



KAR LIFT SOLUTIONS
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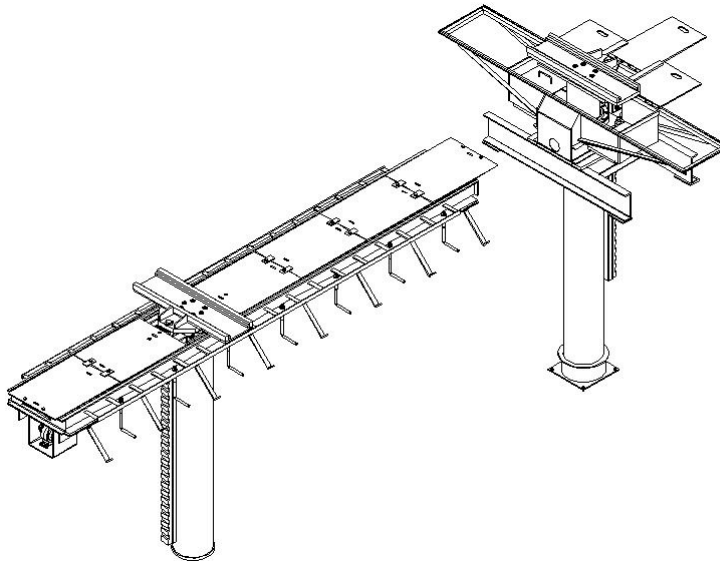
**INSTALLATION - INSPECTION - SAFETY – OPERATION - SERVICE
AND MAINTENANCE INSTRUCTIONS MANUAL**

**IMPORTANT SAFETY INSTRUCTIONS
(SAVE THESE INSTRUCTIONS)**

Model: OMLP210

**Hydraulic Operated Movable Post Two 10” Cylinders
Heavy Duty Truck & Bus Lift**

**Capacity: 10 hp 20 GPM Hydraulic – 50,000 lbs
(25,000 lbs per JACK)**



* Model may differ from image shown.

IMPORTANT	OMER assumes no responsibility for installation errors where instructions other than those supplied with equipment are used.
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Installer Notes

IMPORTANT	Read all instructions and SAVE THESE INSTRUCTIONS
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Check your complete shipment against the shipping papers. Enter claims for damage or shortage with the delivering carrier at once.

1. After installation, please return this booklet to the literature package and give the entire package to the lift owner/operator.
2. The literature package should be stored and maintained for easy access for the lift operator.
3. Please review all installation instructions before beginning excavation.
4. Keep excavated hole covered and barricade excavated area when work is not in progress.

WARNING	Restrict all persons from going near excavation. OSHA and/or OHS standards prohibit anyone from entering an excavated hole, unless OSHA and/or OHS guidelines are followed.
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WARNING	This lift is approved only for indoor installation and shall not be installed in an outdoor environment. Please note a qualified person should be consulted to address seismic loads and other local or state/provincial requirements
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This manual is to be used in conjunction with the following standards.

- SAE J2184 Vehicle Lift Points for Service Garage Lifting**
- USA - Occupational Safety and Health Administration – Excavation Standard CFR 1926**
- Canada - Occupational Health and Safety – SOR/86-304**
- ANSI/UL 201**
- CSA C22.2 No.68**
- ANSI/ALI ALIS, Safety Requirements for Installation and Service of Automotive Lifts**
- ANSI/ALI ALCTV: 2011**



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ANSI/ASSE Z244.1 – 2003: Control of Hazardous Energy – Lockout/Tag out and Alternative Methods

ANSI/ALI ALCTV-1998 Standard for Automotive Lifts Safety Requirements for Construction, Testing And Validation

ANSI Z34.1-1987 and the ALI/ETL Automotive Lift Certification Program Procedural Guide.

IMPORTANT	IMPORTANT SAFETY INSTRUCTIONS
	SAVE THESE INSTRUCTIONS

SAFETY PRECAUTIONS

When using your garage equipment, basic safety precautions should always be followed, including the following:

1. Read all instructions.
2. Care must be taken as burns can occur from touching hot parts.
3. Do not operate equipment with a damaged cord or if the equipment has been dropped or damaged-until it has been examined by a qualified service person.
4. Do not let a cord hang over the edge of the table, bench, or counter or come in contact with hot manifolds or moving fan blades.
5. If an extension cord is necessary, a cord with current rating equal to or more than that of the equipment should be used. Cords rated for less current than the equipment may overheat. Care should be taken to arrange the cord so that it will not be tripped or pulled.
6. Always unplug equipment from electrical outlet when not in use. Never use the cord to pull the plug from the outlet. Grasp plug and pull to disconnect.
7. Let equipment cool completely before putting away. Loop cord loosely around equipment when storing.
8. To reduce the risk of fire, do not operate equipment in the vicinity of open containers of flammable liquids(gasoline)
9. Adequate ventilation should be provided when working on operating internal combustion engines.
10. Keep hair, loose clothing, fingers, and all parts of the body away from moving parts.
11. To reduce the risk of electric shock, do not use on wet surfaces exposed to rain.
12. Use only as described in this manual. Use only manufacturer's recommended attachments.
13. **ALWAYS WEAR SAFETY GLASSES.** Everyday eyeglasses only have impact resistant lenses; they are not safety glasses.

Lift Capacity

Never overload the lift. The manufacturer's rated capacity is displayed on the nameplate And attached to the lift. If the nameplate is missing, or the information is not readable due to wear, Check immediately with the manufacturer's representative before using.



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Minimum Wheelbase (X)	Maximum Wheelbase (Y)	Front Cylinder Travel (Z)	Front Pit Length (A)	Front Pit Offset (B)
_____”	_____”	= X - Y	= Z + 35” + 19”	= Y - 19”
		_____”	_____”	_____”

