Instruction Manual
Fall Arrest Harness
FW-3



Lewis Manufacturing's FW-3 Fall Arrest Harness is a general full body harness and is part of a Personal Fall Arrest System (PFAS, ANSI/ASSE Z359.1-2007).

The FW-3 harness is equipped with **3 D-Rings** and is constructed of light-weight yet heavy-duty "High-Visibility" yellow nylon webbing. The nylon webbing along with the independent leg straps in the "rappelling style" design of the harness provide excellent comfort, safety & fit.

The nylon webbing has a wear stripe indicator woven within the mesh that during the pre-donning inspection, allows the user an additional way to check for wear that may require belt replacement. The FW-3 harness features chest and leg quick-disconnects.

This instructions manual document shall be made available at time of delivery. It should be available for lifetime service of the harness.

Harness Type:	**FW-3**
Harness Serial No.:	_____
Mfg. Inspected By:	_____
Manufacture Date:	_____

Part No.	Waist Size	Metric Size
FW-3-XS	28-36 in	71-91 cm
FW-3-S	28-38 in	74-97 cm
FW-3-R	36-44 in	91-112 cm
FW-3-L	41-49 in	104-124 cm
FW-3-XL	42-52 in	109-132 cm
FW-3-XXL	48-60 in	122-152 cm

For Question Call Lewis Mfg. Toll-Free at 833-646-8480

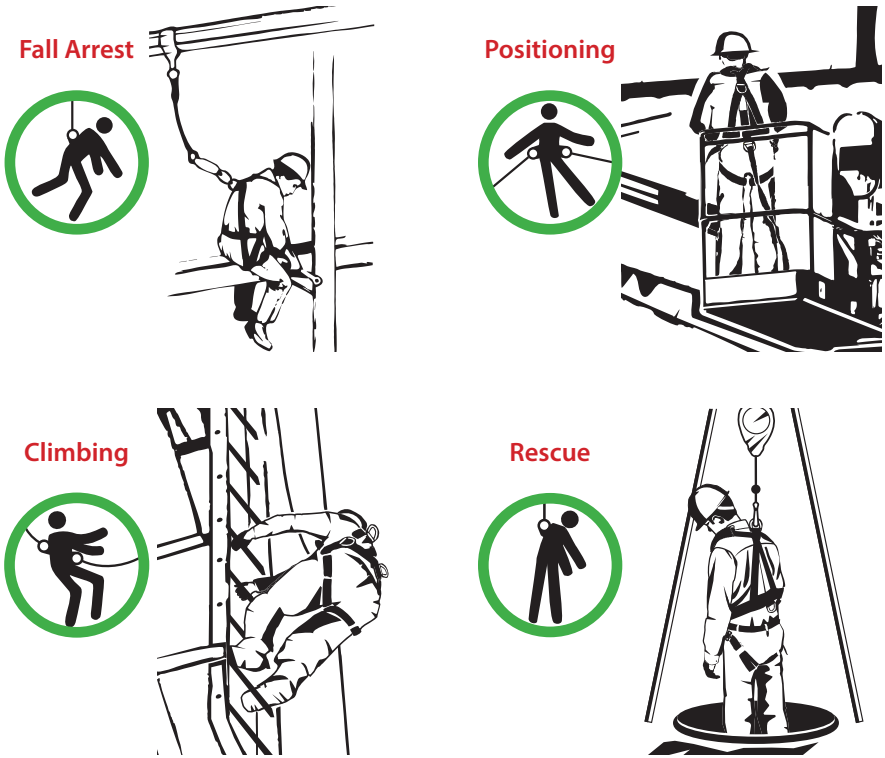
⚠ WARNING

ALTERATION OR IMPROPER USE OF THIS FALL PROTECTION EQUIPMENT CAN RESULT IN SEVERE BODILY HARM OR EVEN DEATH.

