WARNING
Read and understand Operator's manual and ANSI Standard ASME B30.20 for Below-The-Hook Lifting Devices, before operating this equipment.
Failure to follow operating instructions and all safety procedures could result in death or serious injury to self or others.

WARNING
• Inspect vacuum lifter daily.
• Tighten all loose fasteners and fittings and replace worn parts.
• Check all welds for any signs of cracks, rust or metal fatigue.
• Replace all rubber parts that have any cracks, tears or cuts.
• Perform Lift Test to verify proper vacuum level is acheived.
• Refer to Inspection Report contained in this User's Guide.
IMPORTANT NOTICE

All users of vacuum lifting devices must be familiar with the American National Standard ASME B30.20 specifications for Below-The-Hook Lifting Devices. Prior to installation, please refer to Chapter 20-2.

Anver Vacuum Lifters are designed and manufactured to meet or exceed the American National Standards ASME B30.20 specifications for Below The Hook Lifting Devices, Chapter 20-2, Vacuum Lifting Devices.
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Note: Please refer to the Order Summary, Lifter Tag and Lifter Table of Contents found at the beginning of the Lifter Manual for further documentation (parts lists, assemblies, diagrams, specifications, etc.) that may not be included within the User’s Guide.
Thank you for purchasing this ANVER® Vacuum Lifting System. If used and maintained properly, it should serve you for many years. Thousands of ANVER® lifters are in daily use throughout the world providing a safe, fast and efficient means of material handling. They are often the only way for a person to load, move and unload materials singlehandedly.

ANVER lifters have proven to be among the best designed and safest in the industry. However, if used improperly, a vacuum lifter can be rendered inefficient or unsafe. For this reason it is absolutely essential that those who apply and operate this equipment be trained in its safe use.

READ THIS MANUAL CAREFULLY TO LEARN HOW TO OPERATE AND MAINTAIN YOUR VACUUM LIFTER. FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY OR DEATH TO YOURSELF OR OTHERS.

THIS MANUAL SHOULD BE CONSIDERED A PERMANENT PART OF YOUR LIFTER AND SHOULD BE READILY AVAILABLE TO ALL OPERATORS AND SUPERVISORS. IT SHOULD REMAIN WITH THE LIFTER IF THE LIFTER IS LATER SOLD.

ADDITIONAL COPIES OF THIS MANUAL ARE AVAILABLE BY CALLING:

TOLL-FREE: 1-800-654-3500
FAX: 978-568-1570
E-MAIL: sales@anver.com

Ask for copies of Document #120 00 033
WARNING NOTICES
Recognize Safety Information

This is the safety alert symbol. When you see this symbol on your lifter or in this manual, be alert to the potential for personal injury. Follow recommended precautions and safe operating practices at all times.

Hazard Seriousness Signal Words

⚠️ DANGER
Red Background, White Letters on label
Indicates hazardous situation which will result in a high probability of serious injury or death if the precautions are not observed.

⚠️ WARNING
Orange Background, Black Letters on label
Indicates a potentially hazardous situation which could result in some probability of serious injury or death if the precautions are not observed.

⚠️ CAUTION
Yellow Background, Black Letters on label
Indicates a potentially hazardous situation which could result in minor or moderate injury if the precautions are not observed.

NOTE: Indicates that your particular attention is drawn to the subject because the issues mentioned may not be obvious even to well-qualified personnel.
The following safety, warning and instruction labels can be found on the lifter. All operators of this equipment should become familiar of all instructions and warnings located on both the lifter and in this manual. If any of the labels are not legible or fully understood, please contact ANVER for more information.

Note: Specific load capacity labels, that meet ANSI requirements, are not called out. These labels will be placed where space allows on the lifter. If load capacity labels are not present on your lifter, contact factory.
Equipment Labels

The following safety, warning and instruction labels can be found on the lifter. All operators of this equipment should become familiar of all instructions and warnings located on both the lifter and in this manual. If any of the labels are not legible or fully understood, please contact ANVER for more information.

Note: Specific load capacity labels, that meet ANSI requirements, are not called out. These labels will be placed where space allows on the lifter. If load capacity labels are not present on your lifter, contact factory.
Electric Powered Vacuum Lifters
With Powered Tilt and Dry Piston Vacuum Pump - User’s Guide

Equipment Labels

1) LA563 - Black, orange and blue on white.
2) LA565 - Black and yellow on white.
3) LA550 - Black and orange on white.

4) LA567 - Blue on white.

Important Safety Warnings — operator must also read manual

- OSHA regulations require that only trained personnel operate cranes, hoists and vacuum lifters. Always conduct a pre-operational inspection prior to using this equipment. Do not exceed rated load dimensions or weight capacity. Ensure that the weight of this vacuum lifter plus the load does not exceed the rated capacities of the lifting equipment (crane, hoist) being used in conjunction with this vacuum lifter.
- Red tag lifter "out of service" at any hint of excessive wear, cracks, malfunction or missing parts. Vacuum lifters are built for limited to specific applications, so never remove or obscure instruction, warning and/or capacity labels. Do not make modifications to this vacuum lifter.
- Do not operate when vacuum level indicator shows inadequate vacuum. Only lift loads with vacuum pads evenly spaced and equally loaded. Tighten all hand-knobs and wing nuts on the cross arms, and vacuum cups, etc. Make sure ball-valves are open to the pads used for lifting. Be careful you are not picking more than one sheet at a time or the floor.
- Lift and release slowly.
- Do not load more than a few inches until sure that the load is well secured by an adequate, stable vacuum level and well balanced. Do not lift loads any higher than necessary. Always stay well clear of loads being lifted. Do not lift people, or allow persons to climb on the load while lifting or suspending load. Do not lift loads over or near people. People must never be placed in jeopardy by being under or near a suspended load. Do not release loads until set down first.
- Never leave loads suspended unattended.
- Monitor vacuum level at all times and do not handle wet or dirty loads as vacuum cups can hydroplane even at full vacuum! Do not attach "Tag Lines".
- Do not pull or push loads being lifted. Do not make sudden movements with the load. Do not let the load make contact with or bang into any obstructions as shock loading can overload lifting equipment. Do not operate if impaired. Do not engage in any practice that could divert your attention while operating this equipment.
- Store lifter indoors off of rubber seals, and follow all safety rules in manual.

5) LA562 - Black and orange on white.

6) 13300219 - Black on white.

7) LA13300046 - Black on white.

8) LA029 - Red on aluminum.

9) LA586 - Red, black and yellow on white.