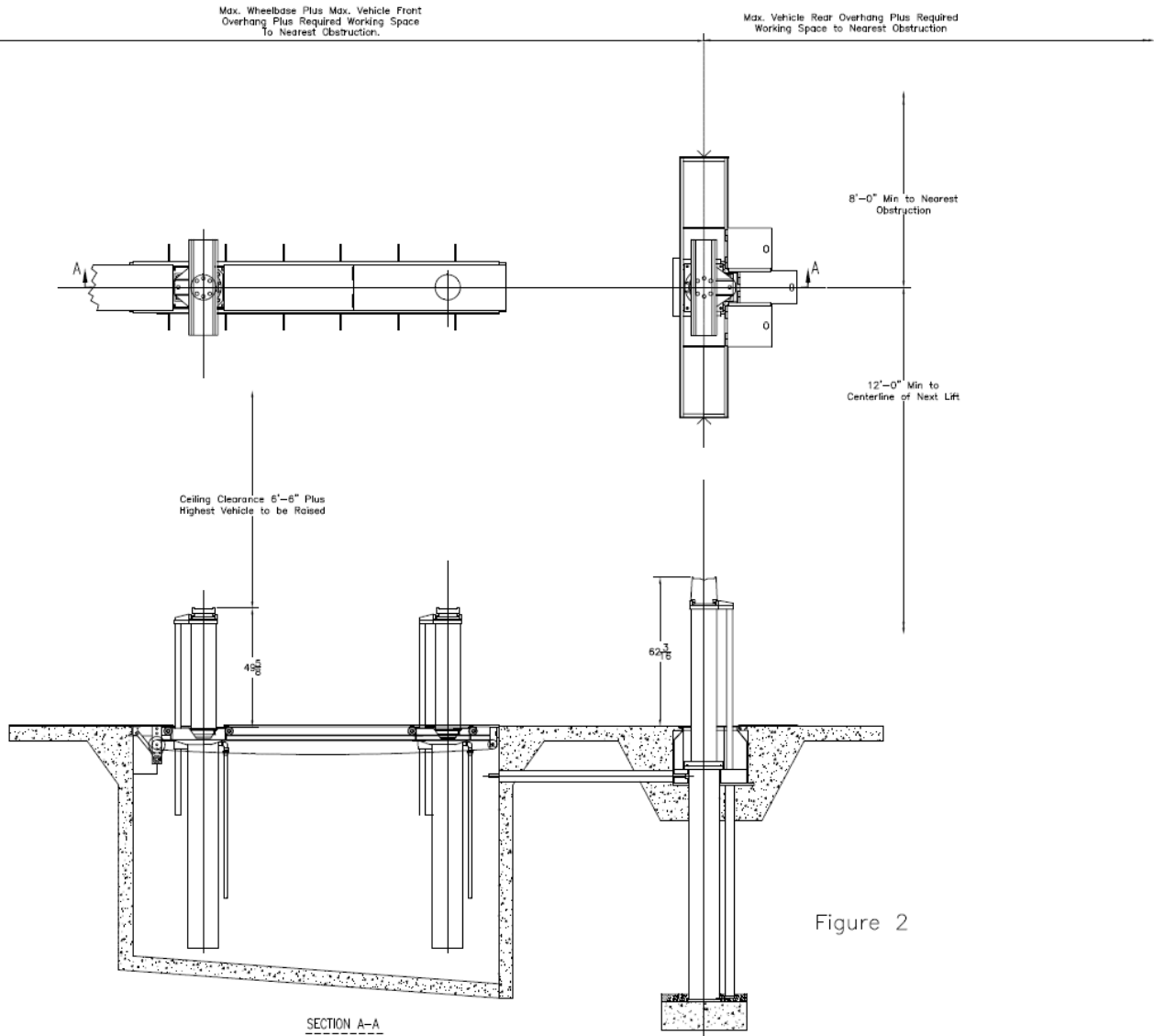
WHEEL BASE CHART

DIM "B"	MIN W/B	DIMENSION "A" (FRONT FRAME LENGTH)									
		144	156	168	180	192	204	216	228	240	252
		MAXIMUM WHEELBASE									
58	78	166	178	190	202	214	226	238	250	262	274
64	84	172	184	196	208	220	232	244	256	268	280
70	90	178	190	202	214	226	238	250	262	274	286
76	96	184	196	208	220	232	244	256	268	280	292
82	102	190	202	214	226	238	250	262	274	286	298
88	108	196	208	220	232	244	256	268	280	292	304
94	114	202	214	226	238	250	262	274	286	298	310
100	120	208	220	232	244	256	268	280	292	304	
106	126	214	226	238	250	262	274	286	298	310	
112	132	220	232	244	256	268	280	292	304		
118	138	226	238	250	262	274	286	298	310		
124	144	232	244	256	268	280	292	304			
130	150	238	250	262	274	286	298	310			
136	156	244	256	268	280	292	304				
142	162	250	262	274	286	298	310				
148	168	256	268	280	292	304					
154	174	262	274	286	298	310					
160	180	268	280	292	304						
166	186	274	286	298	310						
172	192	280	292	304							
178	198	286	298	310							
184	204	292	304								
190	210	298	310								



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Lift Location Specifications





1. Check the architect's layout drawing if it is available for specific lift placement.
2. Locate the lift centerline in the desired area using Figure 2 as a guide.

NOTE	The Centerline of the rear cylinder housing is perpendicular (90°) to the lift centerline.
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3. Check the required workspace around the proposed installation site.
4. Overhead clearance required is 6'-6" plus highest vehicle to be raised.



Soil Testing

IMPORTANT	Test soil to determine corrosive characteristics. Take necessary measures to protect in ground equipment with one of the many cathodic protection systems. Failure to provide underground protection when indicated by soil tests could cause fluid leaks to develop in the hydraulic system, resulting in costly repairs or causing the equipment to become inoperative and unsafe.
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Excavation

1. All concrete thickness shall meet all local and national building codes.
2. Locate lift centerlines in the desired area in accordance with the information provided in Figure 2.
3. Place the rear pit frame upside down on the floor aligned with centerline. Set the Front track upside down on the centerline of the service bay. Check the Front Pit Offset (B) dimension from the Pit Dimension Calculations using Figure 1. Determine the location of the control box, and position the control box upside down at that location (Note: The location of the control box in Figure 1 is only an example).
4. Mark excavation outline around frames.
5. Remove frames and excavate front trench, and rear pit frame carefully to dimensions in Figure 1.
6. The trench walls shall be sized to handle the vertical load of each cylinder, see Figure 1.
7. Locate drain or sump pump in each trench.



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Pipe Stub-In Detail (Control Box)

IMPORTANT	The factory recommends schedule 40 pipe and 300 lbs. steel fittings. Be sure all piping conforms to local and province/state codes. All piping to be supplied by the installing contractor. Wash out all solvent and blow dry with air before installing. Always use a good joint sealant on pipe threads. Do Not use Teflon tape. For welded pipe, flush the system and install an inline fluid filter.
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1. Stub-in air supply line chase from desired control box location to front trench.
2. Stub-in Electrical Conduit from motor starter to power unit motor.



Front Frame Installation

1. Pour the concrete for the trench floor. Level or slope towards the drain or sump pump in the trench floor.
2. Carefully space 1/2" reinforcing rods 8'-6" long around excavation driven vertically into trench floor before it sets.
3. Build concrete forms having outside dimensions identical with the inside of the front frame and trench, see Figure 1.
4. Build concrete forms for control box.
5. Set form in trench.

IMPORTANT	Visually inspect frame for shipping damage. Be sure the frame is not warped or bent. Do not remove the shipping braces at this point.
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6. Clamp the front frame to the concrete form. Measure the frame at several points along its length and maintain 17-5/8" between the side channels.
7. Recheck trench centerline and Front Pit Offset (B) dimension.
8. Level the form assembly with a level. Frame must be level side-to-side, check at 1'-0" intervals to be sure. Shim the frame as required. Maximum frame slope front to rear is 1/8" per foot. Shore form for stability. Make sure the top of the frame is at the finished floor elevation.
9. Wire or weld vertical trench concrete reinforcing bars to the frame reinforcing bars. Bend or cut off bars that would stick out of floor.



Rear Pit Frame Installation

1. Remove housing doors; cover plates and hinges to prevent damage. Lower the rear frame into the excavation until the top surface of the frame is flush with the finished floor. Housing opening should be towards the front cylinder.

NOTE	Inspect housing for any damage that may have occurred. If housing is bent, straighten.
-------------	--

2. Check alignment of frames with lift and housing centerlines and recheck all dimensions.

Concrete Work

3. Check forms to be sure they are shored and braced.
4. Pour the concrete trench walls. The concrete should be mixed dry enough so that it will not float the wooden forms.

NOTE	Pour the rear cylinder frame floor first to allow it to partially setup before pouring the sides.
-------------	---

1. Recheck front forms to be sure they are shored and braced. Work concrete well under frame channels. Continue to check centerlines, level and dimensions while pouring.
2. Form the two wheel depressions, one on each side of the rear housing.

NOTE	Finished floor should be flush with the top of the rear frame and wheel depressions.
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Rear Cylinder Installation

1. Carefully lower the cylinder into the pit frame with the cylinder fluid inlet towards the front.
2. Locate and center the cylinder with four (4) 1" bolts through the cylinder mounting plate into the frame. Do not tighten the bolts at this time.



Front Cylinder Installation

1. Remove frame spacers, concrete and dirt from tracks.
2. Install carriage axle and roller assemblies near the midpoint of the front frame 12 1/2" apart.

IMPORTANT	Roll carriage axle and roller assemblies the full length of the channels to check clearance.
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3. Lower the front cylinder and carriage assembly into the front trench and onto the carriage axles with cylinder fluid inlet towards the rear.
4. Equalize the clearance on each end of the carriage axle with the front cylinder.
5. Level the front cylinder and carriage assembly with shims and secure with 5/8"-11 UNC hex bolts.

Adding Ballast

1. Add 500 lbs. ballast to the inside of both plungers to improve lowering when the lift is not loaded.

IMPORTANT	Do not use sand as ballast. The factory recommends steel bar.
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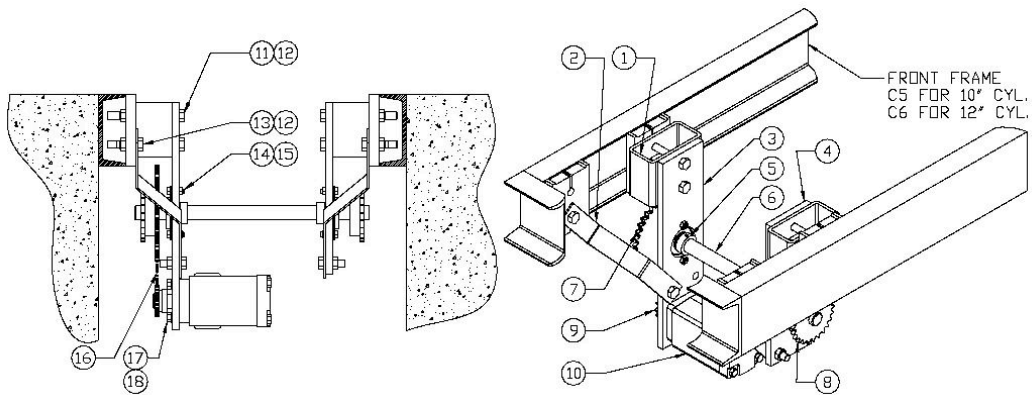
2. Clean cylinder seal and gland area if necessary after installation.



