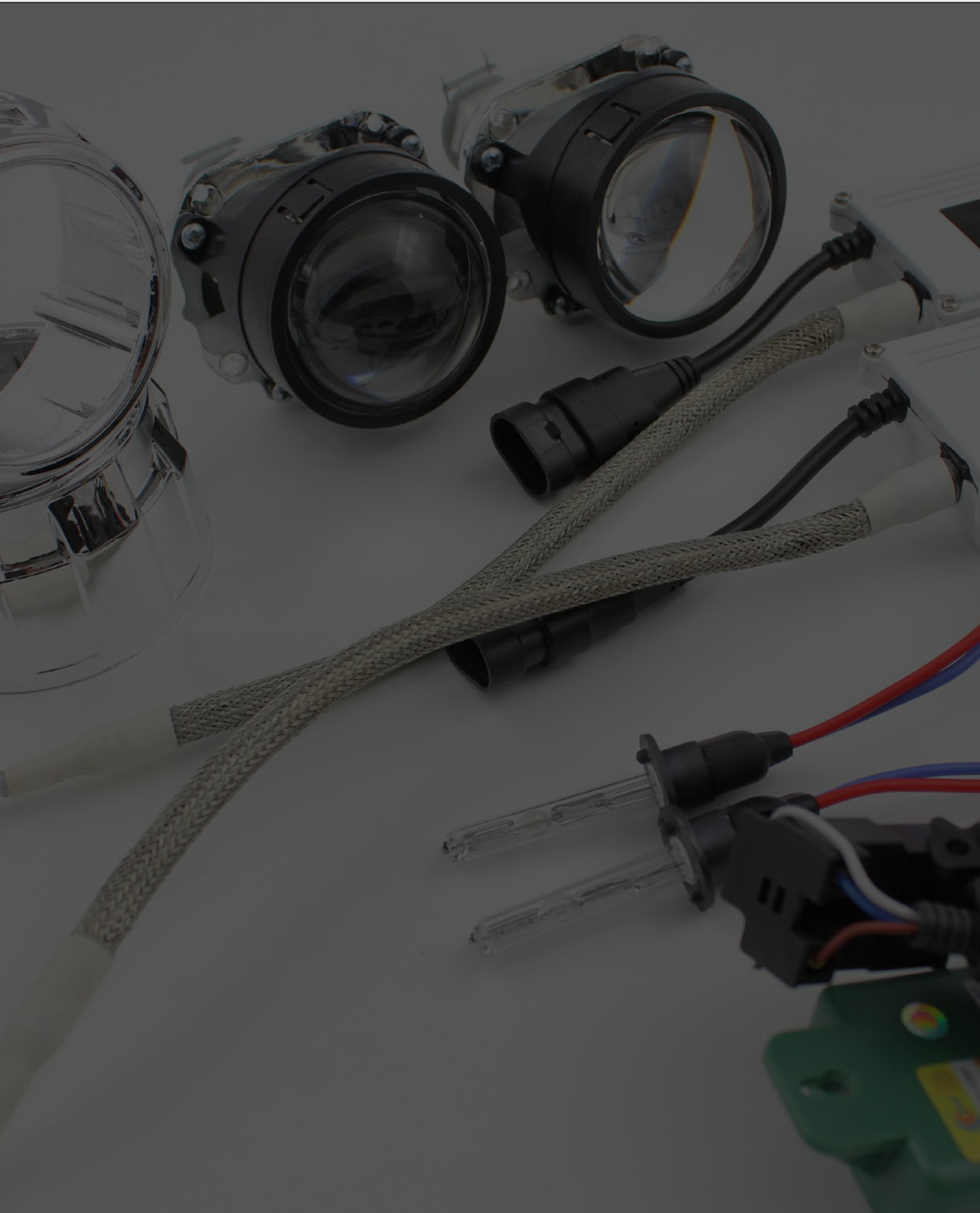




**RETROFITLAB**.COM  
IMPROVED VEHICLE LIGHTING SYSTEMS

# Mini H1 Twin Kit - Installation Instructions





# Mini H1 Twin Kit - Installation Instructions

## Introduction:

Thanks for purchasing the Mini H1 twin kit! You are very close to improve your lightning now :) Please read this manual carefully. Feel free to contact us or visit our Facebook community; **European Headlight Fanatics** when you have any further questions.

