

“Web Controls”

**SELF-CONTAINED WEB GUIDE
INSTALLATION, OPERATION, AND MAINTENANCE INSTRUCTIONS**



Read this manual carefully, making full use of its explanations and instructions. The “Know How” of safe, continuous, trouble-free operation depends on the degree of your understanding of the system and your willingness to keep all components in proper operating condition. Pay particular attention to all NOTES, CAUTIONS, and WARNINGS to avoid the risk of personal injury or property damage. It is important to understand that these NOTES, CAUTIONS, and WARNINGS are not exhaustive. Nexen cannot possibly know or evaluate all conceivable methods in which service may be performed, or of the possible hazardous consequences of each method. Accordingly, anyone who uses a procedure that is not recommended by Nexen must first satisfy themselves that neither their safety or the safety of the product will be jeopardized by the service method selected.

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INSTALLATION

GUIDE ROLL MECHANISM

1. Position the Web Guide as close as possible to the critical area to which the web is being guided. Any roll between the lead out roll **D** and the critical area will detract from guiding accuracy (See Figure 1).
2. Find the web path to be used (See Figure 1).
 - a. Lead in roll **B** and lead out roll **D** are customer provided.
 - b. The web must travel through the Web Guide in the direction of the arrow on the Roll Base of the Web Guide.
 - c. Web lead in distance (**B to A**) and lead out distance (**C to D**) must be at least equal to the web width.

NOTE

1 1/4 times the web width is the recommended distance between web lead in and lead out.

- d. Ensure that the Web Guide roll **A** and **C** are parallel to the web lead in roll **B** and the lead out roll **D** when the Web Guide is in its mid-travel or centered position.

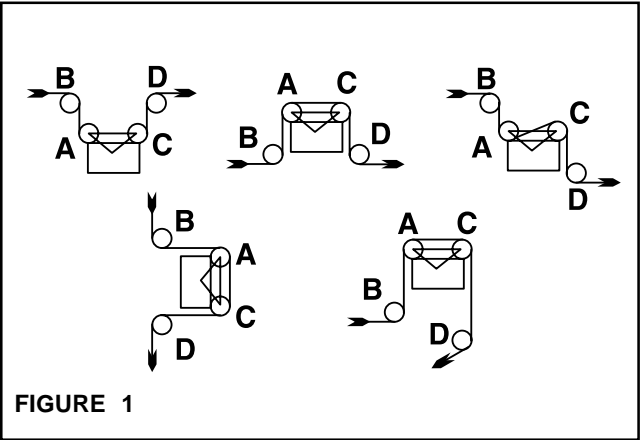


FIGURE 1

MOUNTING THE WEB GUIDE

Mount the Web Guide to the machine using the four M8 x 1.25 tapped mounting holes located on the underside of the Base (See Figure 2 and Table 1 for mounting dimensions).

