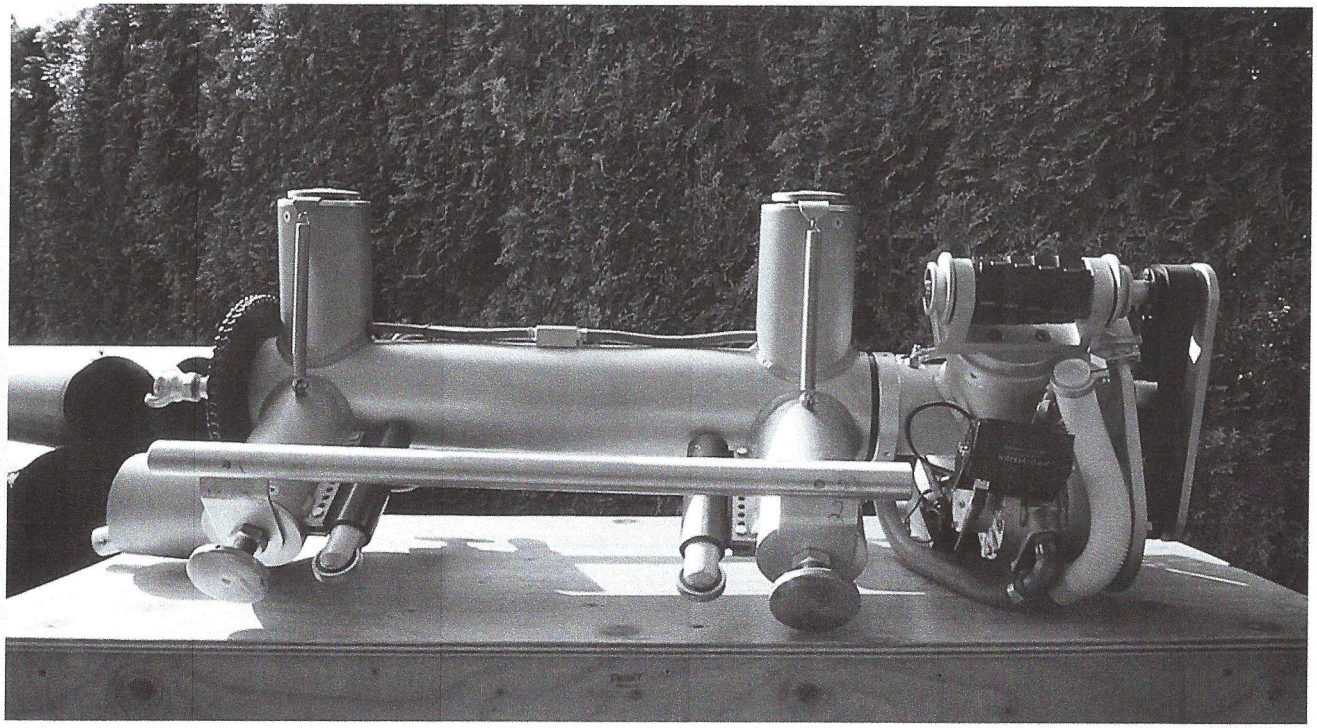
Mega – Large Bead Trimmer

R&L MANUFACTURING

TRAINING AND OPERATION GUIDE

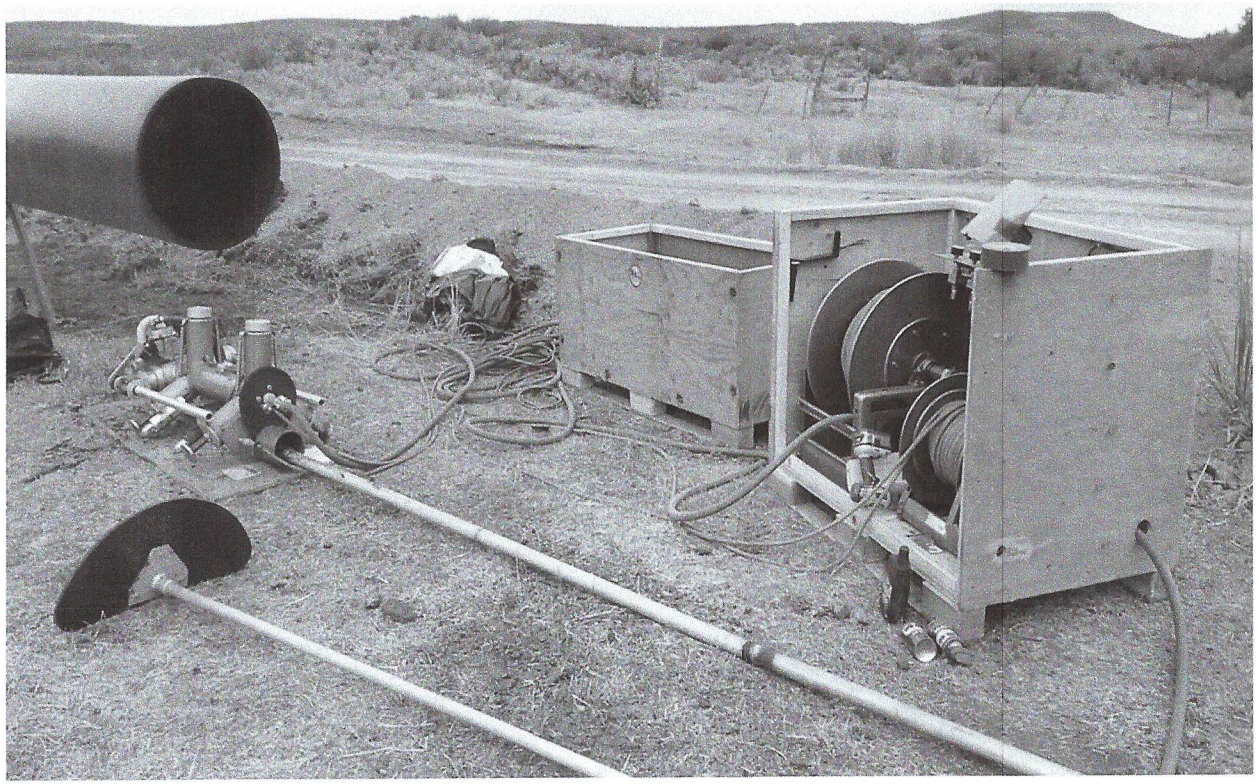


Agenda

I. Launch Pad
II. Mega-Large Set-up
III. Control Box
IV. Pre-Systems Check
V. Systems Check
VI. Operators / Fusion Bead Removal
VII. Maintenance and Safety

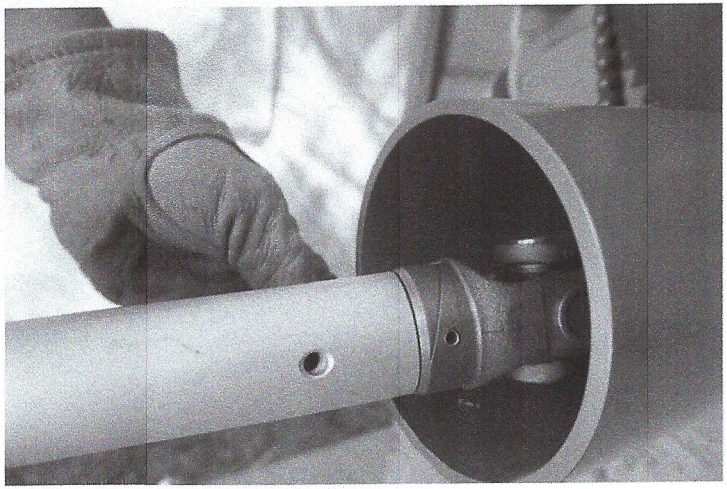
Launch Pad

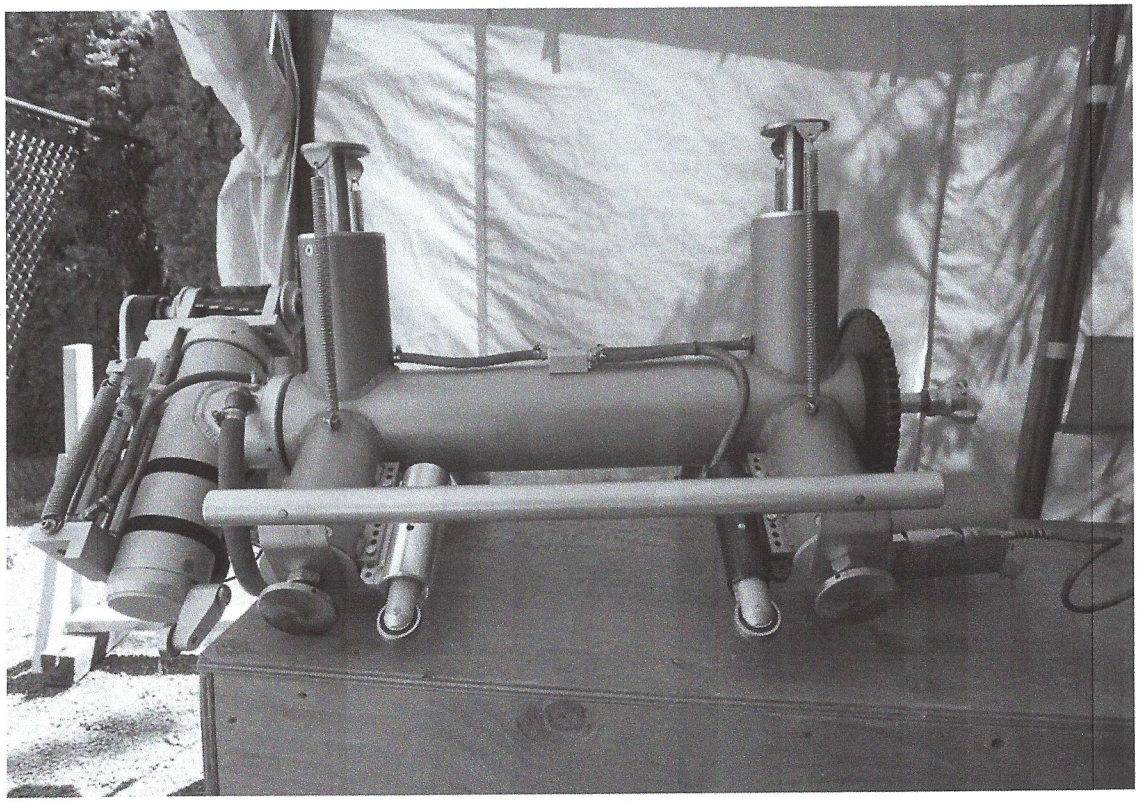
- Control Box
  - Position the Control Box close to the beginning of the pipe
- Mega-Large should be brought out to the launch pad
- Air Compressor (supplied by contractor)
  - Minimum 82 CFM @ 100 psi
- Connect Handle Set & Wiper Rod Set
  - DO NOT ATTACH THE HANDLE SET TO THE ML
- 60' Launch Pad from last pipe



Mega-Large Set-up

- Getting to know the Mega-Large
- Adjust the locking feet and rollers
- Attach hoses
- Turn on battery to Camera
- Connect "T" handle





