

# Lipstick Camera

## User Guide for Single & Dual Models

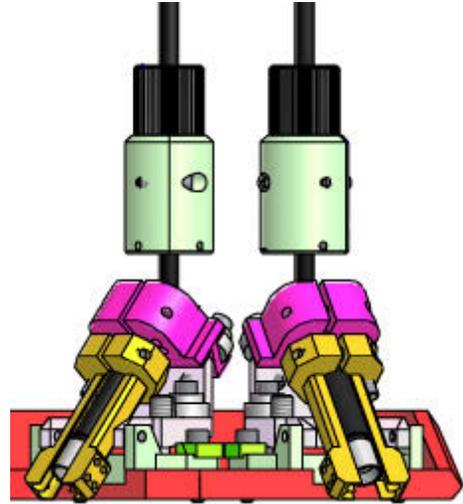
(p/n 22293077 & p/n 22293042)

---

These color lipstick cameras are positioned at the factory to view the needle tip/substrate interface as material is being dispensed. This allows the camera image either to be viewed on an optional, external monitor or output to a connection on the dispenser service panel.

The single position lipstick camera includes a color video camera to observe the needle tip in the designated valve mount station.

The dual position lipstick camera includes two color video cameras, one to observe the needle tip of valve mount station #1 and another to observe the needle tip of valve mount station #2.



Adjustments affecting camera angle of view, camera focal distance, and the direction of camera optic lighting can be made individually to either camera.

Four (4) LEDs are mounted to the camera to illuminate the viewing area. The direction in which illumination is aimed is adjustable.

## Contents

- [Safety Notes](#)
- [Maintenance](#)
- [Specification Data](#)
- [Special Tools](#)
- [Adjustments](#)
- [Mechanical Assembly Drawings](#)

## Safety Notes

- Do not use any other AC adapter other than the one supplied with the camera.
- Do not use this product in or near water. Water will damage the camera.
- Do not drop this product or use in an application where it may be dropped or struck.
- Do not bend, crush, or pinch the camera cable.

## Maintenance

Keep the camera lens and the LEDs mounted to the camera clean and free from dust by using canned air or lens cleaning tissues.

**NOTE:** Be careful not to damage the camera lens surface while cleaning it.

## Specification Data

**Table 1: Camera Specifications**

Image Output Signal	NTSC
Image Sensor	1/4-inch CCD
Lens Focal Length	0.810 inches, f/2.8
Number of Pixels	269,000 Pixels
Resolution	310 TV Lines
Maximum Horizontal Field-of-View	approximately 48 degrees horizontal view with 3.9 mm Lens
Signal-to-Noise Ratio	> 45 dB
Minimum Illumination	8 lux
Power Requirements	12 volts DC

## Special Tools

A **special adapter** (p/n 22203276) for use with the standard Setup & Leveling Kit dial indicator are included with the lipstick camera.

The dial indicator and adapter are not used with the camera directly; the reduced adapter size accommodates the reduction of available space in front of the head mount stations as a result of mounting the camera, thus enabling the teaching/verifying of base location values, leveling of the gantry, etc.



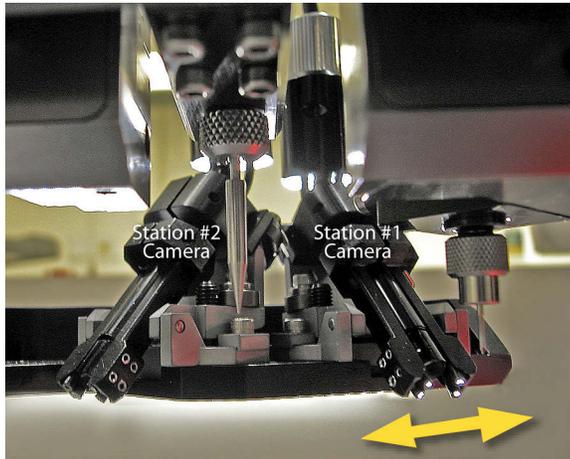
## Adjustments

- [Camera Angle - Lateral](#)
- [Camera Angle - Vertical](#)
- [Camera Focal Distance](#)
- [Direction of Lighting](#)