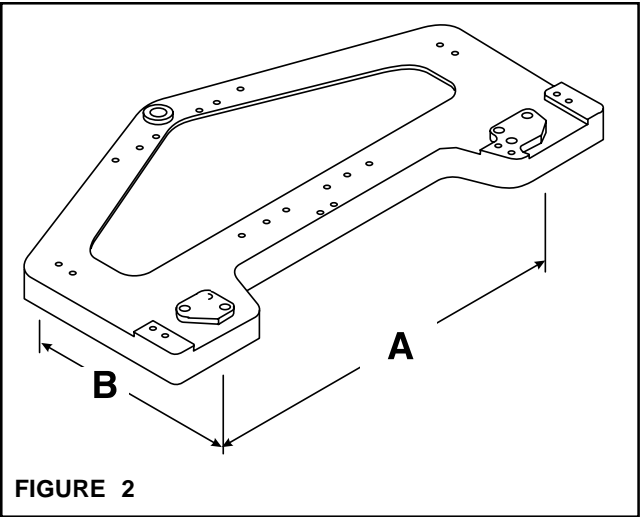


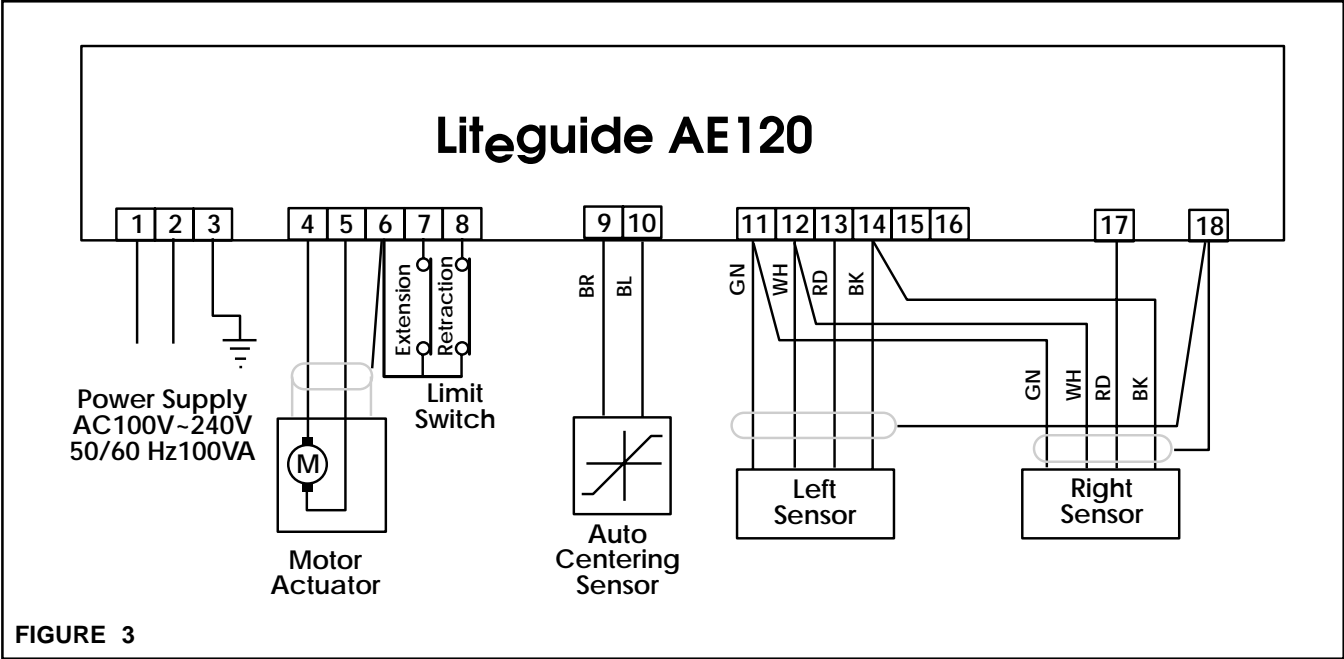
FIGURE 2

WEB GUIDE SIZE	A	B
18"	17.00"	7.50"
21"	15.75"	6.30"
24"	15.75"	6.30"
28"	27.00"	8.50"
32"	27.00"	9.50"

TABLE 1

ELECTRICAL CONNECTIONS

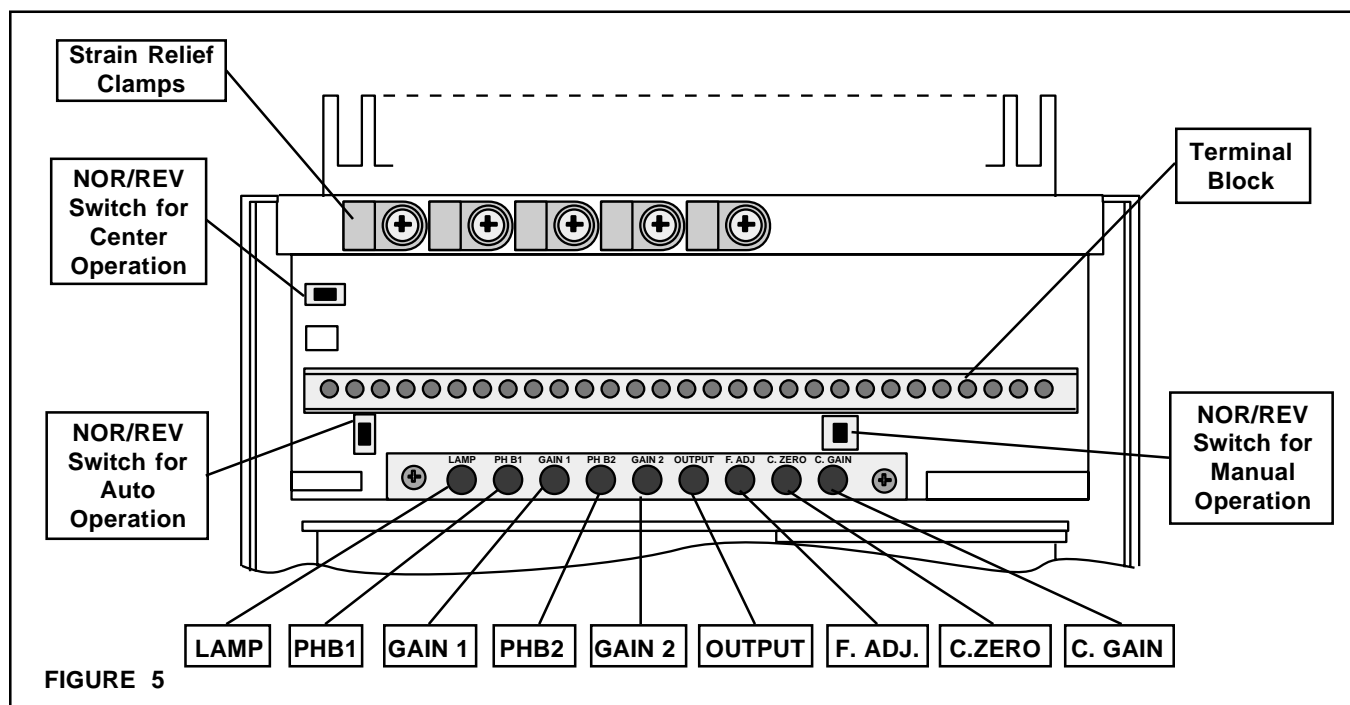
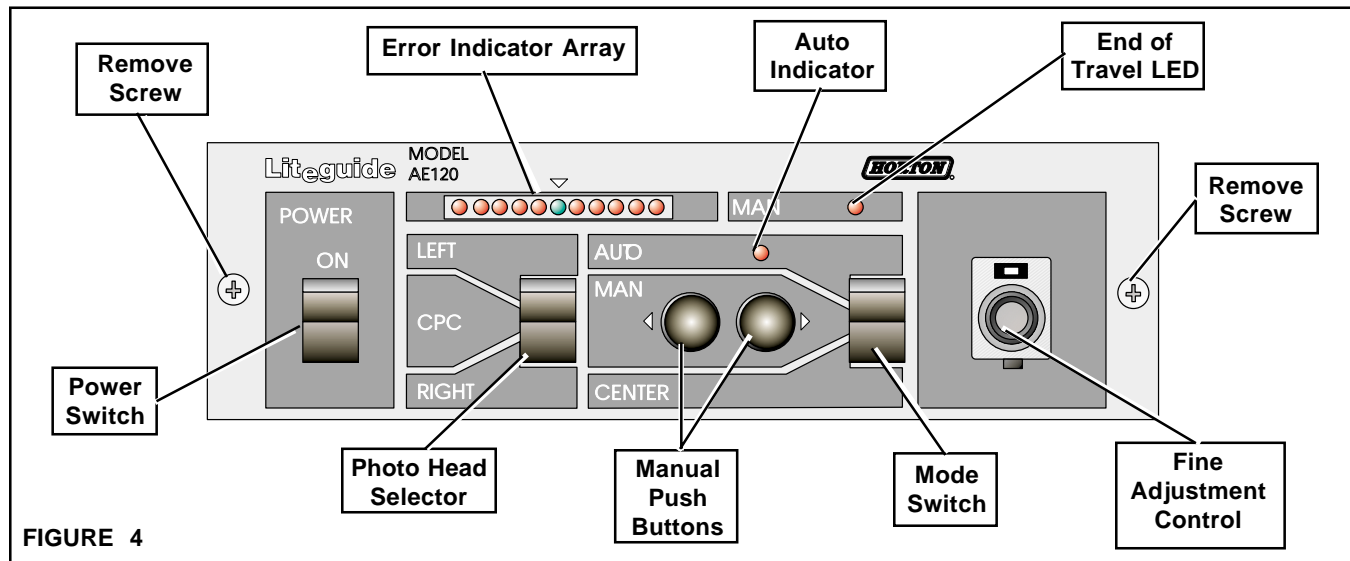
Connect the line provided with the Web Guide to an AC power source between 100 and 240VAC.



