



LaValley Industries



Mechanical Grapple Technology
Increasing Safety and Efficiency



Mechanical Grapples

Pipe Handling Traditional Methods



Straps and chains

Free swinging

Center lift

Workers and tag Lines



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Drill Rod Handling Traditional Methods



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Traditional Pipe Handling Risk Factors



- ✓ Strap, chains and hooks can slip or fail.
- ✓ Load free swings.
- ✓ Workers are required to position pipe either by hand or with tag lines and are placed in danger zones.
- ✓ Load must be lifted at center.
- ✓ Work conditions such as wind or snow can complicate lift or prevent work altogether
- ✓ Excavator operator has very little control over the load other than lifting “up” or “down”.



Pipe Handling Vacuum Lift



Free swinging

Lack of positive grip

Center lift

Workers and tag lines



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Vacuum Lift Risk Factors



- ✓ Load is secured only through vacuum.
- ✓ Vacuum lifts can rotate but load is still free swinging.
- ✓ Workers are required to fine position pipe either by hand. or with tag lines and are placed in danger zones.
- ✓ Load must be lifted at center.
- ✓ Work conditions such as wind or snow can complicate lift or prevent work altogether.
- ✓ Excavator operator does not have total control of load.
- ✓ Terrain often necessitates operator to reposition vacuum lifting device multiple times to accomplish lift.





Pipe Handling
DECKHAND® Mechanical Grapple

Total Controlled Lift



Total Rotation Control



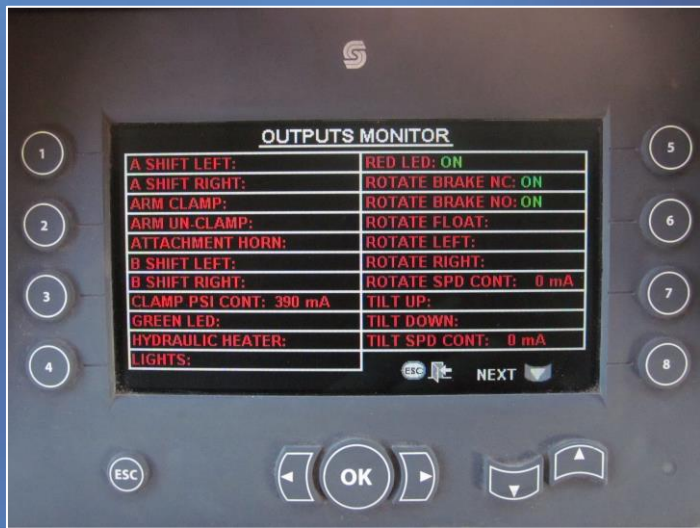
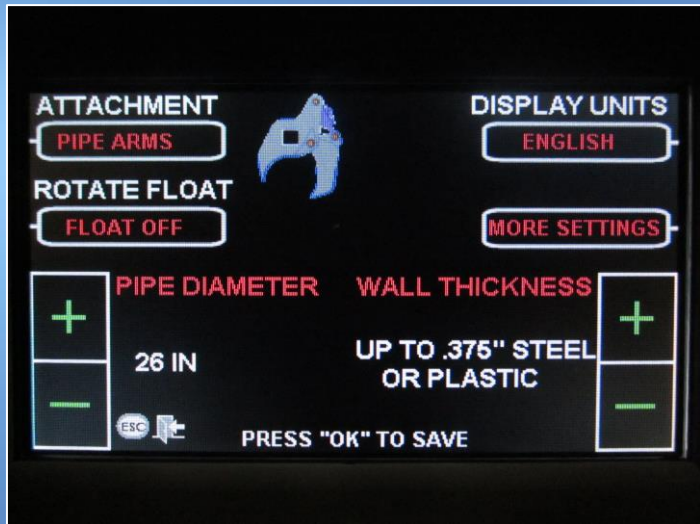
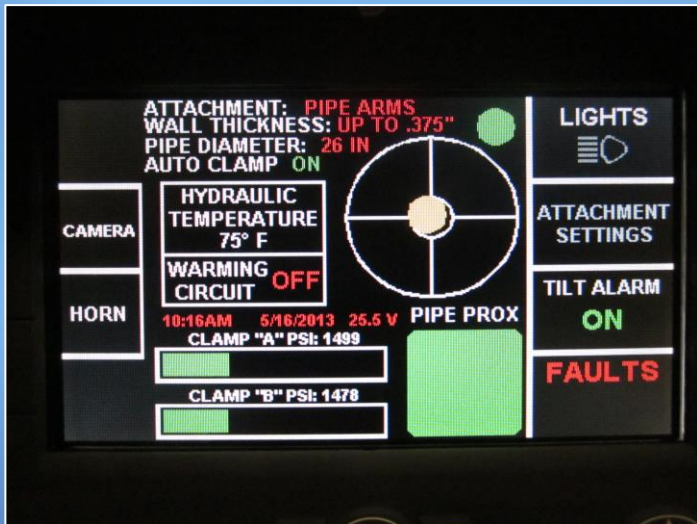
Operator Commands Every Movement of the Pipe

