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### 1. Acknowledgment

#### PLEASE SIGN AFTER THE MANUAL HAS BEEN READ.

The MOD-U-LIFT SYSTEM and its ancillary tool line is a result of years of research into the needs of industries which must Push, Pull, Press and Lift in the course of maintaining machinery.

Safety, Durability and User-Friendly Ergonomics are the basis of the design philosophy underlying the MOD-U-LIFT SYSTEM.

The components and materials used in the manufacture of this equipment are of the highest quality. However, the components of this system are machines, and machines must be operated and maintained properly to serve their purpose safely and reliably.

\*\*\*This manual contains important information regarding the operation and maintenance of this equipment. The key material is found on pages: 4 through 21.

All information in these pages is important, however, any text that is bolded, underlined, or otherwise highlighted pertains to the safe operation and maintenance of the equipment. Failure to understand and follow these instructions could result in serious personal injury, or death.

Each operator must read the pages noted above and sign a copy of the following certificate.

Please Print
Name of Company:
Name of Employee:
I certify that I have read the pages noted above and understand their contents. I will operate the equipment in a safe and responsible manner.
Signed:

Do not operate, maintain or repair this product until the relevant information in this document has been read, understood, and the individual is deemed competent and approved to perform the task.

Contact Hydra-Tech with any questions or suggestions related to the safe operation of this equipment.



### 2. Mod-U-Lift System

#### A New Approach to Lifting and Maintenance Equipment.

Mod-U-Lift Systems are comprised of a Lift Module and a Pump Module. Through offering a complete system that can be separated into these two components lifting procedures can be done more safely and conveniently!

Mod-U-Lift Systems are offered in a variety of configurations to meet your specific needs.

Lift Modules come in a range of lifting capacities as well as stroke length. 60, 100-, and 175-ton capacities are offered and stroke lengths range between 13" (33cm) and 24" (61cm). Extensions can also be used to increase effective stoke lengths and provide higher degrees of safety for high lifts. Some products are even offered with alloy aluminum components to manage weight and provide better maneuverability!

Pump Modules are offered with either air or electric motors and both produce minimal noise. The multi-position handles are designed to provide superb balance and maneuverability. With the use of the Level Scoot Bracket, using the Pump Module to move your Lift Module is made even easier, providing two heights for level lifting when clearances are low and a third position that tilts the whole system with exceptional balance.

For specific information on the varieties and features of the Mod-U-Lift Systems and what can best meet your needs please contact Hydra-Tech International.

6060 – 86th Avenue SE Calgary, Alberta, Canada T2C 4L7 Telephone (403) – 720 – 7740 Website: www.hydra-tech.net

### 3. Mod-U-Lift Safety.

### a) Safety Precautions & General Instructions

1. Dirt Kills Hydraulics! The Mod-U-Lift system allows you to separate the Pump Module and Lift Module. The hydraulic quick couplers are a point at which dirt can enter the system. Always clean couplers carefully prior to re-connecting.



- 2. Check the hydraulic oil level daily. The oil should fill at least 2/3 of the level gauge found on the side of the reservoir with the Lift Module cylinder rod fully retracted.
- 3. Oil that is milky has water in it and must be changed.
- 4. Change hydraulic oil twice a year. Use good grade <u>hydraulic</u> oil only. For extreme cold operating conditions, Arctic grade oil may be used. (See recommendations on page 20).
  - An optional oil heater is available for cold weather operations.
- 5. Keep all MOD-U-LIFT System components clean. If high-pressure washers or compressed air are used, there is a risk of forcing dirt into piston wipers, oil tank breathers etc.
- 6. MOD-U-LIFT Systems jacking cylinders are plumbed with a female coupler in the bottom (advance) port, and a male coupler in the top (retract) port. The Pump Modules are plumbed to match. Extension hoses have a male coupler on one end, and a female on the other. This arrangement eliminates the possibility of crossed hoses.
  - For storage, auxiliary hoses should be coiled, and the male coupler connected to the female coupler. This reduces the chance of contaminants entering the hose.
- 7. The handle should be in the middle or lowered positions for optimum balance and maneuverability when moving the Mod-U-Lift jack.
- 8.
- a) Lift the system only by the main handle with the handle in the vertical position.