NOTE
All internal electrical connections have been made by Nexen. For information on the electrical connections, refer to Figure 3.

NOTE
For Center Position Control (CPC), use both Left and Right Sensors.

CALIBRATION AND ADJUSTMENT



LIMIT SWITCH ADJUSTMENT

CAUTION

The Limit Switches have been set by Nexen for maximum travel. If travel limitation is necessary, refer to MAINTENANCE (Page 7) for Limit Switch Adjustment.

AE120 CALIBRATION

1. Remove the two Screws located on the front panel of the AE120 (See Figure 4).
2. Slide the AE120 chassis out of the housing to allow access to the Terminal Block (See Figure 5).

OUTPUT GAIN ADJUSTMENT

1. If the Web Guide hunts or oscillates while the AE120 is operating in Automatic Operation Mode, rotate the **OUTPUT** pot counterclockwise until the hunting stops (See Figure 5).
 2. If the Web Guide is sluggish, rotate the **OUTPUT** pot clockwise until control speed matches the web speed (See Figure 5).
-

FINE TRIM ADJUSTMENT

1. One rotation (360°) on the Fine Adjustment Control located on the control panel should move the web position 0.04" [1 mm] (See Figure 4).
 2. If one rotation of the Fine Adjustment Control moves the web position more than 0.04" [1 mm], increase the amount of correction by rotating the **F. ADJ.** pot clockwise. Decrease the correction by rotating the **F. ADJ.** pot counterclockwise (See Figure 5).
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AUTOMATIC CENTERING SENSOR ADJUSTMENT

The Automatic Centering Sensor has been set by Nexen. If adjustment is necessary, refer to MAINTENANCE (Page 9) for Automatic Centering Sensor Adjustment.

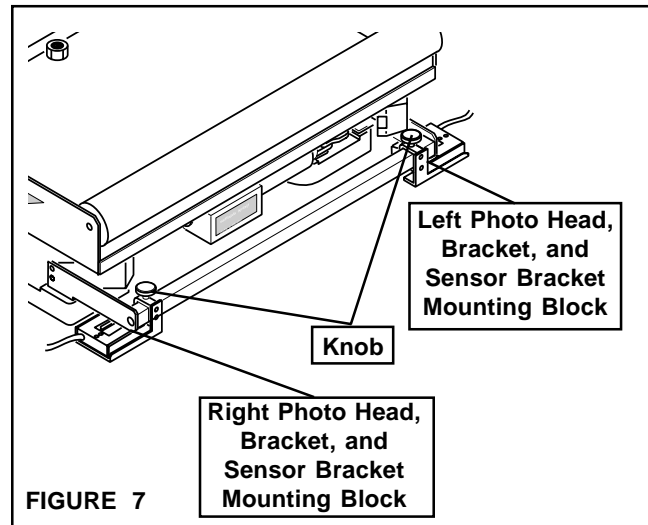
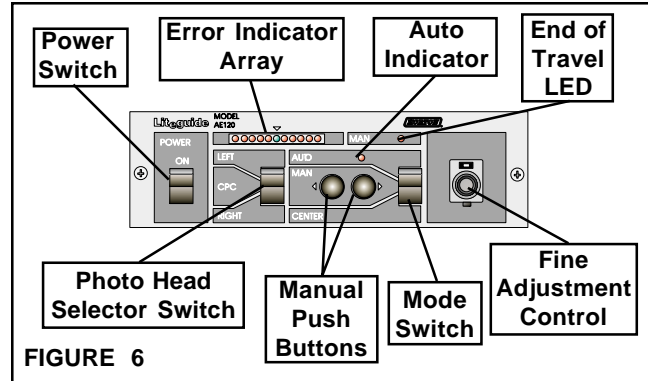
TROUBLESHOOTING

