American Earth Anchors

AL-9000 Instructional Manual

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313 Pond Street – Woonsocket – RI 02895

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Details

American earth anchors AL-9000 is a hydraulic load-testing device used to perform uplift proof tests on AEA earth anchors by applying a controlled vertical tensile load with capabilities up to **9,000 lbs**. The unit consists of a collapsable tripod frame, a centrally mounted hydraulic ram, and a calibrated pressure gauge to measure the applied load and capacity of the earth anchor in varying soil conditions. The tripod configuration provides stable load distribution and reaction, making the device suitable for field verification of ground anchors under uplift loading conditions.

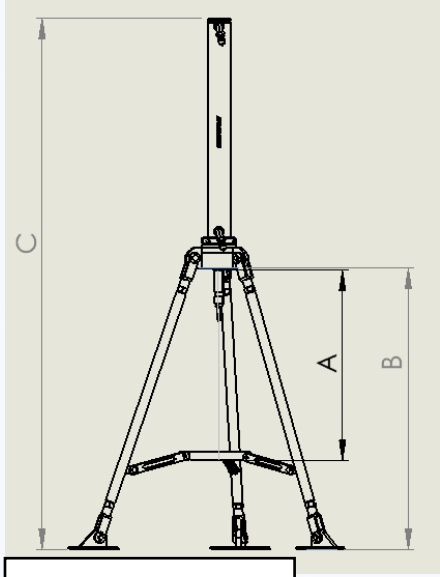

Figure 1: Side view

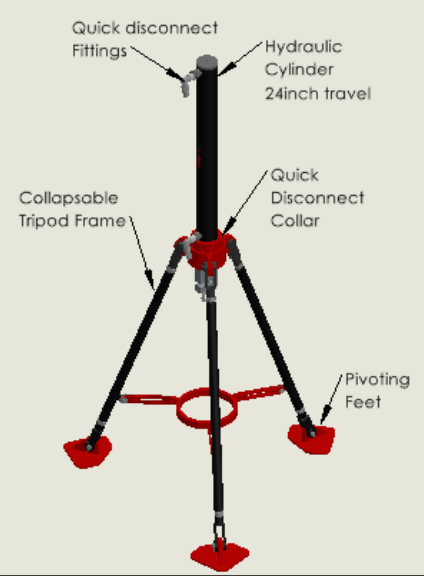

Figure 3: Isometric assembled view

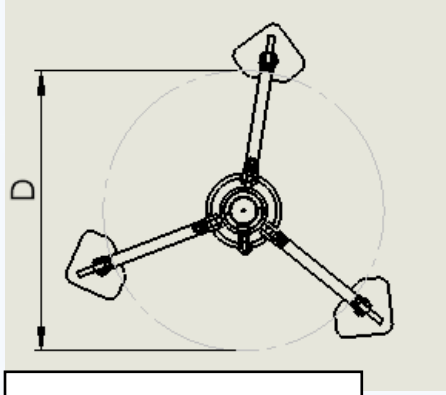

Figure 2: Top view

Dimensions:	**Weights:**
A: 24in (travel)	Tripod: 60lbs
B: 32in (clearance)	Cylinder: 35lbs
C: 66in (assembled height)	Assembled: 95lbs
D: 32in (loadable cone)	

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Precautions Prior to Use

- Wear appropriate PPE
- Never stand in line with anchor load path
- Keep hands clear from moving parts
- Ensure all hydraulic connections are secure
- Ensure all tripod connections are secure
- Check fluid level
- Inspect for leaks
- Do not use damaged on non-rated equipment
- NEVER disconnect pressurized hydraulic connections

