RV-SD & RV-HD

Standard and High-Definition Rear-View Cameras Addendum

ADDENDUM FOR USE WITH THE CUES SPR II (WS930), CPR (WM920), and LAMP II (LM903) TRANSPORTER USER MANUALS

P/N CMA00013-MAN Rev. 10.21.26



We’re Always Here To Help

Thank you for purchasing our CCTV pipeline inspection equipment! We truly appreciate your business and are confident that our products will meet your pipeline inspection needs. Should you require further assistance, please do not hesitate to reach out to us through one of the web links listed below. Your satisfaction is our priority, and we are here to support you every step of the way!

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RV-SD & RV-HD Cameras

CUES is proud to introduce the RV-SD & RV-HD rear-view cameras, designed to deliver dependable rear visibility during pipeline inspection. This user guide covers both rear-view cameras designed for installation on CUES transporters.

- **RV-HD - High-Definition Rear-View Camera (Part Number CMA00006)**
- **RV-SD - Standard Definition Rear-View Camera (Part Number CMA00013)**

These cameras provide visibility behind the transporter, helping operators identify obstacles and assess conditions while reversing or retrieving the equipment. By improving awareness of the transporter's return path, the cameras support more controlled movement and help reduce the risk of transporter tip-over.

Before installing or operating either camera, review this guide and the applicable transporter manual. Rear-view cameras are intended to assist operators and should always be used in conjunction with proper operating procedures and safe equipment-handling practices.

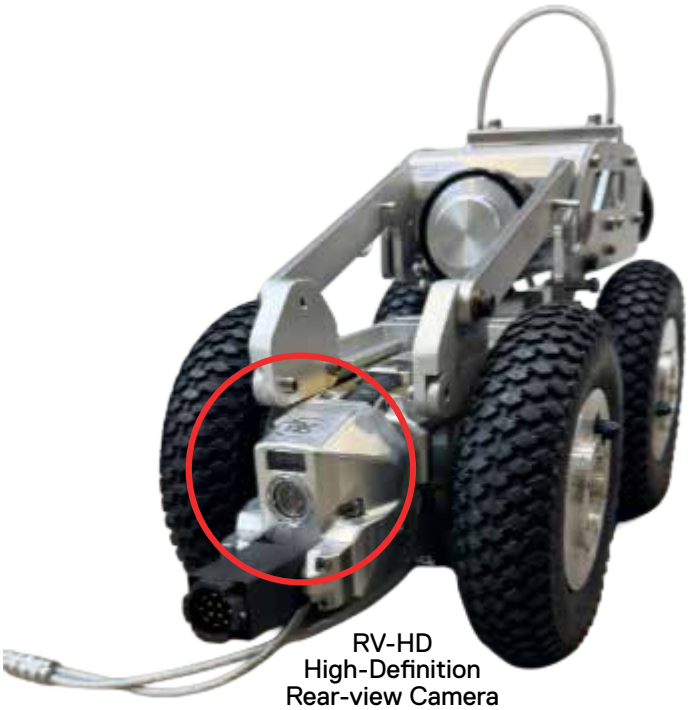
COMPATIBILITY CHART		
	RV-HD Camera	**RV-SD Camera**
Compact Pipe Ranger: P/N WM360	Yes	Yes
Steerable Pipe Ranger: P/N WS360	Yes	Yes
LAMP II: P/N WM390-1	No	Yes

IMPORTANT NOTE:

- The RV-SD rear-view camera can be used in any application currently supported by the Analog Rear-View Camera (ARVC). The RV-HD rear-view camera is compatible only with systems using an HD mainline camera and cannot be used in conjunction with the separate lift-mounted ARVC.



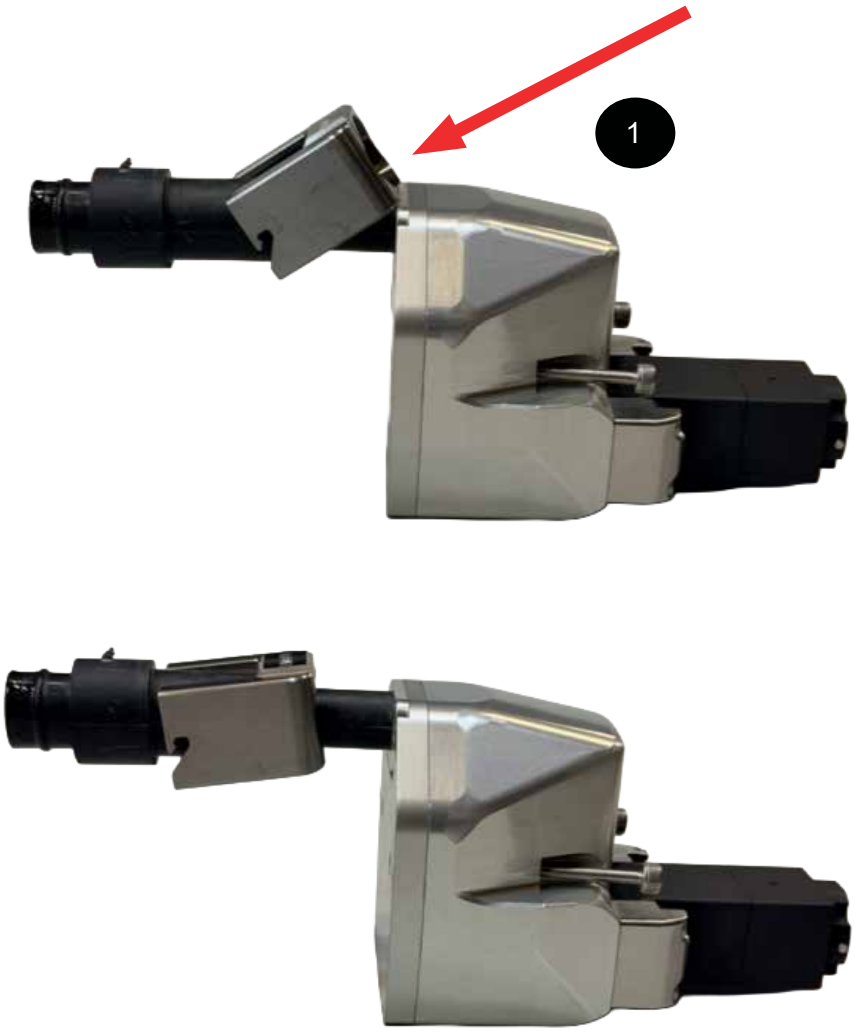
RV-SD
Standard-Definition
Rear-view Camera