PROBLEM	SOLUTION
The Web Guide moves full travel to its stop in either direction when the Mode Switch is set to CENTER.	Reverse the setting of the NOR/REV Switch for Center Operation (See Figure 5, Page 4).
The Web Guide moves in the wrong direction when the Mode Switch is set to MAN and one of the Manual Push Buttons is depressed.	Reverse the setting for the NOR/REV Switch for Manual Operation (See Figure 5, Page 4).
The Web Guide moves in the wrong direction when the Mode Switch is set to AUTO.	Reverse the setting of the NOR/REV Switch for Auto Operation (See Figure 5, Page 4).
All of the above are operating in reverse.	Reverse the motor leads at Terminals 4 and 5 instead of reversing each switch (See Figure 3, Page 3).

OPERATION

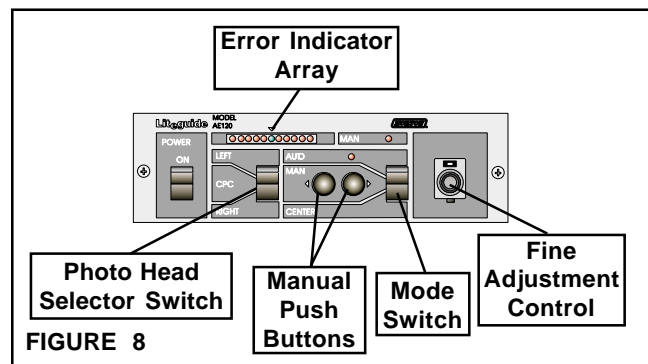
Edge Position Control (EPC)

1. Set the Mode Switch to **CENTER** (See Figure 6).
2. Set the Fine Adjustment Control to 5.00 (mid-travel) (See Figure 6).
3. Thread the web into the machine.
4. Set the Photo Head Selector Switch to **LEFT** or **RIGHT** as appropriate (See Figure 6).
5. Set the Mode Switch to **MAN** (See Figure 6).
6. Operate the machine at slow speed.
7. Using the Manual Push Buttons, align the web to the centerline of the machine (See Figure 6).
8. Loosen either the right or left Knob (depending on which Photo Head was selected in Step 4) and move the right or left Photo Head, Bracket, and Sensor Bracket Mounting Block to the edge of the web until the center green light on the Error Indicator Array glows (See Figures 6 and 7); then, tighten the Knob to secure the Photo Head.
9. Set the Mode Switch to **AUTO** (See Figure 6).
10. Accelerate the machine. The web should remain in the center of the Photo Head and the green light on the Error Indicator Array should stay on.
11. If the web is misaligned with the centerline of the machine, it can be moved with the Fine Adjustment Control located on the control panel (plus or minus 0.20" [5 mm]) (See Figure 6).



Center Position Control (CPC)

1. Set the Mode Switch to **CENTER** (See Figure 8).
2. Set the Fine Adjustment Control to 5.00 (mid-travel) (See Figure 8).
3. Thread the web into the machine.
4. Set the Mode Switch to **MAN** (See Figure 8).
5. Operate the machine at slow speed.
6. Using the Manual Push Buttons, align the web with the centerline of the machine.
7. Set the Photo Head Selector Switch to **LEFT** (See Figure 8).
8. Loosen the left Knob and move the left Photo Head, Bracket, and Sensor Bracket Mounting Block to the edge of the web until the center green light on the Error Indicator Array glows (See Figures 8 and 9); then, tighten the Knob to secure the Photo Head.



9. Set the Photo Head Selector Switch to **RIGHT** (See Figure 8).
10. Loosen the right Knob and move the right Photo Head, Bracket, and Sensor Bracket Mounting Block to the edge of the web until the center green light on the Error Indicator Array glows (See Figures 8 and 9); then, tighten the Knob to secure the Photo Head.
11. Set the Photo Head Selector Switch to **CENTER** (See Figure 8).
12. Set the Mode Switch to **AUTO** (See Figure 8).
13. Accelerate the machine. The web should remain centered between the Photo Heads and the green light on the Error Indicator Array should stay on.
14. If the web is misaligned with the centerline of the machine, it can be moved with the Fine Adjustment Control located on the control panel (plus or minus 0.20" [5 mm]) (See Figure 8).
15. If alignment errors still exist, repeat Steps 6 through 14.

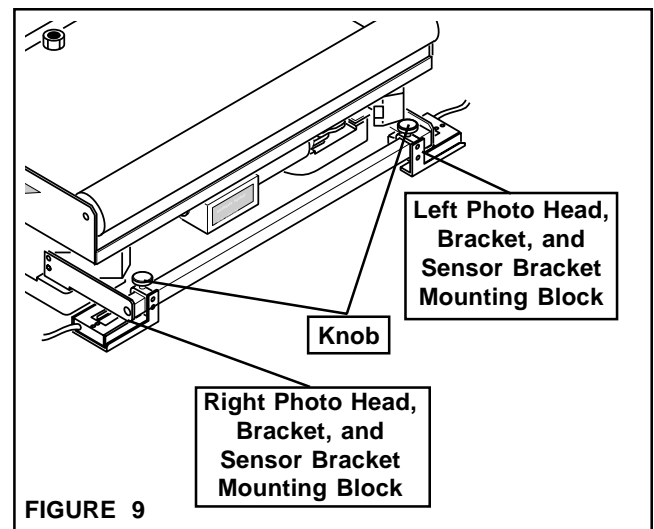


FIGURE 9

MAINTENANCE

LIMIT SWITCH ADJUSTMENT

CAUTION
The Limit Switches have been set by Nexen for maximum travel. Limit Switches must be adjusted to interrupt movement before contact is made with a physical obstruction or stop. Failure to do so will damage the AE120 Controller. If there is no obstruction, the Limit Switches should remain in their factory set positions for maximum travel.