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Included Parts

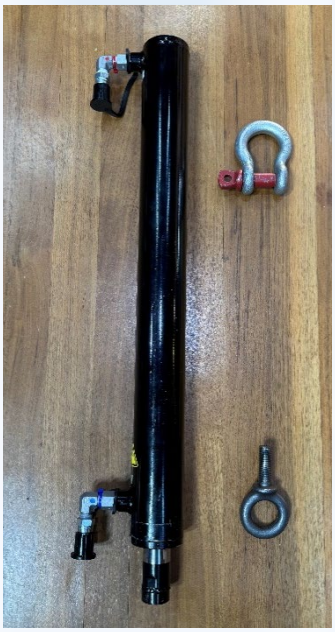

Figure 4: Hydraulic cylinder

Includes: Quick disconnect hydraulic fittings, 1”-14 eyebolt, chain clevis

Figure 5: Collapsible Tripod

Includes: Foldable legs, quick disconnect collar mount, pivoting feet

Figure 6: Hydraulic power unit

Includes: Hydraulic hose with quick disconnect fittings (x2), calibrated pressure gauge with psi and lbf graduations

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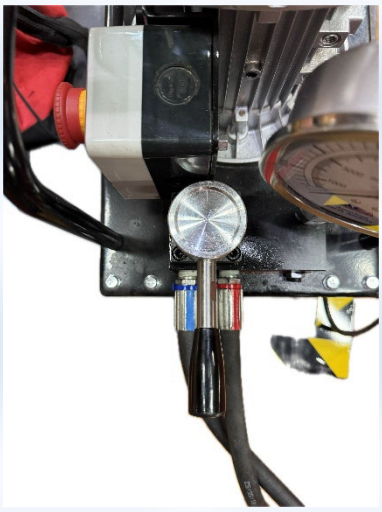
Operating the Pump

Switch to the left:
Up (Blue)

Figure 7:



Switch centered:
Relieve pressure

Figure 8:

Switch to the right:
Down (Red)

Figure 9:

Operation:

- Move the manual switch to the desired movement direction.
- Press the green button once to start the pump.
- Press the red button once to stop the pump.
- To relieve the pressure, move the manual switch to the center position.

Note: 8L oil capacity, ISO 15-32 hydraulic oil recommended

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Reading the pressure gauge

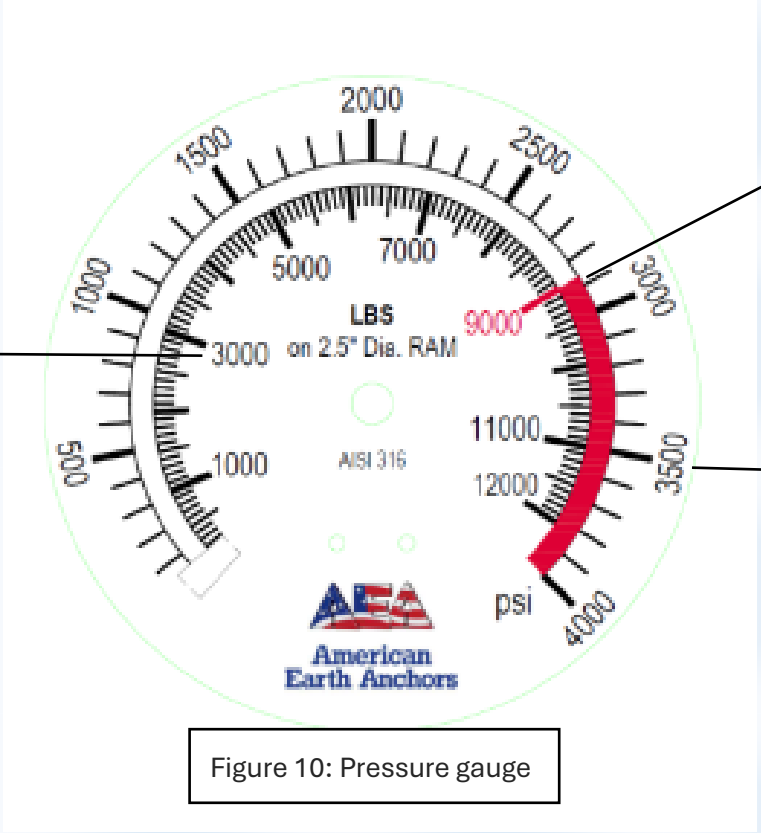

Figure 10: Pressure gauge

- Graduations on the outer circle display PSI in 100 PSI increments.
- Graduations in the inner circle display LBS in 100 LB increments.
- Features:
  - 4” dial
  - Vibration resistant
  - 316 SS housing
  - ½” NPT connection

Note: Ensure pressure gauge reads 0 PSI before disconnecting hydraulic hoses

WARNING: DO NOT exceed 3,000 PSI or 9000 LBS

Proof Load Procedure

1. Apply load gradually using the hydraulic cylinder.
2. Increase load while monitoring the gauge.
3. Advance loading until the specified proof load is achieved.
4. Maintain the proof load for the required period.
5. Observe and measure anchor displacement and/or creep during hold period.

