

ELKHART BRASS

FIRE FIGHTING EQUIPMENT A SAFE FLEET BRAND

Assembly & Installation Instructions Elkhart Model 299-11 EL Free Standing Elevated Monitor 10', 15', and 20' Heights

This instruction sheet is to be used in conjunction with assembly drawing 299-11EL (10, 15, 20).

Assembly:

1. Remove and discard the thread protector from end of Waterway Weldment Sub-Assembly (Item 21).
2. Install Monitor Sub-Assembly (Item 15) onto upper end of Waterway Weldment Assembly (Item 21) by wrenching Monitor Base onto Waterway Weldment. Use a good grade of pipe joint compound on pipe threads.
3. Remove grease fitting from monitor base and set aside.
4. Slide upper end of drive sleeve (Item 20) over monitor base and align the two inline holes located directly above the 1" hex head bolts and washers (used to protect the threaded handle attachment bushings) with the two 3/4 -16 tapped holes in the monitors swivel joint. Secure the drive sleeve to the monitors swivel joint using the two 3/4 - 16 x 5/8 bolts (Item 18) from the loose parts in the Ziploc bag. Apply Loctite #262 to bolts prior to assembly.
5. Reinstall grease fitting.
6. Remove and discard 1" bolts and washers used to protect the threaded control arm mounting bushings. Install the control arm & vertical lock assembly #81310001 as shown on drawing.
7. Attach the vertical control cables (Item 19) to monitor and control arm using the threaded links and turnbuckles as shown on drawing. Secure the threaded link threads with Loctite #242. Adjust cables so that handle is parallel to monitor discharge centerline.
8. Attach nozzle to monitor discharge and tighten securely. If adjustable fog nozzle is used, follow the nozzle installation instructions and attach pattern control cable to nozzle.
9. When raising the monitor assembly, **DO NOT** attach cable or sling the monitor section of the assembly. This portion of the assembly is not designed to support the weight of the long riser, and damage or failure could result.

Installation:

The supply pipe and flange configuration to which the 299-11 EL monitor is installed must be supported to withstand a bending moment of 16,000 FT/LBS applied to the flange face. A forged steel flange and steel pipe with adequate support are recommended. **DO NOT** use a cast iron flange or cast iron pipe.

4"-150# Flanges: Join monitor base flange to companion flange using 5/8-11 SAW Grade 8 bolts and nuts. Use a 1/16" thick ring gasket designed for use with steel flanges. Torque flange bolts to 150 FT/LBS (Dry).

6"-150# & 300# Flanges: Join monitor base flange to companion flange using 3/4-10 SAW Grade 8 bolts and nuts. Use a 1/16" thick ring gasket designed for use with steel flanges. Torque flange bolts to 260 FT/LBS (Dry).

******IMPORTANT******

DO NOT exceed the following maximum allowable flow rates at 100 PSI nozzle pressure:

<u>Monitor Heights</u>	<u>Max. Flow at 100 PSI NP</u>	<u>Maximum Pressure At Base Flange</u>	<u>Calculated Deflection of Nozzle at Maximum Flow</u>
10 Ft.	750 GPM	127 PSI	1.05 inches
15 Ft.	750 GPM	134 PSI	4.34 inches
20 Ft.	750 GPM	143 PSI	11.33 inches

Pressure and flow characteristics of water supply must be determined prior to monitor installation, and a restricting device, such as an orifice plate, installed between flanges to limit flow and pressure to appropriate values as indicated above.

Operation:

Familiarize all personnel that will be using this equipment with the operation of all the monitor's locks and controls before flowing water. The water supply to the monitor should be increased slowly to prevent whipping of the monitor due to nozzle reaction.

