



Service Procedure

Installation

MKIV Headlight Housings with Fog Lamps (Procedures apply to both MKIV Jetta and Golf)

This tutorial is provided as a courtesy by ECS Tuning.

Proper service and repair procedures are vital to the safe, reliable operation of all motor vehicles as well as the personal safety of those performing the repairs. Standard safety procedures and precautions (including use of safety goggles and proper tools and equipment) should be followed at all times to eliminate the possibility of personal injury or improper service which could damage the vehicle or compromise its safety.

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The **ECS Tuning Ziza Euro Spec Headlight Kit (ES10048)** is a four light assembly that includes dual filament halogen headlight bulbs, halogen fog lamps, City Lights, and filament-style turn signals.

The kit includes direct fit housings and all bulbs. Our project vehicle comes to us with bumper-mounted fog lamps and a Euro headlight switch already installed. If your car does not have fogs, and still has the factory headlight switch, you'll need to upgrade to a Euro switch with fog lamp wiring harness to enable the fog lamp function in the headlight assemblies.

The good news? No coding is needed!

We intend to keep the lower fog lamps in the bumper grilles, so we'll add a second fog light relay for the headlight-mounted fogs. Then, we'll make a slight (easy) wiring mod at the light switch to let us choose between lower fogs only, or all four fogs for low visibility conditions.

This is not a high tech upgrade, and can be done with simple hand tools. A great weekend project.

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This installation procedure applies to multiple headlight kits, domestic and Euro-spec. The image below shows a typical headlight assembly with commonly used bulbs.

Your kit and contents may differ in appearance from these parts, but the general procedures outlined here will apply.



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Additional Parts

ES416 Fog Light Wiring Harness

Fog lamps are powered through a relay, activated by the Euro headlight switch.

Order this harness with relay separately if you do not want to make your own wiring harness.



Note: The Fog Lamp Relay ES1895241 is available separately.

Euro Headlight Switch ES8602

If your car still has its standard factory headlight switch, you'll need to upgrade to the Euro switch to add fog light functionality.

Our project car already has a Euro headlight switch installed, since it has fog lights in the front bumpers.

The Euro-switch has two "pull" positions that normally control front and rear fogs. We'll wire the system to turn the lower fogs on when the switch is pulled out one click. Then we'll use the second click position to control the fogs in the new headlight assemblies, since we have no rear fogs.

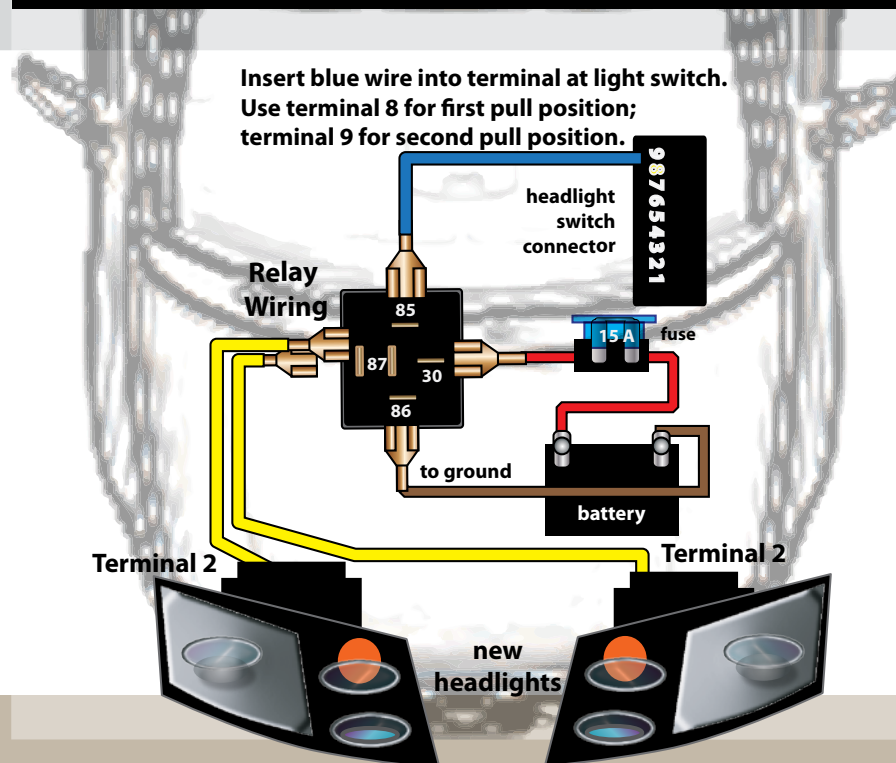


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Wiring information in the schematic shows the general location of wires, fog lamp relay, and lighting components. Some discretion is required when mounting the relay and securing the individual wires to protect them from damage.