LA586 Labels
- 3.125" x 1.125" with square corners
- Black, red and yellow on white (Green border sh
- Vinyl Stock (not Lexan)

Note: Specific load capacity labels, that meet ANSI requirements, are not shown. These labels will be placed where space allows on the lifter. If load capacity labels are not present on your lifter, contact factory.
Equipment Labels

10) LA588 - Black and orange on white.

LA588 Label
- 1½” x 2½” with .1875”
- Black and orange on white
- Vinyl material (not Lexan)

11) LA030 - Black and yellow on white.

LA030 Label
- 1½” round (using same tool as LA597)
- Black and yellow on white
- Vinyl Stock (not Lexan)

12) LA572 - Black and orange on white.

LA572 Label
- 2.5” x 1.375” with rounded corners
- Black and orange on white
- Vinyl Stock (not Lexan)

13) LA596-2X2 - Black, red and yellow on white.

LA596 Label
- 4” x 4” with rounded corners (same tool as LA597)
- Black, red and yellow on white
- Vinyl Stock (not Lexan)

14) LA597-2X2 - Black, red and yellow on white.

LA597 Label
- 4” x 4” with rounded corners (same tool as LA597)
- Black, red and yellow on white
- Vinyl Stock (not Lexan)

15) LA058-15 - Blue on white.

LA058-15 Label
- 4” x 4” with rounded corners
- Blue on white

Note: Specific load capacity labels, that meet ANSI requirements, are not shown. These labels will be placed where space allows on the lifter. If load capacity labels are not present on your lifter, contact factory.
General Safety Rules

Danger always exists when loads are transported by lifting devices, especially if the equipment is not being used properly or is poorly maintained. Because accidents and severe bodily injury or death can result, special safety precautions apply to the operation, inspection and maintenance of vacuum lifters.

- Never operate lifter until inspected and tested for each shift.
- Report any unusual operation or safety concerns to a qualified person and discontinue use of the vacuum lifting device until safety has been assured.
- Do not use vacuum lifting device with an “Out of Order” tag until it is returned to proper operating condition.
- Do not use lifter if capacity or safety markings are missing.
- Make sure that the supporting structure and load attaching devices (i.e. crane, chains, and hook) are rated to support the weight of the lifter and load.
- Be sure to subtract the weight of the lifter from the crane or hoist capacity when calculating the actual net capacity of the system.
- Use a safety latch on your crane hook to hold your lifter.
- Use lifter only on non-porous and slightly porous, smooth loads. The degree of porosity/roughness affects the lifter’s ability to make up for air leakage. All loads should be tested to determine the maximum achievable vacuum level. Refer to the lifter specifications to determine at what vacuum level the lifter is rated.
- Derate load capacity by 3.5% for each 1000 ft. of elevation above sea level.
- Use lifter only on clean loads; brush off loose debris, dirt, scale, chips, etc.
- Do not use lifter on badly rusted, pitted, or scaled loads.
- Never lift loads heavier than rated lifting capacity.
- Do not use lifter on loads beyond recommended length and width for a particular thickness. Consult Page #9 or Page #10 or Bulletin 130 00 043 for recommended load overhang tables.
- Do not lift more than one work piece at a time. If sheets stick together, place the load down immediately and separate sheets prior to lifting.
- Use lifter only as a lifting and handling tool.
- Use lifter only for horizontal lifting and free overhead transport.

Caution

Remember, proper lifting knowledge and techniques are the responsibility of the operator. Be sure to read and understand the instructions and safety warnings contained in this manual before using your vacuum lifter.

If you do not understand everything in this manual, contact ANVER Corporation for assistance before using the lifter.

1-800-654-3500
General Safety Rules Continued

Do not use lifter to drag loads over floors.

Use the handle bars to position the lifter and guide the load.

Do not push or pull the load with your hands on the load.

When adjusting crossarms and pads, keep vacuum lines free of twists and kinks. Do not pinch the vacuum lines.

Do not lift loads higher than necessary.

Perform a preliminary lift of a few inches to establish that a vacuum lifting device has been correctly applied and that a stable lifting vacuum level exists.

Accelerate and decelerate loads smoothly.

Avoid contact of loads with obstructions.

Do not tilt any load more than 15° from horizontal unless unit has been designed for tilting.

Never tilt wet or oily loads.

Always allow extra work space around load when using a tilting lifter. Tilted loads can slide or tumble if they become detached.

Be sure to let those near you know that a lift is about to begin.

Always stay clear of the load. Do not place feet or hands under the load. Keep face and body away from lifter or load in case of accidental release.

Make sure that every person operating the lifter has read and understands the operating instructions which are printed in this manual and on the side of each lifter.

The operator must respond to signals from appointed persons.

Do not ride or allow others to ride suspended load or enter restricted spaces adjacent to the lifting operation.

Do not keep loads suspended for unnecessarily long periods, such as during coffee or lunch breaks or other work stoppage.

Do not keep loads suspended unattended.

Do not lift loads over people.

Do not stand under suspended loads.

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Danger always exists when loads are transported by lifting devices, especially if the equipment is not being used properly or is poorly maintained. Because accidents and severe bodily injury or death can result, special safety precautions apply to the operation, inspection and maintenance of vacuum lifters.

\[\text{\textbf{DANGER}}\]

\textit{Danger always exists when loads are transported by lifting devices, especially if the equipment is not being used properly or is poorly maintained. Because accidents and severe bodily injury or death can result, special safety precautions apply to the operation, inspection and maintenance of vacuum lifters.}
Important!
Before Starting Up This Lifter

1. INSPECT LIFTER FOR DAMAGE:
   Some damage may have occurred during shipping. If damage is apparent or suspected, or the vacuum generator has been left uncovered in the rain, contact ANVER Corporation for instructions on how to check and correct.

2. CHECK ALL FASTENERS FOR TIGHTNESS:
   Occasionally, vibration during shipping can loosen screws and bolts.

3. REMOVE ALL PACKING MATERIAL:
   It is especially important to make sure that the under sides of the vacuum pads and sealing rings are clean and free of debris.

4. MAKE CERTAIN THAT:
   - There are no kinks in the flexible vacuum conduit.
   - All manual shut-off valves are in the open position.
   - All position locking knobs or wing nuts are tight and pads and / or crossarms are correctly positioned.