## What to know, terms:

Retrofit:	<i>Upgrading your stock headlights.</i>
Projector:	<i>The glass bowl, reflector bowl.</i>
Reflector:	<i>The shiny part inside the headlight that reflects the (halogen) light.</i>
Butyl:	<i>Sealing of the headlight, soft, can be sticky.</i>
Permaseal:	<i>Sealing of the headlight, hard, not sticky.</i>
Solenoid:	<i>The mechanism that operates the high beam function.</i>
Cutoff:	<i>A razor sharp cutoff at the top of your light beam to light the road and not blind oncoming traffic (see picture below).</i>
Hotspot:	<i>The brightest point in the light beam.</i>





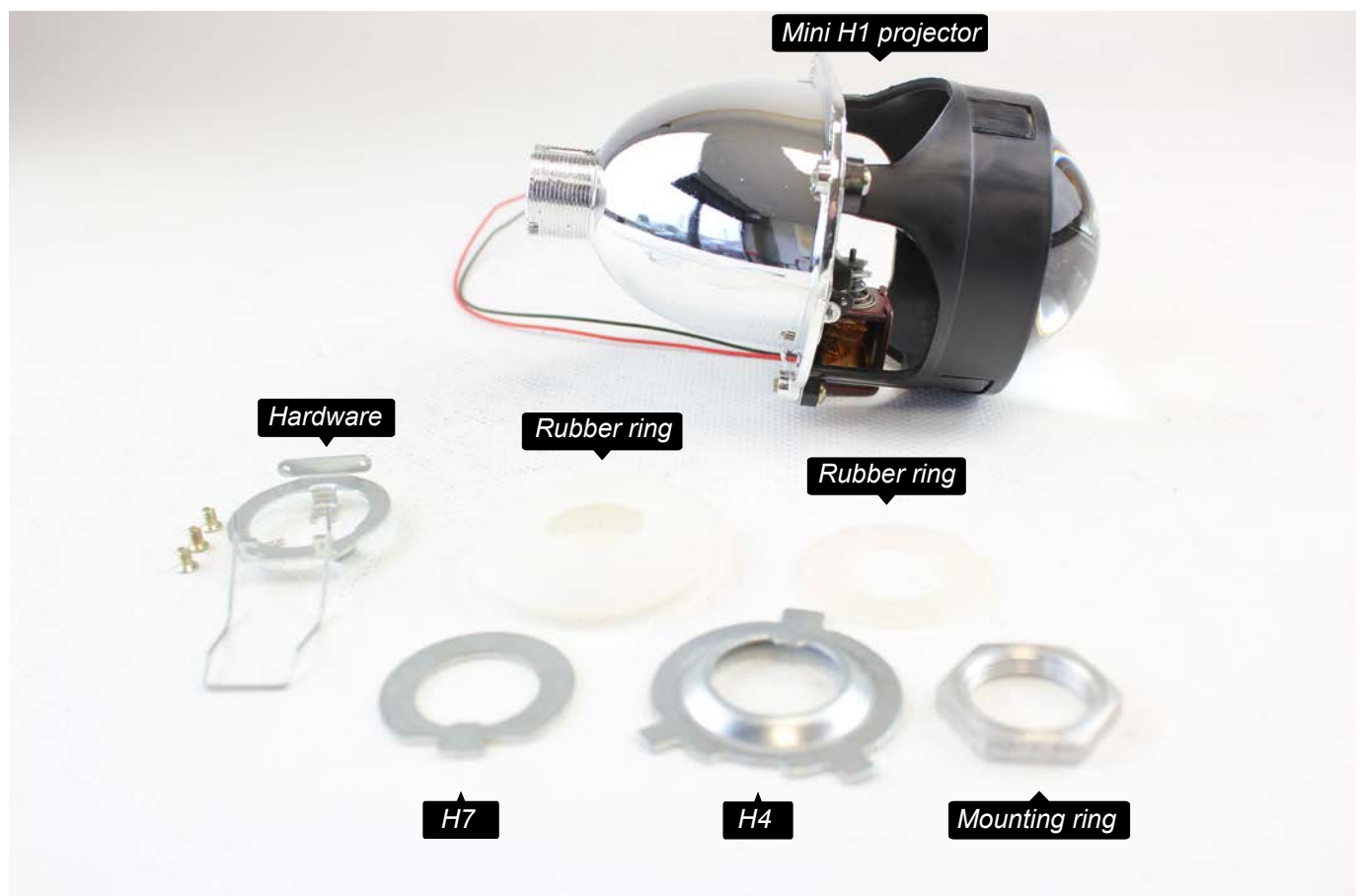
# Mini H1 Twin Kit - Installation Instructions

## Step 1.

Please start with checking contents of the package. It should contain the following.