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Hydraulic 'Z' Drive Installation

1. Bolt hydraulic z-drive motor assembly to the front frame with 5" hex bolts.



ITEM	QTY	PART#	DESCRIPTION
1	2	218116	SPACER
2	2	218809	Z-BRACE
3	1	206026	Z BAR
4	1	206027	Z BRACKET
5	2	11901	FLANGE BEARING KIT
6	1	205410	SHAFT FDR 10" CYL.
	1	205411	SHAFT FDR 12" CYL.
7	1	205407	SPROCKET ASSEMBLY
8	1	205409	SPROCKET-24 TEETH
9	1	12374	SPROCKET-12 TEETH

ITEM	QTY	PART#	DESCRIPTION
10	1	13451	HYDRAULIC MOTOR
11	4	13793	HEX BOLT, 1/2" x 5"
12	8	11952	1/2" LOCK NUT
13	4	10044	HEX BOLT, 1/2" x 1-1/2"
14	4	10938	CARRIAGE BOLT, 5/16" x 1"
15	4	12461	STOVER LOCK NUT, 5/16"
16	1	12456-26	ROLLER CHAIN
17	4	10025	HEX BOLT, 3/8" x 1"
18	4	10677	LOCK WASHER, 3/8"

2. Assemble control box valve assembly.



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Filling Fluid

IMPORTANT	Fluids recommended for use in automotive lifts should conform to the following specifications.
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Viscosity Range	150 SUS (32CST) ISO32 / 10W
Aniline Point	210° F Minimum
Viscosity Index	95 Minimum
Additives	Anti-Foam
	Anti-Rust
	Anti-Oxidation
Pour Point	20° F below operating temperature



Bleeding Cylinders

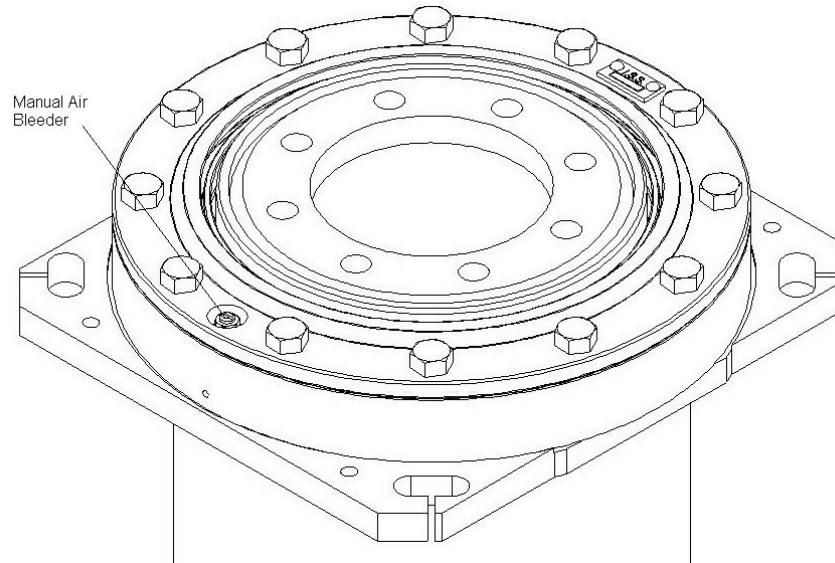
1. Open bleeder at Cylinder two (2) full turns.
2. Start power unit and slowly admit flow of fluid to ONE cylinder. Do not raise plunger over 2'-0".
3. When a constant stream of fluid appears at the bleeder, close the valve and tightens the bleeder.

IMPORTANT	Cylinder may be damaged if the lift is operated without fully bleeding all the air in the cylinder. Also very dangerous if air bubbles exist in lines.

4. Repeat steps 1 to 3 with the other cylinder.
5. Lower cylinders and refill power unit tank to gage level.
6. Check bolts on the cylinder and torque to 150 ft.-lbs.
7. Tighten the bleeder on each cylinder.
8. Operate cylinder to full rise several times. If the operation is 'jerky', lubricate plungers and repeat bleeding procedure.



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Testing Cylinders

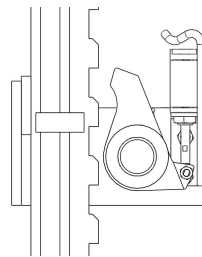
1. Raise both cylinders to full rise and leave under pressure for five (5) minutes. Do not leave motor running.
2. Check all pipe joints for leaks.

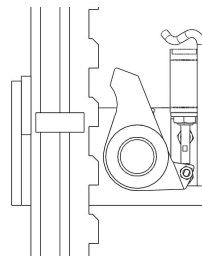
Rear Cylinder Leveling and Grouting

1. Raise cylinder to full rise and plumb cylinder with machinist level on side of plunger.
2. Use leveling bolts under/around 1" bolts if necessary to ensure uniform contact between cylinder mounting plate and the housing.
3. Tighten four (4) 1" bolts and lock washers against cylinder mounting plate.
4. Recheck plumb of plunger.
5. Grout around and under the base of the rear cylinder to withstand horizontal loads. Provide at least 3" of grout above the bottom of the cylinder. See Figure 1.

Multi-Position Safety Legs

1. Raise each cylinder plunger about 36".
2. Actuate the multi-lock control valve button and hold open so the locking latches will be in the unlocked position.

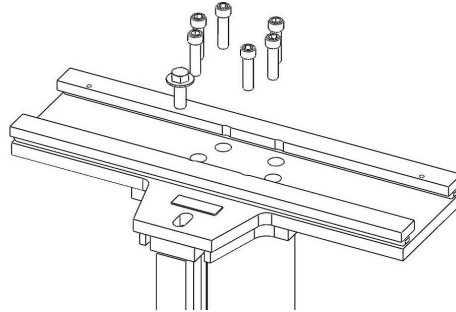


3.  Install the legs so the top of the safety leg is just below the top of the cylinder plunger.
5. Release the multi-lock control valve button so the locking latches can engage the safety leg and hold it in place.



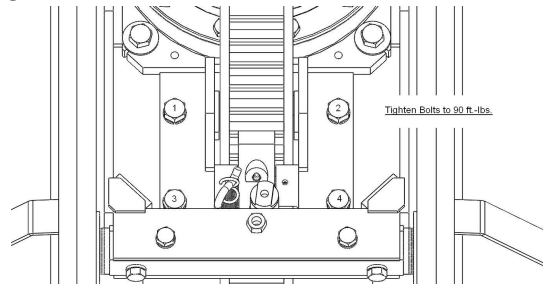
Front and Rear Superstructure Installation

1. Bolt the front superstructure to the cylinder plunger.
2. Tighten bolts to 150 ft.-lbs.
3. Bolt safety leg to the superstructure. Do not tighten the bolt at this time.
4. Remove stop pins from the superstructure.
5. Install adapters.
6. Replace stop pins to the superstructure.



Air-Operated Safety Latch

1. Raise cylinder plungers to full rise.
2. Square up face of locking latch with notches in the safety leg.
3. Tighten bolts to secure locking latch assembly to carriage assembly.
4. Tighten bolts to 90 ft.-lbs.