- b) Carry or transport the Lift Module by the swing up handles mounted on the base.
- 9. **Never** tamper with the pressure relief valve fitted in the top of the Cylinder. Trapped pressure could result and possibly burst the cylinder.



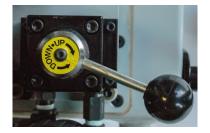
### b) Important Safety Instructions for Raising and Lowering Loads

- 1. Do not lift loads that are not on a firm level surface.
- Do not side load jacks. The top surface of the Lift Module saddle (Load Point) must be parallel to the jacking pad of the load to be lifted. If this is impossible, use a Swivel Saddle to compensate for up to 5° of side / end tilt.
- 3. Use a sturdy level base for jacking.
- 4. A piece of compressible material should be used between the jack load point and the load surface to promote the mating of the two surfaces and increase friction.
- 5. Never handle hydraulic hoses under pressure! Modern Jacking equipment operates at 10,000 PSI. Pinholes in hoses can cause hydraulic fluid to be injected into the skin or muscle. You could lose an eye, hand, or arm!





**6.** Release pressure from hoses by shutting off the Pump Module and swinging the control valve handle to the advance and retract positions. This allows trapped fluid to be returned to the tank.



7. When connecting quick couplers, begin by making sure they are clean and always be sure they are fully connected. When properly connected, there should be no gap between the rotating sleeve on the female coupler and the shoulder on the male coupler.

CORRECT











\*\*\* NEVER handle pressurized hose or fittings with your bare hands! \*\*\*
SCHEDULED MAINTENANCE HELPS PREVENT UNSCHEDULED BREAKDOWNS.



#### 8. THE LOAD HOLDING VALVE MUST BE TESTED PRIOR TO EACH LIFT

In the unlikely event of a valve malfunction, the load could drop at an uncontrolled rate.

#### **TEST PROCEDURE:**

- a) Raise the cylinder rod far enough to contact the load and lift it 2-3" (5-7.6cm) to take the weight of the load.
- b) Turn off the motor.
- c) Swing the valve to the retract position. After several minutes, check to ensure that there is no creep down, confirming the load holding valve is functioning properly.
- d) If the valve does not hold, have the unit serviced.
- 9. Any time a hydraulic oil leak is detected, remove the unit from service and have it repaired and tested if necessary, at an authorized facility.

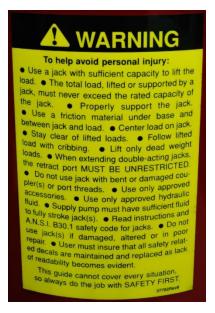
Note: Please contact Hydra-Tech International for current information regarding authorized facilities.

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## 4. Raising a Load

When lifting loads, stay as far back as possible. Never expose yourself to a live load. Mechanically support all loads after they are lifted.

- Position the MOD-U-LIFT Jack under the jacking pad of the load to be lifted. The jack pad on the equipment should be parallel to the top of the saddle (Lift Point). If it is not possible to position the saddle parallel to the jack pad, a swivel saddle may be used to compensate for up to 5° end / side tilt.
- 2. If the jack pad is in a difficult place to reach with the complete MOD-U-LIFT unit, first position it and then separate the Lift Module from the Pump Module, SEE NOTE, (It may be easier to position the Lift Module with the use of a Lift Module Cart). Then place the Pump Module in the most convenient and safe position and connect the Modules with high pressure (10,000 PSI) hoses. Hoses up to 100 feet (30.5m) in length can be used.



NOTE: THE <u>REAR SUPPORT LEG MUST BE LOWERED</u> AND LOCKED INTO PLACE, AND THE <u>HOSES DISCONNECTED</u> PRIOR TO SEPARATING THE TWO MODULES.



Lowered:



Disconnect the two Modules by:

Raised:

Clamp System: Pulling the knurled knob on the clamping lever rearward and rotating  $90^{\circ}$  to lock out. Swing the clamping lever up while holding the main Pump Module handle securely.