- Do not alter this harness in any way. Lewis Manufacturing does not assume any liability for accident or injuries resulting from a field repaired or altered belt and/or harness.
- This harness is Not Arc Flash rated.
- All Warnings and Instructions must be read, understood, and followed completely by the user before use.
- Maximum Working Load is 300 lbs., Do Not Use this harness if your total weight, including your gear, is more than 300 lbs. (136 kg.)
- It is the employer's responsibility to ensure the authorized person and users have received proper training prior to using Lewis Manufacturing Co.'s fall protection equipment.
- The proper training shall include inspection, use, storing and maintaining the equipment in accordance with these instructions and or the user's employer organization's Safety Officer's instructions.
- Each unit shall be visually inspected for defects prior to each use as instructed in the inspection section of this manual.
- Hazards exist when working in and around machinery moving and rotating parts, and electrical equipment, sharp edges and abrasive surfaces. Take precautions to protect against these hazards.
- The FW-3 is not intended as a suspension harness. For long periods of suspension a harness with a seat is recommended.
- Visually check all connections to assure they are proper & secure before each use.
- Use only lanyards equipped with Locking Snap Hooks, never attach non-locking snaps to a D-Ring.
- Always visually check that each snap hook freely engages D-Ring or anchor point and that its keeper is completely closed.
- Never disable locking keeper or alter connecting device in any way.
- Do not attach multiple lanyards together, or attach a lanyard back onto itself.
- Do not tie knots in lanyards.
- Do not wrap lanyards around sharp or rough edges. Use a cross arm strap to wrap around surface and connect to lanyard snap hook. For extremely sharp surfaces, use wear pad to protect strap from damage.
- Do not allow rope or webbing to contact high temperature surfaces, welding, or other heat sources.
- Anchor & tie-off points must be compatible with snap hook and not be capable of causing a load applied to snap hook keeper.
- Snap hook should be positioned so that its keeper is never loadbearing.
- Anchor point must be capable of supporting 5,000 pounds Per Worker.
- Never use an anchor point to prevent snap hook keeper to close.

1. USE & PURPOSE OF THE HARNESS

As part of a Personal Fall Arrest System (PFAS). It is used for body restraint in fall arrest, positioning, climbing, or rescue. In a fall, the design provides body support to contain the torso and distribute the fall arrest forces over the upper thighs, pelvis, chest and shoulders.



It is recommended that safety harnesses be issued as a user's personal issue according to the size ranges for each model (see Size Chart).

Definitions:

Safety Officer — Safety Officer is a competent person designated by the user's employer to be responsible for the immediate supervision, implementation and monitoring of the employer's managed fall protection program.

Authorized User — Referred to as "**User**" in this document. User shall receive training prior to using Personal Fall Arrest System components. User should contact the Safety Officer for questions or concerns related to the use and limitations of the Lewis Manufacturing's PFAS.

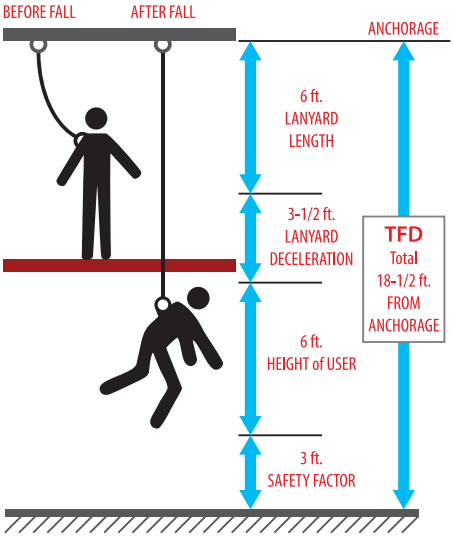
2. PROPER METHOD OF USE AND LIMITATIONS OF THE HARNESS

The FW-3 is designed in accordance with ANSI/ASSE Z359.1-2007. It is the responsibility of the user to consider and allow for the following two performance characteristics of the harness prior to use.

I. Total Fall Distance (TFD):



The harness should be anchored in a manner that limits free fall to the shortest possible distance of 6 feet or less. The use of Energy Absorbing Personal (EAP) lanyard such as the shock absorbing **Lewis SLOWSTOP™** lanyard is highly recommended to reduce fall arresting forces. However shock absorbers can elongate up to 31/2 feet. This elongation distance must be considered when choosing a tie-off point. The following example illustrates the TFD calculations.



