



**rosco**  
VISION  
**SAFE-T-SCOPE®**  
BACKUP CAMERA SYSTEMS



**STSK7145/STSK7145BSSK**  
3 CAMERA SYSTEM WITH  
MONITOR AND BACKUP SENSORS  
INSTALLATION/USER MANUAL

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## 3 CAMERA SYSTEM WITH MONITOR AND BACKUP SENSORS

STSK7145 introduces a revolutionary new camera system for commercial vehicles. The new Safe-T-Scope® camera system utilizes a 7" inch monitor to display a 800\*480 LCD screen which can accommodate 3 cameras along with the capability to show a particular view such as a single camera, or split screen screen depending on what the user chooses.

This monitor allows the driver to see obstructions behind and on the left and right sides of the vehicle. The monitor auto adjusts the switches between day and night modes based on ambient light. Moreover, it complies with the latest FCC(USA) & guidelines when installed properly.

STSK7145BSSK combines the STSK7145 system with the BSSK4000 backup sensor system for commercial vehicles. The high-accuracy system can detect obstructions up to 13 ft away with a resolution as accurate as 1 inch. A concise and high-fidelity display shows both the location and distance of the obstruction(s) and alerts the driver with audible "beeps". The beep will vary in frequency to indicate the distance to the nearest obstruction, and the volume is fully controllable.

See separate BSSK4000 manual (included with STSK7145BSSK) for installation and operating instructions.



**Caution**

- To prevent electric shock, DO NOT OPEN THE MONITOR CASE. The components inside the monitor is carrying high voltage. There are no user serviceable parts.
- Do not expose the monitor or sensor display to water, rain, moisture etc. The displays waterproof. Any moisture inside the monitor can cause extensive damage.

## COMPONENT LIST AND DESCRIPTION

**PART NO.**

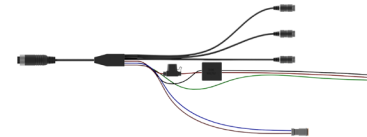
**DESCRIPTION**

STSM272MO



7" HD LCD 3 Channel Monitor

STSM272PHAR



Power Harness equipped with 24 Pin Connector, 3 x 4 Pin Camera Inputs

BAS4515



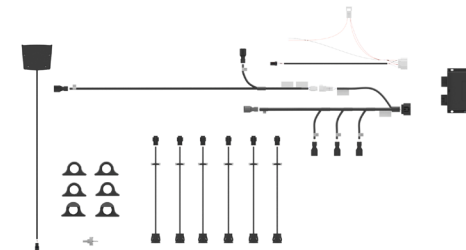
Monitor Sun Shield

STSDF1005AMPS



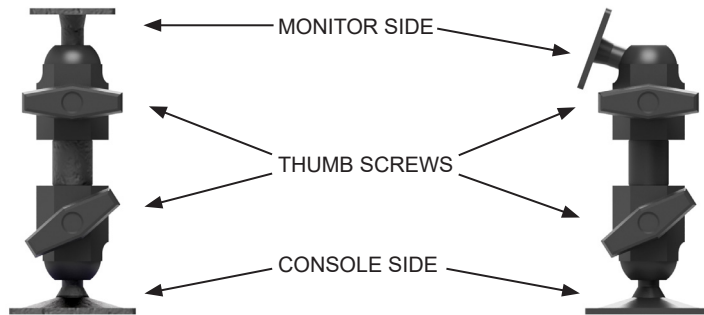
AMPS Monitor Mount

BSSK4000  
(STSK7145BSSK)