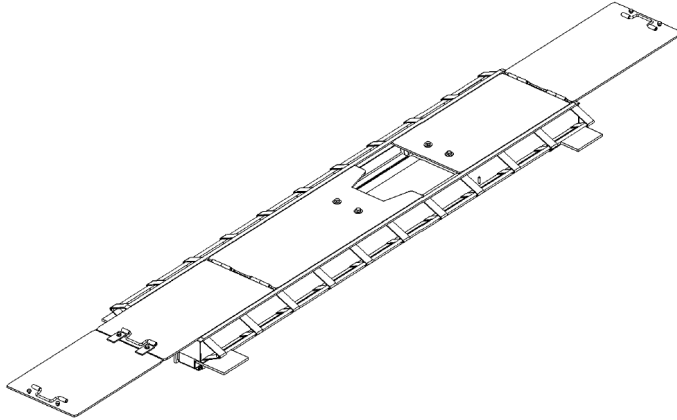
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Cover Plate Installation

1. Bolt the trench cover plate ahead of the front cylinder.

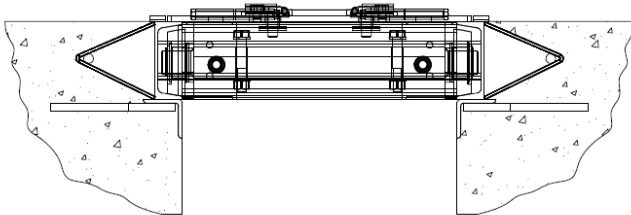
IMPORTANT	Cover must slide freely between cover plate guides on front frame.
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2. Bolt intermediate cover plates as provided based on frame length.
3. Sufficient quantity of detachable covers is supplied based on frame length.
4. Hinged covers move with cylinder and can be folded over if required.
5. Detachable cover hooks exist on both ends of cover plate assembly.
6. ½"-13x1/2" lg Hex Head Cap Screws provided with assembly of cover plates.



Bill of Material

Part#	Description
217803	Movable frame cover (latch side)
217804	Movable frame cover (carriage side)
217805	Movable frame cover extension
217802	Cover plate removable
14054	5/8"-11x 1 ½" Hex Head Cap Screw
10650	5/8" dia Flat Washer
201818	Spacer





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Troubleshooting Chart – MP

TROUBLE	PROBABLE CAUSE	ACTION TO BE TAKEN
Oil Blowing Out Fill-Breather Cap	Air Mixed With Oil	Change oil using ISOVG32 Hydraulic Oil.
	Air Mixed With Oil Suction	Tighten all suction line fittings.
Lift Drifts Down	Hydraulic Check Valve Is Malfunctioning	Check air supply to pivot port on valve or replace check valve.
	Air Solenoid Valve Malfunction	Replace air solenoid valve.
	External Oil Leak	Check for leaks between check valve and cylinder. Repair external leaks.
	Bad Post Seal	Check for leaks. Contact your service representative.
Locking Latch Will Not Release	Load On Locking Leg	Raise lift until locking latch engages the next locking position. Lower lift.
	Locking Latch Seized	Check for damage to components. Replace damaged components immediately. Clean and lubricate locking latch components so they operate freely. Check spring tension. Check for burrs on inner tube lock stops.
	Air Leak	Check tubing from air valve to locking latch cylinders.
	Dirty Air Line Filter	Clean air filter.
	No Air Supply	Check tubing and compressor.
	Air Valve Stuck Closed	Cycle/toggle, replace valve if necessary
	Air Cylinder Malfunction	Check cylinder for proper operation. Replace air cylinder.
Locking Latches Do Not Engage	Locking Latch Seized	Check for damage to components. Replace damaged components immediately. Clean and lubricate locking latch components so they operate freely.



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	Air Valve Stuck Open	Replace air solenoid valve.
Low Air Pressure	Air supply not functioning or not adequate	Check air compressor for required air pressure. Minimum 100 PSI is required to operate the lift system. Check that all supply valves are on.
	The set point on the air pressure switch is adjusted incorrectly	Adjust set point to increase air pressure.
	Broken air lines, leaking fittings, loose or damaged wiring to air pressure switch	Repair airlines and fittings. Tighten all wiring connections. Repair or replace damaged wiring.
Out of Level Condition	Vehicle weight and distribution not within rated lift capacity	Verify axle weights are within rated post capacity.
	Check for obstructions preventing lift from raising or lowering	The lift must be raised / lowered manually to bring the posts back to within operating limits.
	Hydraulic check valve is malfunctioning	No or low air supply to pilot on hydraulic check valve or replace check valve
	Damaged hydraulic hoses or loose fittings	Replace damaged hoses or fittings.
	Low oil level	Add hydraulic oil to the reservoir. Approved hydraulic oil includes either ISO32 or AW32.
Lift fails to Raise	Motor/pump runs but will not lift load	Vehicle weight and / or distribution not within lift rated capacity.
	Motor rotation is incorrect	Motor rotation should follow direction indicator arrow on motor.
Lift Fails to Lower	Locks not fully disengaged	Check air valve and lock operation.
	Hydraulic check valve is malfunctioning	Check air supply to pilot on hydraulic check valve or replace hydraulic check valve.
	Velocity fuses malfunctioning	Pressurize lift hydraulically the manually operate the motor controller to release



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		hydraulic pressure.
Lift Shakes or Shudders	Low oil level	Check the level of the hydraulic oil. The lift should be in the fully lowered position to check the oil level. Add oil to the reservoir if required before using the lift again. Approved hydraulic oil includes either ISO32 or AW32.
	Control system wiring not clean and tight	Clean and reconnect wiring making sure all connections are tight.
	Air in the hydraulic system.	Follow proper bleeding procedure: <ol style="list-style-type: none"> 1. Open bleeder at one cylinder two (2) full turns. 2. Start power unit and slowly raise one cylinder. Do not raise plunger above 2'-0". 3. When constant stream of fluid appears at bleeder, close valve and tighten bleeder. 4. Repeat procedure with other cylinder. 5. Lower cylinders and refill oil reservoir.
All Cylinders Do Not Operate	Connections to main control board or to electrical components incorrect or loose	Refer to electrical schematic. Check and tighten all connections as required. Check all wiring harnesses for abrasion or cuts.
	Main control board not operating properly	Contact your service representative.
	Motor controller malfunctioning	Contact your service representative.
	Internal oil leak	Have hydraulic system serviced by your service representative.
All Cylinders Do Not Operate continued...	Velocity fuses malfunctioning	Pressurize lift hydraulically then manually operate the motor controller to release hydraulic pressure.