*Note; This depends on the add-ons you've chosen.*

- o 2 Mini H1 projectors
- o 2 bags with hardware for the projectors in total
- o These bags contain:
  - 4 rubber rings (two thicker and two thinner ones)
  - 2 mounting rings
  - 6 screws
  - 2 metal clamps
  - 4 adapter rings (2x H4 and 2x H7 adapters)
- o 2 shrouds (optional)
- o 2 centric rings (the mini gatlin gun and the mini AE shrouds come with screws)
- o 2 high beam splitters or wire harness (optional)
- o 2 H1 xenon bulbs (optional)
- o 2 ballasts (optional)
- o 2 parking lights (optional)
- o 1 roll Butyl (optional)





## Mini H1 Twin Kit - Installation Instructions

### Step 2.

Make sure your car is parked in front of a wall where you can see the hot spot and the cut-off of the halogen bulb. Mark it with some tape. Then remove the headlights from the car.

After that, place your headlight on a flat surface and face it towards a wall (2.1). Power on the headlight and try to mark the cut-off and also hot spot (2.2). This can help you to align the projector at the end.

Solenoid check: Before you install your projectors, make sure the solenoid is fully functional. You can check this by connecting the solenoid cable to a + and - source. A 9V battery is enough :)





## Mini H1 Twin Kit - Installation Instructions

### Step 3.

Start with opening your headlight. Want to know how to open the headlight? Please follow the different video tutorials on the Retrofitlab YouTube channel:

Permaseal: <https://youtu.be/IUw9jQx5Pf0>

Butyl: <https://youtu.be/W6UvaSYdeDo>

Once opened remove the bulb holder on the back of the reflector. Now you are ready to build in the projectors! :)



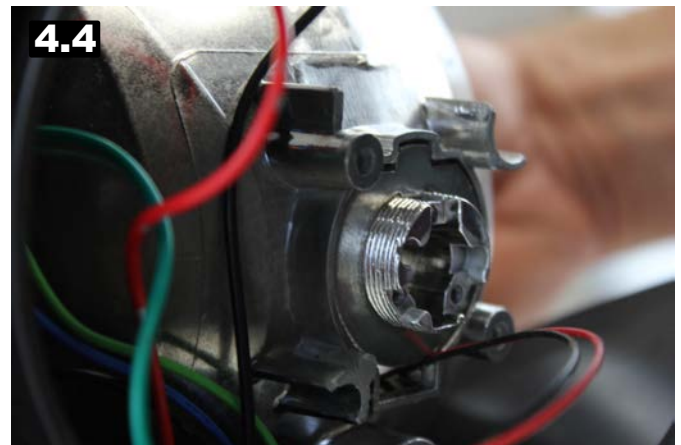
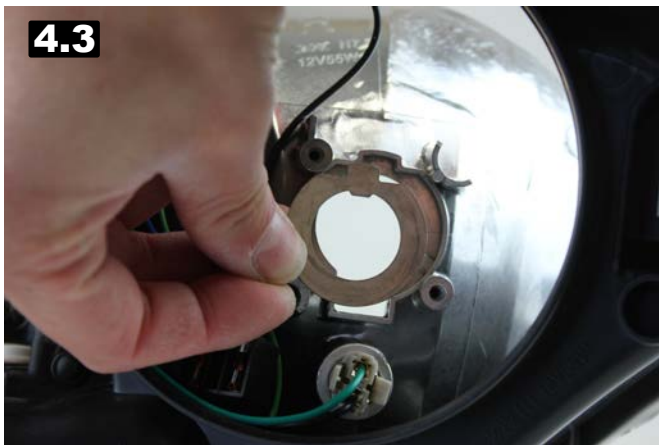
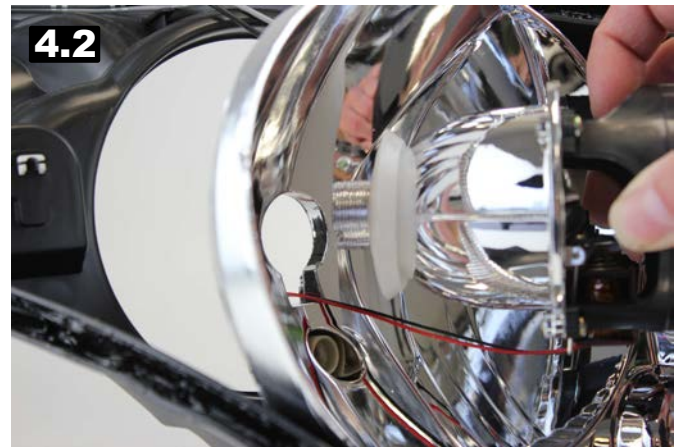
If you have a permasealed headlight you need to clean the channel of all the permaseal. This is needed in order to make sure the butyl can be placed and your headlight can be sealed properly. Please see the following video: [https://youtu.be/9n3aVS\\_B9pk](https://youtu.be/9n3aVS_B9pk)



## Mini H1 Twin Kit - Installation Instructions

### Step 4.

Place the rubber ring onto the shaft of the projector. First try the thicker ring (4.1). Stick the projector into the reflector hole (4.2) and place the H4 or H7 adapter plate on the back of the reflector (4.3). Make sure the solenoid mechanism is at the bottom. When mounted correctly the notch of the adapter plate should be fitted nicely into the channel (4.4).