5. READ THE INSTRUCTION AND SERVICE MANUAL:
   Make certain all operating personnel are familiar with the operating procedure and safe lifting practices.
Operating Instructions

- Read and understand all instructions before operating this lifter.
- When lifting, all gauges and controls should face operator.
- For lifters equipped with a vacuum leakage sensor and warning system, test battery, light and horn by pushing the test button.
- Make sure lifter is plugged in with vacuum control valve in the “attach” position, turn power to “ON”, then slide vacuum control valve to the “release” position (pump evacuates reservoir).
- To start lifting, center lifter on the load. Load must not exceed rated dimension and capacity. Make sure that all pads are "seated" and that all pads being used are equally distributed over the load surface so that each pad carries an equal portion of the load. Be sure that all pad slides and crossarm slides are securely fastened.
- If so equipped, make certain that the manual shut-off valves are fully open for all pads being used. Make sure that the manual shut-off valves are fully closed for all pads which are off the edges of the load. Partially closed valves will leak.
- Make sure the lifter makes full contact with the load, then slide the control valve to the “ATTACH” position, wait until the vacuum level on the vacuum gauge indicates sufficient vacuum level at the pads. Maximum attainable vacuum is approximately 24 in.Hg for standard lifters (unless otherwise indicated).
- Once a safe vacuum level has been reached, lift the load slightly and hold it there for a few seconds to verify the stability of the vacuum. If vacuum level is safe and stable, the operator may continue the lift.
- Warning: If vacuum level drops and vacuum leakage sensor horn and light is activated - this means load is unsafe, place lifter down immediately.
- To tilt load, use pendant control to tilt vertical or horizontal. Caution: When tilting from vertical to horizontal, the load moves towards operator. Allow extra work space around load. Tilted loads can slide or tumble if they are misused.
- To release, put the load down and slide control valve to the "release" position. Raise the lifter slowly from the load.

Storage

- When the lifter is not in use for long periods, leave it suspended from hook or put it down on optional parking stands with the pads off the floor. Move the vacuum control valve to the “attach” position whenever power is “off”.
- When not in use, unplug lifter. Store in a clean, dry location.
Safety and Preventive Maintenance

A comprehensive checklist is contained at the end of this manual. Inspection frequency depends on usage but a thorough inspection should be done at least once a month.

The following critical items should be checked by the operator at the start of each shift:

- Keep lifter clean, dry, and free from debris. Blow off loose dirt which may have accumulated on the unit.

- Inspect vacuum seals. If cut or damaged, replace seal. Damaged or cut seals are dangerous.

- Inspect vacuum lines, valves, fittings, and hose clamps for damage or abnormal wear.

- Attach the vacuum pad or pads to a non-porous, flat, clean surface and observe the vacuum level developed. The vacuum gauge should register at least 24 inches of mercury. Gauge should operate smoothly.

- If any malfunctions are observed, check the trouble shooting procedure or contact your nearest Anver service engineer or Anver Corporation for service.

- Dated records of inspection and maintenance should be kept by appointed, responsible personnel.

- A faulty or damaged vacuum lifting device shall be removed from service for repair. Return to service only after the defect has been corrected by an approved method using approved parts or materials as specified by the manufacturer.

- Prior to use, all new, reinstalled, altered, repaired or modified vacuum lifting devices must be tested per ASME B30.20 standard.
Troubleshooting

ANVER vacuum lifters have been engineered and built to provide long, trouble-free service. They are carefully checked and tested before they are shipped. The following trouble-shooting procedures will help you correct any equipment problems which might occur. Problems and their corrections are listed in the order of probability and they should be checked in this order.

I. PROBLEM: Lifter rapidly loses vacuum
   A. Possible cause - damaged sealing ring(s):
      - Check sealing rings for cuts or tears. Discard damaged sealing rings immediately and replace them with new ones.
   B. Possible cause - damaged vacuum conduit:
      - Check flexible vacuum tubing for cuts and replace if damaged.
      - Check hose clamps and fittings - tighten if required.

II. PROBLEM: Lifter does not operate
   A. Possible cause - insufficient vacuum:
      - Lifter will not lift load if vacuum level is too low. See “Vacuum Too Low” for possible cause.
   B. Possible cause - misapplication of lifter; lifter is being used on loads that are not suitable for handling:
      - Lifter should be used only on non-porous or slightly porous materials. The level of vacuum obtained is limited by the ability of the generator to keep up with vacuum loss due to load porosity. Vacuum pads must be entirely on load surface and must not be positioned over holes.
   C. Possible cause - vacuum generator malfunction:
      - If you suspect a malfunction of the generator, contact ANVER Corp. for instructions before attempting to repair the unit.

II. PROBLEM: Vacuum Too Low
   A. Possible cause - manual shut-off valves:
      - Make certain that shut-off valves, if fitted, are completely closed on any vacuum pad not being used.
   B. Possible cause - vacuum control valve:
      - Check that valve is in full “attach” position.
   C. Possible cause - damage to vacuum conduit:
      - Check flexible vacuum tubing for cuts or damage.
      - Check for loose fittings or hose clamps.
   D. Possible cause - generator:
      - Generator may not be drawing sufficient vacuum.
   E. Possible cause - filters:
      - Check for any dirty filters and clean or replace as necessary.
The following charts can be used as general guides for determining the number of vacuum pads required to handle glass or metal sheet and plate. The lifter you select must have both a sufficient capacity to handle your heaviest load as well as an adequate number of pads to support your thinnest material and prevent the load from peeling away from the vacuum pads as the load deflects during lifting.

Overhang is defined as the distance from the center of a vacuum pad to the edge of the load. To prevent the load from 'peeling away' from the pads, overhang values for 5 inch deflections should never be exceeded when using mechanical vacuum lifters. For maximum safety, we recommend that the overhang values for 2 inch deflections be followed for all vacuum lifters.

Lifting thin pickled, oiled, or magnetized sheet with a single pad or single row of pads can create a bond or vacuum between the sheets. This can pucker or deform the top sheet and scratch the sheet below it. This bonding can also occur between the sheets. This can pucker or deform the top sheet and prevent the load from 'peeling away' from the vacuum pads as the load deflects during lifting.

Overhang is generally not a problem. However, it can be difficult to center a single pad on a large sheet. We also recommend limiting the total load length to be not more than 144 inches per pad.

### Load Overhang Tables

The following charts can be used as general guides for determining the number of vacuum pads required to handle glass or metal sheet and plate. The lifter you select must have both a sufficient capacity to handle your heaviest load as well as an adequate number of pads to support your thinnest material and prevent the load from peeling away from the vacuum pads as the load deflects during lifting.

Overhang is defined as the distance from the center of a vacuum pad to the edge of the load. To prevent the load from 'peeling away' from the pads, overhang values for 5 inch deflections should never be exceeded when using mechanical vacuum lifters. For maximum safety, we recommend that the overhang values for 2 inch deflections be followed for all vacuum lifters.