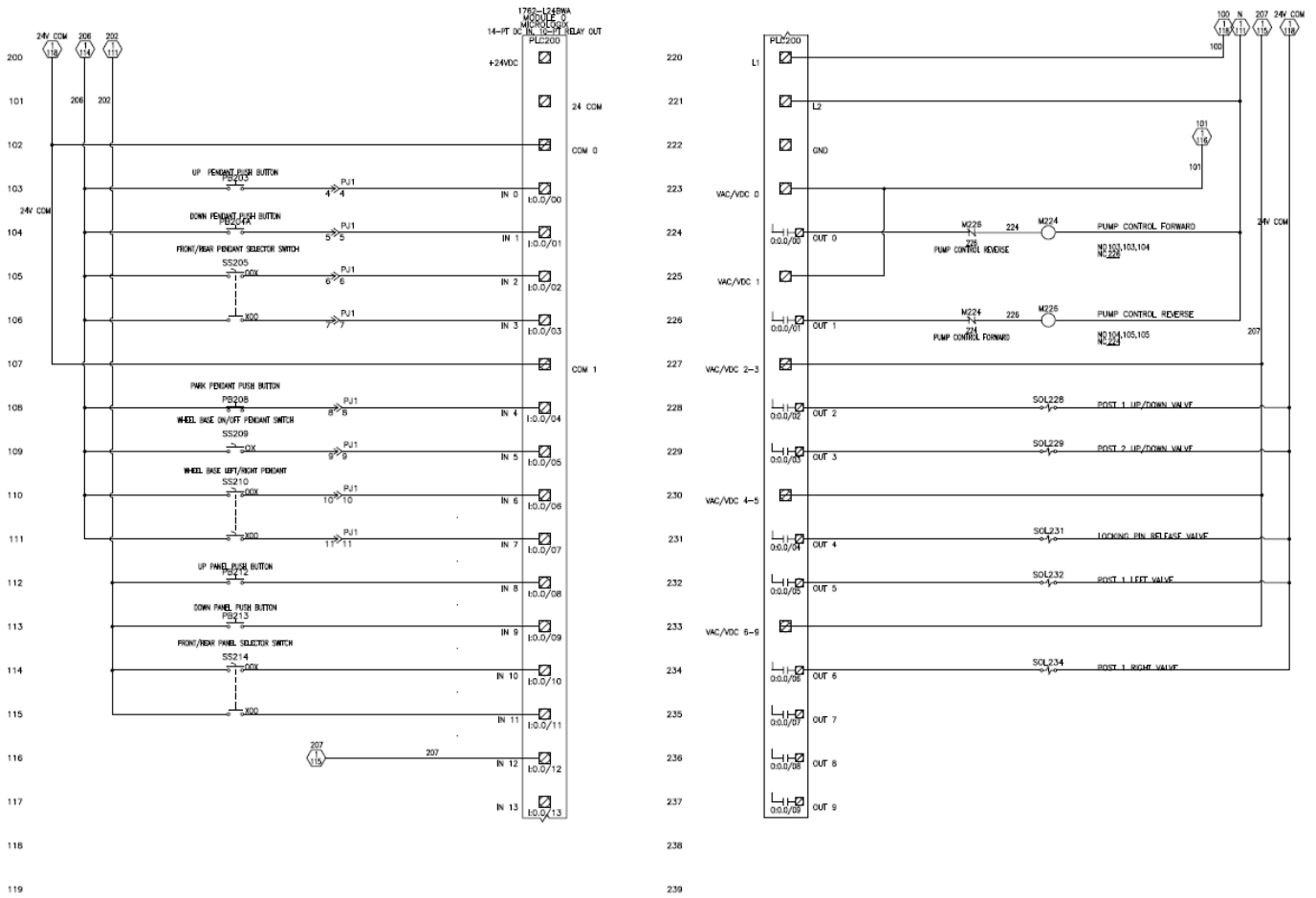
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	External oil leak	Have hydraulic system serviced by your service representative.
	Low oil level	Check the level of the hydraulic oil. The lift should be in the fully lowered position to check the oil level. Either ISO32 or AW32.
Motor / pump Runs But Will Not Lift Load	Vehicle weight and / or distribution not within lift rated capacity	Verify axle weights are within rated post capacity.
	External oil leak	Have hydraulic system serviced by your service representative.
	Low oil level	Have hydraulic system serviced by your service representative.
	Pump malfunctioning	Have hydraulic system serviced by your service representative.
Post Will Not Adjust Forward / Reverse	Chain broken	Replace chain.
	Drive motor malfunctioning	Contact your service representative.
	Post travel is obstructed	Remove obstruction
	Loose connections at terminal blocks	Clean and tighten wiring connections



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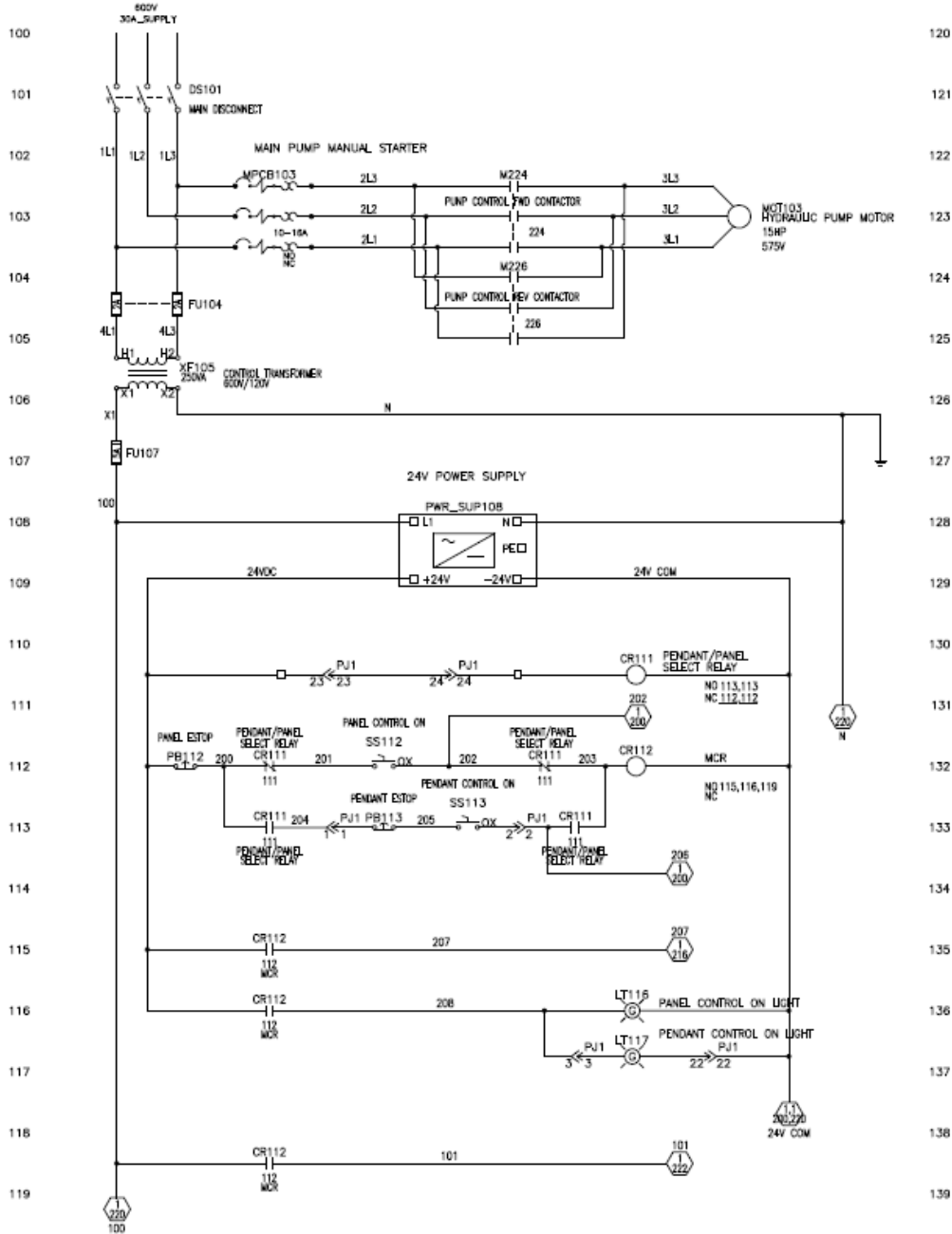
PLC Electrical Schematic





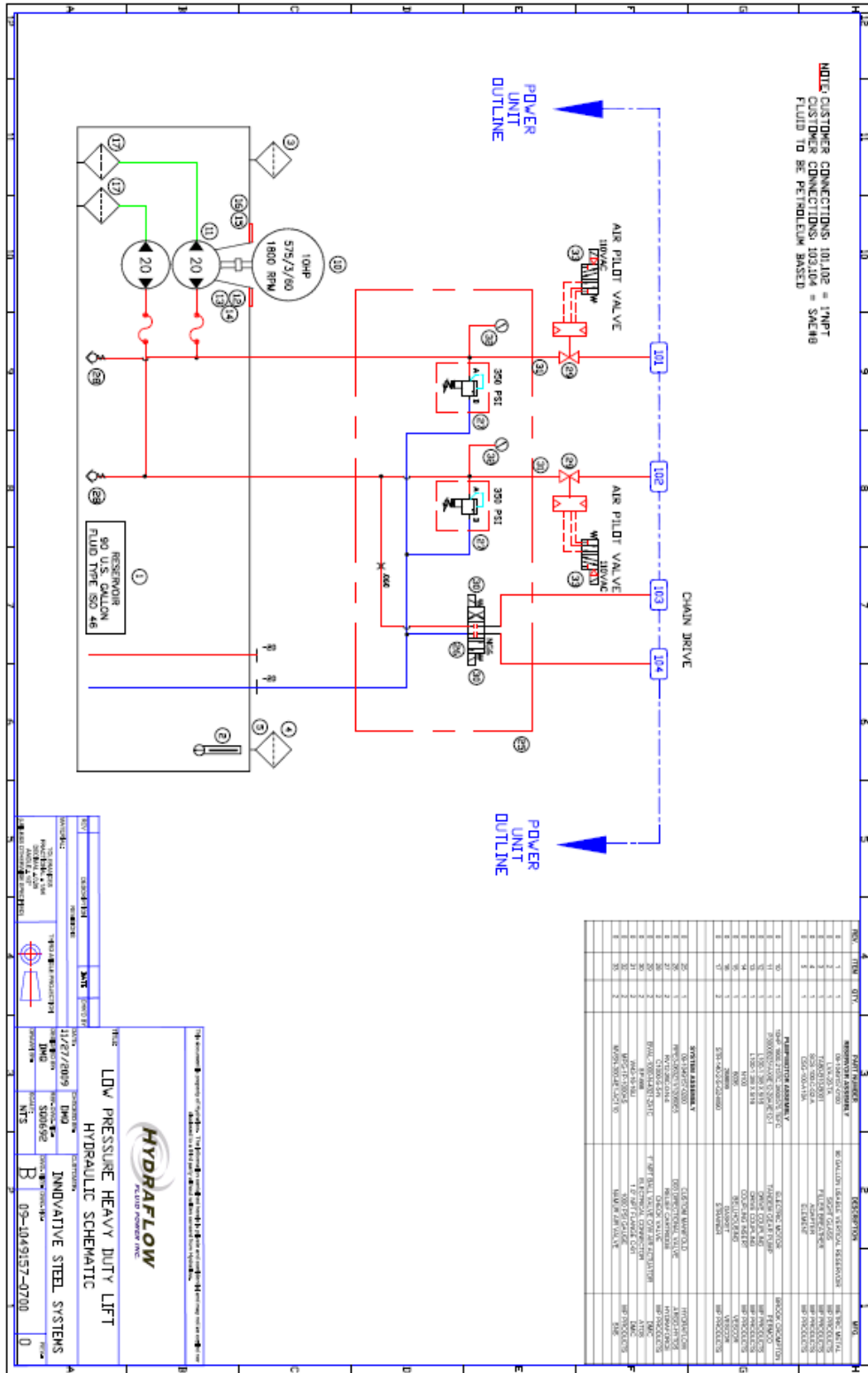
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PLC Electrical Schema Hydraulic Schematic