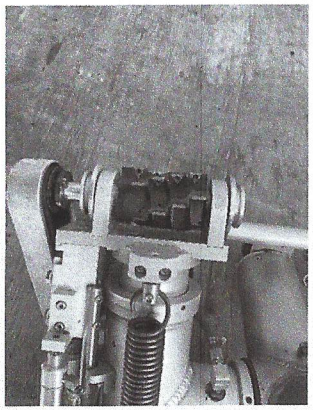
Mega-Large Set-Up

Getting To Know the Mega-Large

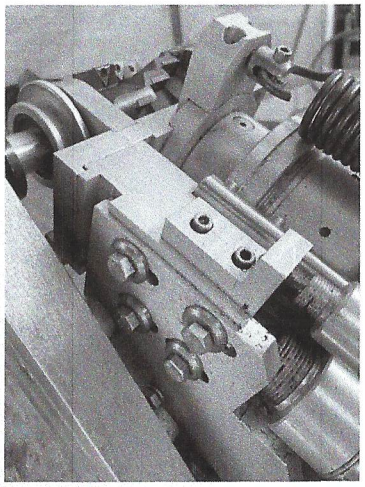
- The Cutter has 22 Carbide Cutters and runs at 2,000 RPMs
  - There are registers on the outside of the cutter that are pre-set at .020 over the diameter of the cutter so you wont cut into the side wall.
- There are 4 Hex bolts that allow you to readjust the tension on the belt when necessary.
- There is a wireless infrared camera mounted on the ML that allows you to watch what you're doing from the control panel.
- The Feet are adjusted with loosening the Hex Nut and turning the feet to the proper length needed.
- The Rollers are adjusted by removing the cotterless hitch pin and then re-inserting them once the rollers are in the correct position.
- There are 3 hose connections: ¼" quick release, 3/8" quick release, and a Chicago fitting
- The position locks are the rams that will keep the ML from moving inside the pipe.
- The Cutter engages when it is turned on and will keep the pressure of the cutter on the internal side wall of the pipe.

Mega-Large Set-Up

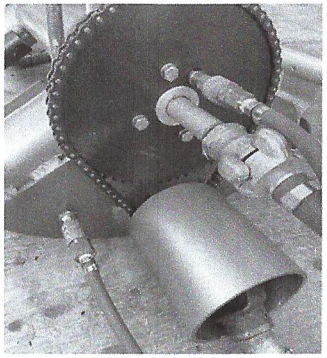
Getting to know the Mega-Large



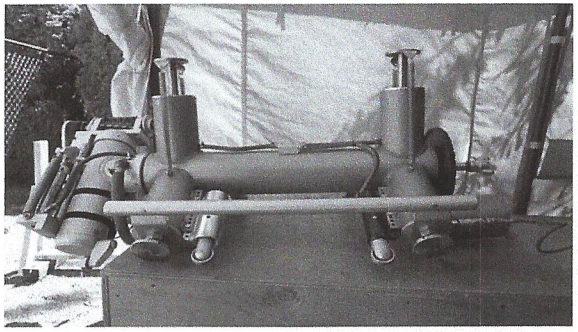
Cutting Head and Registers



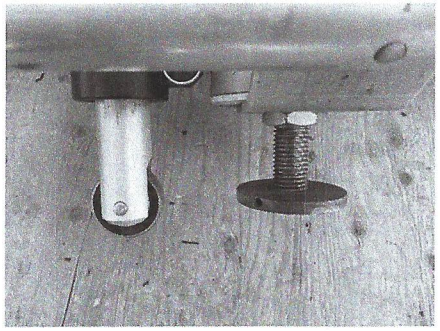
4 Hex bolts to readjust the tension on the belt