### Camera Angle - Lateral

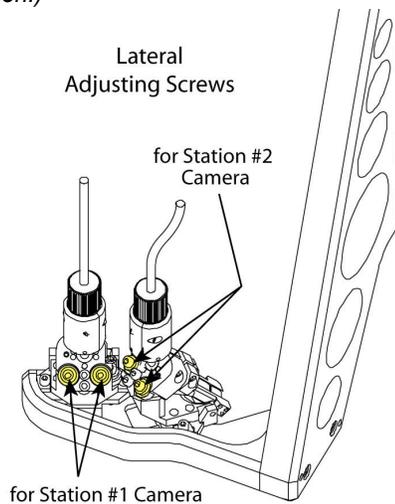
Each camera can be adjusted laterally, either to the right or left of the applicable needle tip in order to horizontally center the desired image in the video display screen.

**Figure 1: REAR VIEW** - direction of lateral adjustment for station #1 camera. (Valve is shown retracted.)



To move a camera in the horizontal plane, loosen one of the adjusting screws and tighten the other. The screws function together to both adjust and secure the horizontal position of the camera.

**Figure 2: ELEVATED FRONT VIEW** - location of screws used to adjust & secure the lateral camera position.)



## Camera Angle - Vertical

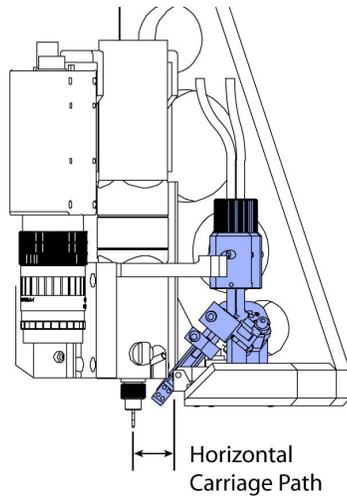
The following [Horizontal Carriage Position](#) and [Vertical Angle](#) adjustments work together to establish the vertical angle of view for the camera. These adjustments are used to vertically center the desired image in the video display screen.

### Horizontal Carriage Position

---

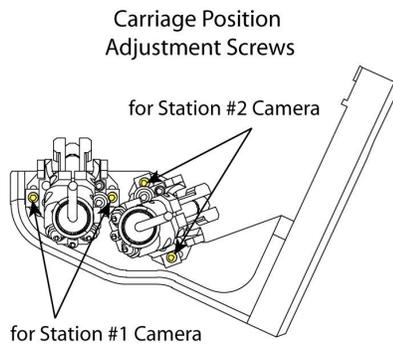
As needed, the whole camera carriage can be moved horizontally toward or away from the needle/valve.

**Figure 3:** SIDE VIEW - path of horizontal carriage travel.)



To move the camera carriage, first loosen both indicated screws, slide the camera carriage to desired position, and then tighten the same screws.

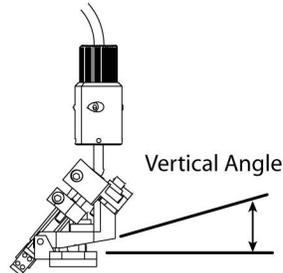
**Figure 4:** TOP VIEW - screws used to adjust camera horizontal carriage position.)



## Vertical Angle

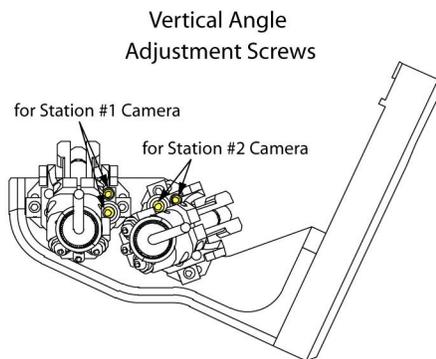
The camera can be adjusted vertically either up or down in order to vertically center the desired image in the video display screen.

**Figure 5:** SIDE VIEW - path of vertical angle adjustment.



To adjust the vertical camera, loosen one of the adjusting screws and tighten the other. The screws function together to both adjust and secure the vertical angle of the camera.