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Overhang is generally not a problem. However, it can be difficult to center a single pad on a large sheet. We also recommend limiting the total load length to be not more than 144 inches per pad.

### For Single Pad Lifters

1. Locate the thickness or gauge column of the thinnest sheet or plate.
2. Read across to the 2 inch deflection column.
3. This is the distance from the edge of the sheet to the center of the first inside pad(s).
4. Double this number for the recommended maximum distance between the centers of all pads over the length of the load.

Remember to check both the length and width dimensions. See page 2 for additional information.

### For Multi-Pad Lifters

1. Locate the thickness or gauge column of the thinnest sheet or plate.
2. Read across to the 2 inch deflection column.
3. This is the distance from the edge of the sheet to the center of the first inside pad(s).
4. Double this number for the recommended maximum distance between the centers of all pads over the length of the load.

Remember to check both the length and width dimensions. See page 2 for additional information.

### Carbon Steel Sheet and Plate

(Use this table for stainless steel sheet and plate)

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### Aluminum Sheet and Plate

(Aluminum over 0.25" use above overhang tables.)

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<td>.6250</td>
<td>8.4</td>
<td>46</td>
</tr>
<tr>
<td>3/4</td>
<td>.7500</td>
<td>10.1</td>
<td>50</td>
</tr>
<tr>
<td>7/8</td>
<td>.8750</td>
<td>11.8</td>
<td>54</td>
</tr>
<tr>
<td>1</td>
<td>1.0000</td>
<td>13.5</td>
<td>58</td>
</tr>
</tbody>
</table>
Load Overhang Calculation

See table on the previous page for allowable overhang distance.

**Single Pad Lifters**

Single pad vacuum lifters are normally used to lift and transport single sheets of manageable dimensions. These dimensions vary greatly depending upon the material and application, and must be decided by the end user. ANVER recommends the use of single pad lifters only on rigid or fairly rigid materials and where the operator can conveniently place the lifter in the center of the load. Even if the material is thick and light, such as foam core aluminum panels, a single pad lifter is difficult to center over a six foot or greater edge-to-edge load distance. A multiple pad lifter should be selected.

**Multiple In-line Pad Lifters**

Large loads, or a load with a length dimension of two or three times its width, are best handled with a multiple-pad lifter. When possible, a center-cup to center-cup distance of one half, but not less than one third, of the length of the load should be chosen. When lifting a load with a three-pad, in-line lifter, the center-cup to center-cup dimension must be one third the length of the load to obtain correct load distribution.

**Multiple Pad Lifters with Crossarms**

Large or flexible loads are best handled with two or more rows of pads suspended from two or more crossarms. For best balance and safety, each cup must carry the same share of the load. The cups must be evenly spaced along the width and length of the load for equal loading of the pads.

A two inch (2") deflection or sag is the maximum we recommend for safe load handling. Equal loading of pads should be determined for the longest, widest load to be handled. Some limp or flexible materials require more support points to ensure level load handling. For very flexible materials, the overhang must be less than shown on the chart. Though we recommend near level load handling, the end user must determine the acceptable overhang for their application.
Basic Formula: Current atmospheric Pressure $ \times \frac{29.92''}{\text{Hg (absolute vacuum)}}$

It is important to consider the relationship between atmospheric pressure and altitude as it affects vacuum pump performance. Because free air is less dense at higher altitudes (i.e. lower atmospheric pressures) operation at these higher altitudes has the effect of reducing the capacity and maximum vacuum levels attainable. Refer to the following table to correct for performance at various altitudes.

### Vacuum Gauge Reading When Read at Altitude

<table>
<thead>
<tr>
<th>Altitude Above Sea Level (Feet)</th>
<th>Altitude Above Sea Level (Meters)</th>
<th>Atmospheric Pressure (psi)</th>
<th>Maximum Vacuum Level Attainable (inches Hg)</th>
<th>Vacuum Loss at Level Possible at this Altitude</th>
</tr>
</thead>
<tbody>
<tr>
<td>0'</td>
<td>0 M</td>
<td>14.70</td>
<td>29.92'' Hg</td>
<td>-</td>
</tr>
<tr>
<td>1000'</td>
<td>305 M</td>
<td>14.16</td>
<td>28.9'' Hg</td>
<td>3.4%</td>
</tr>
<tr>
<td>2000'</td>
<td>610 M</td>
<td>13.16</td>
<td>27.8'' Hg</td>
<td>7.1%</td>
</tr>
<tr>
<td>3000'</td>
<td>914 M</td>
<td>12.68</td>
<td>26.8'' Hg</td>
<td>10.4%</td>
</tr>
<tr>
<td>4000'</td>
<td>1219 M</td>
<td>11.33</td>
<td>23.1'' Hg</td>
<td>13.8%</td>
</tr>
<tr>
<td>5000'</td>
<td>1524 M</td>
<td>12.22</td>
<td>21.0'' Hg</td>
<td>15.6%</td>
</tr>
<tr>
<td>6000'</td>
<td>1829 M</td>
<td>11.77</td>
<td>22.0'' Hg</td>
<td>17.4%</td>
</tr>
<tr>
<td>7000'</td>
<td>2134 M</td>
<td>11.33</td>
<td>21.4'' Hg</td>
<td>19.2%</td>
</tr>
<tr>
<td>8000'</td>
<td>2438 M</td>
<td>12.22</td>
<td>22.0'' Hg</td>
<td>21.1%</td>
</tr>
<tr>
<td>9000'</td>
<td>2743 M</td>
<td>11.77</td>
<td>21.4'' Hg</td>
<td>22.9%</td>
</tr>
<tr>
<td>10,000'</td>
<td>3048 M</td>
<td>11.33</td>
<td>21.4'' Hg</td>
<td>24.7%</td>
</tr>
<tr>
<td>11,000'</td>
<td>3353 M</td>
<td>10.10</td>
<td>20.6'' Hg</td>
<td>26.5%</td>
</tr>
<tr>
<td>12,000'</td>
<td>3658 M</td>
<td>9.71</td>
<td>19.8'' Hg</td>
<td>28.3%</td>
</tr>
<tr>
<td>13,000'</td>
<td>3962 M</td>
<td>9.34</td>
<td>19.9'' Hg</td>
<td>30.1%</td>
</tr>
<tr>
<td>14,000'</td>
<td>4267 M</td>
<td>8.97</td>
<td>18.3'' Hg</td>
<td>31.9%</td>
</tr>
<tr>
<td>15,000'</td>
<td>4752 M</td>
<td>8.83</td>
<td>16.9'' Hg</td>
<td>33.7%</td>
</tr>
</tbody>
</table>