Air Connections



Position Locks turned ON

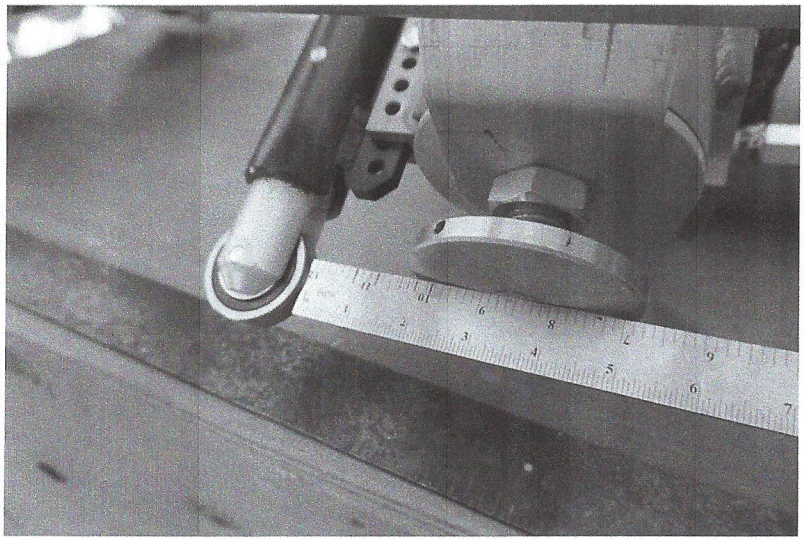


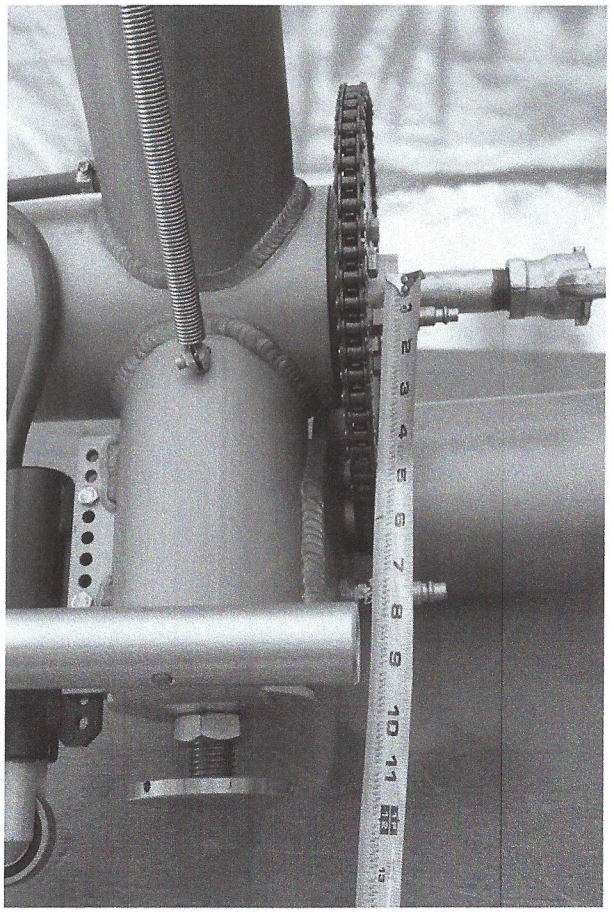
The Feet and Rollers

Mega Large Setup

Adjusting the Feet and Rollers

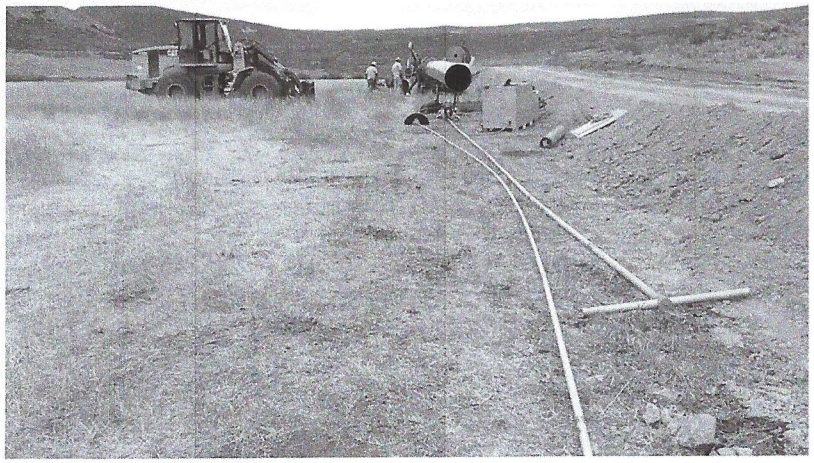
- Measure from the center of the ML to the end of the feet and adjust it to the radius of the pipe
  - Repeat this step for all four feet
  - Tighten nut after each foot is measured to correct length
- Rollers should be about ½" farther out than the feet