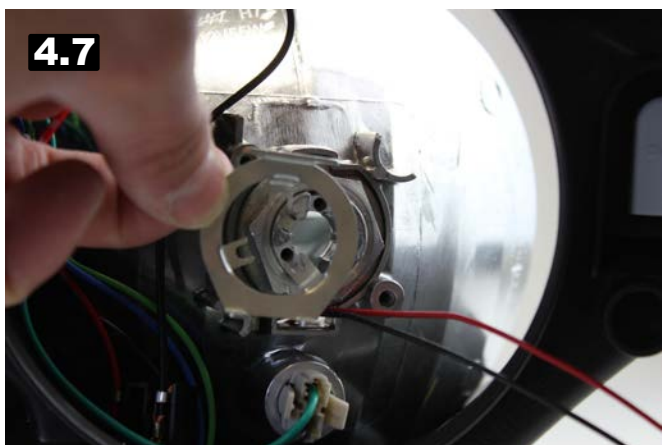
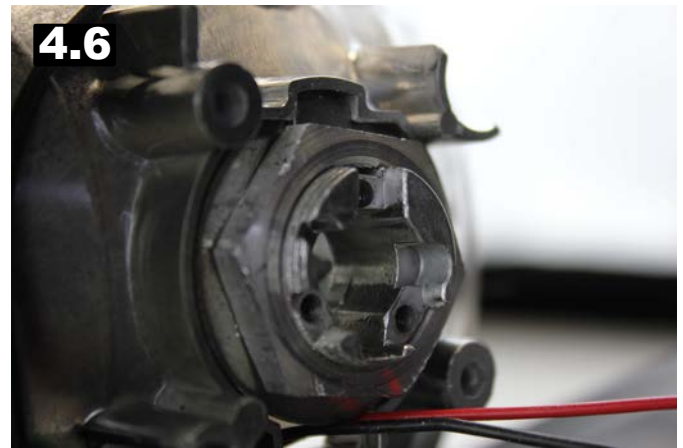
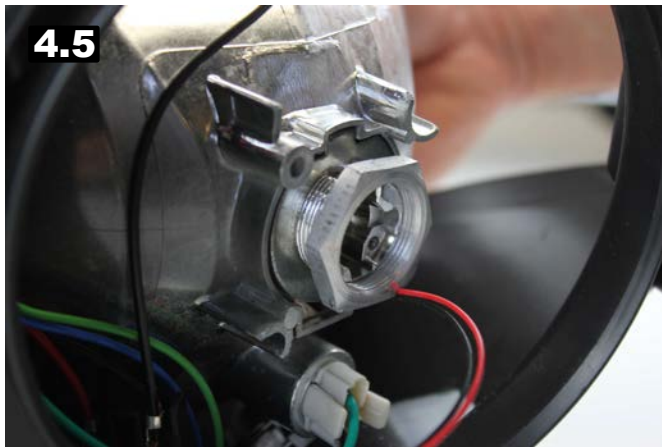


## Mini H1 Twin Kit - Installation Instructions

Screw the mounting ring on the threaded shaft of the projector (4.5). Try to tighten it by hand, do not use any tools at this point yet! Place the bulb holder on top of the shaft and make sure the ring is aligned with the recessed mounting points for the bulb holder (4.6 and 4.7).

If not, please untighten the mounting ring and take out the projector. Then remove the thicker rubber ring and replace it with the thinner one (4.8). Then repeat the steps above and try to mount the bulb holder.

*Note: you do not need to put the screws in yet.*





## Mini H1 Twin Kit - Installation Instructions

### Step 5.

If you've chosen a different shroud other than the Mini Gatlin gun or Mini AE, you need to mount the centric rings inside the shrouds (5.1).

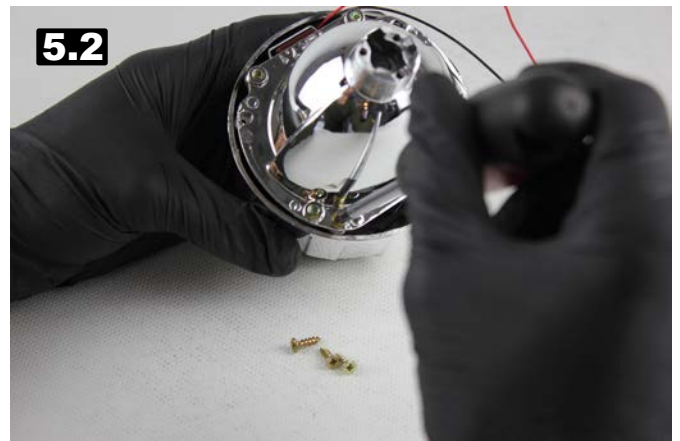
*Note: the flat side needs to be faced to the back of the shroud.*

The Mini Gatlin gun and the Mini AE shrouds need to be mounted with screws (5.2).