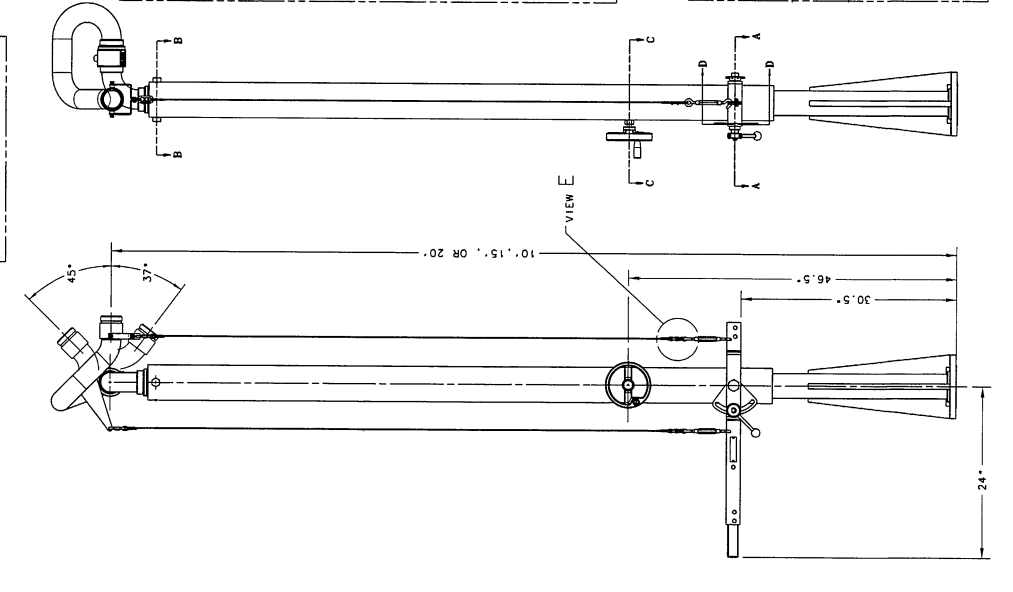
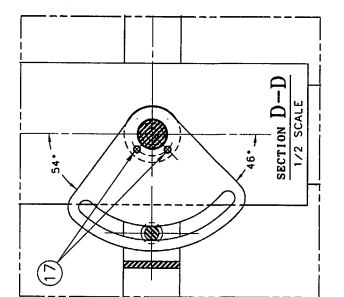
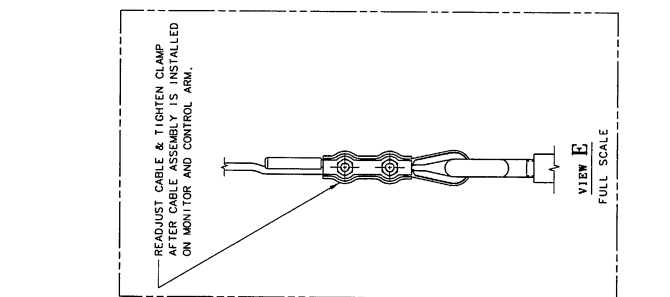
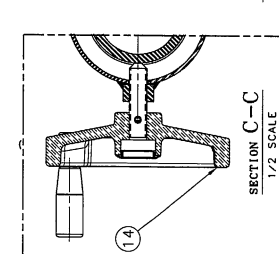
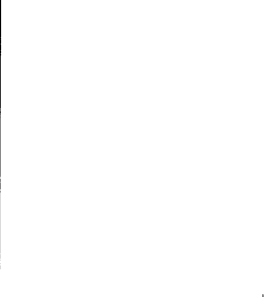
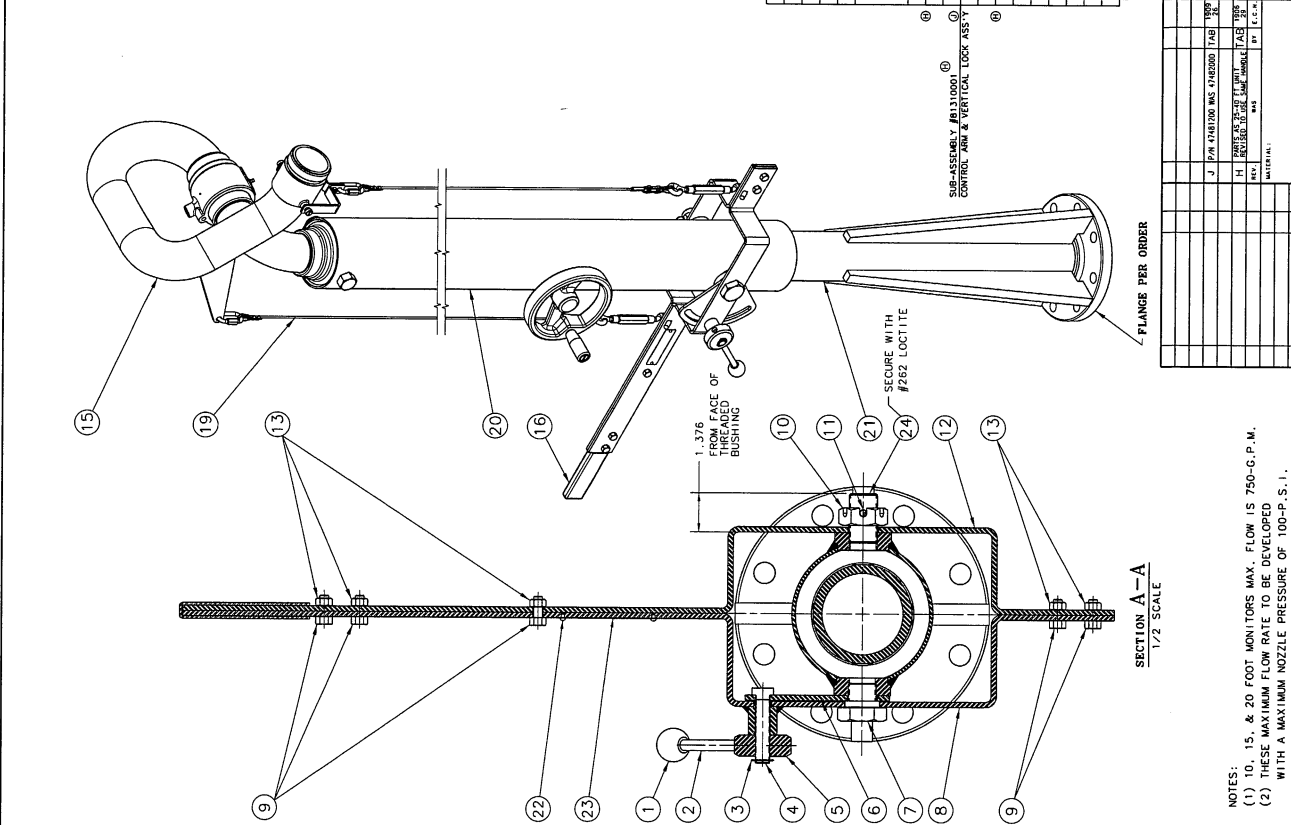
Horizontal and Vertical locks: The monitor should **always** be locked in position when it is to be left unmanned. The horizontal travel is locked and unlocked using a friction lock operated by hand wheel assembly (Item 14). Turn the hand wheel assembly clockwise to lock the monitors horizontal travel and counterclockwise to unlock it. The vertical travel can be locked in position using the friction lock on the right hand side of the control arm. To lock the monitors vertical travel turn the lock clockwise using the handle shaft with the knob on the end (Items 1 & 2). Turn the lock counterclockwise to unlock the vertical travel of the monitor. **Always make sure both locks are engaged before flowing water.**