Level Scoot System: See attached illustrations included in this manual.

3. Clean contact surfaces, including the top of the lifting rod, locking rings, extensions and the saddle.



- 4. If required, insert a piece of compressible material between the saddle (Load Point) on the Lift Module, and the jack pad on the equipment being lifted to promote the mating of the two surfaces and increase friction.
  - NOTE: It is the owner and operator's responsibility to ensure that any material used to promote the mating of the surfaces is able to withstand the forces it may be exposed to and does not present any potential hazards.
- 5. Move the valve control lever to the advance (raise) position.
- 6. Push the thumb toggle switch on the remote-control pendant to ON (electric models) or open the air valve on air operated models.
- 7. Advance the lift module until the saddle contacts the jack pad. Check to make sure it is correctly and safely positioned.
- 8. CHECK THE OPERATION OF THE LOAD HOLDING VALVE... See page 6.
- 9. Advance the cylinder rod to lift the load, inserting the locking rings as you go. Load rings should only be installed when the jack is not moving and the load is deemed stable. Begin with the tallest rings. Ensure that the rings are concave side up. (Note the up arrow decal on the rings) LOAD RING SEATING SURFACES MUST BE KEPT CLEAN TO MAXIMIZE CONTACT AREA FOR SAFETY AND TO AVOID DAMAGING THE RINGS. (See pages 10 and 11 for more information on Locking Rings).
- 10. When you have reached the maximum required lift height, insert the final locking ring as required. Keep your fingers clear of the contacting faces!

If the equipment to be lifted has a narrow jacking pad you will want to position the ram saddle to give maximum contact. If this exposes the ram plunger to welding or grinding sparks, an optional Spark Blanket should be used.

If your jacking pad is large enough, you can face the open side of the ring stack away from the area where you will be welding, grinding, etc. This helps protect the plunger from sparks and grit.

11.

- a) With the Pump Module shut off, swing the control valve lever to retract (lower).
- b) Jog the motor to retract the plunger until the saddle is resting solidly on the top load ring. Do not retract the cylinder rod more than 1/8" (3mm) past where the saddle contacts the load ring. The saddle locks the load rings together creating a mechanical column capable of safely supporting the rated capacity of the jack. Load rings do not replace certified stands. Load rings provide a mechanical column to support the load while a certified stand is positioned.



- 12. Release the pressure in the hoses by shutting off the motor and swinging the control valve from the advance position to the retract position.
- 13. If required, you may now remove the Pump Module from the Lift Module. Do this by lowering and locking the rear support leg, uncoupling the quick couplers, and separating the Pump Module from the Lift Module.

NOTE: The rear support leg must be lowered and locked into place, and the hoses disconnected prior to separating the two Modules.

#### **NEVER USE HYDRAULICS TO SUPPORT A LOAD!!**

ALWAYS USE CERTIFIED STANDS.

\*\*\*See pages 10 & 11 for important information on Load Rings

### 5. Load Rings and Load Support Devices

Hydraulic Jacks are a simple and reliable method of <u>lifting</u> loads. They are <u>never</u> to be used to sustain loads. Certified safety stands may be used to support a load.

The intended function of the load rings are to provide mechanical support to allow the safer placement of appropriate load supporting equipment, such as a stand, and remove the risk associated with having a load on a column of hydraulic fluid.

### **NEVER WORK NEAR A LOAD THAT IS NOT PROPERLY SUPPORTED!**

### **Correct installation of Load Rings:**

- 1. Prior to performing the lift, ensure that the mating surfaces of the cylinder top, base ring and load rings are free of dirt.
- 2. Incrementally place load rings as the lift module lifts the load, placing taller rings first and shorter rings last. Install the rings when the jack is stopped and the load is deemed stable stay well back while the jack is lifting.
- **3.** Face the open side of the rings away from the work area to shield the cylinder rod from sparks and debris, keeping the open side of all rings in alignment with each other.
- **4.** Retract the cylinder rod no more than 1/8" (3mm) after the load is at the correct height and the last ring has been placed, to ensure the load is being supported by the rings, and not the hydraulic cylinder.