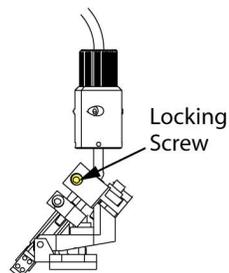
**Figure 6:** TOP VIEW - screws used to adjust the vertical angle of each camera.)



## Camera Focal Distance

The coarse focus or camera focal distance can be altered by moving the camera closer to or farther away from the needle tip.

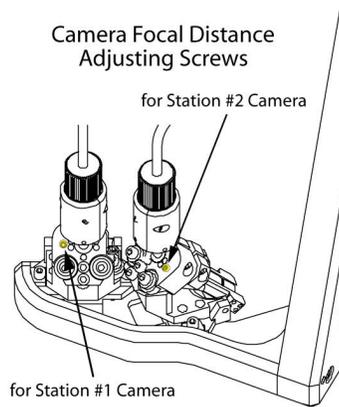
**Figure 7:** SIDE VIEW - location of locking screw.)



To make this linear adjustment, loosen the locking screw and then turn the adjusting screw. When the desired position is attained, tighten the locking screw.

## Single or Dual Lipstick Camera

**Figure 8: ELEVATED FRONT VIEW - screws used to adjust camera focal distance.)**

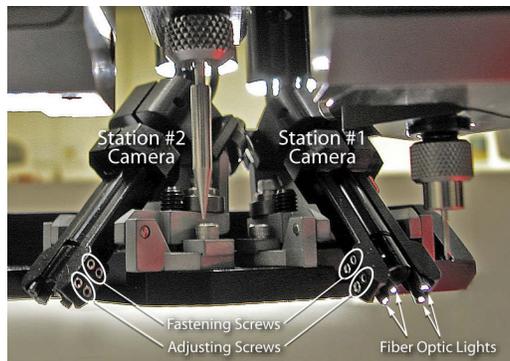


### Direction of Lighting

Four (4) LED/fiber optic lights are mounted to each lipstick camera. note the location of the four screws on each side of the cameras; one pair is used for adjustments and the other pair secures the lights in place. There are a total of four adjusting screws per camera; one adjusting screw per light.

**NOTE:** DO NOT use the fastening screws.

**Figure 9: REAR VIEW - location of the fiber optic lights and the adjusting screws. (Valve is shown retracted.)**

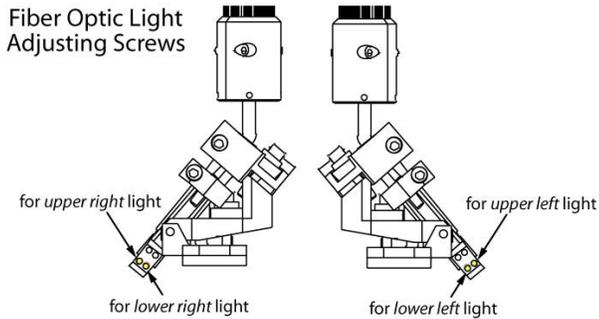


## Single or Dual Lipstick Camera

The direction in which each LED/fiber optic light is aimed can be adjusted laterally using the adjusting screws nearest the light to be adjusted.

