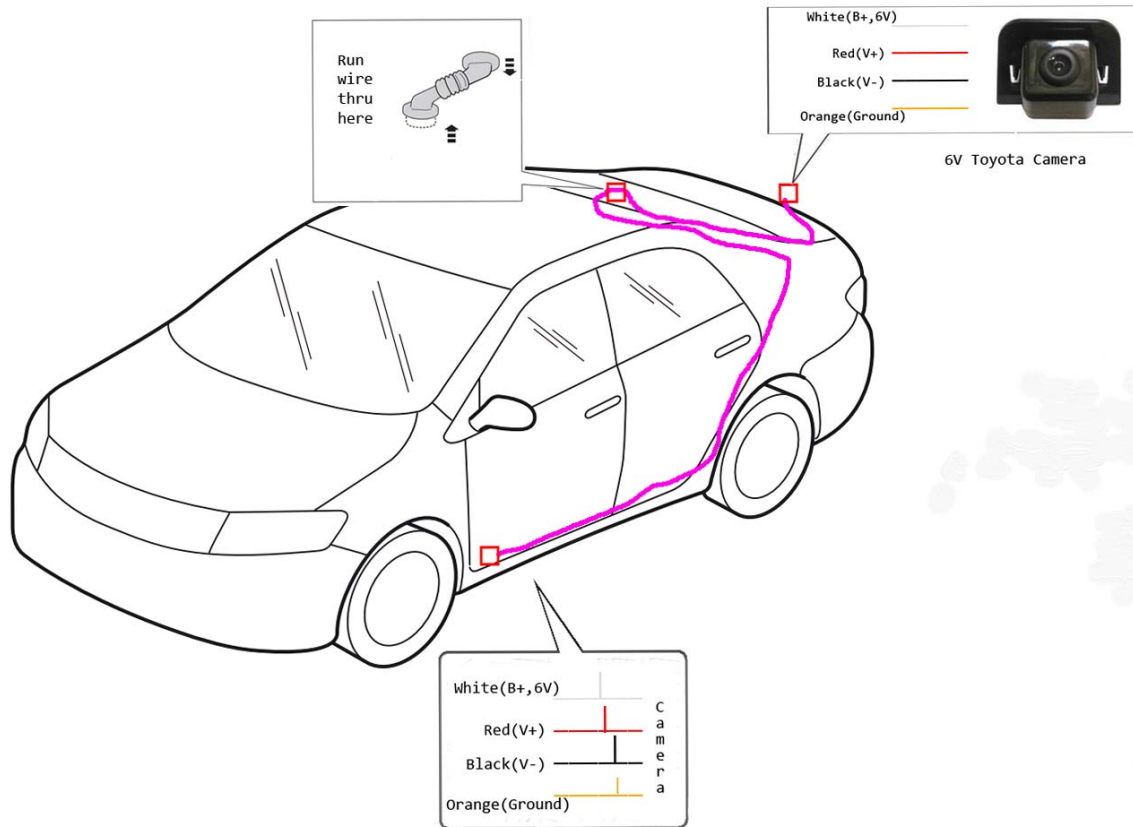


A Cheap, Inexpensive, Backup Camera for Your 2012 Prius II (PRELIMINARY)

The installation requires that you run wires to the rear headliner or through the running board to the driver's side kick panel. The choice is yours but in this document, I'll show you how to make the connections to a connector that's under the rear headliner just in back of the rear dome light



The backup camera mounts on the back of the rear hatch outer panel.



Camera mounted to the rear outer panel

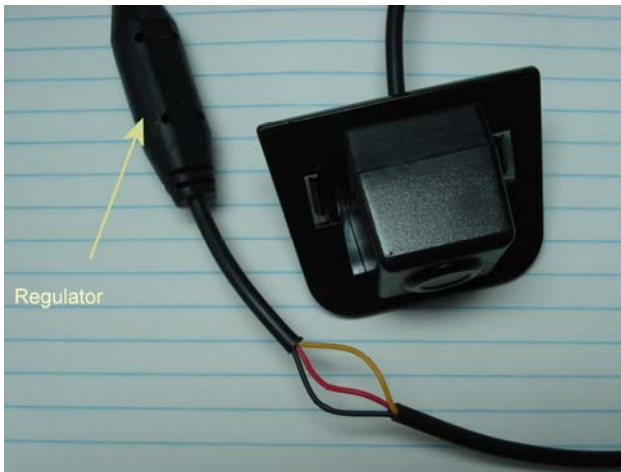
There's a blank plate that you will have to remove and that includes removing the inside trim and the outer rear panel. There are YouTube videos online that shows how to do that.