**Incorrect:** 

Correct:





With regard to Load Rings, HYDRA-TECH International Corporation states the following:

The HYDRA-TECH Lift Module / Load Ring column will <u>support</u> the load at the rated capacity of the Lift Module when all of the following requirements are met:

- a) The Lift Module is positioned on a flat, horizontal surface with at minimum, sufficient load bearing capacity to support 2 times the rated capacity of the Lift Module without settling or subsiding, and is;
- b) **Fitted with Load Rings correctly positioned** and on which the mating surfaces are <u>free</u> <u>from debris</u> and the <u>cylinder rod is lowered 1/8" (3mm)</u> from supporting the load, and is;
- c) Loaded in a manner which does not exert a side load or bending moment on the Cylinder / Load Ring column, and is;
- d) **Not subjected to external, lateral forces** such as side winds against the supported load, impact from other machines, etc.;

**No other claim** expressed or implied of any kind, including suitability for any particular application or use is made by HYDRA-TECH, or may be made on behalf of HYDRA-TECH by it's agents or representatives.

**NEVER USE HYDRAULICS TO SUPPORT A LOAD!!** 

ALWAYS USE CERTIFIED STANDS.

### 6. Optional Extensions

#### PLEASE READ CAREFULLY!

Cylinder Rod Extensions are available in various heights, and are rated for the maximum lifting capacity of the jack <u>only</u> under the following circumstances:

 THERE IS NO SIDE LOADING. The optional Swivel Saddle will compensate for up to 5° of side / end tilt and is mandatory with 12" (30cm) and 20" (50.8cm) total extension configurations.



2. THE MAXIMUM EXTENSION OF UP TO 20" (50.8cm) CONSISTING OF 1 BASE EXTENSION AND 1 ALUMINUM EXTENSION ADAPTER, I.E. NOT SEVERAL EXTENSIONS STACKED.

NOTE: ONLY ONE EXTENSION, IN COMBINATION WITH A SINGLE BASE, SHOULD EVER BE USED AT A TIME. DO NOT STACK EXTENSIONS!

#### Less than the above circumstances will reduce the capacity of the extensions.

Combinations of negative circumstances such as those outlined below will cause exponential reductions in capacity.

#### **Examples:**

#### Side Loading

A wind blowing against the side of a machine being lifted such as a boxcar, or the use of an unstable or non-parallel jacking base will cause side loading. Side loading greatly reduces the capacity of the extension.

### **Extension Length**

An 8" (20.3cm) extension stack is less resistant to side loading than a 4" (10cm) extension.

#### **IMPORTANT**

Every lift must be set up with maximum safety in mind. The lifting saddle should be positioned to start as close to the jacking pad as possible. The MOD-U-LIFT System allows the operator to separate the Lift Module and place it's much lighter weight on a base, to enable the operator to complete the lift using as little ram stroke, or using the shortest extension possible.

This is the safest approach and should be used if there is any doubt about the total load to be lifted, or the possibility of side loading the ram or extensions.



### 7. Lowering a Load

#### **Before Beginning**

1. If there is any possibility that someone may have added oil to the reservoir, check to make certain that the tank will have sufficient capacity to accept the oil from the cylinder. If there is any doubt, open the breather-filler plug on the tank, and monitor the oil level as the ram retracts; to be sure there is room in the tank.

#### 2. To re-attach the Pump Module to the Lift Module

### a. Clamp System

Roll the Pump Module to the Lift Module and rotate the Pump Module to the rear so that the lower portion of the Pump Module mating plate will fit in the lip at the bottom of the Lift Module mating plate. Rotate the Pump Module forward and lower the clamping lever to clamp the two plates together. Rotate the spring-loaded pin 90 degrees and insure that it snaps into place to secure the clamping lever. Re-connect the quick couplers making certain they are completely seated. (see page 8, point #7.) Retract and pin the support leg.

#### b. Level Scoot

See illustrations included in this manual.