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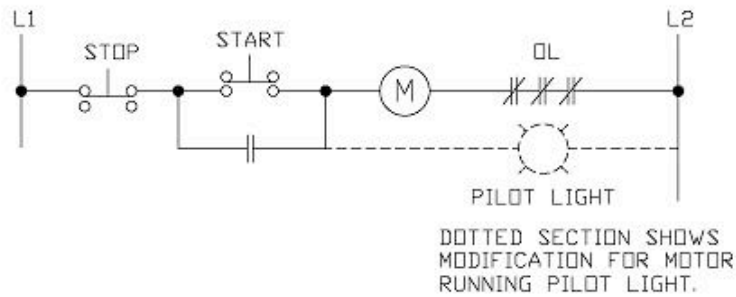


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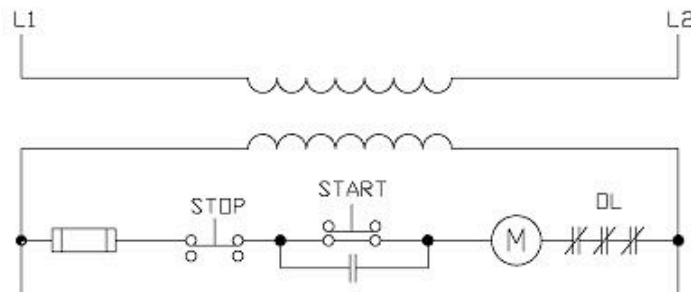
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Power Unit Wiring (Electric)

START-STOP PUSHBUTTON STATION-BASIC CIRCUIT

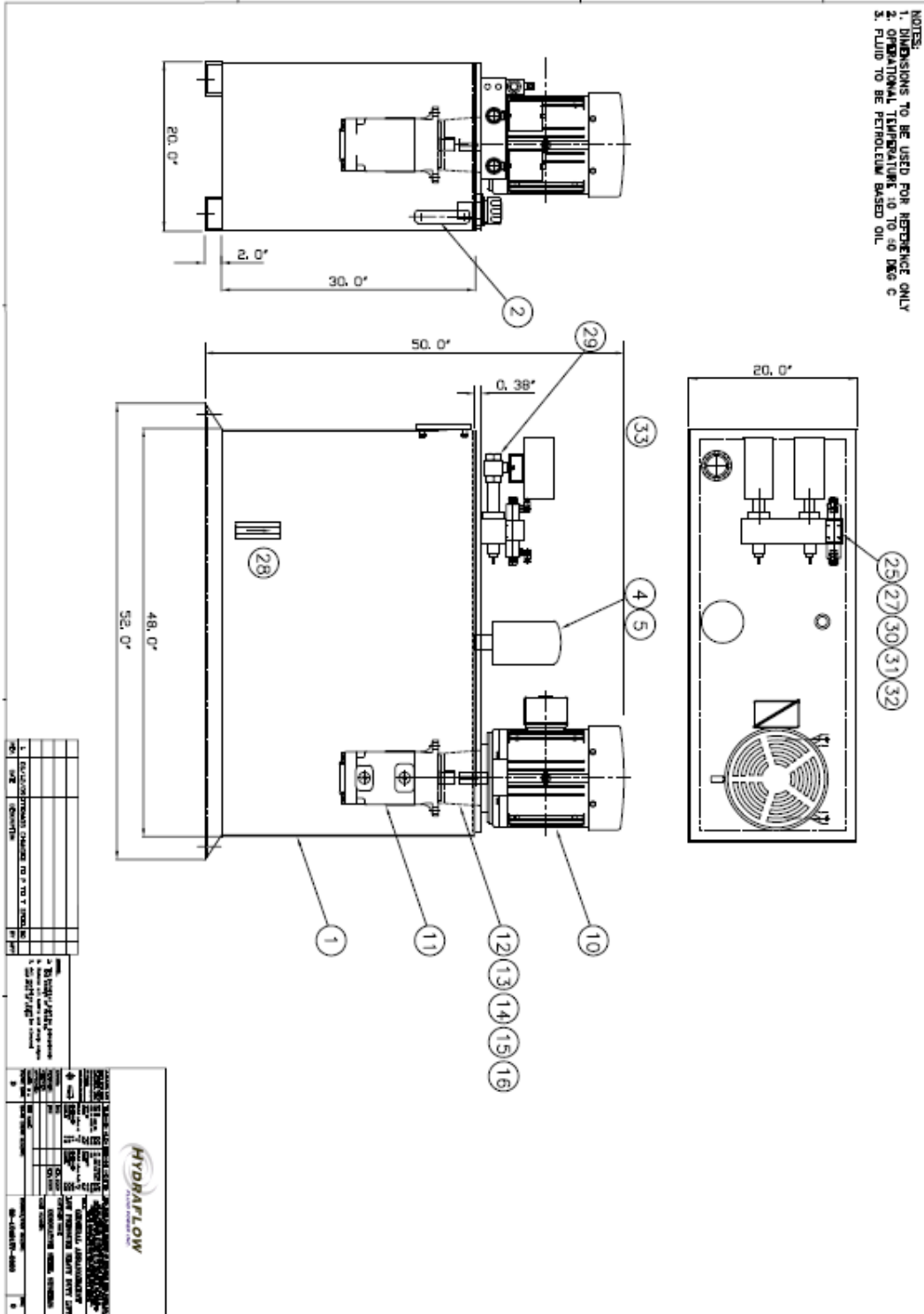


START-STOP PUSHBUTTON STATION WITH STEP-DOWN TRANSFORMER IN CONTROL CIRCUIT





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NOTES:
1. DIMENSIONS TO BE USED FOR REFERENCE ONLY
2. OPERATIONAL TEMPERATURE: 10 TO 50 DEG C
3. FLUID TO BE PETROLEUM BASED OIL