You can purchase a \$20 camera EBay. When you look on EBay search for “Prius backup camera”, look for this photo

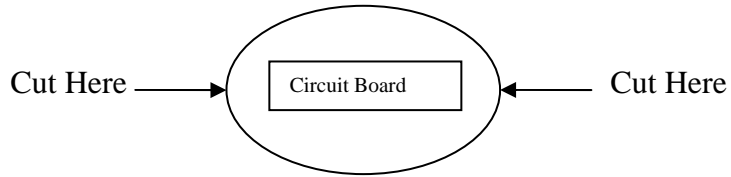


The problem I encountered was that this camera and other \$20 to \$30 cameras were designed to get power from the 12 volt backup light and feed video to a small LCD display that you can mount on your dashboard. This camera can connect directly to a Prius II that has a Non-Navigation Radio with an LCD touch screen but so that camera can interface correctly to the HU (Head Unit) a modification is required.

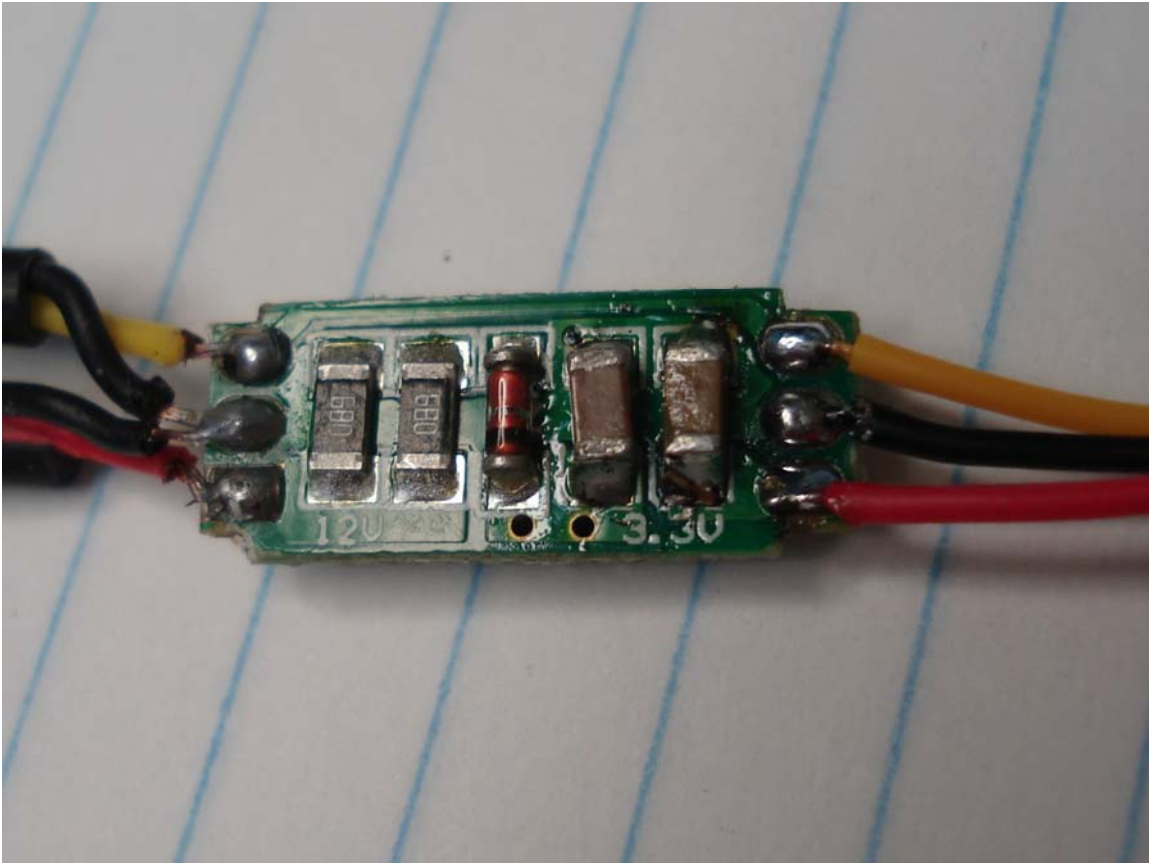
I noticed that when 12 volts was applied to the camera there was a rubber piece on the cable that was several inches from the camera housing. I removed insulation from the cable and found 3 wires. Using a voltmeter I measured 3.3 volts across the black and red wires. I came to the conclusion that there was a voltage regulator circuit inside the rubber mold that converted the 12 volts to 3.3 volts.