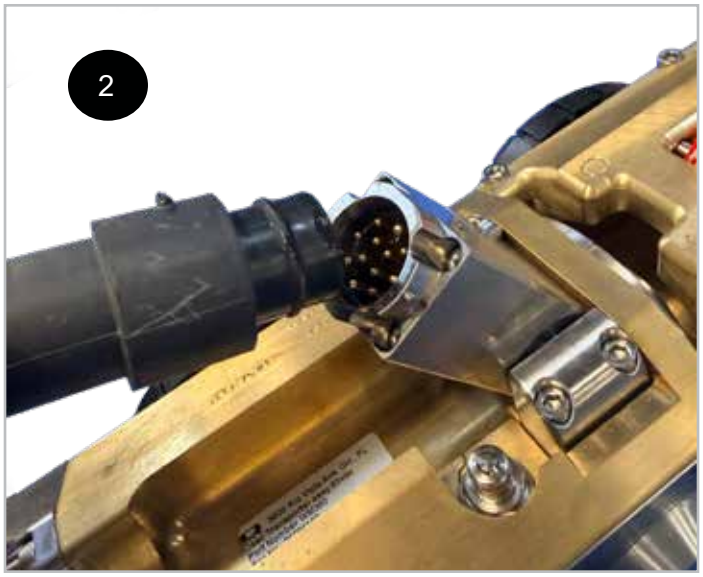
RV-HD
High-Definition
Rear-view Camera

INSTALLING THE RV-HD OR RV-SD ON THE CUES COMPACT PIPE RANGER

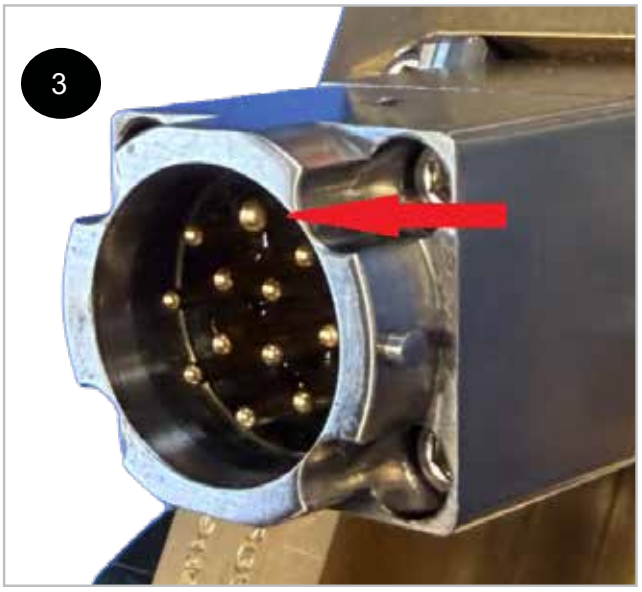
1. Verify that the swivel lock is installed on the interconnect cable as shown.



2. Attach the interconnect cable to the 12-pin connector shown.



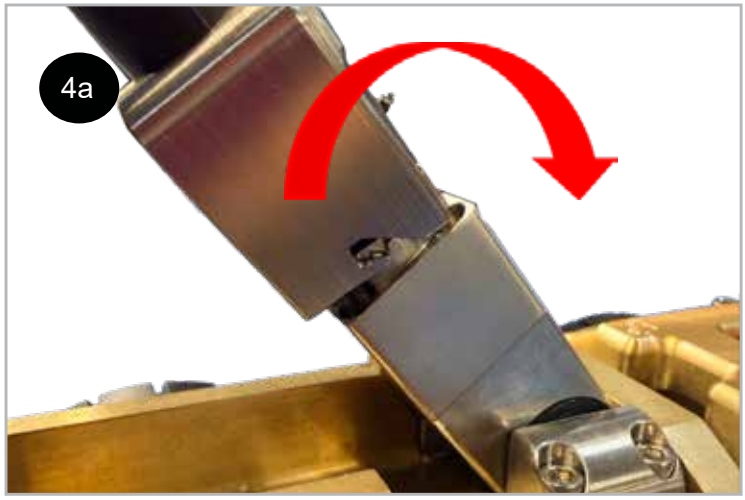
3. Ensure that pin 1 is aligned on the swivel connector and the rear view camera 12-pin connector.