*DECKHAND®
Control System*



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In-Cab Monitor



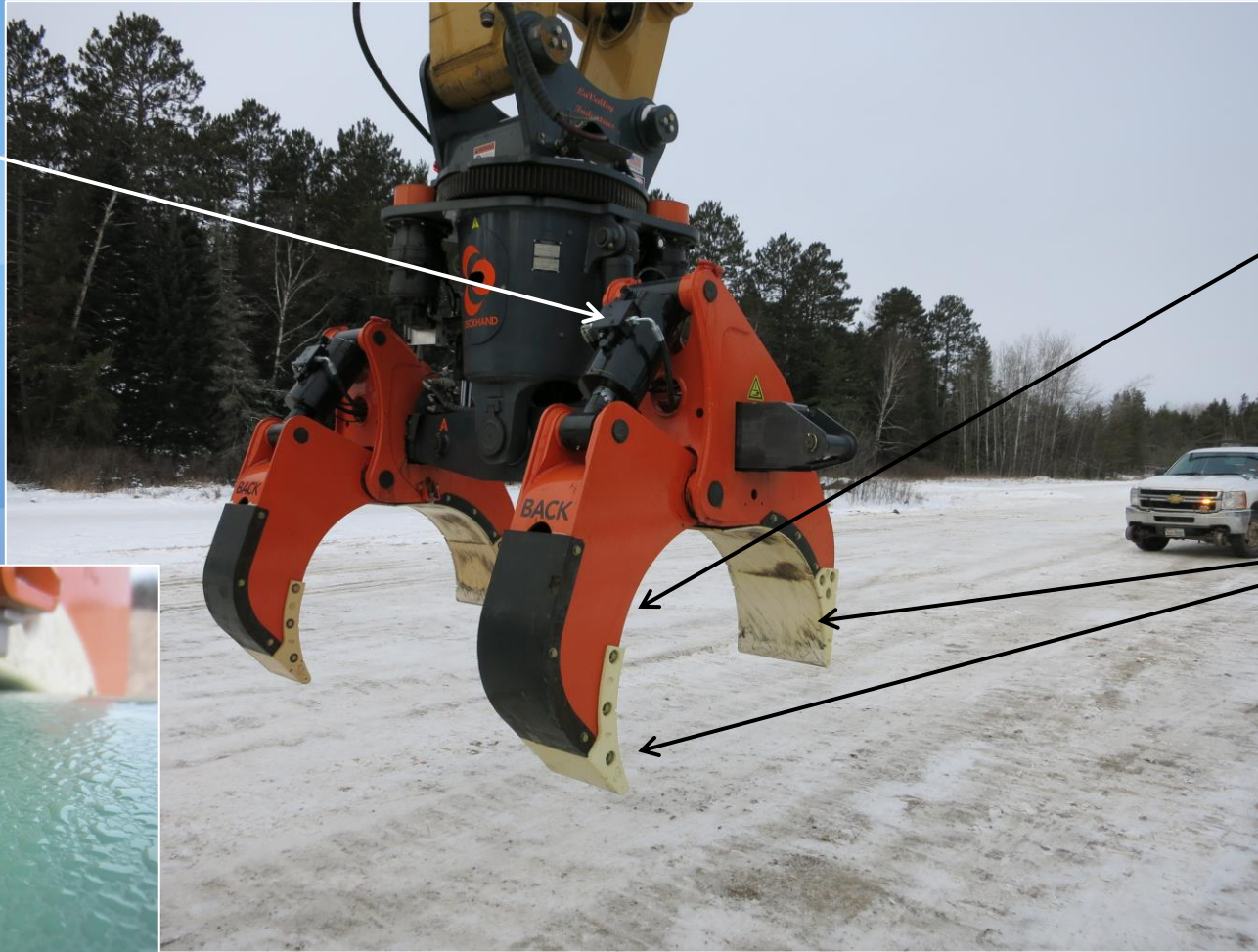
Safety and Pipe Protection

Load holding
valves on all
cylinders

Proximity
Sensors

Arm geometry
eliminates deformation
when lifting pipe.

Wear pads
prevent pipe and
coating damage



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Snow and Ice



All Conditions

Uneven Terrain



High Winds



DECKHAND® Mechanical Grapple

Risk Mitigation



- ✓ Load is always under the total control of the excavator operator.
- ✓ Counterbalance valves guarantee that load will never drop regardless of hydraulic pressure.
- ✓ No additional workers are required to position pipe.
- ✓ Workers are not placed in danger zones.
- ✓ Work conditions such as wind or snow have no effect on performing lifts.
- ✓ Load can be lifted off center.
- ✓ Tilt function allows for easy transport across uneven terrain without repositioning grapple.



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Design Standards

LaValley Industries has engineered and constructed its patented products to meet or exceed the applicable standards of the American Society of Mechanical Engineers (ASME) for Below-The-Hook lifting devices. The two applicable standards are ASME B30.20-2006 and ASME BTH-1-2008 both of which are briefly summarized as follows:

ASME B30.20-2006 Below-the Hook Lifting Devices

Summary of ASME B30.20 standard

- ✓ This standard contains specific provisions that apply to the marking, construction, installation, operation, testing, and maintenance of “Below-the-Hook” lifting and material handling or related equipment. This standard is broad in scope and is to be used in conjunction with ASME BTH-1-2008.

ASME BTH-1-2008 Design of Below-the Hook Lifting Devices

Summary of ASME BTH-1 standard

- ✓ This standard provides the clarification of the intent of ASME B30.20-2006 with respect to the structural design of below-the-hook lifting devices. The ASME BTH-1-2008 only addresses design requirements and should be used in conjunction with ASME B30.20-2006.

All LaValley Industries’ products are CE Compliant

- ✓ This includes Electro Magnetic Compatibility (EMC) Compliance under standard EN 13309:2010 “Construction machinery Electromagnetic compatibility of machines with internal power supply.”



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Training

LaValley Industries requires that all DECKHAND® Operators be trained and CERTIFIED.

**LaValley Industries**
Pipe Handling Systems

Jason LaValley
Trained Operator
ISSUED XX/XX/XXXX EXPIRES XX/XX/XXXX

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P.O. Box 683, Bemidji, MN 56619 Phone: 218-444-3030 Fax: 218-444-9900
www.lavalleyindustries.com