If the centric ring isn't moving then it should be fine. If it moves, please consider to use some glue to make sure the shroud doesn't move or falls off the projector.

Place the shroud on top of the projector and align it nicely. Try to match the lines of the shroud with the lines of the reflector (5.3 and 5.4).

*Note: its best to wear some rubber/latex gloves. This way you won't get any stains on the shrouds.*





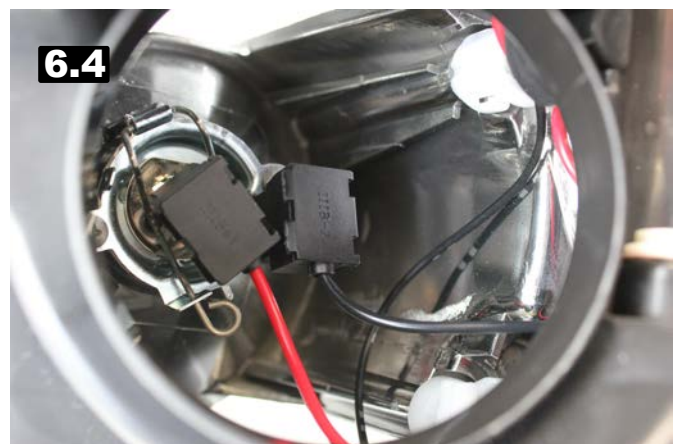
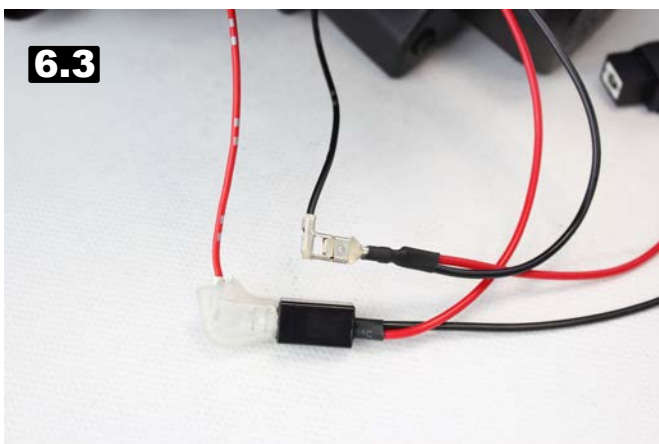
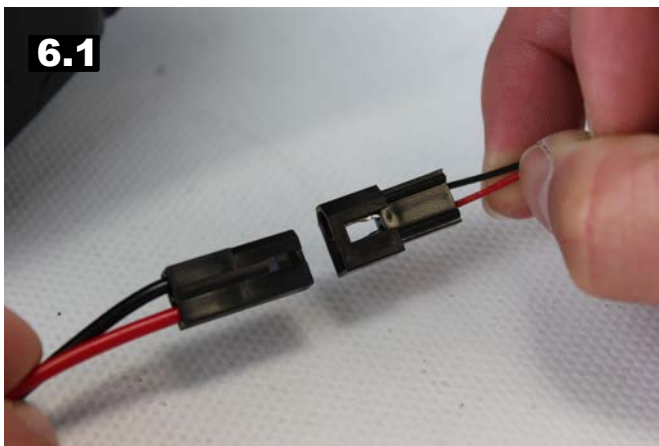


## Mini H1 Twin Kit - Installation Instructions

### Step 6.

Connect the solenoid cable with the high beam splitter (6.1). Best option is to keep the wires inside. You can route them through the back of the reflector to the halogen high beam bulb (6.2). Connect the plugs to the original wiring of the high beam (6.3 and 6.4).