1. Loosen the Pan Head Screws holding the Limit Switch Brackets and slide the Limit Switch Brackets and Limit Switches to their fully extended positions (See Figure 10).
2. Set the AE120 Power Switch to **ON** and the Mode Switch to **MAN** (See Figure 11).
3. Using the Manual Push Buttons located on the front panel of the AE120, move the Limit Switch Stop Plate (attached to the Roll Base) in one direction until the desired end of travel is reached (See Figures 10 and 11).
4. Connect a voltmeter across Terminals 1 and 2 of one Limit Switch (See Figure 10).
5. Slide the respective Limit Switch Bracket and Limit Switch towards the Limit Switch Stop Plate until the Limit Switch makes contact with the Limit Switch Stop Plate and the voltmeter reads ± 5 volts.

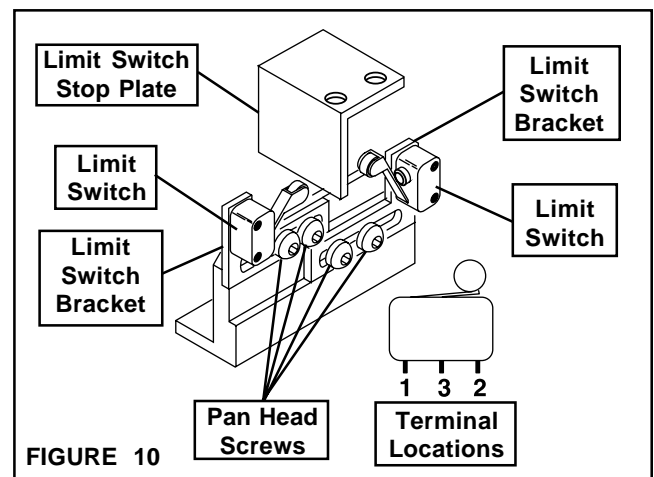


FIGURE 10

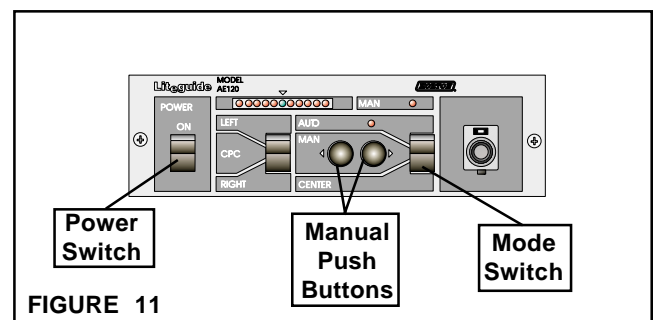


FIGURE 11

6. Tighten the Pan Head Screws holding the Limit Switch Bracket (See Figure 10).
7. Repeat Steps 3 through 6 for the second Limit Switch.
8. Set the AE120 Power Switch to **OFF**.

EDGE POSITION CONTROL (EPC) CALIBRATION

1. Remove the two Screws located on the front panel of the AE120 (See Figure 12).
2. Slide the AE120 chassis out of the housing.
3. Set the Fine Adjustment Control to 5.00 (mid-travel) (See Figure 12).
4. Using the Photo Head Selector Switch located on the front panel, select either the right or left Photo Head (See Figure 12).
5. Insert a piece of material until it completely covers the Photo Head sensing area; then, remove the material. The Error Indicator Array light will show maximum and minimum insertion (up to five red lamps on either side of the green lamp) (See Figures 12 and 13).
6. Rotate the Photo Head Balance pot (**PHB1** For the left Photo head and **PHB2** for the right Photo Head) until the insertion and removal of material lights an equal number of red lamps on either side of the green lamp on the Error Indicator Array (See Figures 12 and 14).
7. Rotate the GAIN (**GAIN 1** for the left Photo Head and **GAIN 2** for the right Photo Head) until the insertion of material lights five red lamps in either direction (See Figures 12 and 14).