#### To Lower the Load

- 1. Place the control valve lever in the advance (raise) position. Lift the load sufficiently to allow removal of the top load holding ring only, remove the load ring.
- 2. Lower the load until you are almost on the next load holding ring and remove it.
- 3. Repeat this process until the saddle is no longer in contact with the load. At this point all remaining load rings can then be removed & the cylinder fully retracted.
- 4. Important: When the ram is fully retracted, stop the motor and rotate the control valve to advance. Jog the motor to advance the ram slightly (approximately 1/8"(3mm)). This eliminates pressure buildup in the ram during storage.
- 5. Swing the control valve lever to the retract position and to the advance position to bleed all the pressure from the lines. This will ensure that there will be no pressure locked in the topside of the ram or the hoses.

## 8. Troubleshooting Guide

PROBLEM	POSSIBLE CAUSES	ACTION
Jerky action	- Air in system - Internal Leakage in cylinder	**Cycle cylinder fully up and down Have Lift Module serviced.
	- Low oil level in reservoir	- Bring oil to proper level.
Pump operates but will	- Low oil level in reservoir.	- Check oil level in reservoir. Add oil
not move piston / raise		and bleed the system.
load	- Filter screen is plugged.	- Clean screen and reservoir.
	- Relief valve(s) are set wrong.	- Have unit serviced.
	- Control valve needs service.	- Service control valve.
Piston extends but will	- Retract Couplers not seated.	- Remove pressure from lines,
not retract	- Pump not developing enough	disconnect, clean and reconnect
	pressure to operate the load	couplers, confirming seal (page 5,
	holding valve.	point #7)
Noisy Pump	- Low oil level in reservoir	- Bring oil to proper level.
		- Check pump intake tubing and
		seals for places where air might
		enter.
	- Air in system	- Cycle cylinder fully up and down
	- Worn pump	- Have serviced by a qualified
		technician
Ram extends part way	- Low oil in reservoir.	- Bring oil to proper level.
and stops.	- Couplers not seated.	- Remove pressure from lines,
		disconnect, clean and reconnect
		couplers, confirming seal (page 5,
	Culindaria damagad	point #7).
Cylinder or fittings look	- Cylinder is damaged.	- Have Lift Module serviced.
Cylinder or fittings leak	- Seals worn/damaged fittings	- Have serviced by a qualified technician.
Oil.	loose.	
Oil vents from cylinder port relief valve when	- Couplers not seated or defective.	- If screw style, tighten coupler so
•	delective.	female collar is up against shoulder of male coupler
raising ram.		•
	- Faulty Relief Valve	Replace if defective Have unit serviced.
Cylinder advances		
Cylinder advances more slowly than	- Oil to thick or dirty Restricted hose or fitting.	- Change to clean oil of SAE weight suitable for temperature. Page 2.
normal.	- Needle valve on optional	- Isolate and replace.
normat.	manifold closed.	- See page 12 & 13.
	- Pump worn.	000 pago 12 a 10.
	- Cylinder worn.	- Have Pump Module serviced.
	- Quick coupler not fully	- Have Lift Module serviced.
	tightened.	- Retighten couplers.
	ugntenea.	- neughten couplets.

SCHEDULED MAINTENANCE HELPS PREVENT UNSCHEDULED BREAKDOWNS.

### 9. Level Scoot Bracket

The level scoot bracket is a mounting mechanism that is designed to securely lock the Mod-U-Lift Pump Module to the Lift Module and disconnect the two quickly and with ease.



Pivot Rod Position Pins Latch Arm Reaction Arm

### a) Positions:

The level scoot bracket is designed to be configured in three different positions. This allows for easier maneuvering of the lift unit in the workspace. This is done with the reaction arm and position pins. Refer to illustration 1 (right) for position designations.

Position 1, the lift unit will be moved in a straight tilt.

Position 2 offers ½" (1.27cm) of level clearance over the ground.

Position 3 offers 1" (2.54cm) of level clearance over the ground.