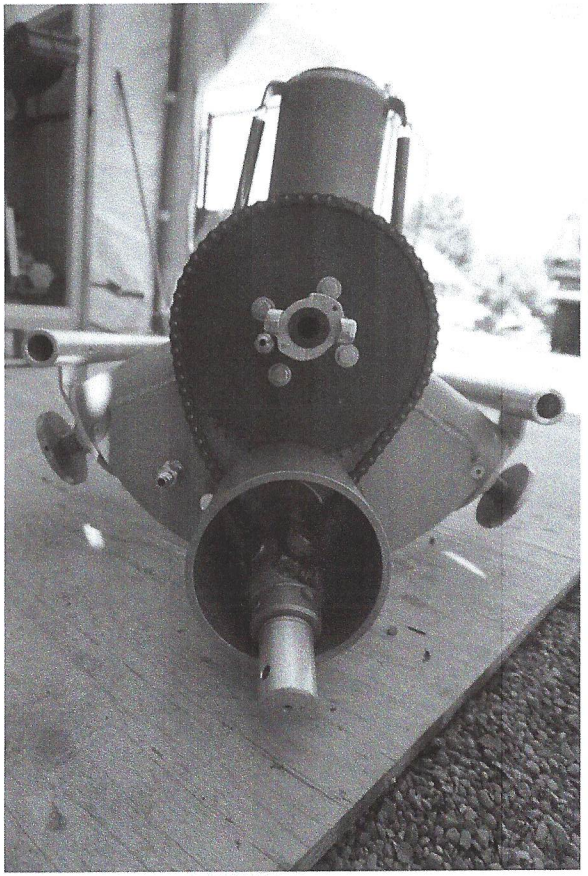




Mega-Large Setup

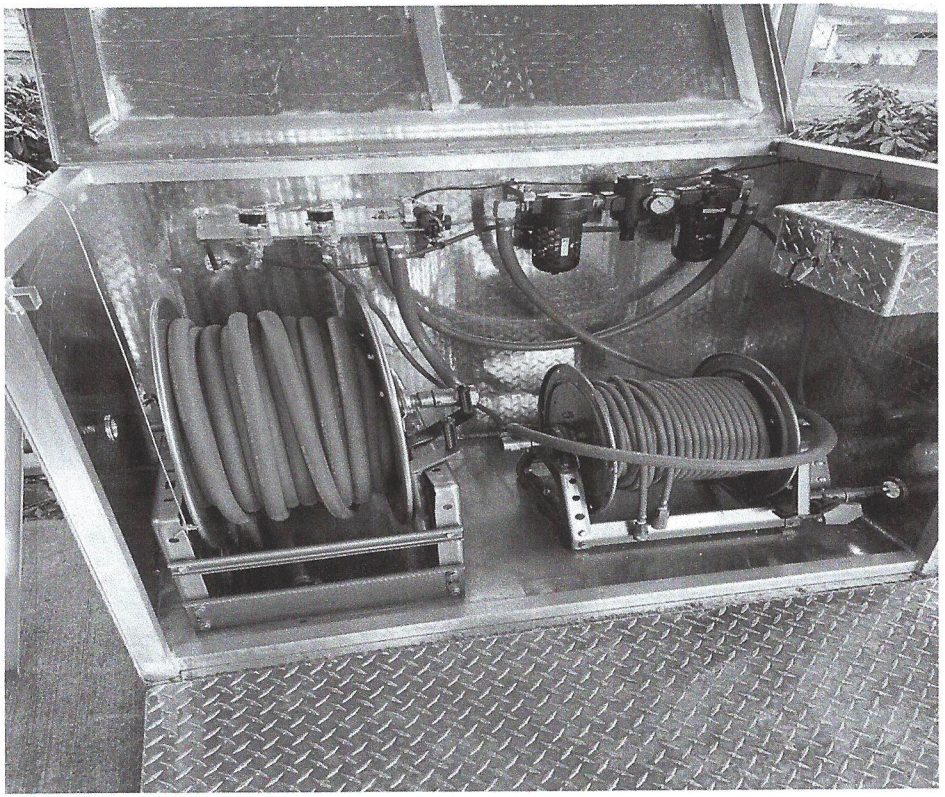
- Make sure all nuts, bolts, and belt are tight and secure
- Check to see the carbide cutters are in good condition
- Attach hoses – 150' of hose per reel
  - Chicago fitting is for the motor
  - ¼" fitting is for the Cutter Engagement
  - 3/8" fitting is for the Position Lock
- Turn on Battery
  - Each battery lasts up to 8 hours
- Connect T handle system to the Mega-Large





Control Box

- Controls
  - Controls are OFF and in the Lock Out Tag Out
- Air oil filter
  - ¼ to 1 turn from off
  - Keep oil filled
  - Drain water when necessary
- Turn on battery and connect the monitor
  - Batteries and Monitor located in the side box
  - Total of 4 batteries and 4 chargers
- Connect to air supply
  - Chicago fitting from the air oil separator and oiler will connect to the air compressor
  - Total of 150' of hose per reel



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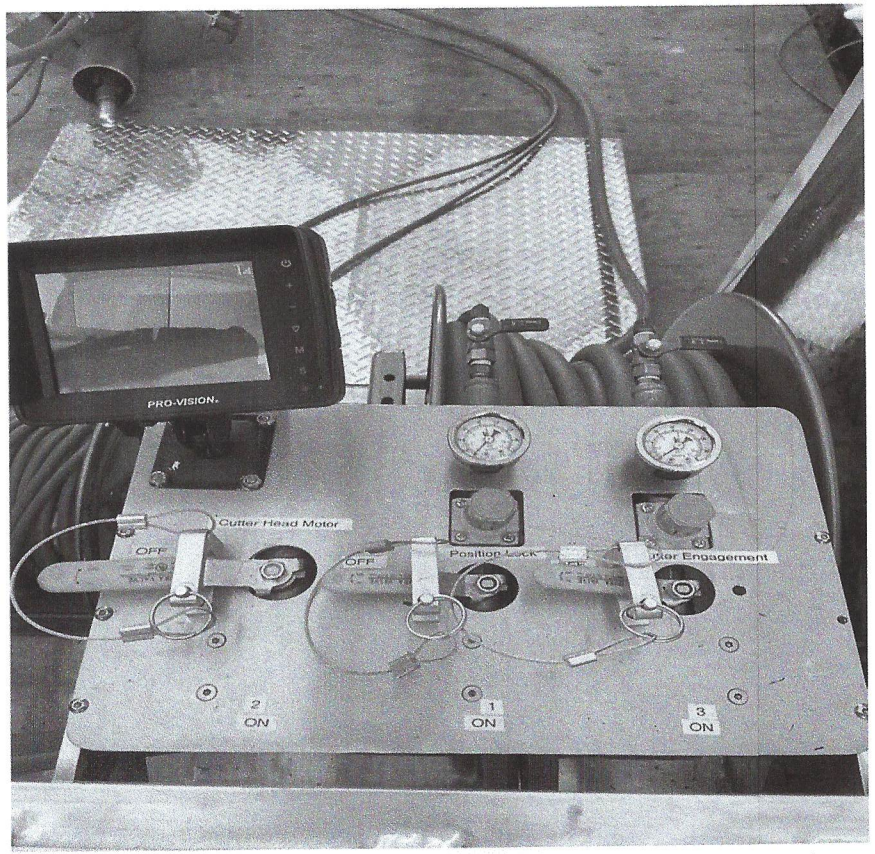
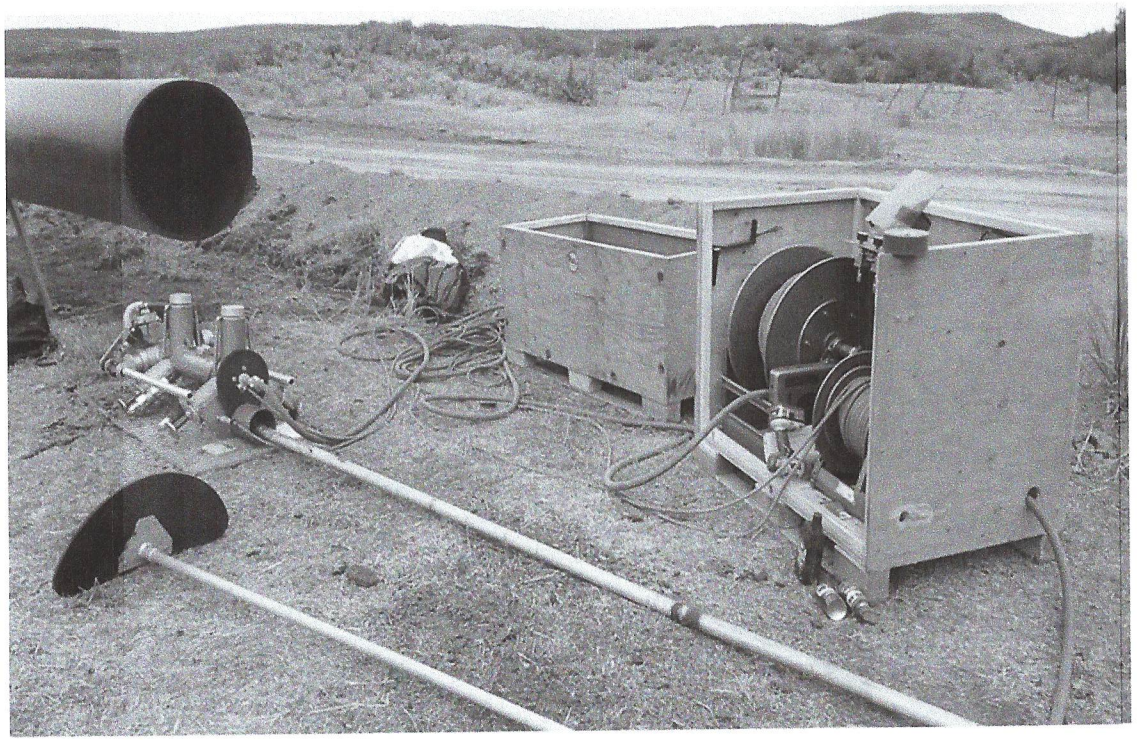