TFD = Length of Lanyard and/or Lifeline + Deceleration Distance + Height of User + Safety Factor

Example in the figure at left:

Length of Lanyard = 6'

Lanyard Deceleration Distance = 3-1/2'

Height of User = 6'

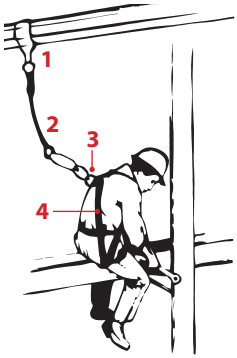
Safety Factor = 3'

TFD = 6 + 3.5 + 6 + 3 = 18.5 ft.

II. Swing Fall:



For fall protection an Energy Absorbing Personal (EAP) Lanyard should be connected to the Dorsal D-Ring located on the back the FW-3 Fall Arrest Harness between the shoulder blades. The Dorsal D-Ring is marked with a large letter "A" on the harness itself. Examples of EAP include Self Retracting Lifeline and Lewis SLOWSTOP. To avoid Swing Fall danger the lanyard shall be anchored properly. The proper anchor point shall be directly overhead and slightly to the rear of the user. See figure below.



1. ANCHOR POINT (Above to the rear of user)
2. EAP LANYARD - Example Lewis SLOWSTOP
3. DORSAL D-RING (Identified with "**A**" mark)
4. FW-3 FALL ARREST HARNESS

3. HARNESS SPECIFICATIONS

⚠WARNING

- » This harness is **Not Arc Flash** rated.
- » **All Warnings and Instructions** must be read, understood, and followed completely by the user before use.
- » Maximum Working Load is 300 lbs., Do Not Use this harness if your total weight, including your gear, is more than 300 lbs. (136 kg.)
- » It is the employer's responsibility to ensure the Safety Officer and users have received proper training prior to using Lewis Mfg.'s fall protection equipment.
- » The proper training shall include inspection, use, storing and maintaining the equipment in accordance with these instructions and or the user's employer organization's Safety Officer's instructions.
- » Each unit shall be visually inspected for defects prior to each use as instructed in the inspection section of this manual.
- » Hazards exist when working in and around machinery moving and rotating parts, and electrical equipment, sharp edges and abrasive surfaces. Take precautions to protect against these hazards.
- » The FW-3 is not intended as a suspension harness. For long periods of suspension a harness with a seat is recommended.

I. Materials

- » Harness is constructed of High-Visibility Yellow Nylon Webbing with UV protection and wear indicator.
- » D-Rings are Drop Forged Steel with a minimum tensile strength of 5,000 lbs. (22 kN).
- » Belt Tongue Buckle, Webbing Adjuster, and Quick-Release Buckles are made of pressed or formed steel.

II. Performance

- » The FW-3 meets or exceeds the requirements of ANSI/ASSE Z359.1-2007, ANSI/ASSE Z359.11-2011, ANSI/ASSE Z359.12-2009, and 29 CFR 1926.502 Fall Protection Systems Criteria and Practices.
- » This harness **IS NOT ARC RESISTANT**.
- » The FW-3 will distribute the force of the user to comply with the maximum Free Fall Distance of 6 Feet as defined in 29 CFR1926.502 (d) (16).
- » Maximum arresting force is 1800 lbs. (8 kN).
- » Maximum weight capacity of user is 300 lbs. (136 kg). This total weight includes the combined weight of the user's clothing and tools.

4. HARNESS INSPECTION

The **FW-3 Fall Arrest Harness** shall be inspected by the user before each use and, additionally, by a competent person other than the user at intervals of not less than one per year. The user's organization shall set inspection criteria that equals or exceeds Lewis Manufacturing Company's instructions. In extreme working conditions and extensive use, the user should increase the frequency of inspections. Any harness not meeting the listed inspection requirements shall be removed from service immediately.