ENDORSEMENTS

DIRECTIONAL DRILLING ARMS

UTILITY ARMS

DECKHAND® OPERATOR FIELD TEST				DOC #1030
TRAINEE NAME	DATE	TRAINER NAME		
Operator Training Field Test Checklist				PASS FAIL N/A COMMENTS
1. DECKHAND® Walk-Around Component Identification				
a) Weldment Identification				
b) Electric Switch				
c) Hydraulic Switch				
d) Expansion Module(s)				
e) Short/Long Cord				
f) Cab-Box				
g) Work Lights				
h) L/R Light				
i) Proximity Sensors				
j) Wear Pads				
k) Filters				
l) Cylinders				
3. In-Cab Display Overview/Settings				
a) Master Shut Off (Emergency Stop)				
b) Side Shift Mode				
c) Attachment Configuration				
d) Tank Pressure				
e) Auto-Clamp Status				
f) Proximity Indicators				
g) Clamp Pressure				
h) Lights On/Off				
i) Horn				
j) Error Notification Dialog				
k) Level Indicator/Alarm				
4. DECKHAND® Handgrip Overview				
a) Rocker Switches (Rotate, Tr. Shift)				
b) BOP Switches				
c) Arm Open/Close				
d) Camera				
e) Horn				
f) Arm Shift Mode				
6. DECKHAND® Excavator Operation				
a) Find excavator tipping point				
b) Keep pipe consistent and level to ground (90°) (45°)				
c) Pick up pipe and move – Auto Clamp active				
d) Place pipe without dropping or excessive movement				
e) Completed operator seat-time requirement (2 hour minimum)				
f) Trainer Final Comments	PASS	FAIL	N/A	COMMENTS
g) Overall Operator Training Test (Must Pass 100%)				
TRAINEE SIGNATURE				TRAINER SIGNATURE
DATE				

DECKHAND® OPERATIONAL FIELD TEST - DOC 1030 V1.0 - 1/10/2017
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DECKHAND PRE-OPERATION INSPECTION CHECKLIST

Pass and fail conditions are determined solely by reference to the most current DECKHAND Operator and Maintenance Manual (OMM) covering your specific model and serial number.

DECKHAND SERIAL NO. _____ ARM 'A' SERIAL NO. _____ ARM 'B' SERIAL NO. _____

GENERAL INSPECTION				
FUNCTION	PASS	FAIL	N/A	ISSUES NOTED
1. EXCAVATOR WALK AROUND	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2. EXCAVATOR HYD. OIL LEVEL	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3. EXCAVATOR AUX. HYD. LINES	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4. DECKHAND ATTACHMENT PINS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
5. SHORT CORD / LONG CORD	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
6. DECKHAND HYD. QUICK COUPLERS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
7. EXCAVATOR AUX. SHUT-OFF VALVES	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MAINTENANCE INSPECTION				
FUNCTION	PASS	FAIL	N/A	ISSUES NOTED
8. STRUCTURE INSPECTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
9. LUBRICATION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10. FASTENER MAINTENANCE	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
11. SLIDE PADS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
12. ARM WEAR PADS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
ELECTRONIC FUNCTION TESTS				
INSPECTION	PASS	FAIL	N/A	ISSUES NOTED
13. DISPLAY	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
14. HORN	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
15. WORK LIGHTS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
16. CAMERA (OPTIONAL)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
17. LEVEL POSITION INDICATOR	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
18. PROXIMITY INDICATORS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
19. AUTO-CLAMP	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
20. PRESSURE TRANSDUCERS	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MOTION FUNCTION TESTS				
INSPECTION	PASS	FAIL	N/A	ISSUES NOTED
21. ROTATE FUNCTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
22. ARM OPEN AND CLOSE FUNCTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
23. TILT FUNCTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
24. SHIFT FUNCTION	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
OTHER OBSERVATIONS				
*By signing this Checklist you acknowledge that you are a trained DECKHAND operator and are intimately familiar with the most current edition of the DECKHAND Operator and Maintenance Manual (OMM) covering the specific model and serial numbers referenced above.				
X				DATE: _____
DOC1001 DECKHAND PRE-OPERATION INSPECTION CHECKLIST, RELEASED 10/10/2017 LaValley Industries 1876 23rd St SE, Bemidji, MN 56601 218-444-3030 www.lavalleyindustries.com				

Thank You!



LaValley Industries

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