### Pressure Below Atmospheric

<table>
<thead>
<tr>
<th>Pg-psig</th>
<th>Pa-psia</th>
<th>in. Hg</th>
<th>-mbar</th>
<th>Torr</th>
<th>-mm Hg</th>
<th>% Vacuum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.00</td>
<td>14.70</td>
<td>0</td>
<td>0</td>
<td>760.00</td>
<td>0.00</td>
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<tr>
<td>0.49</td>
<td>14.24</td>
<td>1</td>
<td>33.86</td>
<td>734.60</td>
<td>25.40</td>
<td>6.60</td>
</tr>
<tr>
<td>0.98</td>
<td>13.75</td>
<td>2</td>
<td>67.72</td>
<td>709.20</td>
<td>50.80</td>
<td>16.6%</td>
</tr>
<tr>
<td>1.47</td>
<td>13.26</td>
<td>3</td>
<td>101.58</td>
<td>683.80</td>
<td>76.20</td>
<td>26.6%</td>
</tr>
<tr>
<td>1.96</td>
<td>12.76</td>
<td>4</td>
<td>135.44</td>
<td>658.40</td>
<td>101.60</td>
<td>36.6%</td>
</tr>
<tr>
<td>2.45</td>
<td>12.27</td>
<td>5</td>
<td>169.30</td>
<td>633.00</td>
<td>127.00</td>
<td>46.6%</td>
</tr>
<tr>
<td>2.95</td>
<td>11.78</td>
<td>6</td>
<td>203.16</td>
<td>607.60</td>
<td>152.40</td>
<td>56.6%</td>
</tr>
<tr>
<td>3.44</td>
<td>11.29</td>
<td>7</td>
<td>237.02</td>
<td>582.20</td>
<td>177.80</td>
<td>66.6%</td>
</tr>
<tr>
<td>3.93</td>
<td>10.80</td>
<td>8</td>
<td>270.88</td>
<td>556.80</td>
<td>203.20</td>
<td>76.6%</td>
</tr>
<tr>
<td>4.42</td>
<td>10.31</td>
<td>9</td>
<td>304.74</td>
<td>531.40</td>
<td>228.60</td>
<td>86.6%</td>
</tr>
<tr>
<td>4.91</td>
<td>9.82</td>
<td>10</td>
<td>338.60</td>
<td>506.00</td>
<td>254.00</td>
<td>96.6%</td>
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<tr>
<td>5.40</td>
<td>9.33</td>
<td>11</td>
<td>372.46</td>
<td>480.60</td>
<td>279.40</td>
<td>106.6%</td>
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<tr>
<td>5.89</td>
<td>8.84</td>
<td>12</td>
<td>406.32</td>
<td>455.20</td>
<td>304.80</td>
<td>116.6%</td>
</tr>
<tr>
<td>6.38</td>
<td>8.35</td>
<td>13</td>
<td>440.18</td>
<td>429.80</td>
<td>330.20</td>
<td>126.6%</td>
</tr>
<tr>
<td>6.87</td>
<td>7.86</td>
<td>14</td>
<td>474.04</td>
<td>404.40</td>
<td>355.60</td>
<td>136.6%</td>
</tr>
<tr>
<td>7.36</td>
<td>7.36</td>
<td>15</td>
<td>507.90</td>
<td>379.00</td>
<td>381.00</td>
<td>146.6%</td>
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<td>7.86</td>
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<td>156.6%</td>
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<td>8.35</td>
<td>6.38</td>
<td>17</td>
<td>575.62</td>
<td>328.20</td>
<td>431.80</td>
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<td>19</td>
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<td>277.40</td>
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<tr>
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<td>4.91</td>
<td>20</td>
<td>677.20</td>
<td>252.00</td>
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<td>196.6%</td>
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<tr>
<td>10.31</td>
<td>4.42</td>
<td>21</td>
<td>711.06</td>
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<tr>
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<td>3.93</td>
<td>22</td>
<td>744.92</td>
<td>201.20</td>
<td>558.80</td>
<td>216.6%</td>
</tr>
<tr>
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<td>3.44</td>
<td>23</td>
<td>778.78</td>
<td>175.80</td>
<td>584.20</td>
<td>226.6%</td>
</tr>
<tr>
<td>11.78</td>
<td>2.95</td>
<td>24</td>
<td>812.64</td>
<td>150.40</td>
<td>609.60</td>
<td>236.6%</td>
</tr>
<tr>
<td>12.27</td>
<td>2.45</td>
<td>25</td>
<td>846.50</td>
<td>125.00</td>
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<td>246.6%</td>
</tr>
<tr>
<td>12.76</td>
<td>1.96</td>
<td>26</td>
<td>880.36</td>
<td>99.60</td>
<td>660.40</td>
<td>256.6%</td>
</tr>
<tr>
<td>13.26</td>
<td>1.47</td>
<td>27</td>
<td>914.22</td>
<td>74.20</td>
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<td>266.6%</td>
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<td>13.75</td>
<td>0.98</td>
<td>28</td>
<td>948.08</td>
<td>48.80</td>
<td>711.20</td>
<td>276.6%</td>
</tr>
<tr>
<td>14.24</td>
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<td>981.94</td>
<td>23.40</td>
<td>736.60</td>
<td>286.6%</td>
</tr>
<tr>
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<td>29.92</td>
<td>1013.00</td>
<td>0.00</td>
<td>760.00</td>
<td>306.6%</td>
</tr>
</tbody>
</table>

**Absolute Vacuum**
Replacing Vacuum Pads and Sealing Rings

Sealing rings are one of the most important parts of any vacuum lifter. The ability to maintain a tight vacuum bond with the load surface is critical to the operation of the lifter. However, the seals are susceptible to damage. Generally, a sealing ring fails for one of five reasons:

1. A cut, tear or excessive abrasion (due to wear or physical abuse).
2. Aging. Visible as excessive surface cracks or crazing due to ozone attack.
3. Hardening of the rubber due to ozone attack.
4. Compression set caused by improperly storing lifter.
5. Swelling of the rubber due to prolonged contact with certain hydrocarbons, i.e. oils or solvents.

Damaged seals should be promptly replaced. Defective seals should be disposed of.

Most vacuum seals have their part number molded on the outside lip. Please check the proper seal number before ordering replacements.

Installing Bolt-on Seals

Bolt-on seals are fastened between a metal pad and a clamping ring with a series of bolts. Steel vacuum pads use threaded studs welded to the pad body and the clamping plate is retained by hex nuts. Aluminum vacuum pads use cap screws which retain the clamping ring. They screw into heli-coil inserts in the pad body. These seals have a series of bolt holes molded into their flange for the screws or studs to pass through.