*Note: Make sure open connectors are insulated with insulation tape*



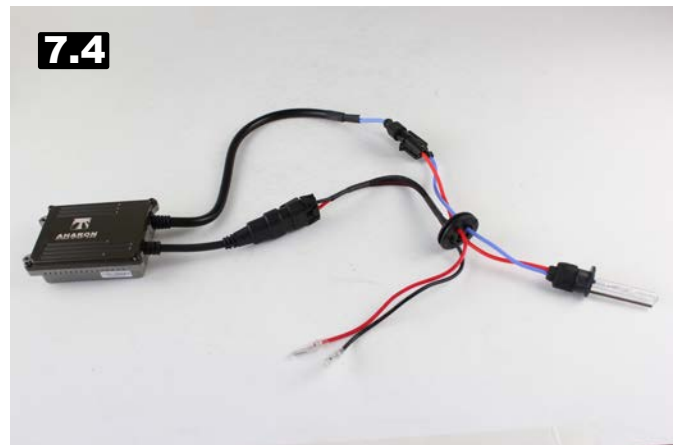
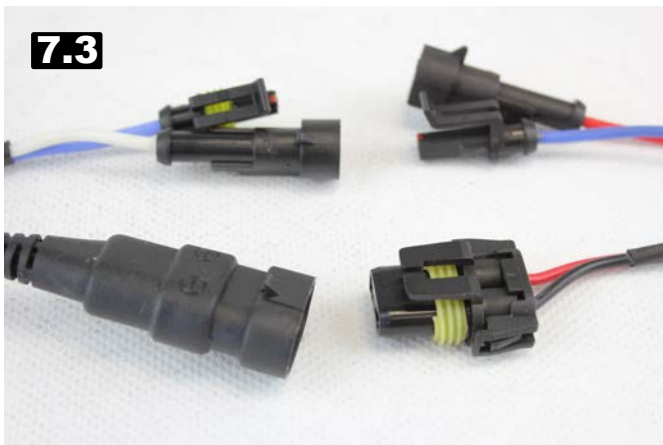
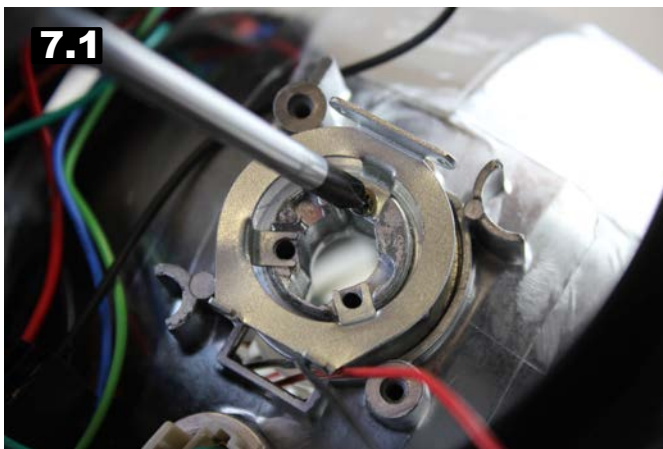


## Mini H1 Twin Kit - Installation Instructions

### Step 7.

Place the bulb holder and attach it with the 3 screws (7.1). Place the xenon bulb and fixate them with the metal clamp (7.2).

Connect the wires from the xenon bulb to the ballast (7.3 and 7.4). The two metal male plugs can be connected to a temporarily power source such as a 12V car battery.



### Step 8.

Once your xenon bulbs are turned on you can try to align the projector with your marked cut-off on the wall. You can twist your projector at the back. Once it seems to be aligned correct you can tighten the mounting ring. Use a wrench to tighten it enough.



## Mini H1 Twin Kit - Installation Instructions

### Step 9.

Clean the inside of the headlight, projector lens and shroud with a microfiber cloth. Be careful with the reflectors and shrouds, they can be damaged very easily. Do not use any cleaning detergents.

### Step 10.

If needed, you can add some butyl in order to seal the headlight properly. Please see our video on our YouTube channel: <https://youtu.be/ZvxS6TTRzAA> This video also shows you how to place the lens back on the headlight housing and seal it properly.

### Step 11.

Your retrofit is almost done. It's important that your headlight is also sealed proper at the back, where the wires come out.

If your headlight has a plastic cover you can drill a hole in it, so the rubber ring (of the bulbs) will fit inside.

If your headlight is sealed with a rubber cap it can be necessary to use a rubber cap from our store. Make sure the hole is covered completely, otherwise water or dust will come through (11.1 and 11.2).





## Mini H1 Twin Kit - Installation Instructions

### Step 12.

Place your headlight in the car (*do not tighten all the bolts yet*) and connect the wires of the ballasts to the cars original bulb feeds. Also connect the rest of the original headlight connectors.

First you need to see if both projectors are properly aligned. If this is not the case, you can take out your headlight and twist the projector a bit.. Then place the headlight and connect all the wiring again.

When everything is working and aligned ok, it should look like this (*see picture below*).