**NOTE:** DO NOT loosen the fastening screws which are in close proximity to the adjusting screws.

**Figure 10:** SIDE VIEWS - location of adjusting screws for fiber optic lights.)

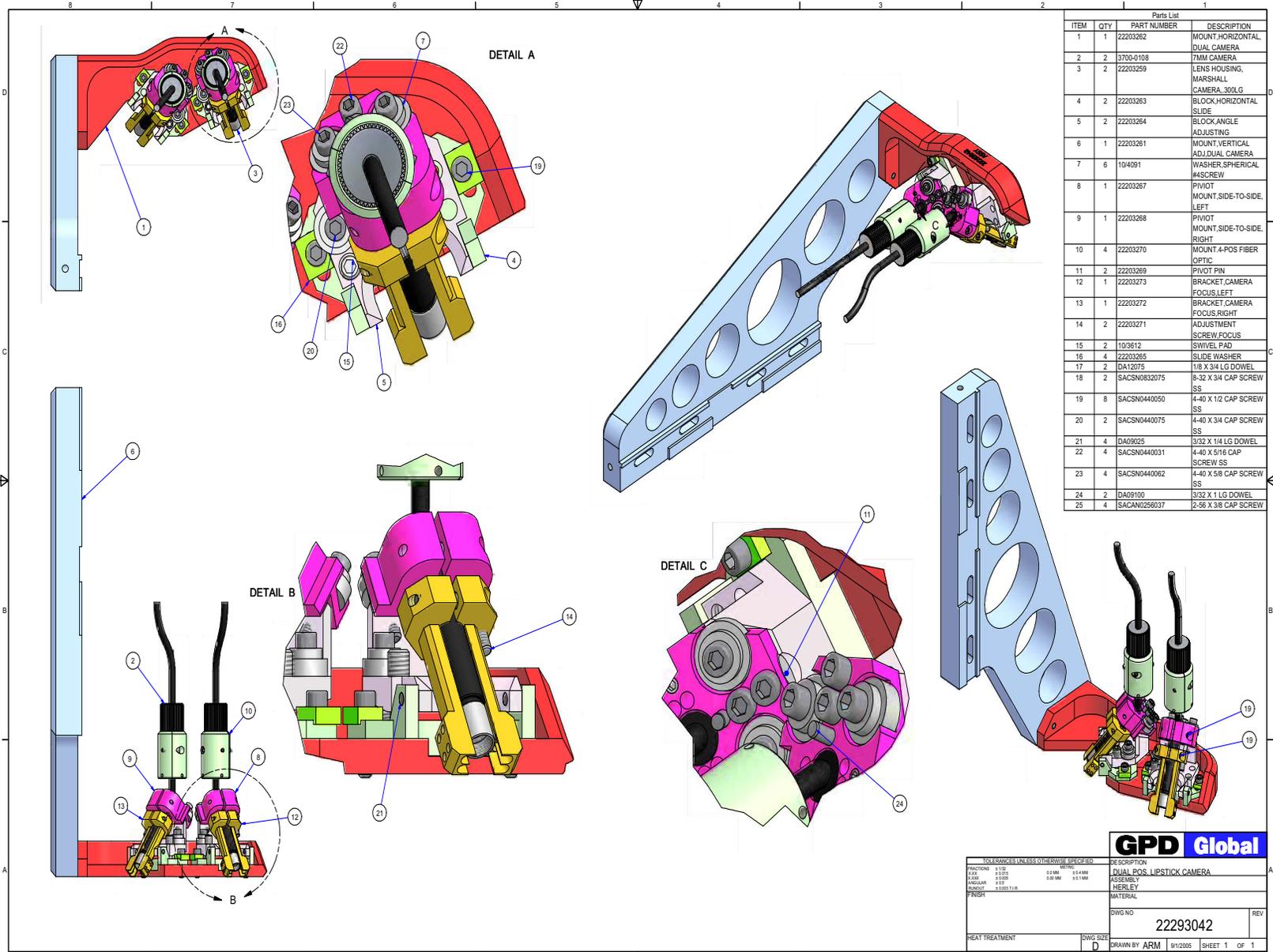


## Mechanical Assembly Drawings

- [Single Position Lipstick Camera - PN 22293077](#) (pg 8)
- [Dual Position Lipstick Camera - PN 22293042](#) (pg 9)