To change Bolt-on Seals, the following procedure should be used:

1. Place the pad on a block smaller than its outside dimensions to raise it off the work surface. Remove the fasteners holding the clamping plate to the pad. Lift off the clamping plate and the old sealing ring.
2. Before installing the new sealing ring, make certain that the pad and clamping plate are clean and undamaged. The sealing ring hangs below the bottom of the pad.
3. Place the new sealing ring on the pad body either fitting all the mounting holes over the studs or over the fastening holes (depending on the pad style). Position the clamping plate on top. All pads and clamping plates have been match-drilled and punched with consecutive numbers. Pad No. 1 fits clamping plate No. 1, etc. Align the stamped numbers on each pad for proper mounting.
4. Replace all fasteners and tighten "finger-tight" only. With a wrench, tighten each fastener one turn only. Fasteners should be tightened in opposite pairs. In other words, after one fastener is tightened, tighten the one 180 degrees away from it next. Then tighten the pair that is 90 degrees away, then the pairs in between to get even compression on the seal.
5. After all fasteners have been tightened one turn, go around in the same order and tighten each 1/4 turn more. Continue this procedure until all fasteners are snug. By this time the rubber sealing ring will have extruded inward, beyond the clamping plate. Do not over tighten the fasteners or you may break them.
6. Be certain all fasteners are torqued the same amount. This should be a matter of "feel" only.

**Installing Bonded Seals**

Bonded seals are a "throw away pad" design in which the rubber seal is permanently bonded to a metal backing plate or pad. They are generally used for small sizes. The pad suspension may be threaded pipe which doubles as the vacuum connection or a bolted-on suspension with a separate vacuum connection.

1. To replace this seal/pad, either disconnect the center mounted pipe (Wrench flats are provided on the pad). If the pad has a separate suspension, remove this and disconnect the vacuum connection. Save the hose barb for the replacement pad.

2. Discard the defective pad and replace in a similar fashion.

3. All pipe threads require a sealant to ensure a vacuum tight connection. Sealants such as STA-LOK Pipe Joint Sealant Cat. #50 or Loctite Pipe Sealant with Teflon (PS/T) are recommended. Teflon tape is not recommended.

**Installing Stretch-On Seals**

Stretch-on seals can be removed and replaced by hand. All new seals appear too small for the lifters or pads. The relaxed diameter is approximately 15% smaller than when mounted. A new seal is smaller than a used seal it replaces because the old seal has lost some of its elasticity and has taken a set.

To change seals the following procedure should be followed:

1. Lubricate the new seal with talcum (baby) powder to ease installation. Warm seals are easier to install because they become softer. A hot water bath can be used.

2. To facilitate seal replacement, grab the seal by the lip and pull the seal inward out of its groove.

3. Before installing a new seal, clean out the seal retaining groove on the lifter flange or vacuum seal. Smooth any sharp edges and straighten any bent edges.

4. To install a new seal, put part of the seal into the retaining groove at the highest or furthest point from you and hold it tightly in place. Then pull on both sides to stretch the seal and gradually slide the seal all the way around into the groove. Tension must be maintained at all times. A slight outward rolling motion as the seal is being stretched and slid into the groove eases the installation. Do not use any sharp tools to install seals as these can cut or damage the seals or the retaining groove.

5. After the seal has been installed, grip the lip and rock it back and forth all the way around to ensure the seal is sealed correctly.
# Standard Electric Powered Lifters with Powered Tilt

## Two Pad Tilts

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Load Lbs (Kg)</th>
<th>Lifter Weight Lbs (Kg)</th>
<th>Seal No.</th>
<th>Recommended Beam Lengths for Loads of: Ft (M)</th>
<th>Minimum Load Length In. (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETSOM2</td>
<td>500 (227)</td>
<td>175 (79)</td>
<td>SR-128</td>
<td>63 (1600)</td>
<td>8 (2.4) 10 (3.1) 12 (3.7) 38.5 (978)</td>
</tr>
<tr>
<td>ET100M2</td>
<td>1000 (454)</td>
<td>200 (91)</td>
<td>SR-158</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

## Four Pad Tilts

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Load Lbs (Kg)</th>
<th>Lifter Weight Lbs (Kg)</th>
<th>Seal No.</th>
<th>Recommended Beam Lengths for Loads of: Ft (M)</th>
<th>Minimum Load Length In. (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET50M4H</td>
<td>500 (227)</td>
<td>225 (100)</td>
<td>SSR-90</td>
<td>63 (1600)</td>
<td>8 (2.4) 10 (3.1) 12 (3.7) 37.5 (953)</td>
</tr>
<tr>
<td>ET100M4H</td>
<td>1000 (454)</td>
<td>275 (120)</td>
<td>SR-128</td>
<td>*</td>
<td>*</td>
</tr>
</tbody>
</table>

## Six Pad Tilts

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Load Lbs (Kg)</th>
<th>Lifter Weight Lbs (Kg)</th>
<th>Seal No.</th>
<th>Recommended Beam Lengths for Loads of: Ft (M)</th>
<th>Minimum Load Length In. (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ET150M6H</td>
<td>1500 (680)</td>
<td>375 (170)</td>
<td>SR-128</td>
<td>63 (1600)</td>
<td>8 (2.4) 10 (3.1) 12 (3.7) 41.5 (1054)</td>
</tr>
</tbody>
</table>

## Eight Pad Tilts

<table>
<thead>
<tr>
<th>Model</th>
<th>Rated Load Lbs (Kg)</th>
<th>Lifter Weight Lbs (Kg)</th>
<th>Seal No.</th>
<th>Recommended Beam Lengths for Loads of: Ft (M)</th>
<th>Minimum Load Length In. (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETS06H</td>
<td>500 (227)</td>
<td>300 (140)</td>
<td>SSR-70</td>
<td>88 (2235)</td>
<td>8 (2.4) 10 (3.1) 12 (3.7) 35.5 (902)</td>
</tr>
<tr>
<td>ET1006H</td>
<td>1000 (454)</td>
<td>350 (160)</td>
<td>SSR-90</td>
<td>88 (2235)</td>
<td>112 (2845)</td>
</tr>
<tr>
<td>ET2006H</td>
<td>2000 (907)</td>
<td>500 (230)</td>
<td>SR-128</td>
<td>88 (2235)</td>
<td>112 (2845)</td>
</tr>
</tbody>
</table>

* Intermittent Duty Cycle is limited to 25% "on time"  
** Tilt Cycle = Horizontal to Vertical to Horizontal.