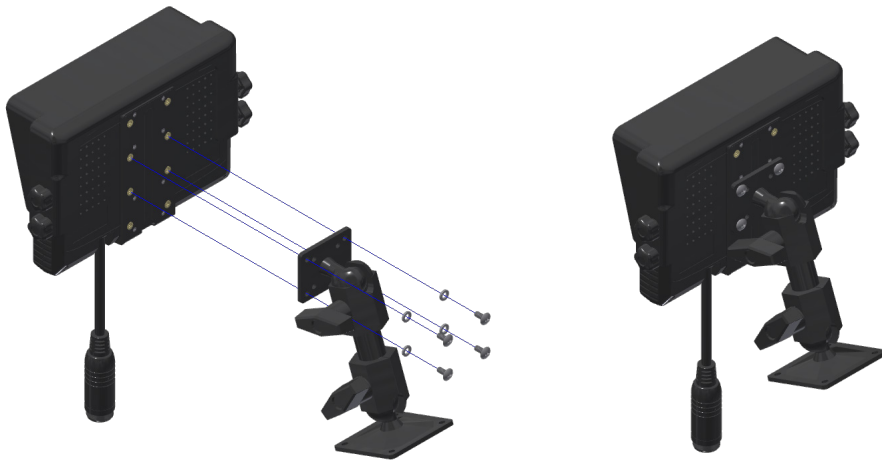


Sensor System

## MONITOR INSTALLATION



- Use the two thumbscrews on the duck foot mount to adjust the unit to the optimal viewing angle
- The smaller end is the monitor side bracket, while the larger end is the console side bracket.
- Using Size 10 screws, securely attach the console side bracket to the vehicle in an area that will not cause damage or impede operation.



- Using the hardware provided, fasten the monitor to the smaller bracket.
- The mount can be attached to either the top, middle, or bottom four holes to adjust the height to user preference.

## POWER HARNESS INSTALLATION

- Once the monitor is mounted, if necessary, drill a hole on the monitor mounting surface near the monitor in which to pass through the monitor cable and 24-pin connector. The hole should be no larger than 1" in diameter. Be sure to clear any obstacles before drilling holes.



fig. 3

Power Harness 24 Pin Female Connector

Monitor 24 Pin Male Connector



fig. 4

Note: Make sure that the arrow marks of both the connectors are lined up.

### AFTERMARKET KIT INSTALLATIONS:

- Cut the black, red and green wires shown in fig. 1 and the blue and brown wires shown in fig. 2 at the base of the corresponding connectors. Then, strip these wires to the appropriate length.
- Connect the black wire of the power harness to chassis ground. See wiring diagram on page 6 for connections.
- Connect the red wire to an ignition switched accessory (ex. radio) power source and ensure that the power source can provide operating current above 2 A.
- In order to automatically display the back camera view when shifting into reverse using a backup camera setup, connect the green trigger wire to the vehicle's reverse light circuit. Ensure the backup camera is connected to port C1 on the power harness.
- Similarly, trigger wires can be connected to the vehicle's left & right turn signal circuit to get the view of the blind spot while turning left/right.
- Connect the monitor 24 pin male connector to the power harness 24 pin connector.
- The power harness should be completely hidden from the vehicle operators and tied/clamped to a rigid structure or rigid existing vehicle harness.
- Adhere to a 2 inch bend radius for all cables to prevent damage.

