Maximum Capability Document

Hawboldt SPRE-3464 General Purpose – 1942-1

This document has been prepared in accordance with Appendices A and B from the UNOLS RVSS. This machine is primarily used with the following tension members:

- Wire rope tension members of varying size and breaking strength
- Synthetic tension members of varying size and breaking strength
- 0.322” Tension members, with a 11,600 lbf breaking strength

The machine’s levelwind sheave has a sheave liner grooved for ø1/2” wire. Other size sheave liners are available. Per Appendix A, Tables A.8.1 to A.8.4, the machine qualifies for the following Factor of Safety (FS) based on tension member breaking strength:

- FS = 1.5 when used with wire rope and matching sheave groove.
- FS = 2.0 when used with EM cable and matching sheave groove.
- FS = 2.5 when used with wire rope or EM cable and oversized sheave groove.

System Characterizations

- Empty Weight: 9,200 lbf
- SWT of Winch: 10,000 lbf
- SWT Fleet Tolerance: +45°/-10° vertical, +/- 5° horizontal
- DLT of Winch: 20,000 lbf
- Max. Line Speed @ Bare Drum: 92 ft/min
- Power Requirements: 480VAC/3PH/60HZ
- Bare Drum Pull: 10,000 lbf
- Full Drum Pull: 3,950 lbf
The winch can be mounted with 8 bolts on a UNOLS 2’x2’ bolt pattern using the Hawboldt supplied mounting brackets shown in the image above. Alternative mounting brackets can be used however the installer is responsible for re-calculating the bolt loads.
Free Body Diagram
Forces are maximum forces per bolt, at SWT & DLT, for the 8 bolt pattern. The analysis is valid for a vertical fleet angle of \(+45^\circ/-10^\circ\) and horizontal fleet angle of +/-5°. The analysis is also valid for both reeving options shown, with and without levelwind.

<table>
<thead>
<tr>
<th></th>
<th>Reaction @ SWT</th>
<th>Reaction @ DLT</th>
<th>Mounting Fasteners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fx [lbf]</td>
<td>1,250</td>
<td>2,500</td>
<td>1”-8 UNC</td>
</tr>
<tr>
<td>Fy [lbf]</td>
<td>2,450</td>
<td>6,650</td>
<td>316 SS (σ_y=40 ksi)</td>
</tr>
</tbody>
</table>

Mounting fasteners shall be lubricated and torqued to 273 ft.lb (K=0.15).