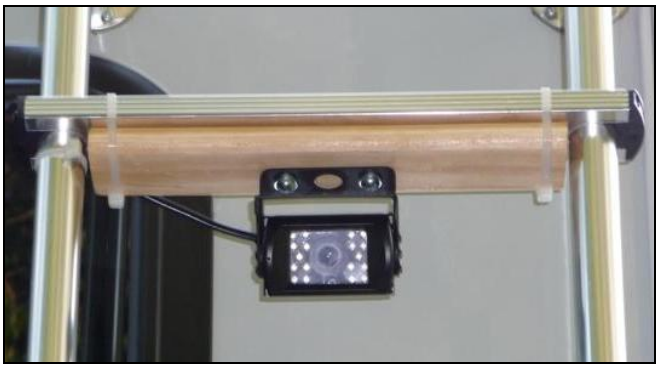
Back Up Camera Installation in a Fifth Wheel Configuration:

I have a 2010, Silverado 2500 HD, Vortec powered, extended cab and a standard length bed. My 5th wheel RV is a 2011 Heartland Greystone 32RE. I picked out a back up camera system; model RVS-770613 from Rear View Safety Inc.. This system comes with one camera, a 7" monitor with remote and stand, a multiplex control box and 66' of cable. The system uses single 5 pin Mini Din connectors for video and audio and covers 130 deg diagonal FOV.

I didn't want to cut mounting holes in my new RV and attempt to run wiring internal to the unit. So, I decided to attach the camera to my ladder. I screwed the camera mount to a small block of wood, and then tie wrapped the wood and camera combination to the bottom of one of the rungs near the top of the ladder. This places the horizontal optical axis of the camera pretty much aligned with the RV passenger side tire track. The center of view is tilted down at 45 degrees, which should result in a field-of-view from 1 ft to about 70 ft behind the trailer, which covers the driver blind spot.



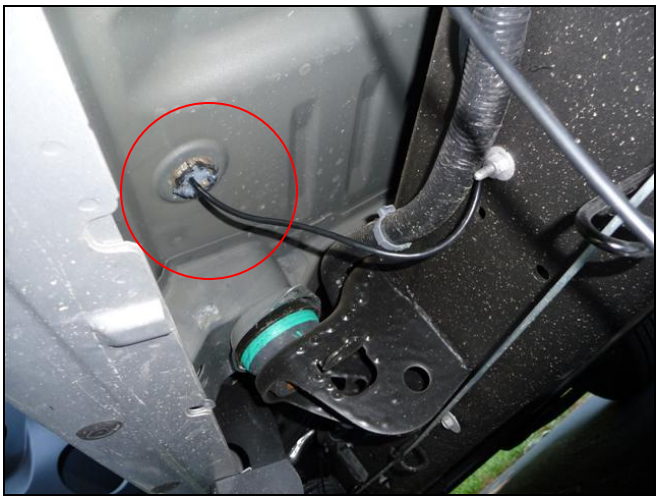
I ran the wiring down the ladder, using tie wraps, and to the frame. I used plastic stick on tie wrap fixtures to hold the wiring along the length of the frame, with a couple metal clamp mounts just for back up.

I ran the wire up into the forward compartment where I created a “slack rack” for the spare length of the 66’ cable. I then ran it out under the floor of the overhang and through a small hole I drilled very near the pin box. I used a grommet and filled it around the wire with silicon sealant.

The video cable then is taped along the length of the RV power cord.

I used the model RVS-103 26’ extension cable to run from the RV connector into the cab of the truck. The cable was routed through one of the black plastic rectangular hole plugs in the bed side wall. The cable has more than enough length to reach the mating cable on the RV power cord. I needed some way to keep the connector dry when not mated, and my wife came up with the perfect solution. She got some plastic tubing whose ID was the same as the connector OD. We filled one end with RTV and tie wrapped it with the plugged end up to our truck power cable. The camera connector easily slides up into the tubing and holds there by friction even while driving. We did the same thing with the RV connector tied to the RV power cord.

The video cable was run along the frame up to a plastic plug located next to the extended passenger compartment on the driver side. I drilled a hole in the plastic plug, ran the wire through and then filled the back of the plug with silicon caulk.



I cut a small slit in the carpet padding over the plug and ran the wire through so that it ran between the carpet and the padding, avoiding any sharp edges on the metal floor.

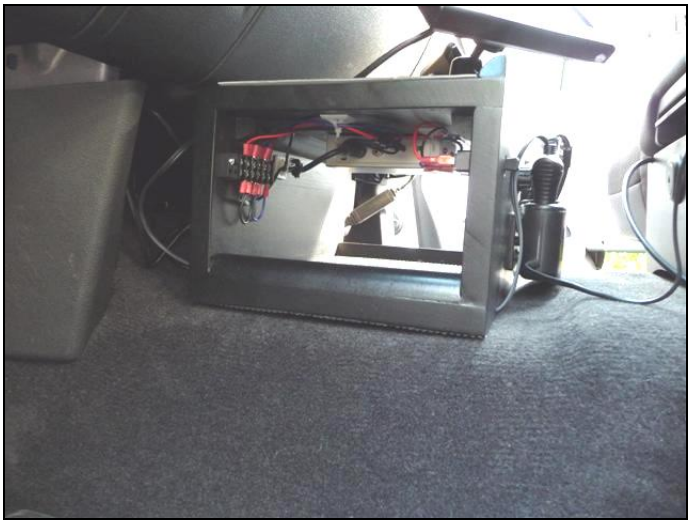
The cable ran to the heating outlet cut-out in the carpet under the drivers seat and then snakes around up to the hump on the floor between the driver and passenger seats.

I didn't want to mount the monitor on the dash of my new truck and I was tired of the long reach to the GPS, especially the passenger, when attached low to the front window. I also needed a place to mount the multiplex/control unit so it could get some cooling air, I needed a switch so I could un-power the system without pulling the power connector each time and I needed a place to mount a number of cigarette lighter receptacles.

The solution was to build a simple wood box with four sides and the left and right hand sides open to allow for additional access for storage of smaller items, like cell phones, etc. This box sits on the floor on the hump between the front seats and is sized for a tight fit under the dash. Velcro was attached to the top back edge of the box and to the bottom of the dash to create a firm hold on the box. Velcro was also placed under the box to mate with Velcro attached to the carpet.

The Monitor was mounted on the driver side and a smooth plastic disk was mounted on the passenger side for the GPS suction cup mount to attach to. The multiplexer, power switch and a terminal strip were mounted near or onto the bottom surface of the top of the box. The four outlet utility power receptacles were mounted on the front of the box and the power lead was run into the seat storage area where there is an outlet. An external GPS antenna was mounted to the windshield and the wire was routed under the dash to the GPS. This way we won't have any loss of Satellites even if the passenger is holding the receiver for an extended period of time.

Normally the passenger does the navigating so the GPS is nominally pointed that way. However, the GPS can be rotated so the driver can see it too if necessary.



The mounting configuration does not steal legroom from either the driver or passenger.

The camera system works very well and is relatively inexpensive compared to most other units on the market. I still have capacity for two more cameras, if needed, and I can play videos through the monitor if desired, only for the passenger of course. I found a very small unit called a "N-Box", which will play recorded movies or TV shows from thumb drives or SD memory cards. The "N-Box" fits easily within the system box with still enough room for Kleenex and cell phones. A couple of cell phones can be charging at the same time using the extra cigarette outlets.

Overall, this project turned out very well and I'm looking forward to seeing exactly where I'm backing up. I recommend the Rear View Systems equipment.