Perform the following inspection steps/procedures:

Step1. Visual Inspection

FW-3 Harness shall be visually inspected for defects in, damage to, or inadequate mainte-

nance of equipment. Visually inspect the harness for any elements affecting the form, fit or function of all components of the harness. Any harness showing any defects shall be removed from service immediately. Potential defects may be but not limited to:

- Cuts
- Cracks
- Tears or Abrasions
- Undue Stretching
- UV Exposure Deterioration
- Malfunction of Buckles
- Contact with Acids or Corrosive Chemicals
- Malfunction of Grommets
- Malfunction of Quick-Release Buckles
- Contact with Heat
- Sharp Edges
- Damaged or Distorted D-Rings
- Damaged or Distorted Quick Disconnects, Buckles, & Eyelets
- Burrs
- Mildew
- Worn Parts

Step2. Inspect Metal ID Tag



The harness's metal ID Tag is located near the waist buckle. The ID Tag has the Serial No., Model Type and the Work Load Limit of the harness stamped on it. Make sure the tag is present and is legible.

Step3. Fabric Tag



The FW-3 Harness has a fabric tag located on the back vertical strap as shown above. Make sure the tag is present and is legible. The tag contains:

- Manufacturer Company Name, Logo & Contact Information
- Applicable Specifications
- Harness Model Type and Date of Manufacture
- Periodic Inspection Table to record the inspections dates using permanent/ indelible marker
- Warning Statement
- Materials that Harness is made of

Step4. Belt, Webbing, and Stitches



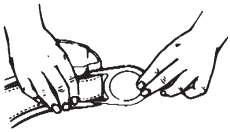
Beginning at one end of the harness belt, holding the body side of the belt toward you, grasp the belt with your hands 6 to 8 inches apart. Bend the belt in an inverted "U" as shown (figure at left). The surface tension resulting from the bending makes damaged fibers or cuts easier to see. Follow this procedure the entire length of the belt and continue with the rest of the harness webbing.

Watch for frayed edges, broken fibers, pulled stitches, cuts or chemical damage. Visually inspect the webbing and stitches. Look for evidence of defects in or damage to straps or ropes including fraying, un-splicing, un-laying, kinking, knotting, roping, broken or pulled

stitches, excessive elongation, chemical attack, excessive soiling, abrasion, alteration, needed or excessive lubrication, excessive aging, and excessive wear.

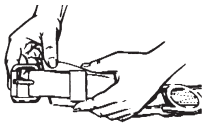
Inspect for frayed or broken strands. Broken webbing strands generally appear as tufts on the webbing surface. Any broken, cut or burned stitches will be readily seen.

Step5. D-Rings



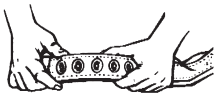
Visually inspect D-rings and their metal wear tubes for evidence of defects in or damage to including cracks, sharp edges, deformation, corrosion, chemical attack, excessive heating, alteration and excessive wear. The D-ring bar should be at a 90° angle with the long axis of the belt and should pivot freely.

Step6. Attachments



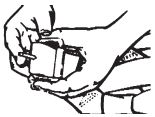
Visually inspect the attachments of buckles and D-rings for any unusual wear, frayed or cut fibers, or distortion of the buckles or D-Rings.

Step7. Tongue



The tongue, or billet of the belts receives heavy wear from repeated buckling and unbuckling. Visually inspect for loose, distorted or broken grommets. Belts should not have additional, punched holes.

Step8. Tongue Buckle



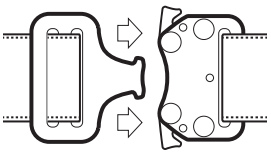
Harness's belt buckle should be free of distortion in shape and motion. They should overlap the buckle frame and move freely back and forth in their socket. Roller should turn freely on frame. Check for distortion or sharp edges.

Step9. Friction & Mating Buckles



Visually inspect the friction & mating buckles for distortion. The outer bars and center bars must be straight. Pay special attention to corners and attachment points of the center bar.

Step10. Quick-Release Disconnects



Visually inspect and function test the quick-release disconnects. To perform a function test, connect the two pieces together and listen for a click.

Next, pull the two pieces in opposite directions to check for locking.