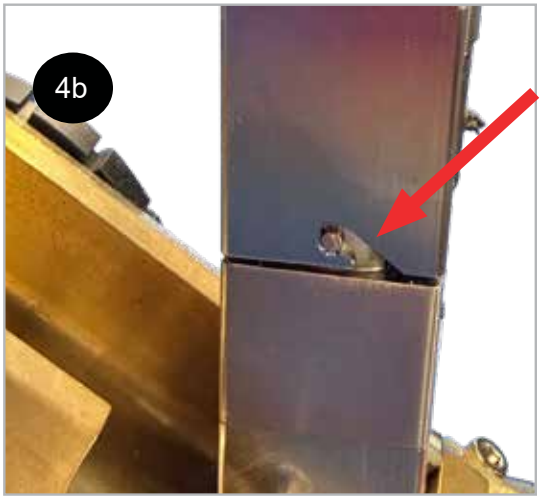


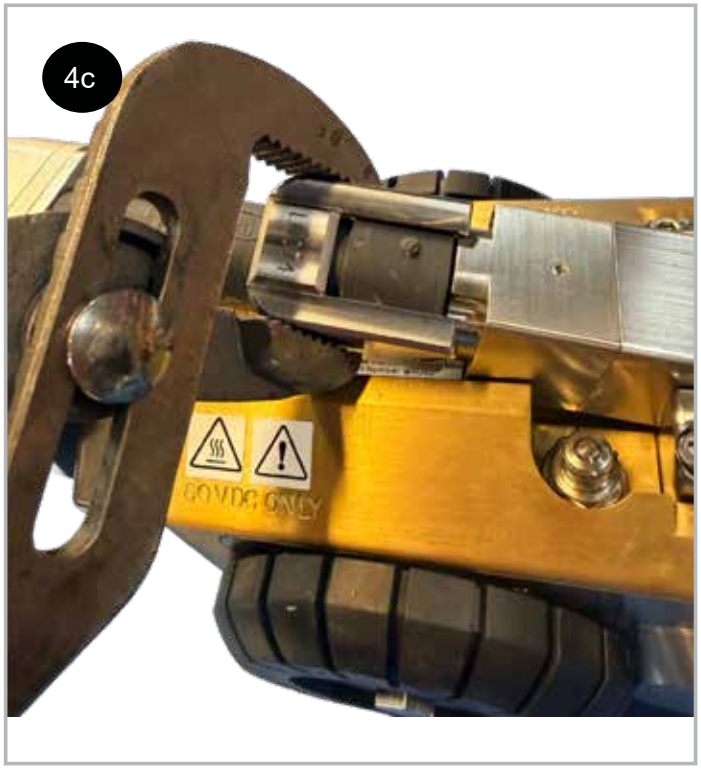


INSTALLING THE RV-HD OR RV-SD ON THE CUES COMPACT PIPE RANGER

4a. Push down and insert the connector as shown.
4b. Align the pins on the swivel lock.
4c. Using a wrench, rotate to the locked position.









5. Push the camera down to secure it flush against the body.





INSTALLING THE RV-HD OR RV-SD ON THE CUES COMPACT PIPE RANGER

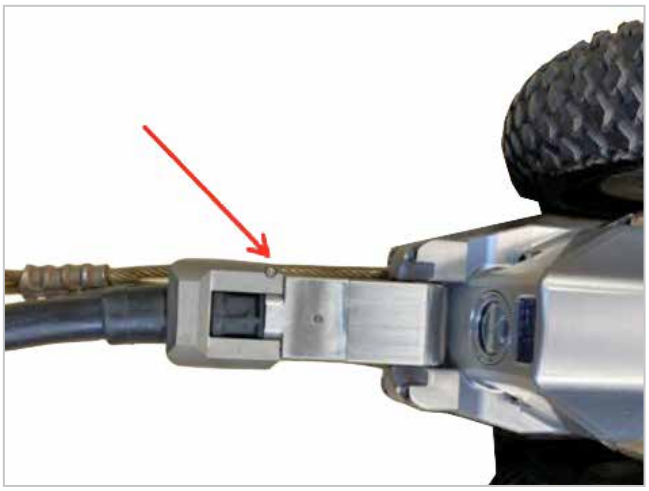
6. Secure the 2 Allen Head screws at the rear of the unit.



7. Verify that the bayonet connector on the adapter is connected properly.

8. Secure the transporter's tow cables underneath the plate on the bottom of the camera.
9. Align pin 1 and insert the 12-pin connector from the mainline cable to the adapter cable.
10. Attach the TV cable to the rear-view camera, install the locking connector (WM160) and tighten the set screw to secure it in place.





11. Loosen the tow cable clamp so that it can move up and down the TV cable. Attach the transporter tow cables to the tow cable clamp and slide the clamp up the TV cable as far as the tow cables allow.



INSTALLING THE RV-HD OR RV-SD ON THE CUES COMPACT PIPE RANGER

12. Measure an additional 2 to 3 inches up the TV cable, away from the transporter. This will be the attachment location for the tow cable clamp.
13. Tighten the screws.



Operating the RV-SD on the CUES Compact or Steerable Pipe Ranger Transporter

NOTE: the RV-SD rear view camera lights will remain ON at all times.

1. To switch from forward to rear video, perform one of the following depending on your specific system:

a. For a K2 system with game pad controller:

- Pressing the “VIEW” button will cycle the view between the MAINLINE and REAR-VIEW camera.
- If you have not selected a rear-viewing camera in the K2 configuration screen, the “view” button will not be operational.

b. For a K2 system with CUES hand held controller:

- Select the camera you wish to view by pressing the “MAIN CAMERA” or “REAR CAMERA” buttons.
- If you have not selected a rear-viewing camera in the K2 Configuration Screen, the “REAR CAMERA” button will not be operational.

c. For a non-K2 system:

- Select the desired camera using the panel-mounted toggle switch labeled “MAIN CAMERA” and “REAR-VIEW CAMERA”.
- NOTE: camera switching is controlled by reversing light power polarity, with the “MAIN CAMERA” position being positive polarity.
- The switch should be left in “MAIN CAMERA” position when the rear-view camera is not being used.

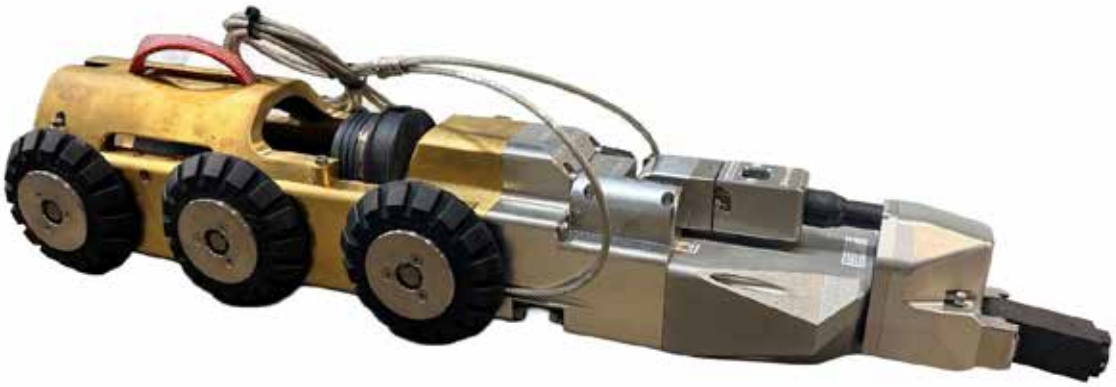
Operating the RV-HD on the CUES Compact or Steerable Pipe Ranger Transporter

NOTE: The RV-HD lights can be turned ON and OFF by the user.

1. To switch from forward to rear video, perform the following:
   - Pressing the “VIEW” button will cycle the view between the FORWARD and REAR-VIEW camera.
   - If you have not selected a rear-viewing camera in the K2 configuration screen, the “view” button will not be operational.

   IMPORTANT NOTE: CUES recommends updating the K2 firmware to version 03.00.00 or later for use with the RV-HD camera.