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Hydraulic Power Unit

COMPONENT PACKING LIST

QTY	PART NO	DESCRIPTION
1	218025	MOVABLE POST FRAME - STANDARD
1	218081	2Z DRIVE ASSEMBLY
2	220377	AXLE ASSEMBLY
1	220474	MOVABLE POST ASSEMBLY - STANDARD
1	220583	MOVABLE FRAME COVER - FRONT
2	220307	FRONT ADAPTOR
1	203614	MOVABLE FRAME COVER
1	203615	COVER PLATE EXTENSION
2	201818	MP COVER PLATE SPACER
1	220302	SUPERSTRUCTURE
6	220483	SOCKET HEAD CAP SCREW - 7/8"-9 x 3-1/2" LG
2	220585	HEX HEAD BOLT - 5/8"-11 x 1-1/2" LG
6	220586	WASHER - 5/8"
1	220484	HEX HEAD BOLT - 1"- 8 x 3" LG
1	220485	WASHER - 1" x 2.5" OD
2	220587	SLOTTED SPRING PIN - 3/8" x 1.1/2" LG
1	218042	FRONT FRAME - RECESSED
1	206005	2Z DRIVE
1	218072	IDLER SPROCKET
1	218072	IDLER SPROCKET
2	220377	AXLE ASSEMBLY
1	220553	FRONT CYLINDER ASSEMBLY - RECESSED
1	220302	SUPERSTRUCTURE
2	220307	FRONT ADAPTOR
1	203614	MOVABLE FRAME COVER
1	220583	MOVABLE FRAME COVER - FRONT
1	203615	COVER PLATE EXTENSION
2	205581	CARRIAGE BRACKET EXTENSION
2	201818	MP COVER PLATE SPACER
6	220483	SOCKET HEAD CAP SCREW - 7/8"-9 x 3-1/2" LG
1	220484	HEX HEAD BOLT - 1"- 8 x 3" LG
1	220485	WASHER - 1" x 2.5" OD
6	220586	WASHER - 5/8"
2	220585	HEX HEAD BOLT - 5/8"-11 x 1-1/2" LG
2	220587	SLOTTED SPRING PIN - 3/8" x 1.1/2" LG
1	207011	REAR PITFORM ASSEMBLY - 49"
1	220466	REAR CYLINDER ASSEMBLY
1	220350	LOCKING LEG
1	220302	SUPERSTRUCTURE
6	220483	SOCKET HEAD CAP SCREW - 7/8"-9 x 3-1/2" LG
1	220484	HEX HEAD BOLT - 1"- 8 x 3" LG
1	220485	WASHER - 1" x 2.5" OD
2	220316	REAR ADAPTOR, TRUCK



Maintenance Instructions

WARNING: If you are not completely familiar with automotive lift maintenance procedures then **STOP!** Contact the factory for instructions. Permit only qualified personnel to perform maintenance on the equipment.

NEVER: Run the power unit motor continuously. If the magnetic starter is not equipped with a timer, be sure to manually shut the system down by pushing the “STOP” button on the electrical control panel.

NEVER: Strike the plunger with any tools. Sharp edges may result in seal damage. If a leak occurs due to seal damage, inspect the plunger for sharp edges and sand smooth with fine emery paper before replacing seal. **NOTE:** If the plunger has been chromed, it will need to be re-chromed.

ALWAYS: Keep all packing gland bolts tight, torque to 150 ft.-lbs. If bolts are lost, replace with Grade 8 cap screws. The seal is self-adjusting. There should always be a thin film of fluid on the plunger for proper operation.

ALWAYS: Keep all bolts tight.

ALWAYS: Keep lift area, superstructure and trenches clean and free of tools, debris, grease, etc.

ALWAYS: Keep motor mounting bolts tight.

DAILY: Drain air compressor tank to eliminate accumulation of water. **DO NOT** rely on automatic drain. Excessive water is harmful to the lift system.

MONTHLY: Lubricate carriage rollers, housing door hinges, chains and sprockets.

MONTHLY: Lubricate the pivot pins on the latch release air cylinders and locking latches.

MONTHLY: Check adapters for distortion, broken parts, etc., and replace as required with Genuine HDL Replacement Parts.

MONTHLY: Check and keep superstructure to cylinder attachment bolts tight. Maintain 150 ft.-lbs. torque.

MONTHLY: Check and keep locking latch strut to superstructure bolts tight. Maintain 150 ft.-lbs. torque.




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MONTHLY: Check fluid seals at each cylinder and control valve seats for leakage. Replace as required with Genuine HDL Replacement Parts.

QUARTERLY: Check all hoses, pipes and fittings for leaks, damage or deterioration. Replace as required.

QUARTERLY: Lubricate roller chain and trench chain with a good grade of chain lube. Check for proper tension.

IMPORTANT	QUARTERLY: Check and keep roller channel free of debris.
	QUARTERLY: Check fluid levels in power unit at least once quarterly or as indicated by lift performance. Should cylinders stop short of full rise or the power units start to squeal, this is an indication the system may be low of fluid.

WARNING: Should you find the hydraulic system has lost fluid; it is imperative that the source of the fluid loss be diagnosed and repaired immediately. Environmental laws prohibit the discharge of contaminants in the subsoil or into sewer drains (without permit).



OPERATING INSTRUCTIONS

WARNING	Permit only trained personnel to operate the lift. After reviewing these instructions, get familiar with the lift controls by running the lift through a few cycles before loading a vehicle on the lift.
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Observe and heed any/all SAFETY and WARNING labels on the lift.

1. Lift must be fully lowered and service bay clear of all personnel and/or other obstructions before the vehicle is brought on the lift.
2. Position the lift saddles and adapters to provide unobstructed entrance of the vehicle onto the lift.
3. **Spotting:** Position the vehicle centered laterally over the lift cylinders and with the rear wheels centered in the wheel dishes.

NOTE	Some vehicles may have a low-slung differential housing or rear spring hanger brackets. It will be necessary to open the rear cylinder housing doors before positioning the vehicle over the lift. Some vehicle applications may require adapter selections that are not standard with this lift.
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4. **Lift Controls:** The release handles located in the control box / pedestal are designed to close when released.

IMPORTANT	Do Not block open or override the self-closing feature.
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5. **Loading:**

Electric/Hydraulic:

 - a. Start the power unit.
 - b. Locate the front superstructure under the vehicle manufacturer's recommended lift point by moving the cylinder forward or backward with the hydraulic drive. The hydraulic drive is controlled by the release handles located in the control box / pedestal.
 - c. Slide adapters to the proper vehicle manufacturer's recommended lift points. Adapter inserts (optional) are used to provide more clearance on some vehicles with independent front suspension.
 - d. Adjust rear adapter for picking up by the rear axle, slide the adapters to the vehicle



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manufacturer's recommended lift points.

WARNING	Before attempting to lift the vehicle, be sure that:
	<ul style="list-style-type: none"> • The vehicle's individual axle weight does not exceed the cylinder lift capacity. • The adapters are in secure contact with the vehicle manufacturer's recommended lift points. • Adequate overhead clearance is provided to raise the vehicle to the desired height.

6. To Raise Lift:

Electric/Hydraulic:

- a. Start the power unit if it is not already started.
- b. Swing the 'Rear' lever located in the control box / pedestal. Raise the rear cylinder out of the housing. Stop with the adapter just below the rear axle, by releasing the lever.
- c. Swing the 'Front' lever located in the control box / pedestal. Raise the front cylinder and stop the adapter just below making contact with the vehicle, by releasing the lever
- d. Check both front and rear adapters for lifting point alignment. Adjust adapters as required.
- e. Raise vehicle until the tires clear the floor by swinging both the 'Front' and the 'Rear' lever at the same time.

IMPORTANT	Check Adapter Contact: Stop and check adapters for secure contact at vehicle manufacturer's recommended lift points.

- f. Continue to raise the vehicle to the desired height. Always watch the vehicle. Maintain level front and rear while raising the vehicle.

IMPORTANT	Do Not enter under the vehicle unless all four adapters are in secure contact at vehicle manufacturer's recommended lift points and the locking latches are engaged.

- g. Lower the lift and repeat spotting and loading procedure if required.
- h. Turn off the power unit.

7. Locking Latches:

- a. The air-operated multi-position remote release locking latches are designed (spring actuated) to engage at 3" increments.
- b. Do not block the latches open or otherwise override this feature.

8. **While Using the Lift:** Avoid excessive rocking of the vehicle while it is on the lift.

9. **Before Lowering the Lift:** Remove any tool trays, safety stands, etc. from the area.



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NOTE	If the lift has been lowered onto the locking latches, it is necessary to raise the lift off of the locking latches (repeat raise procedure) before attempting to lower the lift.
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10. To Lower the Lift:

- a. Start the power unit.
- b. Depress the "Lock Latch Release" button to disengage the locking latches.