Controlling Horizontal and Vertical movement: The monitor movement is controlled using the hand grip (Item 16) located on the end of the control arm assembly. Firmly grasp the hand grip with one hand and release the vertical and horizontal locks with the other. Only release the locks enough to allow movement in all directions. Pushing down on the hand grip will raise the discharge of the monitor and lifting will lower the discharge. Pushing the hand grip to the left will move the discharge of the monitor to the right and pushing the hand grip to the right will move the discharge of the monitor to the left. **Do not release the monitor controls without engaging both the horizontal and vertical locks first.**

Maintenance:

The monitor should be moved through its entire range of motion and inspected for proper function of all locks and controls monthly. The monitor should be greased through the two fittings located on the monitor assembly (Item 15) every three months. General purpose petroleum grease should be used. Maintain paint as dictated by the environment.

21 81540001	INLETWAY WELDMENT ASSY (15)	1
20 80713000	HORIZONTAL BRITFLY BASE WELDMENT & ASSEMBLY (20)	1
19 80716001	CONTROL CABLE ASSEMBLY (20)	2
PARTS USED WITH 299-11EL 20		
4"-150" RF FLANGE (9949101)		
21 81543001	WATERWAY WELDMENT ASSY (15)	1
20 80713000	HORIZONTAL BRITFLY BASE WELDMENT & ASSEMBLY (20)	1
19 80716001	CONTROL CABLE ASSEMBLY (20)	2
PARTS USED WITH 299-11EL 20		
6"-150" RF FLANGE (99186201)		
21 81542001	WATERWAY WELDMENT ASSY (15)	1
20 80713000	HORIZONTAL BRITFLY BASE WELDMENT & ASSEMBLY (20)	1
19 80715001	CONTROL CABLE ASSEMBLY (15)	2
PARTS USED WITH 299-11EL 15		
6"-150" RF FLANGE (99186201)		
21 81541001	WATERWAY WELDMENT ASSY (15)	1
20 80711000	HORIZONTAL BRITFLY BASE WELDMENT & ASSEMBLY (15)	1
19 80714001	CONTROL CABLE ASSEMBLY (10)	2
PARTS USED WITH 299-11EL 10		
6"-150" RF FLANGE (99184201)		
21 80684001	WATERWAY WELDMENT ASSY (15)	1
20 80713000	HORIZONTAL BRITFLY BASE WELDMENT & ASSEMBLY (20)	1
19 80716001	CONTROL CABLE ASSEMBLY (20)	2
PARTS USED WITH 299-11EL 20		
4"-150" RF FLANGE (99186101)		
21 80683001	WATERWAY WELDMENT ASSY (15)	1
20 80712000	HORIZONTAL BRITFLY BASE WELDMENT & ASSEMBLY (15)	1
19 80715001	CONTROL CABLE ASSEMBLY (15)	2
PARTS USED WITH 299-11EL 15		
4"-150" RF FLANGE (99186101)		
21 80682001	WATERWAY WELDMENT ASSY (15)	1
20 80711000	HORIZONTAL BRITFLY BASE WELDMENT & ASSEMBLY (10)	1
19 80714001	CONTROL CABLE ASSEMBLY (10)	2
PARTS USED WITH 299-11EL 10		
4"-150" RF FLANGE (99184101)		
24 62809000	STUD - 1.0-1.4 THREADED	1
23 44242100	LABEL - SERIAL NUMBER	1
22 61215100	WASHER - 1/2" X 1/8" THK. 20 TYPE U 2	2
18 16380000	WASHER - 1/2" X 1/8" THK. 20 TYPE U 2	2
17 51269000	WASHER - 1/2" X 1/8" THK. 20 TYPE U 2	2
16 33629000	GRIP - HAND (RUBBER)	1
15 80710000	299-11EL MONITOR ASSEMBLY	1
14 80717000	4R12 LOCK HANDLE ASSY	1
13 47484000	NUT - HEX (0.312-18) S 5	5
12 16555001	WASHER - 1/2" X 1/8" THK. 20 TYPE U 2	2
11 52049000	WASHER - 1/2" X 1/8" THK. 20 TYPE U 2	2
10 47481200	NUT - HEX (0.312-18) S 5	5
9 161059000	WASHER - 1/2" X 1/8" THK. 20 TYPE U 2	2
8 1745001	BOLT - PIVOT S/S	1
7 17851001	BOLT - LOCK S/S	1
6 52566000	PLATE - LOCK S/S	1
5 36637001	HUB - LOCK S/S	1
4 65453001	SHAFT - LOCK S/S	1
3 58943000	RING - RETAINER (S/S)	1
2 65362001	SHAFT - HANDLE S/S	1
1 42022000	HUB - HANDLE	1



NO.	PART NO.	PART NAME	REQ.
J	299-11EL	FREE STANDING ELEVATED MONITOR ASSEMBLY	1
K	299-11EL	20 FOOT MONITORS	1
L	299-11EL	10 FOOT MONITORS	1

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299-11EL (10, 15, 20)
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NOTES:
 (1) 10, 15, & 20 FOOT MONITORS MAX. FLOW IS 750-G.P.M.
 (2) THESE MAXIMUM FLOW RATE TO BE DEVELOPED WITH A MAXIMUM NOZZLE PRESSURE OF 100-P.S.I.