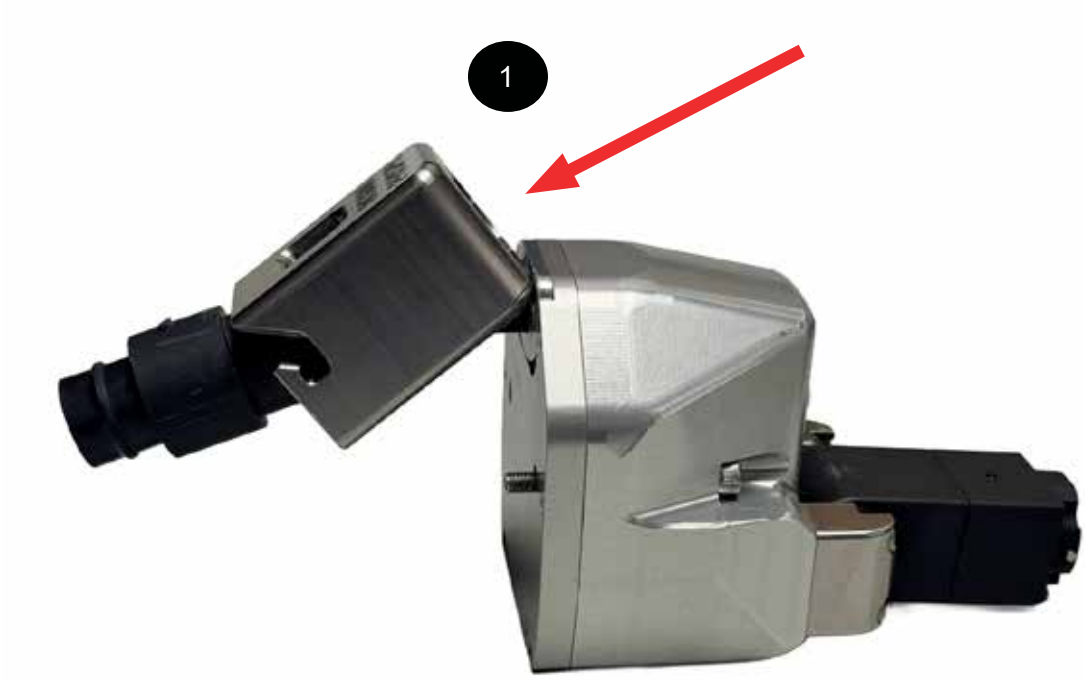
INSTALLING THE RV-HD OR RV-SD ON THE CUES STEERABLE PIPE RANGER





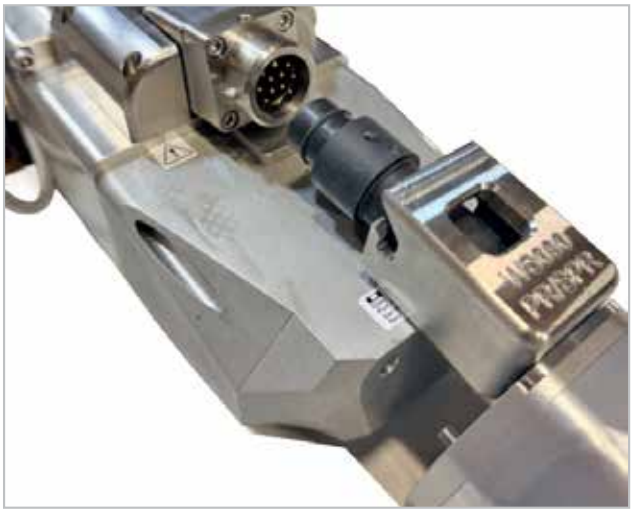
1. Verify that the swivel lock is installed on the interconnect cable as shown.