**Illustration 1** 

### b) Attaching:

- Insert the two pins into the reaction arm, in the desired position for best maneuverability. Ensure that the pins are attached to the bracket with a cable to prevent them from being lost.
- 2. Maneuver the Pump Module so that the pivot rod on the Pump Modules bracket pushes the latch arm back and moves into the groove. Refer to illustration 2
- 3. Inspect to confirm the latch arm has returned to the vertical position, locking the pivot arm in place. Refer to Illustration 3 for an example of a properly secured level scoot bracket.
- 4. The mount can be additionally secured with a safety bolt (HEX BOLT Ø3/8" NC x 1 1/2" LG) screwed in place after handle returned to vertical position. Refer to Illustration 4



**Illustration 2** 







Illustration 4



### c) Detaching:

- 1. **LOWER AND SECURE THE PUMP MODULES FOOT!** Refer to the illustration 4.1 (below).
- 2. Disconnect the hydraulic hoses between the lift module and the Pump Module.
- 3. Remove the two pins from the reaction arm, allowing it to swing freely. Ensure that the pins are attached to the bracket with a cable to prevent them from being lost.
- 4. Apply light pressure to the Pump Module handle in the direction of the lift until pressure is removed from the latch arm. Then turn the latch arm in the direction of the Pump Module and lower the Pump Module onto the support foot.
- 5. The Pump Module can now be maneuvered away from the lift.





PM 120-175

PM 60-100

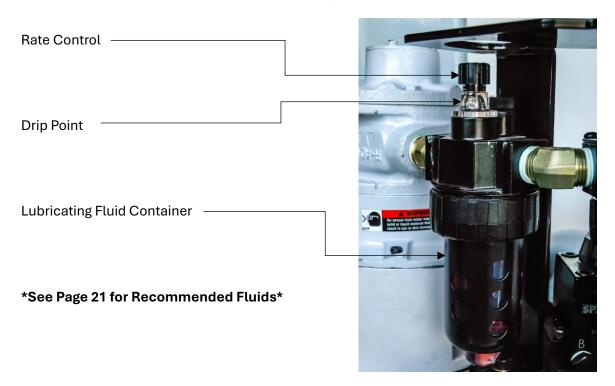
Illustration 4.1

### 10. Air power Safety Precautions & General Instructions



Air Supply Requirements: Minimum 50 CFM (1.4 M³/min) & 80 PSI (5.5 bar) with 100 PSI (7 bar) maximum.

- 1. Inspect all air hoses for signs of wearing or damage.
- 2. Securely fasten the air hose to the air inlet bracket, with the valve in the closed position.
- 3. Put the directional control valve into the neutral position, in between Up and Down.
- 4. On the filter lubricator assembly, check to see if there is an adequate amount of lubricating fluid and that the filter is clean and intact.
- 5. Set the drip rate on the lubricator as follows:
  - a) Slowly open the air valve, allowing the flow of air through the motor.
  - b) Visually inspect the rate at which lubricating fluid is fed into the system and rotate the rate control valve till the lubricator drips once in approximately ten seconds.





### 11. Electrically Powered Safety Precautions & General Instructions

Electrical Supply: 115 volts, 1.5 HP, 8 Amps (North American) 230 volts 1.5 HP, 8 amps (European)

- 1. Do not tamper with electrical components.
- 2. Do not open motor control box while the Jack is plugged in!



- 3. When cleaning the equipment take care to keep electrical components dry.
- 4. Check the brush indicator light prior to use, if the light is off the brushes are still functioning properly.
- 5. Visually inspect the attached power cord for damages prior to plugging in the Jack.
- 6. Ensure you are using an adequate power cord, refer to the table below.



 If using a portable welder, ensure that the lifting equipment is unplugged prior to use. This prevents grounding through the motor on the jack.

