

SECTION FOUR A – ELKHART 297 GROUND MONITOR

DESCRIPTION

The Elkhart 297 Ground Monitor is a lightweight portable Ground Monitor capable of discharging 2839 lpm.

The Monitor is constructed mainly from aluminium alloy, with some fittings of stainless steel.

The Monitor can be trained throughout 360° and has vertical elevation from + 25° to + 85°.

Training is controlled by a positive friction lock, and elevation by a hand wheel driven worm gear.

Each inlet has a clack type valve to enable operation from a single or twin line supply.

The Monitor has a ground chain to enable the unit to be anchored in position if required.

A 'Safety Stop' on the elevation gear prevents the Monitor being accidentally depressed below 25°, thus keeping the jet reaction within the area of the base feet.

The Monitor is supplied with a 'Streamform' attachment for maximising jet throw, and a 'Stacked Tip' nozzle set to enable a 19mm, 25mm or 29mm jet to be used.

The maximum safe working pressure of the unit is 10 bars at the Monitor.

USE

The monitor is to be used where delivery of a water jet is required from a position of danger due for example to the risk of explosion, or collapsing walls.

The monitor may also be used for the prolonged delivery of large quantities of water where it may be left unsupervised.

ISSUE AND LOCATION

2 monitors at Shrewsbury on the Heavy Pumping Unit.

OPERATING INSTRUCTIONS

PREPARATION FOR USE

The streamform attachment, nozzle set and inlet connectors should be checked to ensure that they are tight before operation.

If a 25mm or 29mm jet is required, the stack tip should be dismantled as required and the nozzles not in use retained.

WATER SUPPLY

A single or twin line supply should be connected as required.

DIRECTIONAL TRAINING

The Monitor jet can be trained to the required position and then locked using the friction lock.

Elevation - Normal (+25° - + 85°)

The normal elevation range of the Monitor is +25° - +85°. When the Monitor is used within these limits, the jet reaction force from the Monitor is directed into the area of the base feet, and provided the Monitor is placed on a firm flat surface it will remain stable, and can be left unattended in operation.

The elevation can be changed within this range by simply turning the handwheel whilst the Monitor is operating at normal pressure.

Elevation - Low (-15° - + 24°)

The Monitor can also be operated at low elevations -15° - +24°.

To operate the Monitor at low elevations the spring loaded safety stop should be held out and the handwheel operated until the Monitor is in low mode.

THIS OPERATION MUST ONLY BE CARRIED OUT WITH THE WATER SUPPLY TO THE MONITOR KNOCKED OFF.

When the Monitor is operating in low elevation the jet reaction force is not directed within the area of the base feet. The following additional safety precautions must therefore be observed.

- The Monitor must be supervised when the hose lines supplying the Monitor are charged, and personnel be satisfied that the Monitor is stable before they withdraw.
- The Monitor must only be operated at reduced pressure (3 bars approximately) unless it is anchored using the ground chain provided. The ground chain can be used in

conjunction with ground anchors carried on Emergency Tenders, or suitable anchor points identified on the fireground.

- Caution should be exercised when adjusting elevation and training within the low range. These operations should only be carried out with the water supply 'knocked off'.
- To return the Monitor to normal elevation range the handwheel should be operated. The 'Safety Stop' will re-engage automatically when the Monitor reaches its normal elevation range.

MAINTENANCE AND TESTING

Ground Monitors should be tested:

- On Acceptance
- After Use
- Quarterly
- On such other occasions as deemed necessary by the Watch/Station Commander.

The Monitor should be subjected to a thorough visual examination. Particular attention should be paid to the condition of the nozzle orifices and threaded connectors.

The threaded securing collars on the inlets and streamform attachment together with the stacked tips should be checked for security.

The unit should be greased at the two grease nipples located on the elevation swivel joints, if required.

The elevation gear should be cleaned and lubricated as necessary with "Dry Lube".
GREASE SHOULD NOT BE USED.

The Monitor should be put to work and tested for correct operation in use. Particular attention should be paid to training and elevating mechanisms.

The quality of jets produced by the stacked tips should be observed to ensure that they are not feathering or breaking up.

Results of standard tests should be recorded on Form **FB90**. Defects should be reported to Technical Services.

TECHNICAL DATA

Weight:	17.25 kg.
Maximum Flow:	3410 lpm.
Maximum Pressure:	10 bar.
Vertical Adjustment:	85° maximum.
Horizontal Adjustment:	Can be trained through 360°.
Construction:	Aluminium alloy with stainless steel fittings.
Monitor Tip:	'Stacked Tips' of 19mm, 25mm, 29mm.