Additional information about installing the headlight assemblies in cars with bumper mounted foglamps is contained in the body of the article.



Tools We Used

- T27 and T40Torx®
- Ratchet and extension, 10mm socket
- Electric drill and ¼-inch drill bit
- Wire crimper
- Flat screwdriver
- Tie wraps

optional: wire looms, tape, heat shrink tubing (see page 14).

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Procedure Overview

Headlight assembly installation steps.

- 1) Inside the car:** Pull the headlight switch from the dashboard; unplug it from the car harness connector.
 - 2) At the front bumper:** Remove center grille plastic push pins and center grille. Disconnect the secondary hood release to remove grille completely, or hang it from a string or wire.
 - 3) At the front bumper:** Remove the T40 attachment bolts exposed by removing the grille. Move to the lower bumper area. Remove the lower bumper grilles, left and right. Remove the two T40 bumper attachment bolts accessible through the grille openings; one on each side.
 - 4) In the wheel wells:** Remove the T27 screws that secure the forward edge of the fender liner to the front bumper cover.
 - 5) At the front bumper:** Pull the bumper cover forward far enough to access the sidemarker lights, and disconnect them. Remove the bumper cover and lay it aside.
 - 6) Under the hood:** Mount the fog lamp relay in the engine compartment near the battery using the attachment hardware in the kit. Make sure the power (red) and ground (brown) wires in the relay harness can reach the battery terminals from the relay.
 - 7) Under the hood:** Route the long blue harness wire through the engine compartment to and through a grommet in the firewall near the brake booster.
 - 8) At the headlights:** Remove the four T40 screws securing each headlight assembly to the body. Unplug the headlight assemblies and remove them.
 - 9) On the work bench:** Prepare the new assemblies. Install the bulbs in the kit in the new headlight assembly sockets. Do not touch the halogen bulb glass with your fingers. Wear gloves.
 - 10) At the headlights:** Poke out the weathertight blind plug from terminal 2 at each headlight connector. Pry out the purple plastic wire terminal locking bar. Insert one of the two yellow wires from the relay harness into cavity 2 of each headlight connector. Make sure the wire ends lock in place in the connectors. Put a dab of sealer in each cavity to keep out water. Push the locking bar back in place. (See photo **Step 9**.)
 - 11) At the headlights:** Reinstall and reconnect both headlight assemblies.
 - 12) Under the hood:** Bolt the harness red wire (with the inline fuse) to the positive battery terminal. Bolt the brown wire from the relay harness to the negative battery terminal.
 - 13) Inside the car:** Remove the three T27 Torx screws from the lower edge of the dash. Drop the underdash black plastic panel. Reach up from beneath the dash and pull the blue wire through the grommet near the brake booster (see **Step 8**) into the car; route it safely through the underdash area to the back side of the headlight switch connector. Push the blue wire terminal into the vacant cavity number 8, until its locking tabs click in place. Tug it to make sure it doesn't pull out under tension.
 - 14) Inside the car:** Connect the new Euro-switch to the light switch connector at the dash. Test the lights. Reinstall the light switch in the dash. Replace all interior panels, the front bumper cover, and grilles.
- To turn the fog lights on, rotate the light switch to any ON position with the ignition on or the engine running, and pull the switch head OUT one click.**
- 15) Under the hood:** Route and secure all wires so they cannot snag or abrade.

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Step 1.

At the dash:

Remove the light switch. Push in on the center switch knob and rotate it clockwise to the position shown; just between OFF and the park light position. Then pull the switch from the dash.

Disconnect the switch from the electrical connector and lay it aside.



Step 2.

At the front grille:

Remove the center grille plastic retainer pins.

Flip the grille up and tie it out of your way while you unbolt the bumper cover....or...