# Dual Position Lipstick Camera - PN 22293042



Parts List		
ITEM	QTY	PART NUMBER DESCRIPTION
1	1	22203262 MOUNT,HORIZONTAL, DUAL CAMERA
2	2	3700-0108 7MM CAMERA
3	2	22203259 LENS HOUSING, MARSHALL CAMERA, 300LG
4	2	22203263 BLOCK,HORIZONTAL SLIDE
5	2	22203264 BLOCK,ANGLE ADJUSTING
6	1	22203261 MOUNT,VERTICAL ADJ,DUAL CAMERA
7	6	1014091 WASHER,SPHERICAL #4SCREW
8	1	22203267 PIVOT MOUNT,SIDE-TO-SIDE, LEFT
9	1	22203268 PIVOT MOUNT,SIDE-TO-SIDE, RIGHT
10	4	22203270 MOUNT,4-POS FIBER OPTIC
11	2	22203269 PIVOT PIN
12	1	22203273 BRACKET,CAMERA FOCUS,LEFT
13	1	22203272 BRACKET,CAMERA FOCUS,RIGHT
14	2	22203271 ADJUSTMENT SCREW,FOCUS
15	2	1013612 SWIVEL PAD
16	4	22203265 SLIDE WASHER
17	2	DA12075 1/8 X 3/4 LG DOWEL
18	2	SACSN0832075 8-32 X 3/4 CAP SCREW SS
19	8	SACSN0440050 4-40 X 1/2 CAP SCREW SS
20	2	SACSN0440075 4-40 X 3/4 CAP SCREW SS
21	4	DA09025 3/32 X 1/4 LG DOWEL
22	4	SACSN0440031 4-40 X 5/16 CAP SCREW,SS
23	4	SACSN0440062 4-40 X 5/8 CAP SCREW SS
24	2	DA09100 3/32 X 1 LG DOWEL
25	4	SACAN0256037 2-56 X 3/8 CAP SCREW

<b>GPD Global</b>	
DESCRIPTION <b>DUAL POS LIPSTICK CAMERA</b>	
ASSEMBLY HERLEY	
MATERIAL	
DWG NO <b>22293042</b>	REV
HEAT TREATMENT	DWG SIZE <b>D</b>
DRAWN BY <b>ARM</b> 9/1/2005 SHEET 1 OF 1	

# Warranty

---

**General Warranty.** Subject to the remedy limitation and procedures set forth in the Section “Warranty Procedures and Remedy Limitations,” GPD Global warrants that the system will conform to the written description and specifications furnished to Buyer in GPD Global’s proposal and specified in the Buyer’s purchase order, and that it will be free from defects in materials and workmanship for a period of one (1) year. GPD Global will repair, or, at its option, replace any part which proves defective in the sole judgment of GPD Global within one (1) year of date of shipment/invoice. Separate manufacturers’ warranties may apply to components or subassemblies purchased from others and incorporated into the system. THIS WARRANTY IS EXPRESSLY IN LIEU OF ANY AND ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

**Limitations.** GPD Global reserves the right to refuse warranty replacement, where, in the sole opinion of GPD Global the defect is due to the use of incompatible materials or other damages from the result of improper use or neglect.

This warranty does not apply if the GPD Global product has been damaged by accident, abuse, or has been modified without the written permission of GPD Global.

Items considered replaceable or rendered unusable under normal wear and tear are not covered under the terms of this warranty. Such items include fuses, lights, filters, belts, etc.

**Warranty Procedures and Remedy Limitations.** The sole and exclusive remedy of the buyer in the event that the system or any components of the system do not conform to the express warranties stated in the Section “Warranties” shall be the replacement of the component or part. If on-site labor of GPD Global personnel is required to replace the non-warranted defective component, GPD Global reserves the right to invoice the Buyer for component cost, personnel compensation, travel expenses and all subsistence costs. GPD Global’s liability for a software error will be limited to the cost of correcting the software error and the replacement of any system components damaged as a result of the software error. In no event and under no circumstances shall GPD Global be liable for any incidental or consequential damages; its liability is limited to the cost of the defective part or parts, regardless of the legal theory of any such claim. As to any part claimed to be defective within one (1) year of date of shipment/invoice, Buyer will order a replacement part which will be invoiced in ordinary fashion. If the replaced part is returned to GPD Global by Buyer and found by GPD Global in its sole judgment to be defective, GPD Global will issue to Buyer a credit in the amount of the price of the replacement part. GPD Global’s acceptance of any parts so shipped to it shall not be deemed an admission that such parts are defective.

---

Specifications, descriptions, and all information contained in this manual are subject to change and/or correction without notice.

Although reasonable care has been exercised in the preparation of this manual to make it complete and accurate, this manual does not purport to cover all conceivable problems or applications pertaining to this machine.