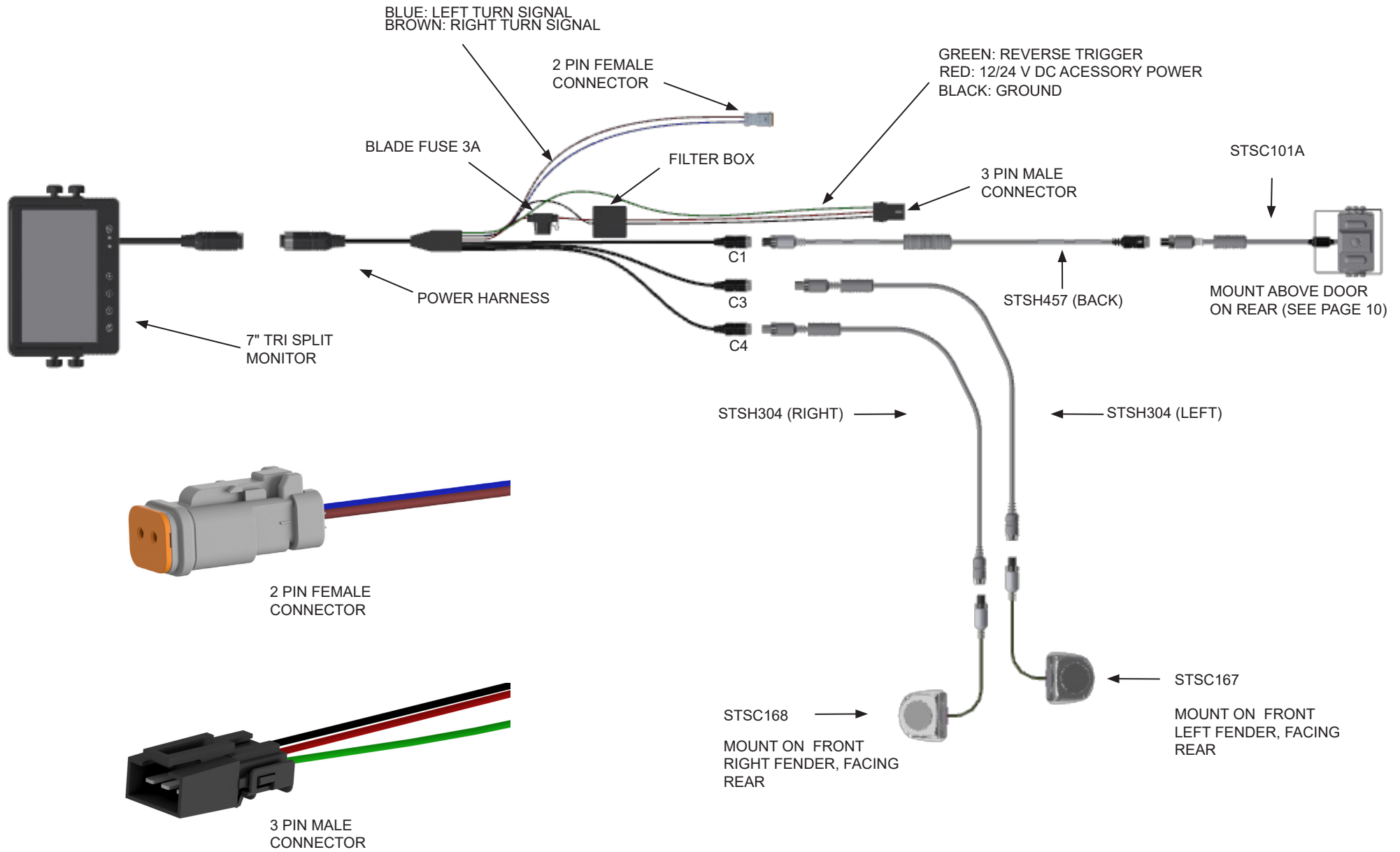
### BSSK4000 INSTALLATIONS:

- For BSSK4000 installation instructions, please see the BSSK4000 User Manual.

# POWER HARNESS INSTALLATION

## STSK7145

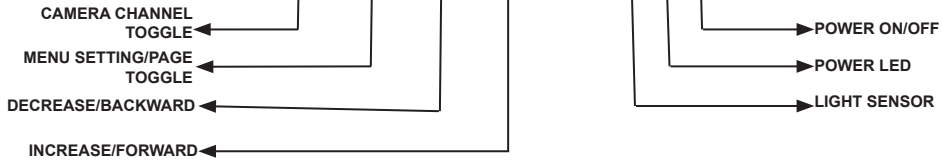
Wiring Diagram



## MONITOR FUNCTIONS AND OPERATIONS

**i** NOTE: Monitor configuration is set at the factory - buttons are for maintenance use only.

- LIGHT SENSOR (LEFT)  
Used to adjust screen brightness automatically.
- POWER LED (RIGHT)  
Green when LCD ON, Red when LCD OFF