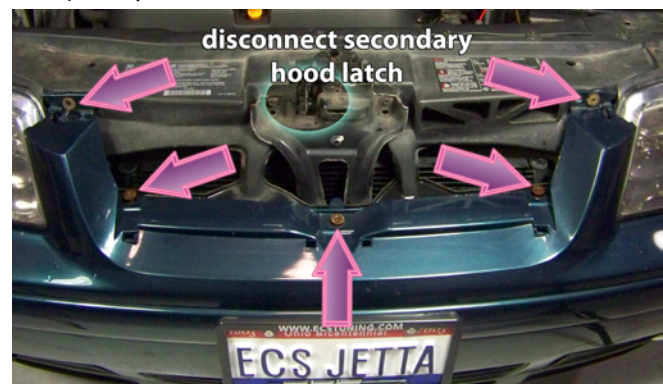
Disconnect the secondary hood release and remove the grille from the car completely.

With the grille out of your way, remove the top bumper cover T40 bolts (arrows).

tip the grille up
and tie it



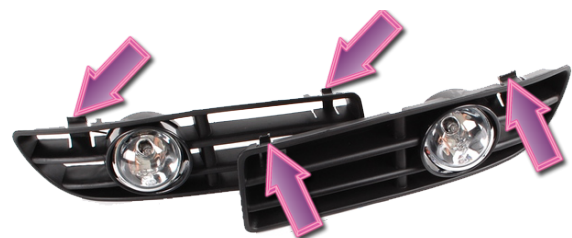
or remove the grille
completely



Step 3.

At the front lower bumper:

Pop out the lower grilles. Pry down on the release tabs (arrows) to release them from the bumper. Tip the grilles forward and pull them away from the bumper opening. (If you have lower fogs installed, disconnect the fog lamp wiring and remove the grilles with lights from the bumper.)



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Step 4.

At the lower bumper:

Reach through the grille openings and remove the T40 fasteners; one on each side.

Go around to the front of the wheel openings and remove the fender liner screws securing the liner to the rear of the front bumper. Pull the bumper cover forward far enough to disconnect the sidemarker electrical connectors. (Get a friend to hold the other side of the bump cover to make things easier.)

Remove the bumper cover.



Step 5.

At the headlights:

Remove the four T40 screws holding the headlight assembly to the header panel. Two screws on top, two on the bottom.

Unplug the headlight electrical connectors and remove the headlight assemblies from the car.



Step 6.

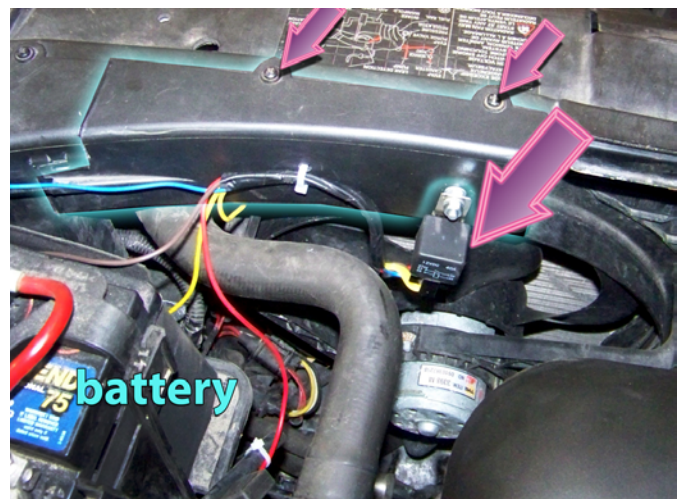
Under the hood:

Mount the fog lamp relay (lower arrow) somewhere in the engine compartment near the battery.

We have chosen to remove the plastic hood cable shield (two screws, top arrows), then drill a hole in the shield to mount the relay.

Two extra holes let us loop a tie wrap to secure the harness wires to the cover.

Mount the relay where you like. Just make sure the power (red) and ground (brown) wires in the relay harness can reach the battery terminals.