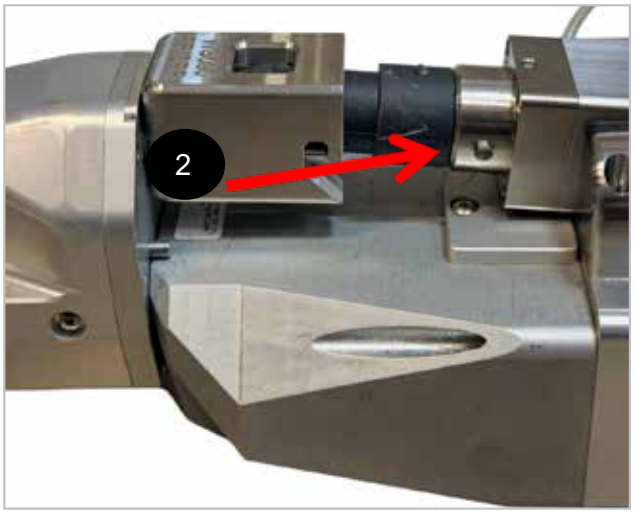




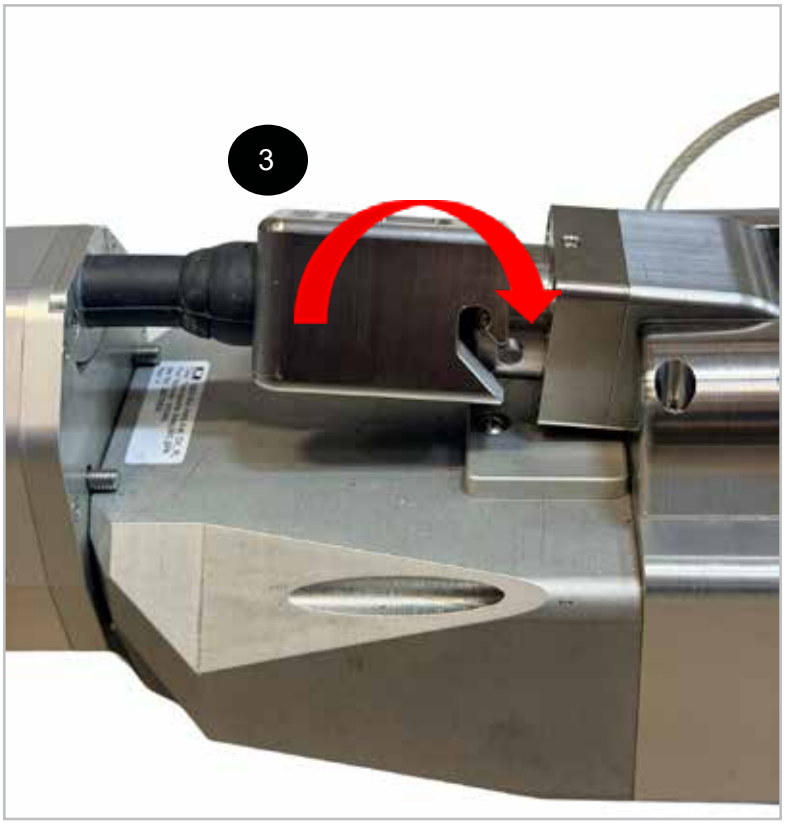
INSTALLING THE RV-HD OR RV-SD ON THE CUES STEERABLE PIPE RANGER

2. Attach the interconnect cable to the 12-pin connector shown.

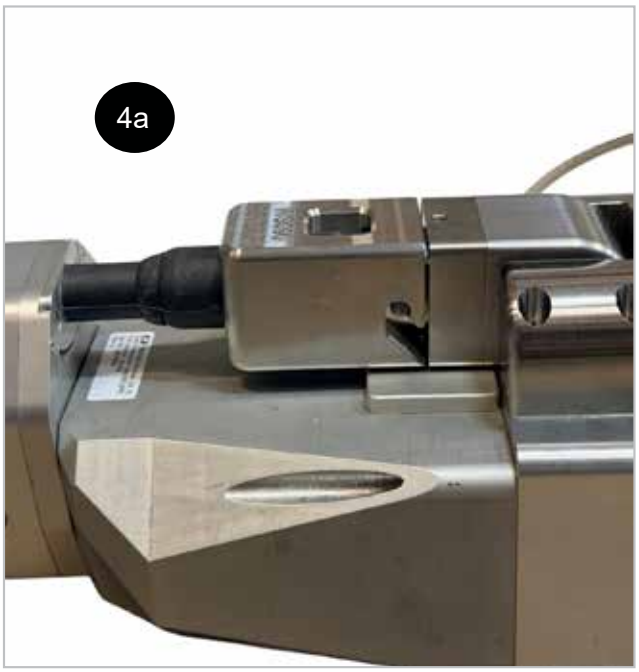


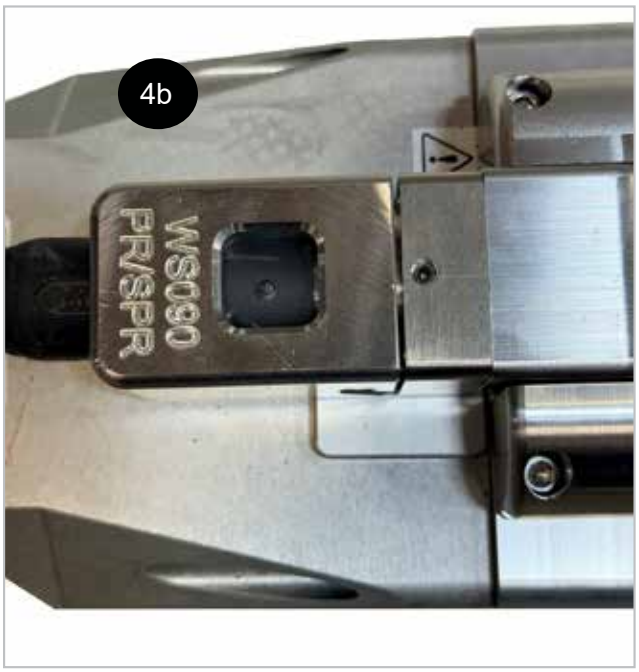


3. Ensure that pin 1 is aligned on the swivel connector and the rear view camera 12-pin connector.

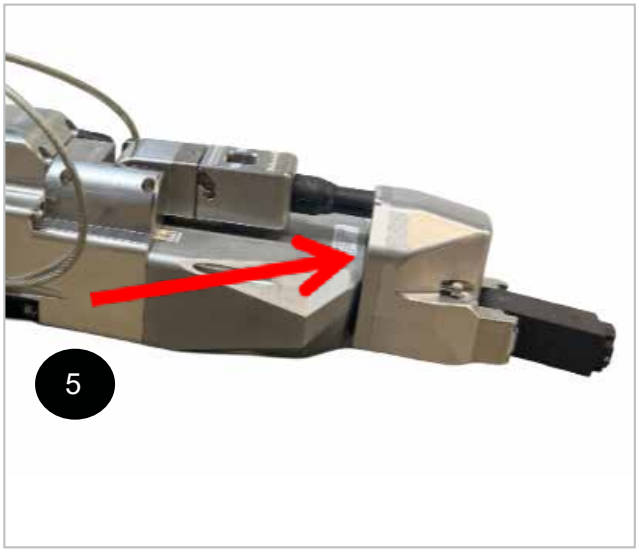


4a. Push down and insert the connector as shown.
4b. Align the pins on the swivel lock. Using a wrench, rotate to the locked position.





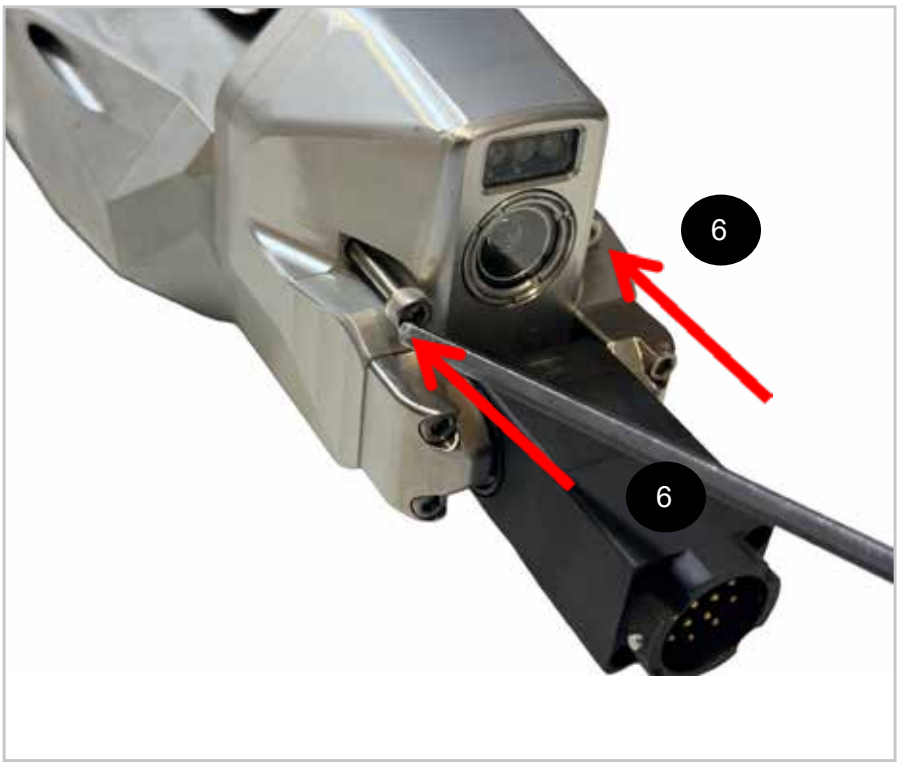
5. Push the camera down to secure it flush against the body.