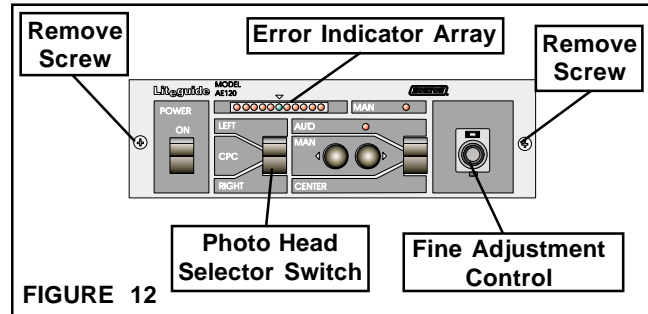


FIGURE 12

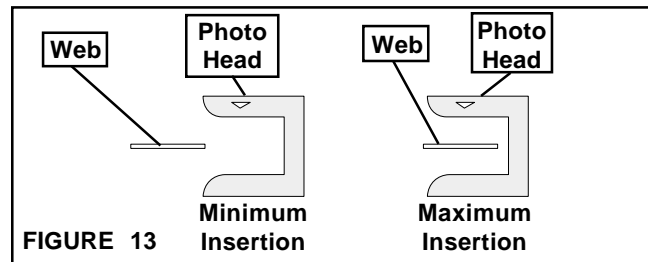


FIGURE 13

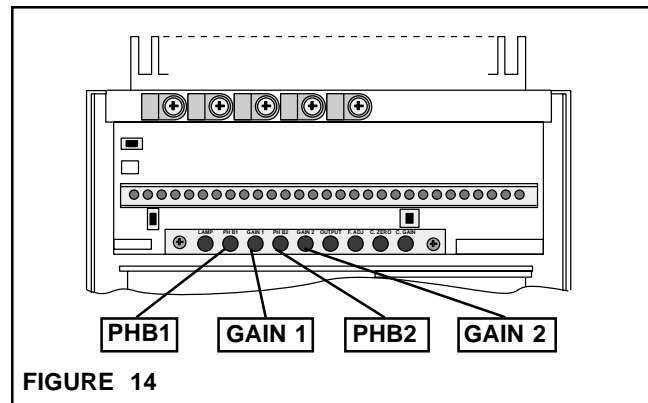


FIGURE 14

CENTER POSITION CONTROL (CPC) CALIBRATION

NOTE
Center Position Control (CPC) requires both left and right Photo Heads.

1. Calibrate both Photo Heads for Edge Position Control (EPC) (See EDGE POSITION CONTROL (EPC) CALIBRATION, Page 8).
2. Set the Photo Head Selector Switch to Center Position Control (CPC) (See Figure 15).

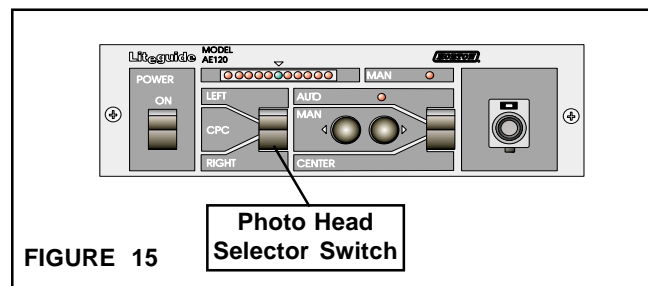
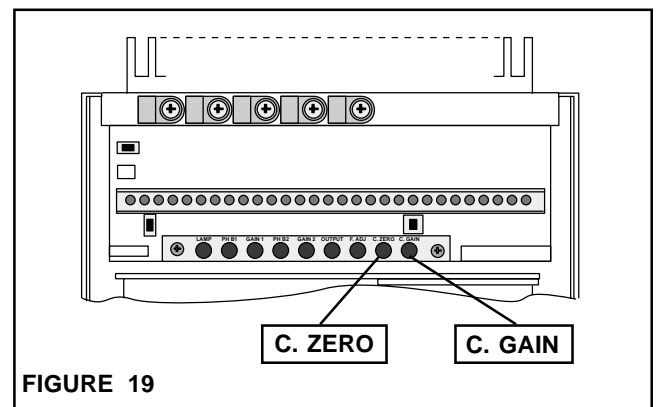
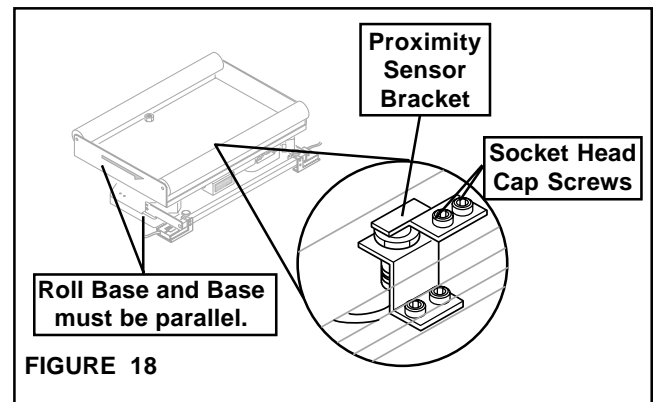
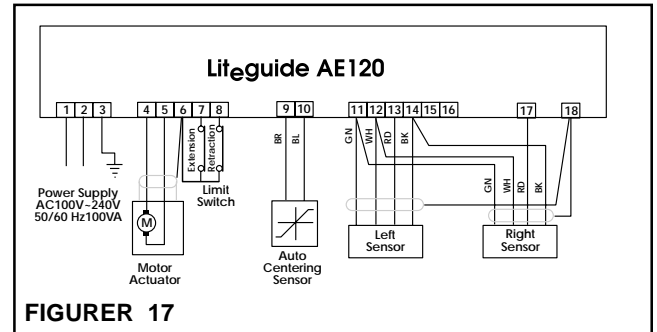
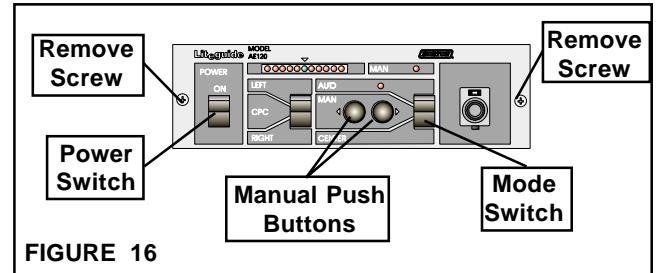