Figure 11: Proof load of a PE36-Hex in asphalt pulling at 9,000 lbs using an optional load cell

Instructions

Figure 12:

Step 1:

- Unfold tripod by opening all 3 legs of the tripod.

Figure 13:

Step 2:

- Insert the hydraulic cylinder into the tripod head with the ram pointed downwards.
- Tighten the two bolts on the quick disconnect collar with a 5/16” allen key until cylinder is secure to tripod.

Figure 14:

Step 3:

- Fasten the eyebolt to the hydraulic cylinder

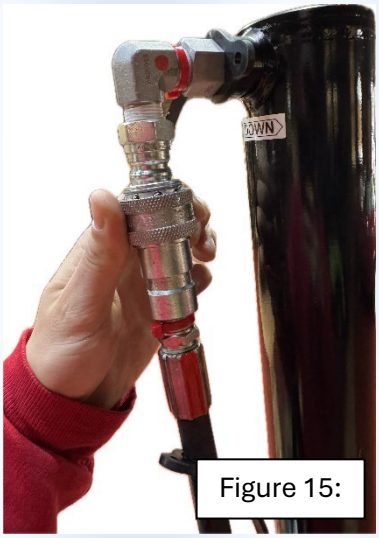

Figure 15:

Step 4:

- Connect the hydraulic hoses from the pump to the cylinder by sliding back the coupler collar on the hose and push onto the plug connected to the hydraulic cylinder until the coupler collar clicks and the hose is secure.
- Red connects with red (upper connection for downward movement)
- Blue connects with blue (lower connection for upward movement)

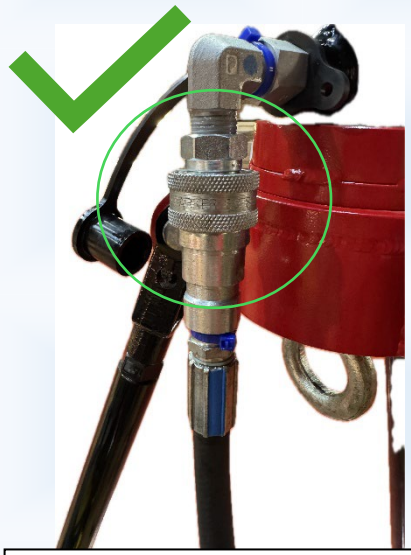

Figure 16: Proper connection

Figure 17: Improper Connection

Figure 18:

Step 5:

- Center the desired anchor for testing under the tripod

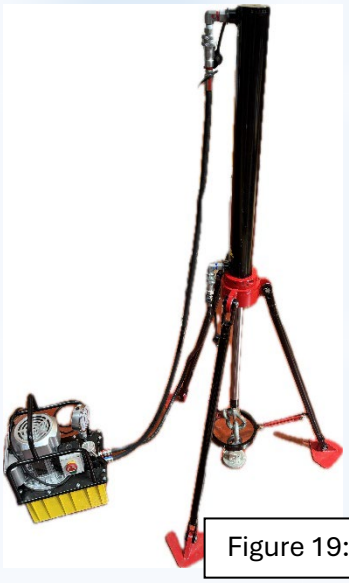

Figure 19:

Step 6:

- Move the hydraulic cylinder down until a connection on the anchor can be made
- Connect the anchor to the end of the hydraulic cylinder eyebolt.

Figure 20:

Step 7:

- Move hydraulic cylinder upwards to apply load.
- Observe the load and follow the proof load procedure (see page 9).