Control Panel

Pre-System Check

- Air water separator and oiler
  - ¼ to 1 revolution from off
  - Oil filled (Use SAE 10W motor oil)
  - Remove any water
- Hoses
  - All hoses properly connected
  - Connected to the air compressor
- ML Bead Trimmer feet and rollers adjusted correctly
- Controls are turned OFF
- T- handle and wiper connected
- Batteries and monitor on
- At this point everything should be set-up



Pre-System Check

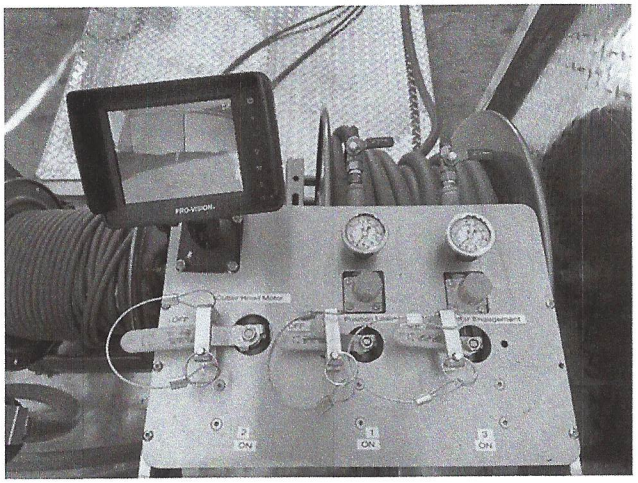
Control Operation Order

Start Up Procedure:

- #1 Turn On Position Lock
- #2 Turn On Cutter Head Motor
- #3 Turn On Cutter Engagement
- Turn ON Sequence: 1-2-3

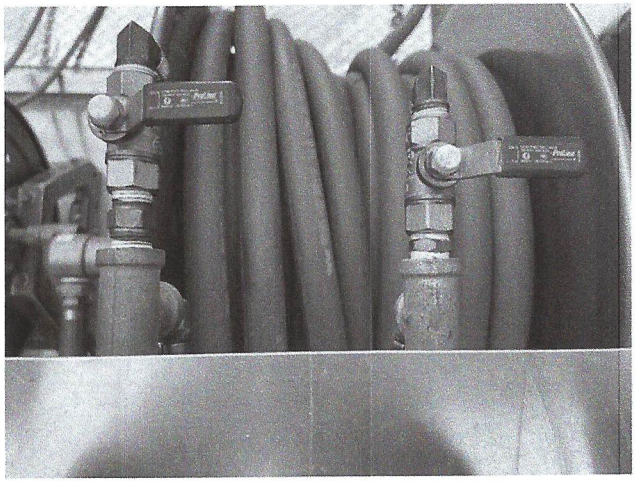
Shut Down Procedure:

- #3 Turn Off Cutter Engagement
  - Turn ON Bleed Off Valve
- #2 Turn Off Cutter Head Motor
- #1 Turn Off Position Lock
  - Turn ON Bleed Off Valve
- Turn OFF sequence: 3-2-1



Control Panel with
Lock Out Tag Out
in Locked Position

**** Know the order of operation prior to the Systems Check****



Bleed OFF Valves
in closed position

**** Lock Out Tag Out in the Locked Position****

System Check

Live Air system check: This is done with the ML on the ground with the cutting head facing up and no one should be near the machine. The motor is very loud. Wear protective equipment.