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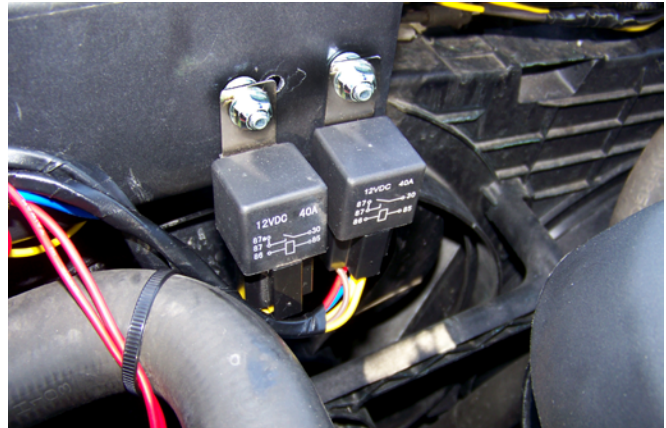
Step 7.

Under the hood:

Special note: If you are *adding* headlights to a car with fogs installed, you'll have two relays mounted, one for each set of fogs. Like this.

Connect the relay harnesses to the relays as, shown.

Make sure the connectors hang down as shown so they won't hold water.

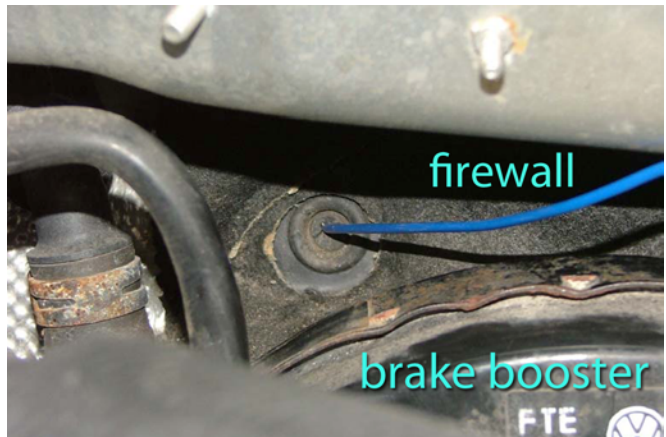


Step 8.

Under the hood:

Route the blue wire(s) from the relay wiring harness through the engine compartment, to the grommet in the firewall near the brake booster.

Use a small, sharp punch to poke a hole in the grommet. Push the blue wire(s) through the grommet into the interior. Let the extra length(s) of blue wire hang loose in the engine compartment for now. Plan ahead: route the wire(s) so you can come back later and tidy up with wire loom and ties (**see Step 26**).



Step 9.

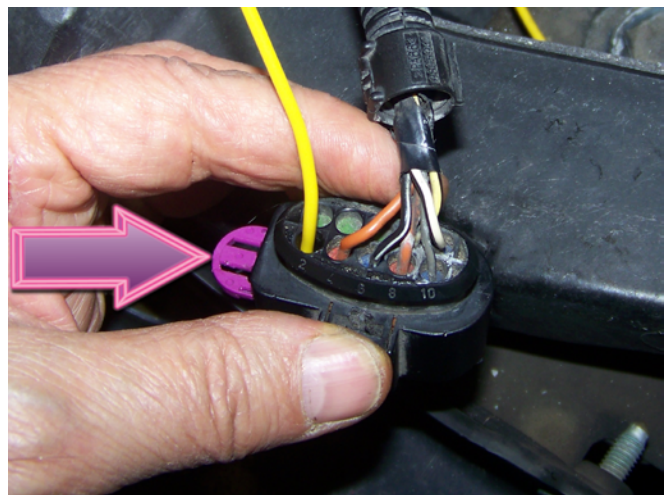
Under the hood: Route one of the two yellow wires from the relay harness to a headlight connector.

Use a small screwdriver or punch to slide the purple plastic terminal retainer (arrow) out of the electrical connector.

Remove the small green sealing plug from the wire connector cavity 2. Insert the yellow wire into cavity 2 until it locks in place. Add a dab of watertight sealer around the wire to keep water out.

Push the purple plastic retainer back in place to lock all the wires in the connector.

Repeat this step at the other headlight.