FIGURE 15

AUTOMATIC CENTERING SENSOR ADJUSTMENT

1. Remove the two Screws located on the front panel of the AE120 (See Figure 16).
2. Slide the AE120 chassis out of the housing.
3. Set the AE120 Power Switch to **ON** and set the Mode Switch to **MAN** (See Figure 16).
4. Connect a voltmeter across Terminals **9** and **10** of the AE120 (See Figure 17).
5. Using the Manual Push Buttons, center the Roll Base and verify the edges of the Roll Base and Base are parallel to each other (See Figures 16 and 18).
6. Loosen the Socket Head Cap Screws and adjust the Proximity Sensor Bracket as necessary to obtain a 7.0 volt reading on the voltmeter (See Figure 18); then, tighten the Socket Head Cap Screws when the adjustment is complete.
7. Disconnect the voltmeter from Terminals **9** and **10**.
8. Set the Mode Switch to **CENTER** (See Figure 16) and adjust the **C. ZERO** pot to maintain the Web Guide at its neutral position (See Figure 19).
9. If the Web Guide hunts or oscillates back and forth with the Mode Switch set to **CENTER**, adjust the **C. GAIN** pot until the motion stops (See Figure 19).

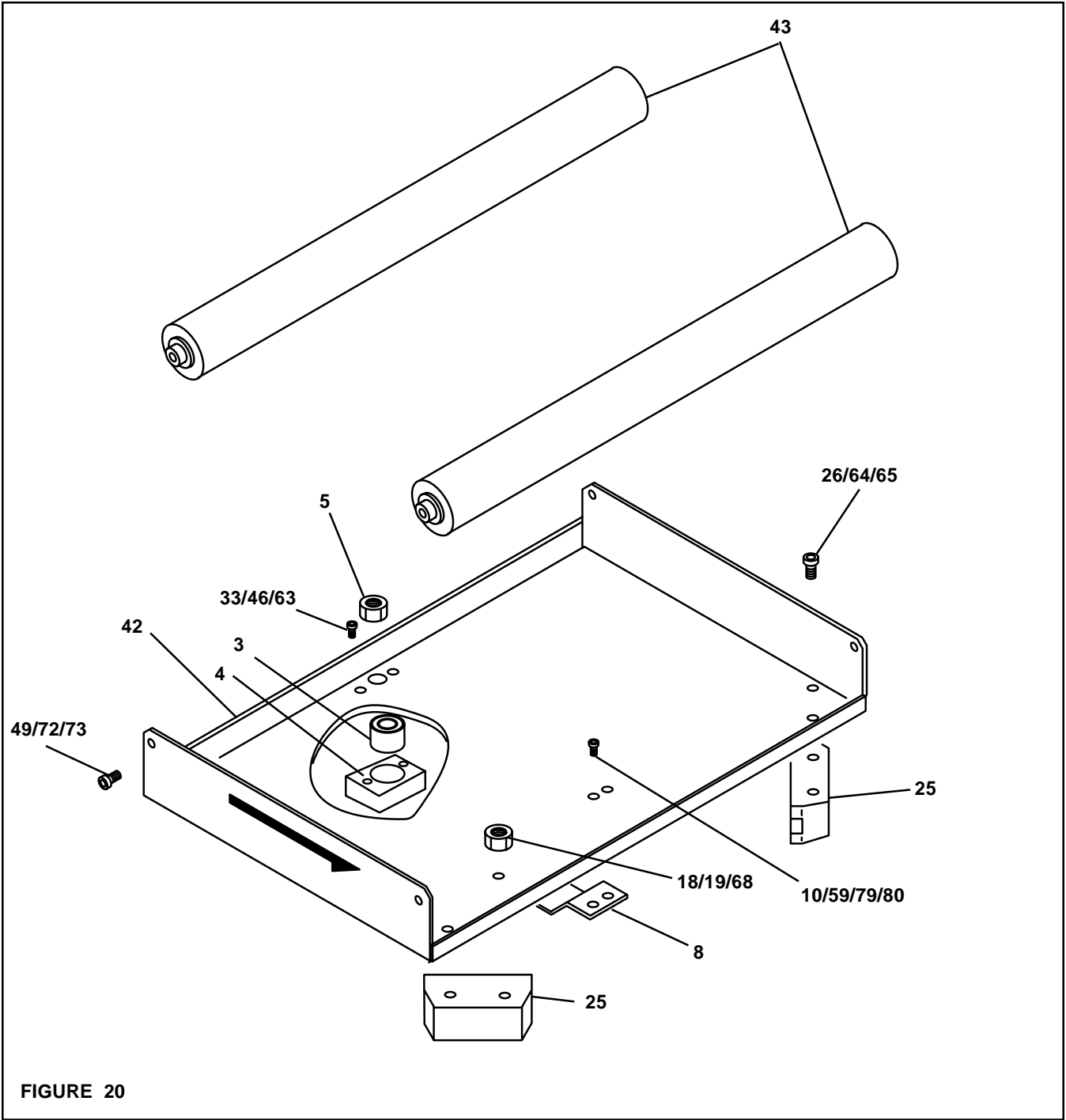


REPLACEMENT PARTS

The item or balloon number for all Nexen products is used for part identification on all product parts lists, product price lists, unit assembly drawings, bills of materials, and instruction manuals.