Current At Full Load (Amps)	Cord Size AWG (mm²) 3.2 Volt Drop				
	Length of Cord				
	0-25 feet (0-8 m)	25-50 feet (8-15 m)	50-100 feet (15-30 m)	100-150 feet (30-45 m)	
6	18 (.82)	16 (1.33)	14 (2.09)	12 (3.32)	
8	18 (.82)	16 (1.33)	12 (3.32)	10 (5.37)	
10	18 (.82)	14 (2.09)	12 (3.32)	10 (5.37)	
12	16 (1.33)	14 (2.09)	10 (5.37)	8 (8.37)	
14	16 (1.33)	12 (3.32)	10 (5.37)	8 (8.37)	
16	16 (1.33)	12 (3.32)	10 (5.37)	8 (8.37)	
18	14 (2.09)	12 (3.32)	8 (8.37)	8 (8.37)	
20	14 (2.09)	12 (3.32)	8 (8.37)	6 (13.30)	
22	14 (2.09)	10 (5.37)	8 (8.37)	6 (13.30)	
24	14 (2.09)	10 (5.37)	8 (8.37)	6 (13.30)	
26	12 (3.32)	10 (5.37)	8 (8.37)	6 (13.30)	
28	12 (3.32)	10 (5.37)	6 (13.30)	4 (21.29)	
30	12 (3.32)	10 (5.37)	6 (13.30)	4 (21.29)	

### 12. Preventing Maintenance

### a. Daily Checklist:

- 1. Fully stroke the lifting plunger.
- 2. Visually inspect for bent or damaged components, hoses or fittings, and hydraulic leaks etc.
- 3. Tighten loose bolts and fittings as required.

REMOVE FROM SERVICE IF DAMAGE, CRACKS, BENT COMPONENTS OR HYDRAULIC LEAKS ARE FOUND.

### b. General Level 1 Maintenance:

Recommended every 12 months depending on usage.

- 1. Clean unit
- 2. Inspect for leaks
- 3. Check for any loose bolts & tighten as required
- 4. Check for any cracks on the equipment
- 5. Replace damaged or missing safety decals
- 6. Inspect hoses for damage
- 7. Checkfor any loose fittings and tighten as required
- 8. Check condition of air connection quick coupler or electrical cord

PREVENTATIVE MAINTENANCE IS A REQUIREMENT FOR EQUIPMENT AND MACHINERY.

LIFTING DEVICES CAPABLE OF LIFTING OVER 2,000 KG (4,409LBS) ARE REQUIRED TO HAVE TO LOAD RATING ON THE EQUIPMENT

### 13. Storing

To reduce potential wear and keep the Mod-U-Lift System in best form it is recommended that the equipment be stored in a dry, covered location, where it is protected from the elements and potential environmental hazards. When the Mod-U-Lift System is being stored it should be in the fully retracted (lowered) position and any pressure within the hydraulic hoses should be removed by moving the traversing direction valve left and right.



### 14. Fluid Recommendations:

(For ambient temperatures from -20°F / -29°C to 12QOF)

Power Team AW46 Exxon Univis Extra Texaco Rando HDAZ

#### Notes:

Alternate fluids may be used if they have the following characteristics:

- Pour point -45°F / -43°C, viscosity 150 SUS@100°F
- Viscosity 45 SUS @ 210°F / 99°C
- Viscosity index 150, and anti-corrosion, anti-foam, antioxidant, anti-rust, anti-wear and demulsifier additives.

For air powered units the recommended lubricating fluid for the air motor is:

F442 Turbine Oil

### 15. Service Centers

Please contact Hydra-Tech International for current information on the closest service center to you.

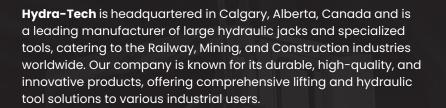
Contact information for Hydra-Tech International follows:

6060 – 86th Avenue SE, Calgary, Alberta, Canada T2C 4L7 Telephone (403) – 720 – 7740 Website: www.hydra-tech.net

### 16. Warranty Information

For warranty information please refer to the information provided on the Hydra-Tech website at.

https://hydra-tech.net



Founded in 1975 as a distributor of industrial tools and supplies, Hydra-Tech has since transformed into an industry leader in hydraulic jacks and tools manufacturing. Our product range encompasses hydraulic jacks with capacities ranging from 60 tons to 175 tons, as well as specialized hydraulic tools designed for the railway and mining sectors.

Customer feedback has always been the driving force for the tool development team at Hydra-Tech. Many of our tool designs were born from direct requests by customers seeking tailored solutions to simplify and enhance job safety and efficiency. At Hydra-Tech, we take immense pride in our tools, offering safe and efficient alternatives to meet real-world challenges.



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