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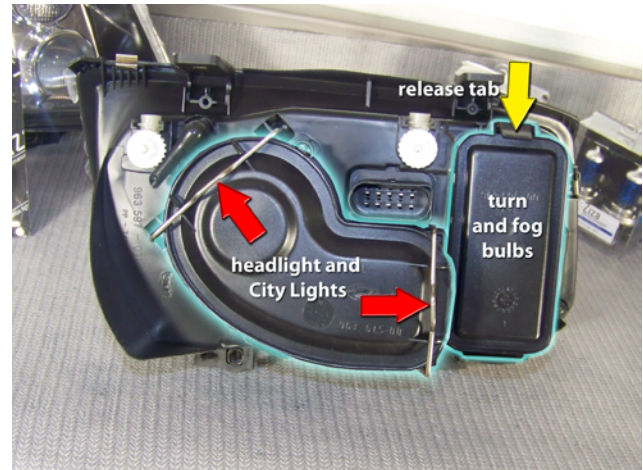
Step 10.

On the work bench:

Install the bulbs in the headlights. Remove the rear covers.

Push the wire bales in the directions shown by the red arrows to release them. Remove the cover for the headlight and City Light bulbs.

Push down on the release tab at the cover for the turn and fog lamps to release it. Remove that cover and lay it aside.



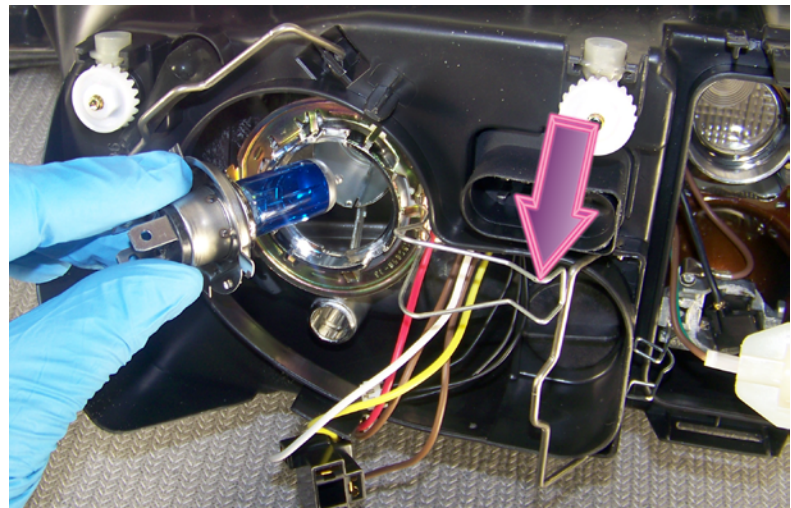
Step 11.

On the work bench:

Release the wire bale (arrow) for the headlight bulb and pull it aside.

Caution: Do not touch the quartz bulb glass with your bare fingers. Skin oil can create a hot spot that may damage the bulb.

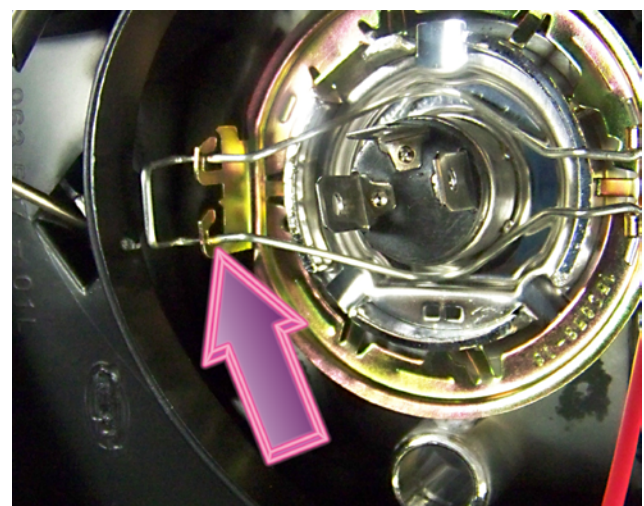
Note: The bulb has asymmetrical indexing tabs. It will go in only one way. If it doesn't go in easily, don't force it. Rotate it to align the tabs and mating slots and try again.



Step 12.

On the work bench:

Push the wire bale over the back of the bulb and snap it into the notched latch on the housing (arrow).