Next, Depress the release latches and pull in opposite directions. The quick disconnect should engage, and dis-engage for proper operation. Make sure the spring-loaded release tabs work smoothly without friction and do not hang. Look for deformation, wear, and cracks on the metal parts.

5. CONNECTING SUBSYSTEMS

Connecting subsystems are an assembly of necessary connectors, comprised of all components, subsystems, or both, between the anchorage or anchorage connector and the harness attachment point. It is the user's responsibility to configure compatible connectors in order to create a proper Personal Fall Arrest System (PFAS).

The FW-3 harness is equipped with 3 D-Ring connectors:



1. Front D-Ring connector is used for positioning worker and serve to prevent a fall.
2. Rear D-Ring connectors is used for positioning worker and serve to prevent a fall
3. Dorsal D-Ring connector positioned between the shoulder blades is to prevent or arrest a fall of the user & emergency rescue. The Dorsal D-Ring with the Letter **A** stencil.

6. SYSTEM COMPATIBILITY

I. Compatible Lewis Mfg. Products

Lewis Manufacturing FW-3 full body harness accessories and attachments are compatible with the Lewis Manufacturing the SLOWSTOP™ Lanyard, Single-Positioning Retractable Lanyard (SPRL), Dual-Positioning Retractable Lanyard (DPRL), and Flexible Steel Tail Rope.



SLOWSTOP™ SPRL DPRL Tail Rope

Lewis Manufacturing Co. ● 3601 S. Byers ● Oklahoma City, OK 73129
www.LewisMfg.com ● sales@lewismfg.com ● **Toll-Free 833-646-8480**
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Lewis SLOWSTOP™ & SPRL



Lewis DPRL

⚠ WARNING

- Visually check all connections to assure they are proper & secure before each use.
- Use only lanyards equipped with Locking Snap Hooks, never attach non-locking snaps to a D-Ring.
- Always visually check that each snap hook freely engages D-Ring or anchor point and that its keeper is completely closed.
- Never disable locking keeper or alter connecting device in any way.
- Do not attach multiple lanyards together, or attach a lanyard back onto itself.
- Do not tie knots in lanyards.
- Do not wrap lanyards around sharp or rough edges. Use a cross arm strap to wrap around surface and connect to lanyard snap hook. For extremely sharp surfaces, use wear pad to protect strap from damage.
- Do not allow rope or webbing to contact high temperature surfaces, welding, or other heat sources.
- Anchor & tie-off points must be compatible with snap hook and not be capable of causing a load applied to snap hook keeper.
- Snap hook should be positioned so that its keeper is never loadbearing.
- Anchor point must be capable of supporting 5,000 pounds Per Worker.
- Never wrap lanyards around sharp or rough anchor points. Use a lanyard anchor for wrapping around surface and connect lanyard snap hook to lanyard anchor D-Ring.
- Never use an anchor point to prevent snap hook keeper to close.

II. Compatibility of Connectors

Connectors are considered compatible with connecting elements when they have been designed to work together in such a way that their sizes and shape do not cause their gate mechanisms to inadvertently open regardless of how they become oriented. Contact Lewis Manufacturing **Toll-Free at 833-646-8480** with your questions or concerns about compatibility.

III. Substitution or replacement

Substitution or replacement with non-approved component combinations or subsystem or both may affect or interfere with the safe function of each other and endanger the compatibility within the system. The incompatibility may affect the reliability and safety of the total system.

7. STORAGE OF HARNESS

After each use, the harness should be stored in a cool, dry place away from direct sunlight. Avoid areas where chemical vapors may exist. A Safety Officer should inspect the unit after a period of extended storage.

8. CLEANING OF HARNESS

You will increase the lifetime of the FW-3 harness with a good cleaning routine.

Clean Nylon UV protected webbing with warm water and a mild detergent. A soft bristle scrub brush works well for tough cleaning. You may want to soak the harness in mild detergent water before scrubbing with brush.

After cleaning wipe off hardware with clean, dry cloth. Dry the harness with natural air by hanging in a dry place and away from direct sunlight.