When ordering replacement parts, specify model designation, item number, part description, and quantity. Purchase replacement parts through your local Nexen Distributor.

PARTS LIST



ITEM	DESCRIPTION	QTY
1	Base	1
2	Center Pivot Shaft	1
3	Angular Bearing	1 Set
4	Shaft Housing	1
5	Bearing Lock Nut	2
8	Proximity Switch Bracket	1
10	Flat Washer (Not Shown)	21
11	Proximity Switch	1
12	Proximity Switch Base	1
13	Linear Actuator	1
14	Actuator Bracket	1
15	Actuator Pivot Pin	1
16	Sleeve Bearing	3
17	Retaining Ring (Ext.)	2
18	Spring Lock Washer (Not Shown)	1
19	Hex. Nut	1
20	Actuator Pivot Shaft	1
21	Cam Follower Bearing	2
22	Bearing Stand	2
23	Spring Lock Washer	2
24	Hex. Nut	2
25	Bearing Guide Rail	2
26	Socket Head Cap Screw	6
27	Socket Head Cap Screw	8
29	Pan Head Machine Screw	11
31	Support (Left Hand)	1
32	Support (Right Hand)	1
33	Socket Head Cap Screw	6
34	Sensor Bracket Mounting Block	1
36	Sensor Guide Bar	2
37	Socket Head Cap Screw	4
38	Knob	2
39	Bracket (Right Hand)	1
40	Bracket (Left Hand)	1
41	Photo Head (PH16)	2

ITEM	DESCRIPTION	QTY
42	Roll Base	1
43	Roll	2
44	Controller (AE120)	1
45	Support	2
46	Flat Washer (Not Shown)	18
49	Socket Head Cap Screw	4
59	Spring Lock Washer (Not Shown)	19
60	Socket Head Cap Screw	4
61	Flat Washer (Not Shown)	4
62	Spring Lock Washer (Not Shown)	4
63	Spring Lock Washer (Not Shown)	18
64	Flat Washer (Not Shown)	6
65	Spring Lock Washer (Not Shown)	6
66	Actuator Adapter Bracket	1
67	Socket Head Cap Screw	1
68	Flat Washer (Not Shown)	1
69	Spring Lock Washer (Not Shown)	1
70	Flat Washer (Not Shown)	1
71	Hex. Nut	1
72	Flat Washer (Not Shown)	4
73	Spring Lock Washer (Not Shown)	4
74	Actuator Spacer (18 Inch Only)	1
76	Adjustment Bracket	1
77	Limit Switch Mounting Bracket	2
78	Limit Switch Stop Plate	1
79	Socket Head Cap Screw	4
80	Nut	2
81	Limit Switch	2
82	Pan Head Screw	4
83	Pan Head Screw	4
84	Washer (Not Shown)	4
85	Spring Lock Washer (Not Shown)	4
86	Cable Clamp	2
87	Cable Clamp	1

SPECIFICATIONS

PH16 PHOTO HEAD

PH16 PHOTOHEAD	
Sensor Gap	Plus or Minus 1.10" [28 mm]
Max. Detecting Length	Plus or Minus 0.31" [8 mm]
Effective Detecting Length	Plus or Minus 0.20" [5 mm]
Light Source Wave Length	950 nm (Near Infrared Range)
Ambient Temperature	32 to 122 Deg. F [0 to 50 Deg. C]

AE120

Power Supply Voltage	100 to 240VAC (Continuous Input), 50/60 Hz
Power Consumption	100 VA
Input	Photohead: PH16
	Centering Sensor (Proximity Sensor)
Output	DC Motor: 24VDC, 1.3 A
	Lamp Power Supply: for PH16 12VDC, 9.6W
	End of Travel: Dry Contact Rated 0.1 A, 250VAC, 0.1 A, 24VDC
Ambient Temperature	32 to 104 Deg. F (0 to 40 Deg. C)

WARRANTY

Nexen Group, Inc. (Nexen) warrants its product(s) [the Product(s)] will be free from defects in materials and workmanship under normal use and service conditions for a period of 12 months from the date of shipment. NO OTHER WARRANTIES, WHETHER EXPRESS, IMPLIED, OR STATUTORY, INCLUDING WITHOUT LIMITATION WARRANTIES OF MERCHANTABILITY, OR OF FITNESS FOR A PARTICULAR PURPOSE, ARE GIVEN, AND ALL SUCH OTHER WARRANTIES ARE HEREBY EXPRESSLY DISCLAIMED.

Conditions

This warranty applies only if: (a) the Product has been installed, used, and maintained in accordance with any applicable Nexen installation or maintenance manual for the Product; (b) the alleged defect is not attributable to normal wear and tear; (c) the Product has not been altered, misused, or used for purposes other than those for which it was intended; and (d) the claimant has complied with the warranty claim procedures set out below in Warranty Claim Procedures.

Exclusive Remedy

The sole and exclusive remedy for a breach of this warrant shall be, at Nexen's sole election, repair or replacement with new, serviceably used or reconditioned Product, or issuance of a credit in the amount of the current Nexen discounted price for the Product.

Limitation of Damages

In no event shall Nexen be liable for any consequential, indirect, incidental, or special damages of any nature whatsoever, including without limitation, lost profits arising from the sale or use of the Products.

Warranty Claim Procedures

To make a claim under this warranty, the claimant must give written notice of the alleged defect to Nexen and deliver the Product to Nexen within one year of the date on which the alleged defect first became apparent.

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