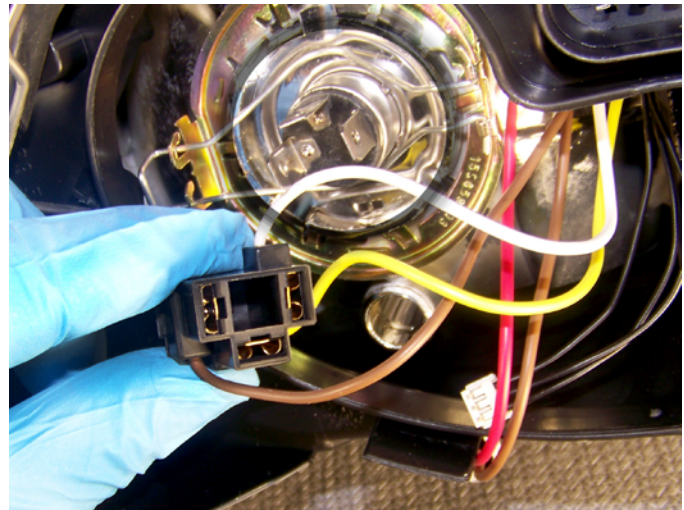
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Step 13.

On the work bench:

Connect the three-wire electrical connector to the headlight bulb.



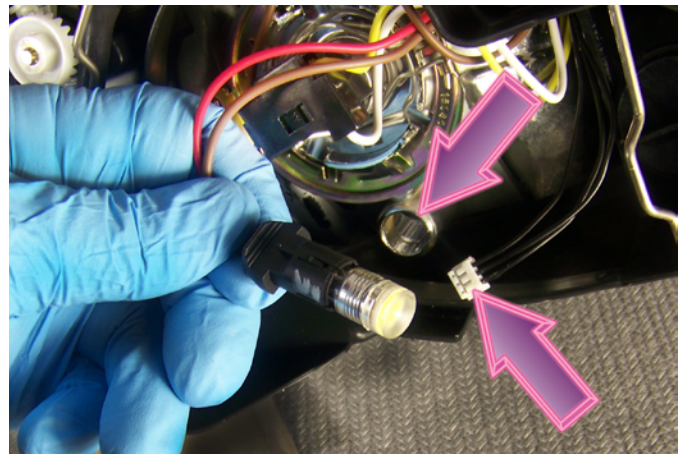
Step 14.

On the work bench:

Insert the City Light bulb into the black plastic wedge connector; insert the connector with bulb into the tube beneath the headlight bulb (top arrow). Push it in all the way.

Note: We are using LED bulbs (ES252058) in place of the stock 194 wedge filament bulbs that come standard in the kit. Customer request!

The small white connector (lower arrow) is for optional headlight leveling motors, and are not used in this installation.



Step 15.

On the work bench:

Insert the halogen fog lamp bulb. Like the headlight bulb, it goes into its socket only one way, and is held in place by a wire bale.

Note: Look carefully at the bulb and socket. The bulb has a one squared and one rounded recess in its metal base.

Align them with the square and rounded boss in the socket. If the bulb doesn't drop into its socket easily, check the tabs!



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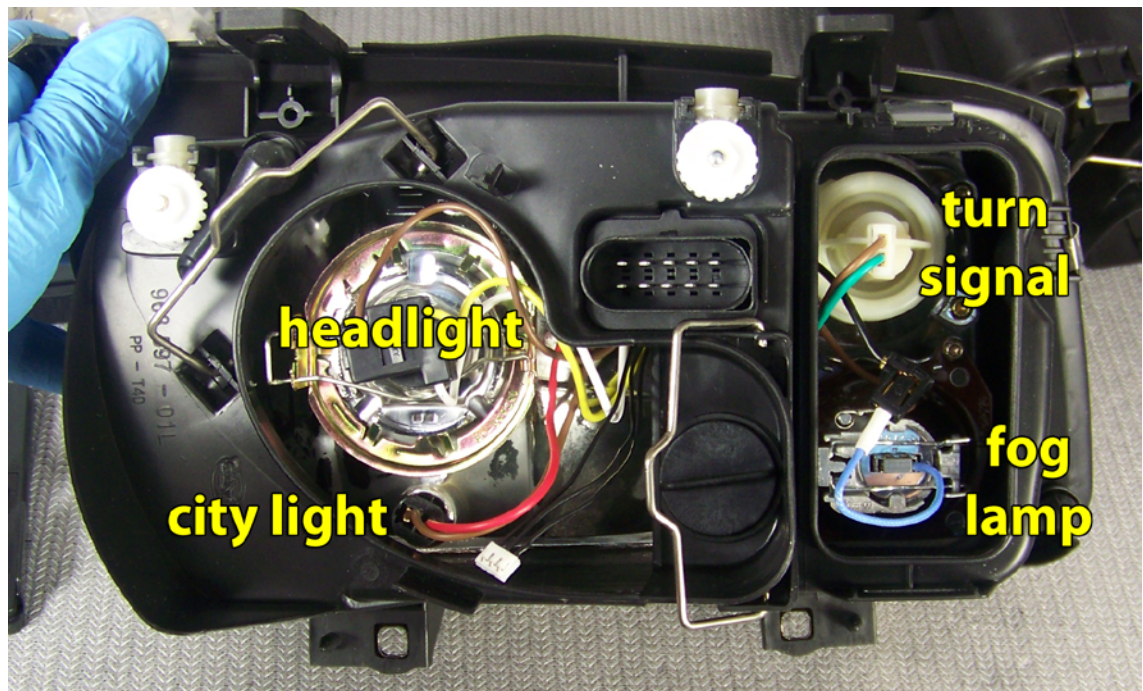
(Procedures apply to both MKIV Jetta and Golf)