Start up procedure: 1-2-3

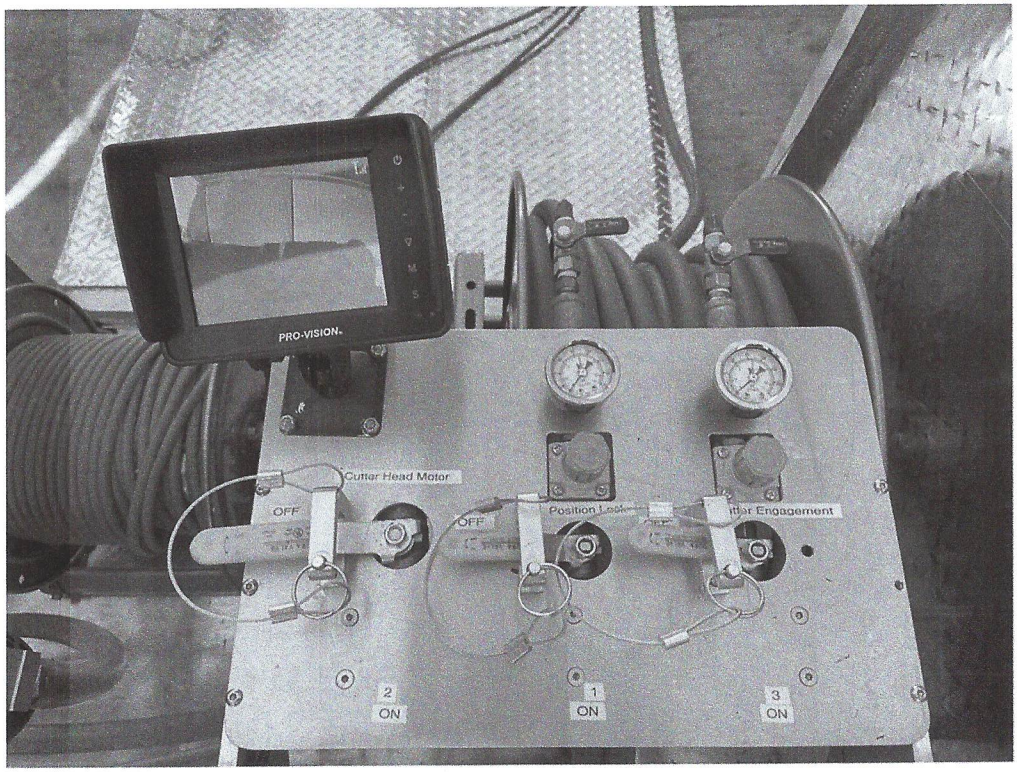
I. Turn ON Position Lock
   - Don't over pressure and distort pipe

II. Turn ON Cutter Head Motor
   - Check air water separator and oiler daily
   - Motor will seize if not lubricated correctly
   - Cutting Head is rotating at 2,000 RPM

III. Turn ON Cutter engagement
   - Should be pre-set at a slow speed

Note: minimum air requirements for the ML is 82 CFM @ 100 PSI

-Readjust Regulators to 100 psi if necessary

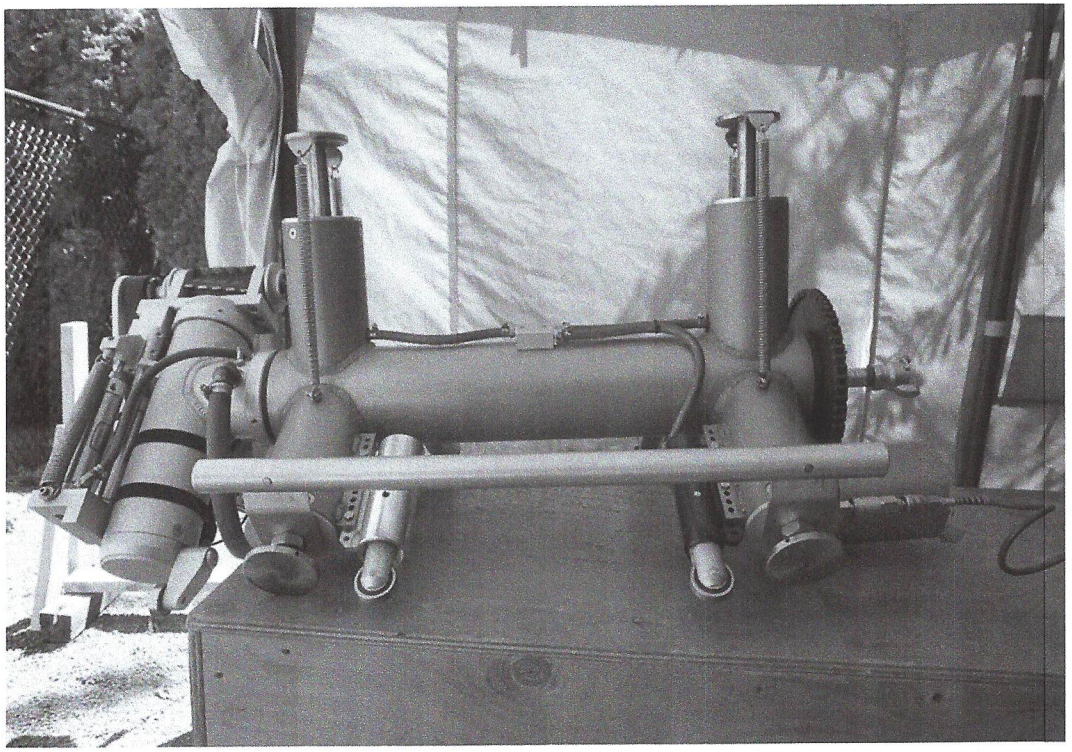


System Check

Live Air system check: This is done with ML on the ground with the cutting head facing up and no one should be near the machine. The motor is very loud. Wear protective equipment.