INSTALLING THE RV-HD OR RV-SD ON THE CUES STEERABLE PIPE RANGER

6. Secure the 2 Allen Head screws at the rear of the unit.



7. Verify that the bayonet connector on the adapter is connected properly.

8. Secure the transporter's tow cables underneath the plate on the bottom of the camera.
9. Align pin 1 and insert the 12-pin connector from the mainline cable to the adapter cable.
10. Attach the TV cable to the rear-view camera, install the locking connector (WM160) and tighten the set screw to secure it in place.





11. Loosen the tow cable clamp so that it can move up and down the TV cable. Attach the transporter tow cables to the tow cable clamp and slide the clamp up the TV cable as far as the tow cables allow.



INSTALLING THE RV-HD OR RV-SD ON THE CUES STEERABLE PIPE RANGER

12. Measure an additional 2 to 3 inches up the TV cable, away from the transporter. This will be the attachment location for the tow cable clamp.
13. Tighten the screws.



Operating the RV-SD on the CUES Compact or Steerable Pipe Ranger Transporter

NOTE: the RV-SD rear view camera lights will remain ON at all times.

1. To switch from forward to rear video, perform one of the following depending on your specific system:

a. For a K2 system with game pad controller:

- Pressing the “VIEW” button will cycle the view between the MAINLINE and REAR-VIEW camera.
- If you have not selected a rear-viewing camera in the K2 configuration screen, the “view” button will not be operational.

b. For a K2 system with CUES hand held controller:

- Select the camera you wish to view by pressing the “MAIN CAMERA” or “REAR CAMERA” buttons.
- If you have not selected a rear-viewing camera in the K2 Configuration Screen, the “REAR CAMERA” button will not be operational.

c. For a non-K2 system:

- Select the desired camera using the panel-mounted toggle switch labeled “MAIN CAMERA” and “REAR-VIEW CAMERA”.
- NOTE: camera switching is controlled by reversing light power polarity, with the “MAIN CAMERA” position being positive polarity.
- The switch should be left in “MAIN CAMERA” position when the rear-view camera is not being used.

Operating the RV-HD on the CUES Compact or Steerable Pipe Ranger Transporter

NOTE: The RV-HD lights can be turned ON and OFF by the user.

1. To switch from forward to rear video, perform the following:
   - Pressing the “VIEW” button will cycle the view between the FORWARD and REAR-VIEW camera.
   - If you have not selected a rear-viewing camera in the K2 configuration screen, the “view” button will not be operational.

   IMPORTANT NOTE: CUES recommends updating the K2 firmware to version 03.00.00 or later for use with the RV-HD camera.

INSTALLING THE RV-SD ON THE CUES LAMP II

NOTE: The rear-viewing camera can be used with steel and fiberglass LAMP II systems.

At the rear of the LAMP II, perform the following:

1. Verify that the swivel lock is installed on the interconnect cable as shown.

2. Attach the interconnect cable to the 12-pin connector as shown. Ensure that pin 1 is aligned on the swivel connector and the rear view camera 12-pin connector.