Using an X-Acto knife, I cut away the rubber mold. Be careful! The rubber mold is oval shaped and you can only make the cuts on the wide side, otherwise you'll damage the circuit

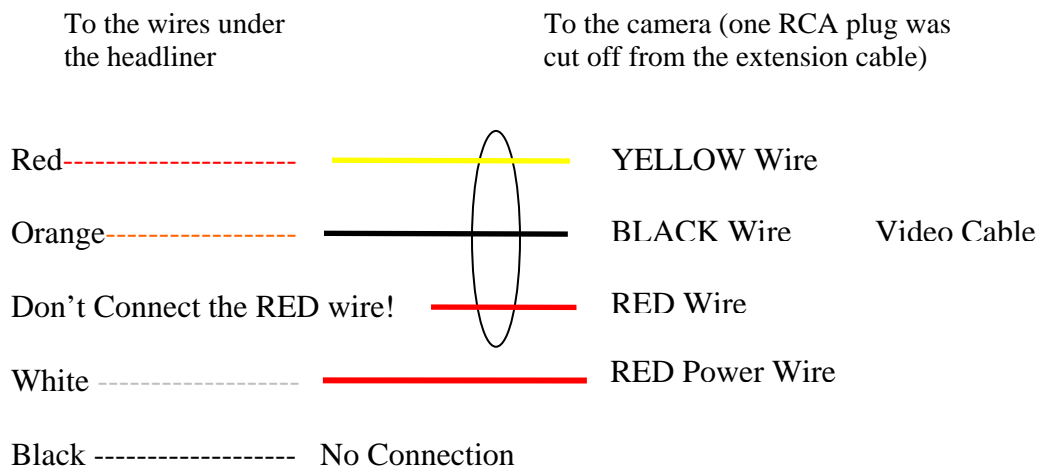
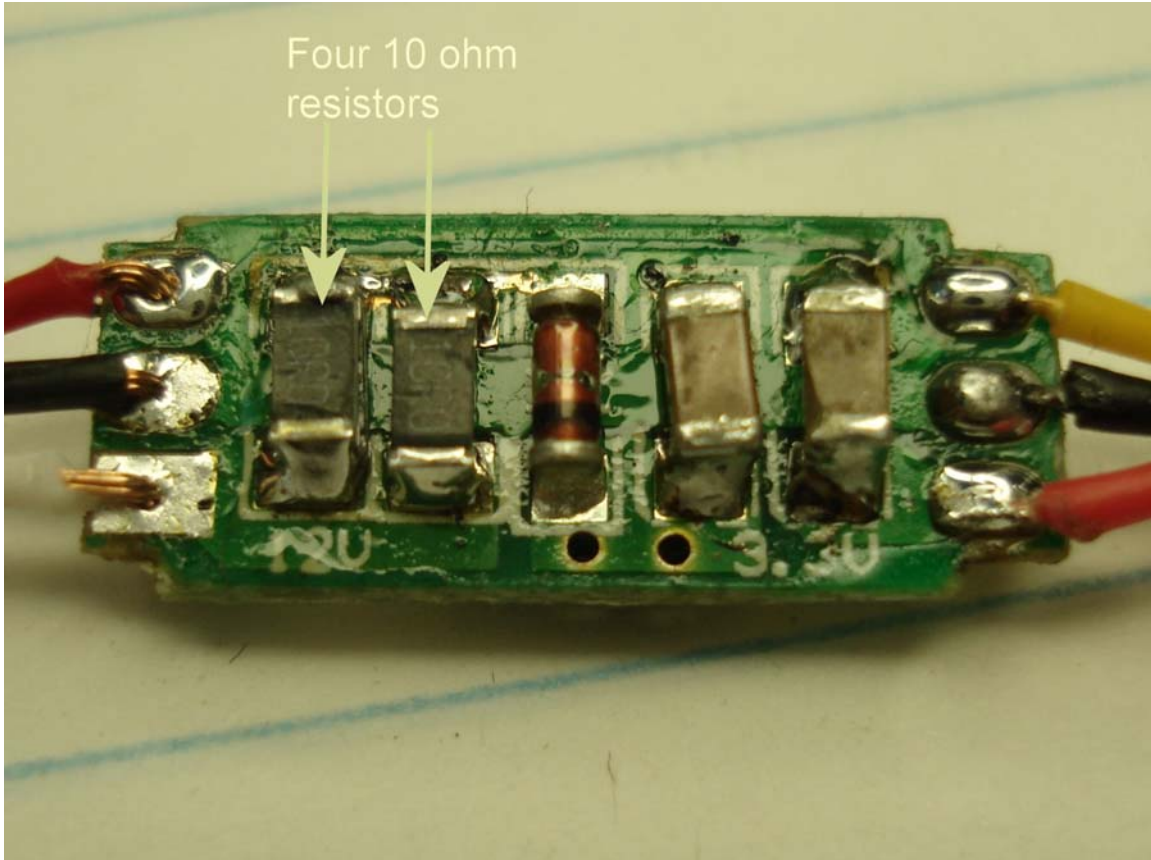


The regulator is very small and uses surface mounted parts. There's a regulator IC on the back side of the circuit that's not shown. The only modification that's needed is to remove the two 680 ohm resistors and replace them with four 10 ohm resistors.