CAUTION! Do not force dry with heat.

An excessive buildup of dirt, oil, paint, solvents and chemical exposure may prevent the harness from working properly and in severe cases degrade the webbing to a point where it fails inspection. Harness should be removed from service until a cleaning and satisfactory inspection.

9. DONNING THE FW-3 FALL ARREST FULL BODY HARNESS

STEP 1 Undo the Straps and the Waist Belt



1. Undo the Chest Strap Quick-Release Buckle
2. Undo the Waist Belt Buckle
3. Undo both Leg Straps Quick-Release Buckles
4. Hold the Dorsal D-Ring and check to ensure shoulder straps are not twisted. Allow the waist belt and leg straps to hang open.



STEP 2

Arms Through Shoulder Straps

Place free arm through the shoulder strap and cross overhead.

Place the other arm through the opposite shoulder strap. The Dorsal D-Ring will be on your back.



STEP 3 Connect the Chest Strap



With both hands, connect the chest strap. Listen for buckle to click and then pull to verify buckle is locked in place.

STEP 4 Buckle the Waist Belt



With your left hand, hold the waist buckle. Use your right hand to insert the tongue into the buckle and adjust to snug fit.

STEP 5 Front D-Ring Retention Strap



When the front D-Ring is not used, hold it flat on the belt by using its Retention Strap (**1**) and securing the strap on the spring-loaded clip (**2**) on the right side of the belt.



STEP 6 Waist Belt Placement



Adjust the Friction Buckles (**1**) on the shoulder straps so to position the Waist Belt (**2**) at or slightly above the waist level or regular work pants.



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STEP 7 Connect the Leg Straps



Reach between your legs and grasp the leg strap on your right side. Bring the strap up around the back of your leg.



Connect the strap by inserting the Quick-Release Buckle on the right side as shown in figure. Listen for buckle to click and then pull to verify buckle is locked in place.



Shorten or lengthen the leg strap so the fit snugly, but not too tight, around the legs.

Repeat the procedure for the Left Leg Strap.

STEP 8 Final Adjustment



Make sure to adjust the shoulder straps so to position the Waist Belt at or slightly above the waist level or regular work pants.

Belt and Leg Straps should feel snug but not too tight as to restrict circulation or excessively inhibit movement.



NOTE: During the wear-in period, the harness will become more pliable. Periodic adjustment may be necessary.

FULL BODY HARNESS INSPECTION CHECK LIST

Harness Model: _____ Manufacture Date: _____

Serial No.: _____ Purchase Date: _____

Inspection	Date: __/__/__	Date: __/__/__	Date: __/__/__	Date: __/__/__	Date: __/__/__	Date: __/__/__
1. Labels: Inspect, making certain all labels are securely held in place and are legible.	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected
2. Webbing: Inspect for cuts, burns, tears, abrasions, frays, excessive soiling and discoloration.	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected
3. Stitching: Inspect for pulled or cut stitches	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected
4. Hardware: Inspect D-Rings, buckles, keepers and back pads. Inspect for damages, distortion, sharp edges, burrs, cracks and corrosion	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected
5. Quick Release Disconnects: Inspect for deformation, wear and cracks on metal parts. Perform a function test.	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected
6. Other:	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected
7. Overall Condition:	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected	☐ Accepted ☐ Rejected
Inspected By: ➔						

Comments on Rejection:

About Lewis Manufacturing Co.
Quality American Made Products Since 1936

Lewis Manufacturing Company, a family owned business since its inception in 1936, has been striving to provide the highest quality American Made products available for Oilfield, Utility, and Industrial applications. Our products are **PROVEN AND ACCEPTED** by major oil and utility companies, production operators and drilling contractors throughout the industries.



Pulling Grips & Ball Bearing Swivels



Various Safety Harnesses & Lanyards



Top Drive (Kelly) Hose Covers



Rowdy's DirtBall™ Debris Tarp



Drilling Rig Weather Barrier Tarps



Lewis Bulk-Bag™



Equipment & Shed Canvas Covers

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For Any Questions Call
Toll-Free 833-646-8480