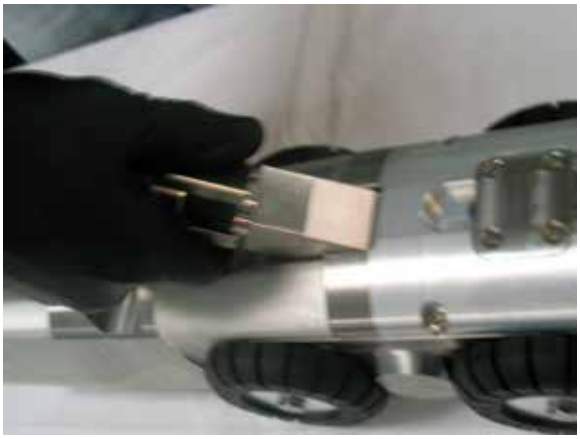


RV-SD
Standard-Definition
Rear-view Camera

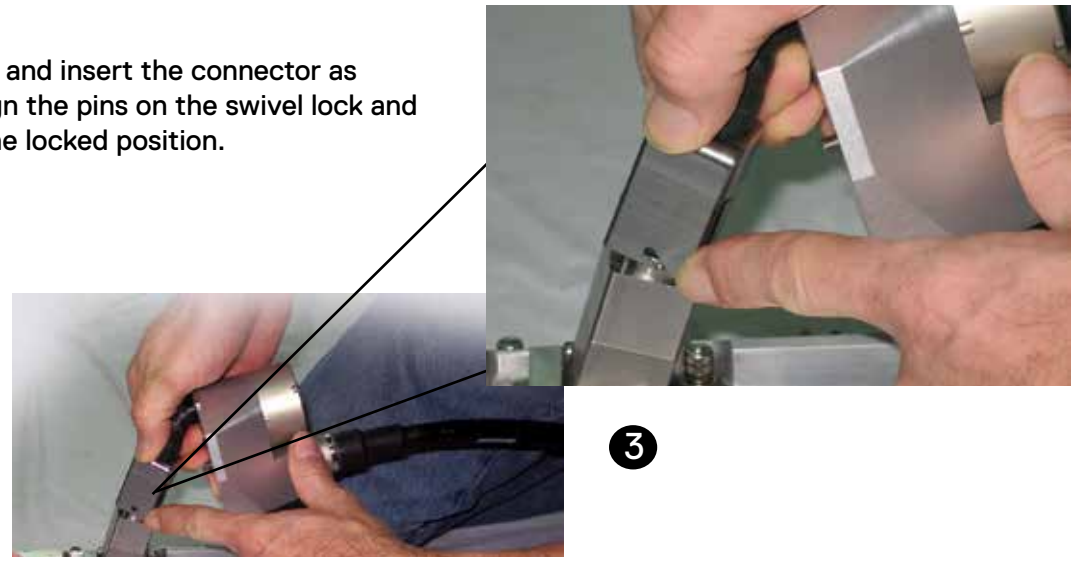




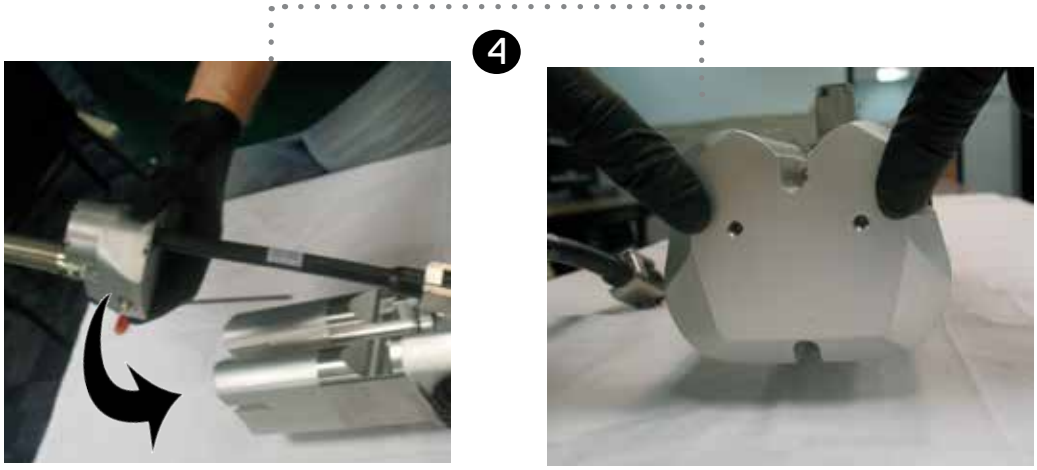
2



3. Push down and insert the connector as shown. Align the pins on the swivel lock and rotate to the locked position.



4. Rotate the camera down and align the screws with the holes that are located on the motor housing as shown. Push the camera down to secure.

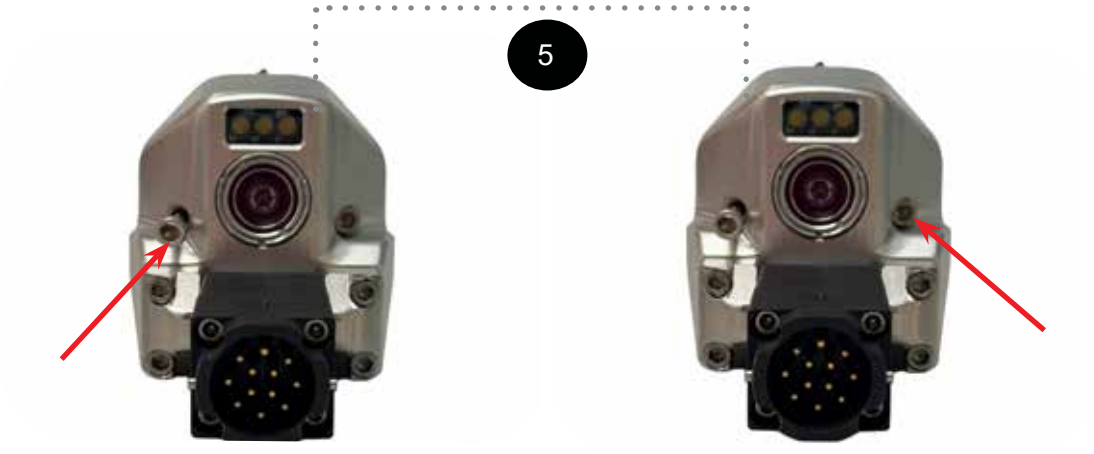


IMPORTANT NOTES:

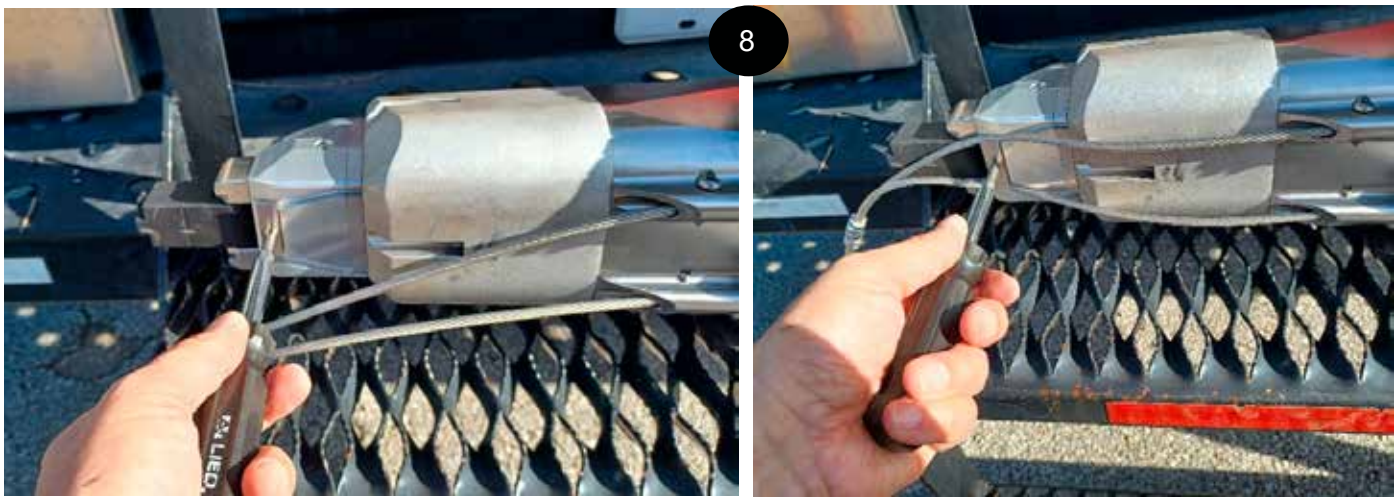
- For existing units: If the rear housing does not have the two holes shown in the image in step 4 above, it must be sent to CUES for modification prior to rear view camera installation.
- Rear-view camera operation requires a K2/Summit control system or a panel-mounted rear-view camera toggle switch for non-K2/Summit systems.
- The LAMP II Rear-View Camera requires K2 firmware version R021 or later for K2/Summit-equipped systems.
- Front/rear/lateral camera image is switched from the K2 controller (Game Pad or hand-held controller), truck panel, or PCU switch depending on the system configuration.