Shut Down Procedure: 3-2-1

I. Turn OFF Cutter Engagement
   I. Turn ON Bleed Off Valve
II. Turn OFF Cutting Head
III. Turn OFF Position Lock
   I. Turn OFF Bleed Off Valve



Note: Use Lock Out Tag Outs while not in use

Operators / Fusion Bead Removal

Operator #1

- Runs the Control Box

Operator #2

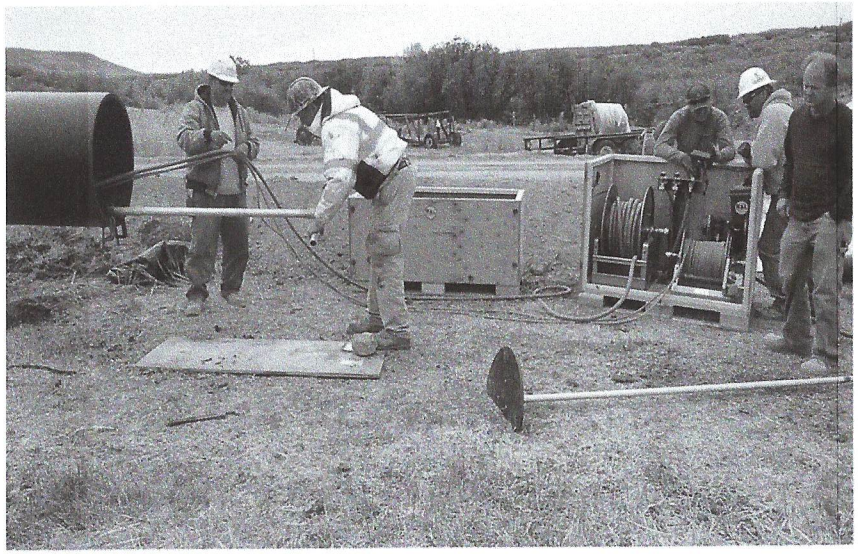
- Operates the Mega-Large T-Handle
- Start the Cutting Head in the upright position
- Slowly rotate in a counter clockwise motion. 7 rotations to 1 full rotation on the cutting head
- Once the bead is removed Slowly rotate in a clock wise motion for a finish cut until the cutting head is back in the original upright position

- The ML requires at least 2 Operators to run the machine
- **Warning**: Do not remove fusion beads that have not cooled down as per pipe manufacture recommendations for fusion welding
- **ML24** Requires a rotation in a clockwise motion to remove the bead and counterclockwise for a finish cut.

Operators / Fusion Bead Removal

How to Remove the Bead

- Roll the ML down until it is stopped by the fusion bead
  - Readjust to center the bead on the cutter if necessary
- Operator #2 Keep the cutting head in the upright position
- Operator #1 begins the start up procedure
- Operator #2 hold firmly onto the T-handle
- Once the Cutter has engaged into the bead. Begin removing the fusion bead
  - Slowly rotate in a counterclockwise motion until the bead is removed . (Note: The ML24 requires rotation in a clockwise motion to remove the bead.)
- Once the bead has been fully removed it is now time to start the Finish Cut
  - Slowly rotate in a clockwise motion until the Cutting Head is back in its upward position. (Note: The ML24 requires rotation in a counterclockwise motion for the finish cut.

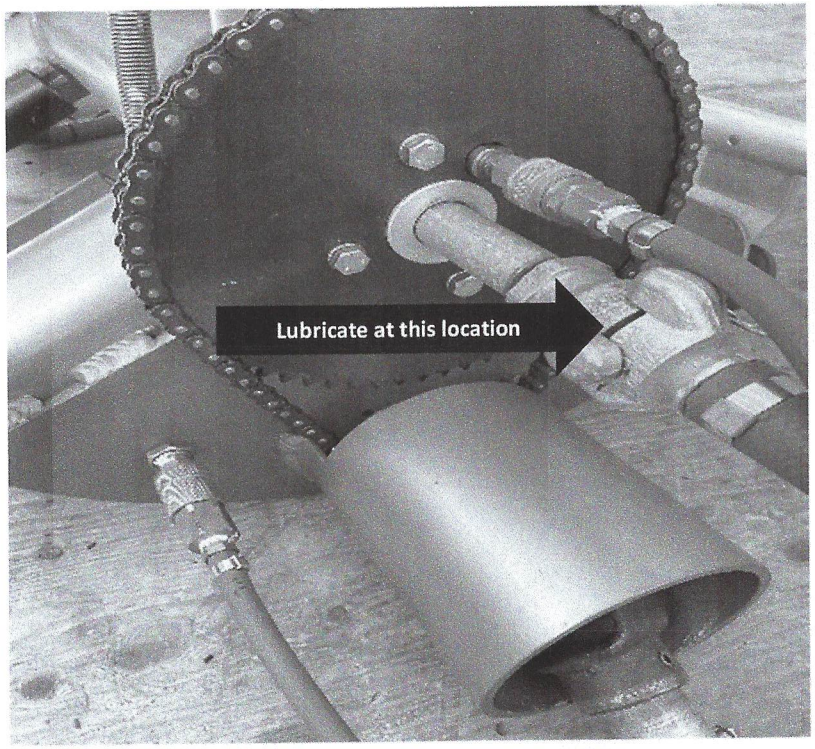


Operators / Fusion Bead Removal

- After completion Operator #1 starts shut down procedure
  - Shut Down Procedure: 3-2-1
- Roll the ML back out
- Slide pipe wiper into pipe Radius side up and remove plastic chips
  - Repeat if necessary

Air Motor Lubrication required on Long distance reach over 150'

- When removing fusion beads in a long-distance reach over 150 feet. It is required to squirt air tool lubricant into the chicago fitting on the Mega-Large Bead Trimmer before each bead removal operation.



Maintenance and Safety

Maintenance

- Air oiler requires ¼-1 turns on the valve. Uses SAE 10W oil and refill when necessary.
- Check for water and drain the separator as needed.
- Check the cutter for broken carbide inserts and rotate / replace if necessary
- Check for loose screws, nuts, and bolts
- Check the tension on the belt and drive chain
- Batteries last approximately 8 hrs. Recharge as needed
- Most tools are included and some replacement parts are included

Safety

- Always have control valves turned off and locked out when plugging into air source
- Ear plugs are recommended
- Don't touch the cutter while operating / Live systems check
- Stand back during Live Systems Check
- The ML weighs over 200 lbs.

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