**You are done, enjoy your improved light output :)**

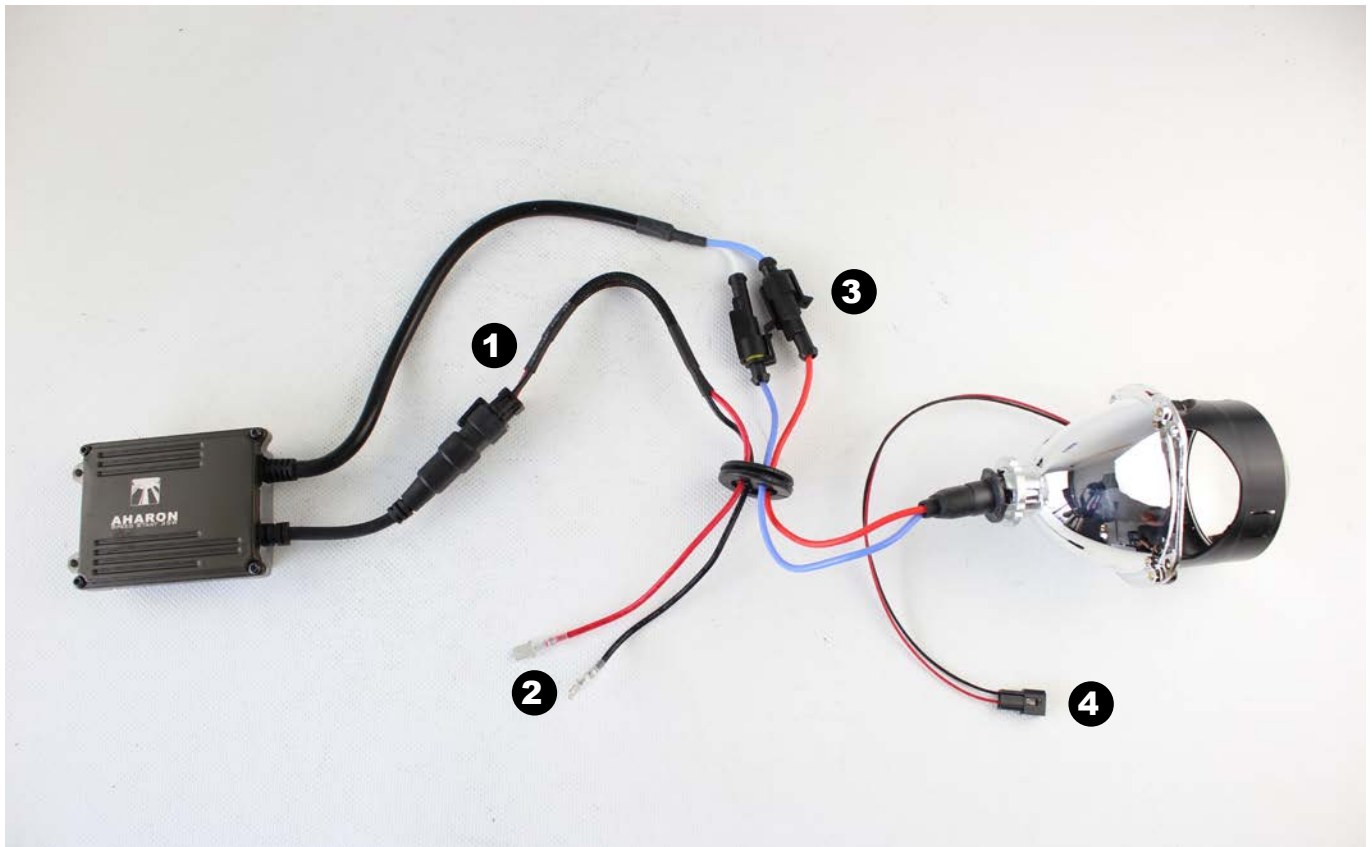




## Mini H1 Twin Kit - Installation Instructions

### Wiring connections.

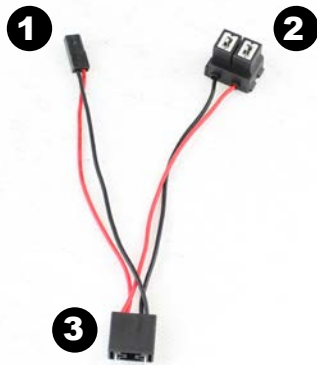
1. Connect to the input of the ballast.
2. Connect to the original feed of the halogen bulb (*this is the input for the ballast*).
3. Connect to the output of the ballast (*this is the input for the xenon bulb*).
4. Connect to a high beam splitter (*please see the next page; High beam splitters.*)





## High beam splitters.

There are several high beam splitters. Please see the pictures below for explanations.