INSTALLING THE RV-SD ON THE CUES LAMP II

(THE CUES RV-HD CANNOT BE USED ON THE LAMP II AT THIS TIME)



5. Secure the 2 Allen Head screws at the rear of the unit.
6. Align pin 1 and insert the 12-pin connector from the mainline cable to the rear-view camera cable.
7. Install Tow Cable P/N CMA00021 on the bottom of the rear-view camera.
8. Remove the plate on bottom side of rear view camera. Position the tow cable pigtails within the grooves, pull tight to ensure tension, then replace the plate and tighten screw to secure the cables.



9. Insert the gold cable plug into tip up connector on rear view camera. Secure with cable lock block. Pass lock block over gold cable, slide inward, and rotate until it snaps in place.

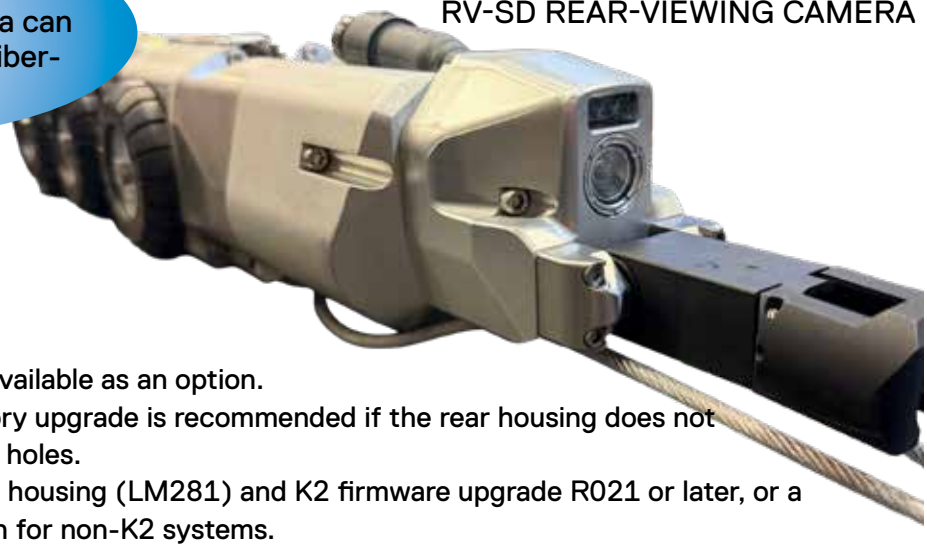
10. Adjust the cable clamp to ensure there is slack in both the retrieval and in-line positions. For further instructions, refer to P/N CMA00021-INST.
NOTE: the rear view camera lights will remain ON at all times.



The unique, illuminated & rear-viewing color camera can be used with steel and fiber-glass systems.

LAMP II

RV-SD REAR-VIEWING CAMERA



RETROFIT KITS:

- For new systems: units are available as an option.
- For existing systems, a factory upgrade is recommended if the rear housing does not include the RV-SD mounting holes.
- Requires LAMP II rear motor housing (LM281) and K2 firmware upgrade R021 or later, or a panel-mounted toggle switch for non-K2 systems.

SYSTEM CONFIGURATION:

- WM375-1 - LAMP II Rear-Viewing Camera Assembly
- LM350-3 - LAMP II with spring push cable and rear view camera
- LM350-4 - LAMP II with fiberglass push cable and rear view camera

CONTROLLER INSTRUCTIONS - LAMP II + RV-SD

11. **To switch between MAINLINE / LATERAL / REAR VIEW video, perform one of the following depending on your specific system:**

a. **For a K2 system with game pad controller:** Pressing the "VIEW" button will cycle the view between the MAINLINE, LATERAL, and REAR-VIEW cameras, in that order. If a rear-viewing camera has not been selected on the K2 Equipment Configuration Screen, the view will toggle between the MAINLINE and LATERAL cameras only.

b. **For a K2 system with a CUES hand-held controller:** Pressing the "MAIN CAMERA" button will always switch the view to the MAINLINE camera, and pressing the "REAR CAMERA" button will always switch the view to the LATERAL camera. However, if a rear-viewing camera has been selected on the K2 Equipment Configuration Screen, pressing the "REAR CAMERA" button will switch the view between the REAR-VIEW and LATERAL cameras.

c. **For a non-K2 system:** A panel mounted toggle switch labeled "MAIN CAMERA" and "REAR-VIEW CAMERA" will allow you to select which camera to view. NOTE: camera switching is controlled by reversing light power polarity, with the "MAIN CAMERA" position being positive polarity. Switch should be left in "MAIN CAMERA" position when rear-view camera is not being used.

RECORD OF REVISIONS

This Record of Revision page is designed to ensure that users have access to the most up-to-date information regarding CUES's products. As CUES's products evolve over time, updates to procedures, specifications, and features may be necessary. These changes will be updated in each user manual, as needed. This revision page serves as a record of these changes, allowing users to track modifications and ensure they are following the latest instructions. The latest change level and the rationale for any change(s) will be explained in tabular format on this page to allow users to be better equipped should the need arise to call CUES regarding technical information.

Original Manual	Revision	Change Description
RV-HD and RV-SD Cameras Addendum	10.2026	Initial preliminary release



CUES's equipment is designed to be easy to use during day-to-day operation. However, it is powered electrically and thus must be operated with care and safety. Do not attempt to operate any CUES equipment without having thoroughly read through the appropriate operating instructions and/or been through training by authorized CUES personnel.

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