Step 16.

On the work bench:

Insert the single filament bayonet bulb into the turn signal socket. Push the bulb into the socket and turn it clockwise until it locks in place.

Then push the light socket into the hole in the headlight assembly, turning it clockwise to lock it in place.



Step 17.

On the bench:

Here's our headlight assembly with all the bulbs installed.

Replace the rear covers and repeat the bulb installation on the other assembly. Then reinstall both headlights in the chassis and plug them in.

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Step 18.

Inside the car:

Remove the three T27 screws at the base of the dash (arrows). Pull out and down to lower the underdash panel.

Then reach up under the dash and pull the blue wire through the rubber grommet into the car.



Step 19.

Inside the car:

Continue to route the blue wire toward the fuse panel.

Quick Tip: Remove the entire fuse panel dashboard side cover by prying it away from the dash. Pry near the arrows with a trim tool to pop it loose.

This opens up the side of the dash, making it easier to fish the wire.



Step 20.

Inside the car:

Route the wire to the light switch opening. If you want the headlight fogs to come on when the headlight switch is pulled out to the first stop, insert the blue wire into pin cavity 8 of the headlight connector, as shown.

Push the wire in until it locks in place. Tug the wire to make sure it won't pull out of the connector housing under tension.



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Step 21.

Inside the car:

In our project car, terminal 8 is already taken for the bumper mounted fog lights.

No problem. We'll leave it alone and insert the second blue wire from the fog lights in the headlight assemblies into terminal 9. That way, one click out on the Euro headlight switch will turn on the bumper fog lights, and two clicks out turn them all on!



Step 22.

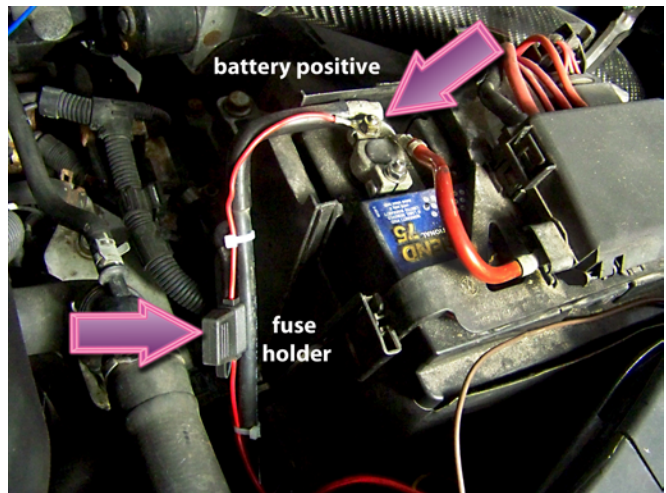
Under the hood:

Time to power up the relays.

Remove the battery cover.

Bolt the red wire with the inline fuse to the positive battery terminal. Place the fuse holder in an accessible location.

Secure the wire to the main battery cable with tie wraps.