## AVAILABLE SPLIT SCREENS AND CAMERA VIEWS

- The below views can be accessed/triggered by the methods below:
- BACK can be triggered using the green wire Trigger 1
- LEFT can be triggered using the blue wire Trigger 3
- RIGHT can be triggered using the brown wire Trigger 4

**BACK (Single View)**



**LEFT (Single View)**



**RIGHT (Single View)**



**CAM34 (Split View)**



## CAMERA INSTALLATION

### 1.1 REAR CAMERA INSTALLATION

- Select a high and centered location at the rear of the vehicle and close to the rear marker lights to mount the STSC101A camera. This installation location will ensure that the image transmitted by the camera will show the rear bumper and area behind the vehicle.
- Using the camera mounting bracket as a guide, use a 3/16 drill bit to drill four screw holes into the vehicle. Be sure to clear any obstacles (e.g. electrical wiring), etc. before drilling holes. Use a 5/8 drill bit to drill a camera cable hole into the vehicle close to camera mounting bracket.

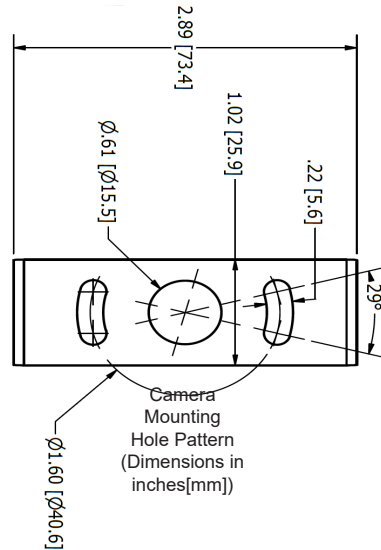


### INSTALL CAMERA

- Install the camera mounting bracket. Mount the camera and sunshade onto the bracket. Insert the camera cable into the vehicle through the hole and install the cable grommet on the hole.
- Connect the camera cable to the male-pinned connector of the camera extension cable. Hand-tighten the coupling ring on the camera cable to ensure a secure connection, and slide the environmental boot over the connection.