* Tilt Rate for Loads Thicker than 1 In. (25.4 mm) Due to C.G. Offset.
Vacuum Pump Operating and Maintenance Information

PMP-2.0, PMP-4.3 and PMP-8.0 (Series)
Vacuum Pump, 2.0CFM, 4.3CFM and 8.0CFM

Maintenance & Inspection:
- Intake filter and mufflers require periodic inspection and replacement. Initial inspection is suggested at 500 hours; thereafter the user should determine the frequency. Most problems can be prevented by keeping filters and mufflers clean. Dirty filters and mufflers decrease pump performance and can decrease pump life.

Installation:
- Unpacking
  Inspect the box and pump carefully for any signs of damage incurred in transit. Since all pumps are ordinarily shipped F.O.B. from our factory, such damage is the normal responsibility of the carrier and should be reported to them.

- Installation
  The pump must be installed in a dry, well ventilated place, which is as free of dust as possible. Adequate ventilation must be provided for the fans and motor.

  Remove plastic plugs from the inlet and outlet port before operating pump. Pump may be damaged if plugs are not removed.

  Never operate the pump outdoors in the rain or near an open flame.

- Electrical Connection
  Check the voltage and frequency on the identification plate before starting the electrical power of motor.

  The standard thermal protector will trip automatically if the maximum permitted temperature is exceeded. The pump will re-start automatically when it is cooled down.

Operation:
- Only atmospheric air is permitted as working media. Do not evacuate corrosive liquid or vapor with the pump.

  Dirt will damage the pump so always remember to use an inlet filter.

  Improper disassembly or repair will damage the pump. Only qualified personnel can do repair service.

NOTE:
This pump is maintenance-free. Do not lubricate any of the parts with oil, grease or petroleum products nor clean with acids, caustic or chlorinated solvents at any time. This can affect the service life of the pump.

Troubleshooting:
- PROBLEM: Pump will not start.
  Possible Cause
  - No main power supply
  - Low voltage
  - Capacitor defective
  - Full vacuum in piping system
  - Motor defective
  - Thermal protector switch on
  Remedy
  - Check main power
  - Check voltage
  - Check capacitor, replace if necessary
  - Install a vacuum break valve or order pump with re-start movement
  - Return to factory for repair
  - Wait for pump to cool down, pump will re-start automatically

- PROBLEM: Pump does not reach ultimate pressure.
  Possible Cause
  - Pipes, hoses or connection leaking
  - Inlet filter or exhaust filter is dirty
  - Cylinder or cup seal defective
  - Plate valve defective
  - Vacuum gauge defective
  - Pump is too small
  Remedy
  - Check and seal or replace
  - Clean filter cartridge or replace as necessary
  - Replace cylinder or cup seal
  - Replace plate valve
  - Use correct size vacuum gauge
  - Utilize larger pump

- PROBLEM: Pump is excessively noisy.
  Possible Cause
  - Damaged bearings
  - Plate valve defective
  - Cylinder or cup seal defective
  - Vibration being transferred to enclosure
  Remedy
  - Return to factory for repair
  - Replace plate valve
  - Replace cylinder or cup seal
  - Use suitable anti-vibration mounting

- PROBLEM: Pump gets too hot.
  Possible Cause
  - Cooling air supply is obstructed
  - Ambient temperature is too high
  - Process air is too hot
  Remedy
  - Set pump up correctly
  - Set pump up correctly
  - Change the process

NOTE:
ANVER will not guarantee the performance of a field rebuilt pump. Please return the pump to ANVER Corp.
Warning

The VLS-08 is designed to be a warning device for vacuum leakage detection. When properly installed on an ANVER vacuum lifter, the operator will be warned of a slow vacuum leakage and should have adequate time to lower the attached load. If the alarm signal is ignored and the lifting operation is continued, the vacuum loss may adversely affect the vacuum hold, possibly resulting in serious injury to the operator. The VLS-08 is not designed for nor effective in detecting fast leaks or sudden failures of the vacuum system.

Features

- Advanced Solid State Circuitry with Micro-Controller
- Precise, Reliable, Board Mounted Vacuum Transducer
- LCD Digital Display of Vacuum Level in Inches of Hg
- Audible Warning Horn
- Bright Flashing Red LED Warning Light
- Push-to-Connect Vacuum Source Port to Connect to Vacuum Manifold
- Auxiliary Output Jack to Connect to Optional VLS-AUX Auxiliary Siren/Alarm
- Easy Access to Battery Compartment
- Low Battery "Chirp" Indicator
- Light / Horn / LCD Test Button
- Powered by One Standard 9V Lithium Battery (included)
- Weight: 8 oz.

Warning

The vacuum level achieved, using a Mechanical Vacuum Generator, is weight sensitive, relative to the load and lifter weight, as well as the pad, manifold and generator volume. Lighter loads will produce a lower vacuum reading, which may render the VLS-08 Leakage Sensor ineffective, as the achieved vacuum level approaches 6" of Hg.

\[ WARNING \]

This vacuum leakage warning device will not provide timely warning to the operator that a reduction in vacuum has occurred due to incorrect use of a vacuum lifter, such as overloading, lifting oversized loads, unbalanced lifting or improper operation of any kind.
PS-150 & PS-250 Parking Stands

- **Adjustable in Four Positions Pull Sideways, Turn, Let Go and it Locks in Position**
- **Spring-Loaded Locking Mechanism Snaps into Position for One-sided, Quick Adjustments**

These Spring-Loaded, Adjustable, Four Position Parking Stands fulfill two functions:

1) In the ‘Down’ position, which is recommended when you store the lifter, they provide a support for the lifter so the rubber seals will not touch the ground. This helps prolong the life of the rubber seals by protecting them from the debris on the floor.

2) In a folded In, Out or Up position, they provide a Grab Bar for positioning the lifter easily and precisely on the load from the side.

- Parking stands feature rugged steel construction.

**PS-150 (Series) and PS-250 (Series)**

Parking Stands are not available for all lifters. Consult factory for further information.

1. **Parking Stands Folded Down**
   - Keeps the rubber vacuum pads suspended above the ground when the lifter is stored. Extends the life of the rubber sealing rings.

2. **Parking Stands Folded In**
   - For keeping it out of the way. A popular position when not in use.

3. **Parking Stands Folded Out**
   - Can be used as ‘Positioning Grab Bars’. Extends the length of the lifter for pushing or pulling from the side.