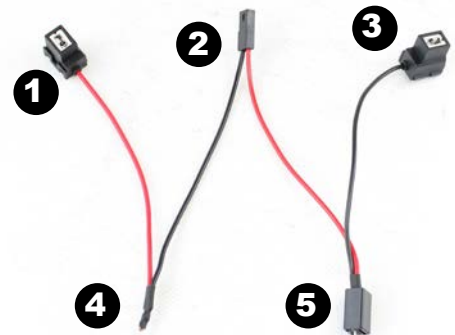


### H7 splitter car.

1. connect to solenoid cable of the projector.
2. connect to H7 halogen high beam bulb.
3. connect to H7 high beam feed of the headlight.

### H1 splitter car.

1. connect to H1 halogen high beam bulb (+).
2. connect to solenoid cable of the projector.
3. connect to H1 halogen high beam bulb (-).
4. connect to H1 high beam feed of the headlight (+).
5. connect to H1 high beam feed of the headlight (-).

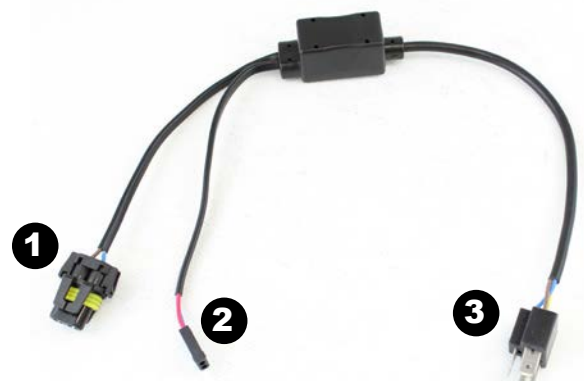


### 9006 and H11 splitter car.

1. connect to solenoid cable of the projector.
2. connect to halogen high beam bulb.
3. connect to high beam feed of the headlight.

### H4 standalone canbus.

1. connect to ballast.
2. connect to solenoid of the projector.
3. connect to H4 feed of the car.

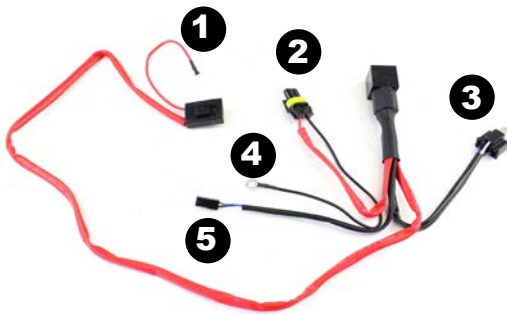




# Mini H1 Twin Kit - Installation Instructions

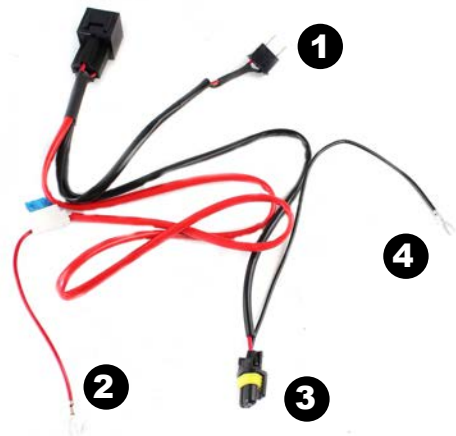
## Wiring harnesses

There are several wiring harness. Please see the pictures below for explanations.



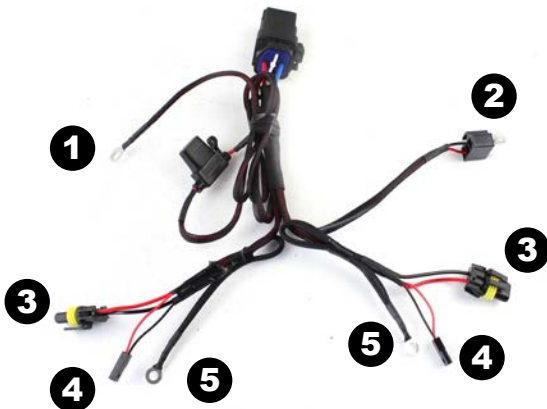
### H4 motorcycle wire harness single.

1. connect to a 12v+ source.
2. connect to the ballast.
3. connect to H4 feed of the bike.
4. connect to ground.
5. connect to the solenoid cable of the projector.



### H7 motorcycle wire harness single.

1. connect to H7 feed of the bike.
2. connect to a 12v+ source.
3. connect to the ballast.
4. connect to ground.



### H4 wire harness motorcycle double.

1. connect to ground.
2. connect to H4 feed of the bike.
3. connect to ballast.
4. connect to solenoid cable of the projector.
5. connect to ground.

### H7 wire harness motorcycle double.

1. connect to ground.
2. connect to H7 feed of the bike.
3. connect to ballast.
4. connect to ground.