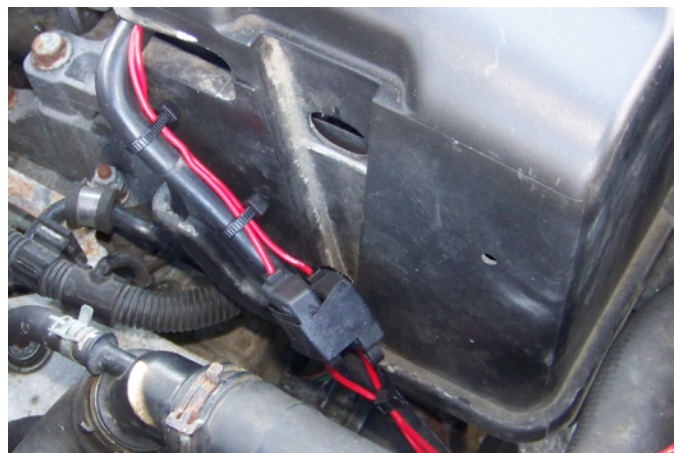


Step 23.

Under the hood:

Here's the alternative wiring for headlights with fogs *and* bumper mounted fogs.

This image shows two power wires connected to the battery, one for the bumper mounted fog lamp relay, and the other for the fog lights inside the headlight assemblies.



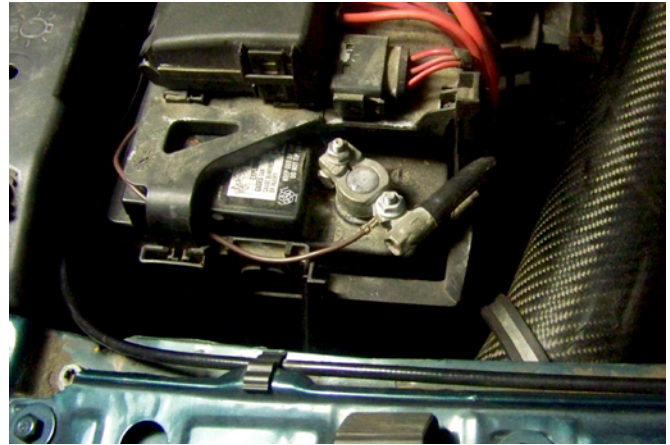
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Step 24.

Under the hood:

Connect the brown (ground) wire from the relay harness to the negative battery terminal. If you have two relays, connect the brown ground lead from the second relay as well.

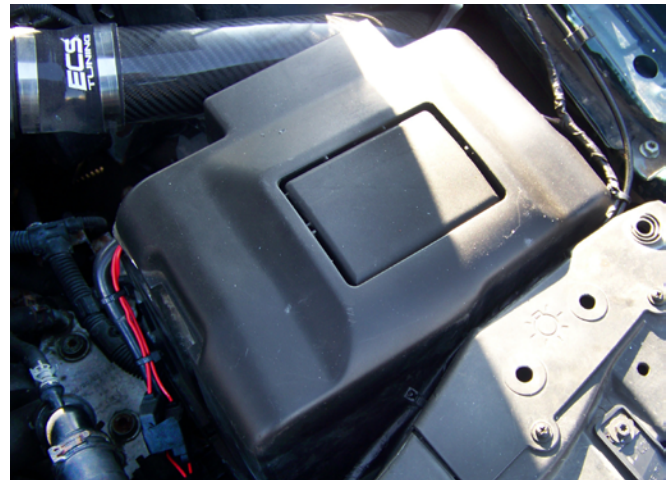


Step 25.

Under the hood:

Test fit the battery cover.

Make sure the cover does not pinch any wires when installed.



Step 26.

Under the hood:

With everything installed, this is a great time to go back and secure all the wiring and dress up the underhood appearance with wire loom, tape, and ties.

ECS Tuning stocks everything you need to complete the job and make it look professional.



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Step 27.

Inside the car:

Plug the new Euro switch into the dashboard electrical connector. Attach the new Euro-switch in the kit to the wire connector, and test the lights.

Push the Euro switch into the dash opening until it clicks in place.

Reinstall the underdash and dashboard side panels, plus the front bumper cover and grilles. Reattach all electrical connectors at the bumper-mounted fog lights and sidemarker lights.



This completes our MKIV headlight installation.