4. **Parking Stands Folded Up**
   - Can be used as ‘Positioning Grab Bars’.
ELECTRICAL POWERED VACUUM LIFTER INSPECTION REPORT

Model No. ___________________________  Serial No. ___________________________

Inspector: ___________________________  Date: ___________________________

Condition Codes:

- **EX** - Excellent, Like new condition
- **GD** - Good, Used but no problems, Well maintained
- **FR** - Fair, Shows some wear but is serviceable
- **NW** - Needs Work, Limited usefulness, Flag for maintenance
- **UN** - Unfit, Unsafe, Unusable, Do not use until fixed

NOTICE: This document is intended solely as an aid to the inspector as a reminder of the most frequently occurring lifter problems. It by no means covers every problem that can possibly occur. The inspector must be alert for any other conditions which could affect safe use of the equipment.

The user is referred to American National Standard Number ASME B30.20 for safety requirements including the user's responsibilities for testing, inspecting use, and maintenance of the lifter.

1.0 GENERAL

1.1 Cleanliness

- **EX**  **GD**  **FR**  **NW**  **UN**
  - Lifter must be clean enough to observe condition and read gauges
  - Lifter must be free of dirt or debris which could affect safe operation

1.2 Filter

- **EX**  **GD**  **FR**  **NW**  **UN**
  - Inspect and clean or replace

1.3 Labels

- **EX**  **GD**  **FR**  **NW**  **UN**
  - Nameplate
  - Load Capacity; Entire lifter, Each crossarm, Each pad
  - Operating Instructions
  - Safety Rules
  - Warnings
  - "Tighten Slides" Warnings
2.0 ELECTRICAL GENERATORS

2.1 Power Cord & Plug
- Check for loose wires, damaged insulation, broken plug and receptical

2.2 Lifting Frame, Housing and Bale
- Check for wear, overall condition, welds

2.3 On/Off Switch
- Operation and light if any

2.4 Vacuum Pump
- Observe condition, running noise
- Max. vacuum level
- Ball valves closed

2.5 Vacuum Switches
- Settings, repeatability

2.6 Vacuum Loss Sensor (Optional)
- Operate test switch for light and horn
- General condition, display clarity

2.7 Reservoir
- With power off, hold a clean, smooth, non porous load for:
  - 10 min. with max. 1.0 in Hg vacuum drop
    (ANVER spec. for new lifters)
  - 4 min. with max. 10% drop (ANSI standard for lifters in use)

2.8 Vacuum Gauges
- Readability, smooth uninterrupted travel, general condition
3.0 STRUCTURAL

3.1 Welding

Check for cracks, corrosion, deformation, fatigue
Check welds and adjacent metal for signs of cracked or spalled paint indicating “working” of the metal

3.2 Frame

Check these items for damage; bent, broken or missing; parts; adjustability; distortion

Main beam
Crossarms
Slides
Pad suspensions
Including plate, studs and springs
Brackets, attachments
Park stands, handles
Check parking stand operation

3.3 Fasteners

Check condition and tightness of all fasteners, handknobs and wing nuts. Cleanliness and condition of rubber

4.0 VACUUM SYSTEM

4.1 Cups and Pads

Check for cuts, tears, wear, aging (cracks, crazing or hardening of the rubber), embedded dirt or chips, inner seal condition

4.2 Hoses and Connections

Check for cracks, wear or abrasion especially near connections, cracked or damaged fittings
Check tightness of all hose clamps
Check for collapsed or kinked vacuum lines

4.3 Ball Valves

Check operation, condition, broken or missing handles, labels

4.4 Filter Housing

General condition, breaks or dents, Cover seal condition
5.0 LIFTER OPERATION

LIFT TEST

Lift a clean, dry, smooth, non-porous load, preferably weighing the maximum rated lift capacity. Operation should result in a clean, smooth lift. All gauges and indicators should be visible to the operator and work normally.

Watch and listen for:
- Drop in vacuum level
- Vacuum leaks
- "Sticky gauges" or failure to return to zero
- Unequal pad loading/unequal spring compression

Measure and record:

Attach time: _______ sec.; Release time: _______ sec.

Vacuum Loss Sensor Operation - if equipped with the VLS option

Place an object under one side of a pad to create a vacuum leak large enough to cause level of vacuum to drop but not at a rate faster than 2"Hg per sec. Lift load a minimum distance off floor. Watch the vacuum level drop and observe operation of the VLS system. Does it give timely warning before load drops?

6.0 OPERATOR QUALIFICATION AND SAFETY TRAINING

Check operator training records.

Are all operators trained per ASME B30.20 "Below the Hook Lifting Devices"? ___YES ___NO

Do all operators know who the "qualified, designated persons" are for safety and maintenance? ___YES ___NO

Do all operators have printed copies of operating and safety rules? ___YES ___NO

COMMENTS: _______________________________________

_________________________________________________________________

_________________________________________________________________
# ELECTRIC POWERED VACUUM LIFTER INSPECTION REPORT

**SUMMARY SHEET**

<table>
<thead>
<tr>
<th>MODEL NO.</th>
<th>SERIAL NO.</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIFT CAPACITY:</td>
<td></td>
</tr>
<tr>
<td>INSPECTED BY:</td>
<td>DATE:</td>
</tr>
<tr>
<td>APPROVED BY:</td>
<td>DATE:</td>
</tr>
</tbody>
</table>

**Overall Condition:**
- [ ] Excellent
- [ ] Good
- [ ] Fair
- [ ] Needs Work
- [ ] Unfit

Are any items rated "UNFIT"?

- Which items?

**Action:**
- [ ] Repair and Return to service.
- [ ] Return to factory for overhaul
- [ ] Other, [ ]

Tag lifter, "Out of Service-DANGER-Do Not Use"

**Authorization:**
- [ ] Return to Service
- [ ] Inspected and Approved By: [ ]

Are any items rated "NEEDS WORK"?

- Which items?

**Action:**
- [ ] Maintenance Scheduled For [ ] Date
- [ ] Return to Temporary Service Until [ ] Date [ ]

Tag lifter, "Temporary Service Only"

- [ ] Reinspect Frequently: [ ] Daily, [ ] Weekly, [ ] Other

**Approved By:** [ ]

**COMMENTS:**

______________________________________________________________

______________________________________________________________

______________________________________________________________
### Maintenance Record

Always keep lifter clean and dry and free from debris.

<table>
<thead>
<tr>
<th>DAILY</th>
<th>WEEKLY</th>
<th>MONTHLY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inspect Vacuum Hose Condition</td>
<td>Inspect Vacuum Seal</td>
<td>Check Vacuum Leakage Sensor</td>
</tr>
</tbody>
</table>

**NOTES:**

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