### ROUTE EXTENSION CABLE

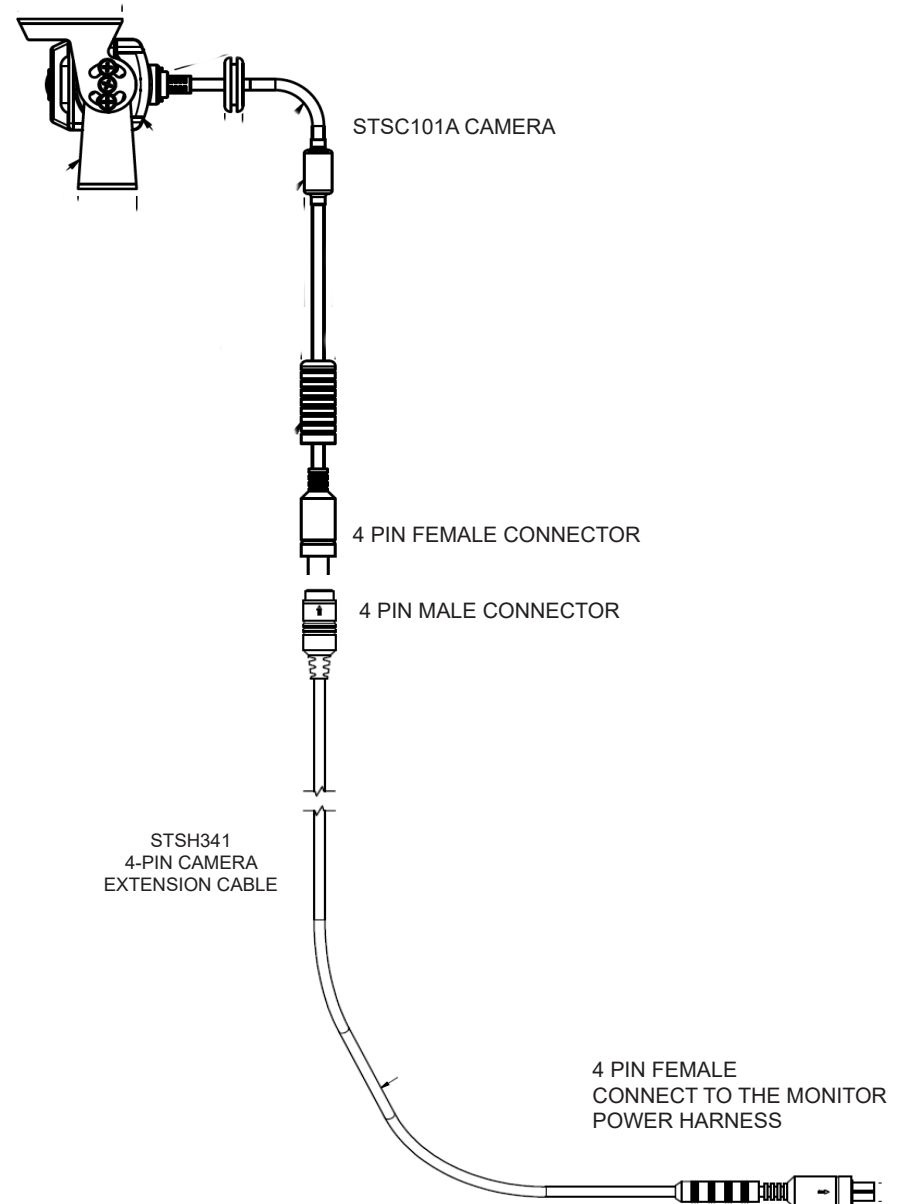
- Route the extension cable to the vehicle cabin at the front of the vehicle and keep the cable away from hot, rotating, or electrically noisy components.
- Tuck the cable out of sight and secure/clamp the cable at as many spots as possible to prevent accidental snagging or damage to the cable.



Typical Monitor Image from a properly installed camera

## CAMERA INSTALLATION

### 1.2 CAMERA WIRING



## APPENDIX

## STSM272

Technical specification

PARAMETER	VALUE
Function	7" Tri Split
TV System	NTSC
Resolution	800*480
Brightness	≥500cd/m <sup>2</sup>
Video Output	1Vp-p ±.2Vpp 75ohm
Power Supply	10~36 VDC
Power Consumption	≤8 W
Audio Out	1 W
Operating Current	600mA
Standby Current	≤ 400mA
Day/Night Mode	Auto
Vibration	6.8G@155Hz-30Hz, 4mm, for 0.5hours
Operating Temperature	-20°C to + 65°C (-4°F to +149°F)
Storage Temperature:	-40°C to + 80°C (-40°F to +176°F)

## APPENDIX

## BSSK4000

Technical specification

RATED VOLTAGE	DC 12V	
INPUT VOLTAGE RANGE	DC 10.5V ~ 32V	
CURRENT CONSUMPTION	<300mA	
BUZZER FREQUENCY	2400 ± 100 Hz	
SENSOR DETECTION RANGE	S1, S2 S3, S4	6.0 ± 0.5ft (75mm by 1m PVC pipe) 13.0 ± 0.1ft (1m by 1m flat board)
	S5, S6	4.0 ± 0.5ft (75mm by 1m PVC pipe)
ENVIRONMENTAL RATING	Submersion-Proof Sensors: IP67	
	Weather-Proof ECU: IP65	
OPERATING TEMPERATURE	-30° ~ +80°C (-22° ~ +176°F)	
STORAGE TEMPERATURE	-40° ~ +85°C (-40° ~ +185°F)	
SENSOR OPERATING FREQUENCY	58 ± 1kHz (Ultrasonic)	



# rosco

## V I S I O N

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