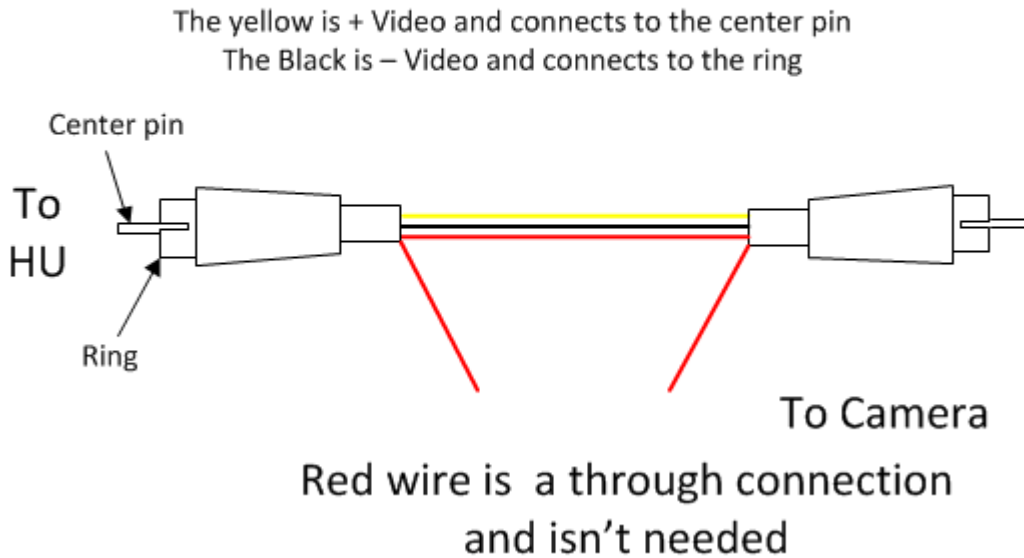
Here's the complete modification. It requires a surface mounted rework soldering equipment but if you're careful, you can use a small soldering iron. Don't overheat the circuit board! I connected my own red, black and white wire on the input side of the regulator but you can use the RCA extension cable that was supplied.

So that wires will be easier to snake through the car, cut off the RCA plug on one end. The red Power wire that came with the camera should follow along side the video cable. Connect the black wire from the video cable to orange wire at the head liner and the Yellow wire from the video cable to the red wire on the headliner. Connect the red power wire to the white wire at the headliner. The black wire at the headlined is not connected



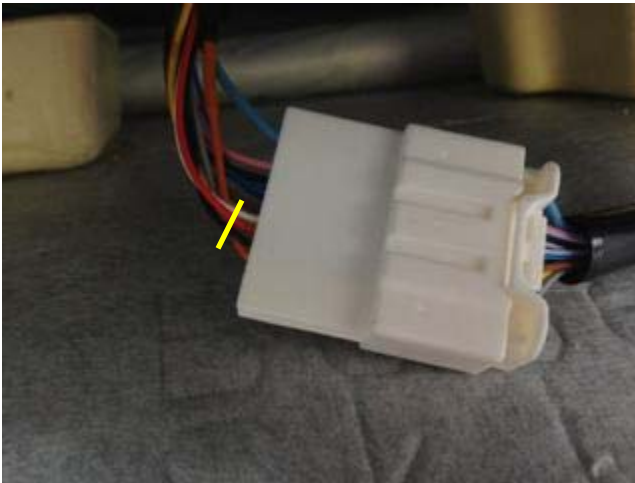
This illustrates the camera cable and the wires that run within the plastic sheath.

Camera Video Cable



You can connect the dangling red on the video cable to the red power wire coming off regulator and eliminate extra red power wire. It will be easier run the single video cable from the back of the hatch to the headliner. Or cut the RCA cable on both ends and use the three wire cable with no RCA or power plug. The choice is yours!

Here's the connector under the headliner where the camera connections are located. You can see the white, red, black and orange wires.



When you segregate the wires from the other bundle cut them as close to the connector as you can. Grab the four wires and pull the bundle towards the rear of the car. I used small wire nuts.