NOTE	Do Not release the "Lock Latch Release" button until the lift has reached the desired lowered position.
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- c. While depressing the "Lock Latch Release" button, swing both the 'Front' and the 'Rear' lever at the same time to lower the lift. Always watch the vehicle. Maintain level front and rear while lowering the vehicle.
- d. Remain clear of the lift and vehicle when lowering. Observe any pinch point WARNING decals.
- e. Lower both cylinders until the front cylinder has come to rest on the floor, and the rear cylinder has completely recessed into its housing.
- f. Turn off the power unit.
- g. Slide the front adapters in to provide an unobstructed exit before removing the vehicle from the lift.

IMPORTANT	If lift is not operating properly, Do Not use it until adjustments or repairs are made by qualified lift personnel.
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IDENTIFICATION OF MAIN PARTS OF HOIST

Front Frame

This is a long rectangular (2) piece frame constructed of structural channel with anchor bars welded to the outside of an angle frame. Angle frame is to be embedded in concrete and structural frame is to be bolted to bury portion. Each frame has steel track spacers welded to the channel frame. **DO NOT REMOVE STEEL SPACERS UNTIL CONCRETE HAS HARDENED.**

Movable Front Cylinder

Can be identified by the top frame, which has an angle arrangement at each end for assembly of the axles and wheels.

Rear Pit form

This is a rectangular frame with anchor bars on the outside, doors on the top and c-channels at the bottom.

Fixed Rear Cylinder

This cylinder has a rectangular top plate for assembly into the rear pit form.

Pump Unit

Electric motors pump assembly on an oil tank with control valves.

LOCATING THE HOIST

The hoist should be located to provide proper access and working clearance for the vehicle.

Establish a longitudinal centre line the full length of hoist and a lateral centre line at right angles for the rear pit form.

EXCAVATION

Excavate to suit drawing dimensions making allowance for concrete thickness.

Make allowance in excavations for sump or drain if required.



CONCRETING

Pour concrete to the open pit floor with sump or drain if specified.

Form and pour pit walls up to bottleneck cast in walls conduit to pump unit control box and support frame as per “PD” general layout drawing.

Set top of front frame flush with floor level and check dimension “B” on “PD” general layout drawing.

Place rear pit form onto support frame, check centre line position with front frame and weld in place. Top of frame should be flush with floor level.

Pour concrete around all frames and wood forms to finished floor level.

Form wheel dishes in rear pit form.

After concrete has hardened, remove steel bar spacers' tack welded in front frame.

INSTALLATION OF POWER UNIT

Level oil tank and anchor with four 3/8” bolts to floor next to conduit outlet.

Fill oil tank with SAE 32 light hydraulic oil.

INSTALLATION OF MOVABLE FRONT CYLINDER

Insert axle assemblies into channel track with holes facing up. Space the axles approximate the width of the trolley.

Carefully lower the front cylinder until it is just above the axles. Place bumper bracket with holes aligned. Bolt cylinder, bumper brackets to axles with hex bolts, lock washers and hex nuts.

Place a spirit level across the top machined face of the plunger and check for level in both directions. Shim if necessary between the axles and the trolley angles as shown in drawing 128051. Re-Check plunger for level in both directions and tighten hex bolts.



INSTALLATION OF FIXED REAR CYLINDER

Carefully lower the rear cylinder into the rear pit form until it engages over the 4 studs in the channel frame of the rear pit form.

Place a spirit level across the top machined face of the plunger and check for level in both directions. Shim if necessary under cylinder flange. Re-check plunger for level in both directions and tighten hex nuts with washers.

INSTALLATION OF HYDRAULIC MOTOR CHAIN DRIVE

Attach chain sprocket assembly to frame with 2 hex bolts.

Attach air motor assembly to frame opposite to control box.

Fit chain around sprockets and attach to cylinder with 2 brass bolts.

Connect valve to air motor.

INSTALLATION OF HYDRAULIC PIPING TO CYLINDERS



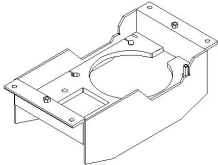
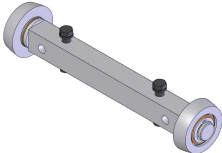
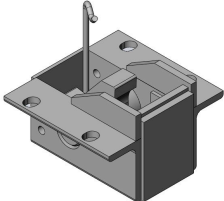
Connect front cylinder with two 3/8 hydraulic hoses with a long loop to pit wall and adapter and two 3/8 hydraulic hoses to front oil valve on pump unit.

Connect Rear cylinder with two 3/8 hydraulic hoses to rear oil valve on pump unit.



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Replacement Parts – Movable Post

Part Number	Description	Image
218107	10" Front Cylinder Plunger	
218253	10" Front Cylinder Plunger (Recessed)	
218340	10" Front Carriage	
215405	10" Front Axle Assembly	
218380	Safety Latch Assembly	



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215140	10" Front Safety Leg (X-Leg)	
211346	10" Front Superstructure (Bolster)	
215751	10" Front Adapter	
219533	10" Front Flip-up Adapter	
218081	10" Dual Chain Drive	
219995	10" Wiper / Packing Seal Kit	
218492	10" Cylinder Sleeve	



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215361	Twin 10" Rear Cylinder Plunger	
204165 / 200071	Twin 10" Rear Safety Latch Assembly	
215142	Twin 10" Rear Safety Leg (X-Leg)	
204795	Twin 10" Rear Superstructure (Bolster)	
220198	Twin 10" Rear Truck Adapter	
215750	Twin 10" Rear Bus Adapter	



Service Technician Notes

IMPORTANT	Please follow these instructions carefully to ensure a proper service and correct operation of the lift.

Check your complete shipment against the shipping papers. Enter claims for damage or shortage with the delivering carrier at once.

5. After service, please return this booklet to the literature package and give the entire package to the lift owner/operator.
6. The literature package should be stored and maintained for easy access for the lift operator.
7. Please review all service instructions before beginning excavation.
8. Keep excavated hole covered and barricade excavated area when work is not in progress.

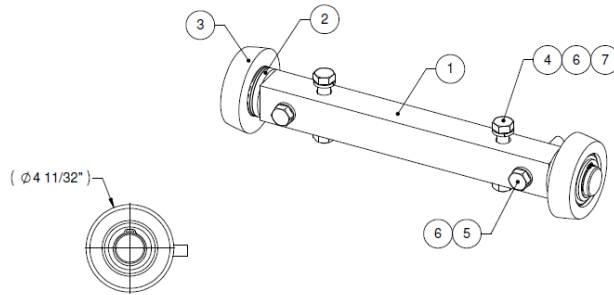
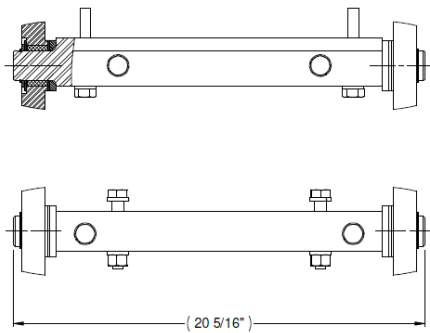
WARNING	Restrict all persons from going near excavation. OSHA and/or OHS standards prohibit anyone from entering an excavated hole, unless OSHA and/or OHS guidelines are followed.



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Axle/Wheel Replacement Procedure

ITEM	QTY	PART NO	REV	DESCRIPTION	MATERIAL	MAKE FROM	CUT LENGTH	OPERATION
1	1	220378	-	AXLE	4140 HTSR (100,000 PSI MIN. YIELD STRENGTH)	FLAT BAR - 2" x 2-1/2"	20.5	SAW/MACHINE
2	2	220379	-	WHEEL SPACER	1018	ROUND BAR - 2-1/2"	48	SAW/MACHINE
3	2	220380	-	WHEEL ASSEMBLY			0	ASSEMBLE
4	2	220386	-	HEX HEAD CAP SCREW - 5/8"-11 X 3-1/2" LG	Steel, Grade 5, Zinc Plated		0	PURCHASE
5	2	220387	-	HEX HEAD CAP SCREW - 5/8"-11 X 4" LG	Steel, Grade 5, Zinc Plated		0	PURCHASE
6	6	220388	-	LOCK WASHER - 5/8"	Steel, Zinc Plated		0	PURCHASE
7	2	220389	-	HEX NUT - 5/8"-11	Steel, Grade 5, Zinc Plated		0	PURCHASE



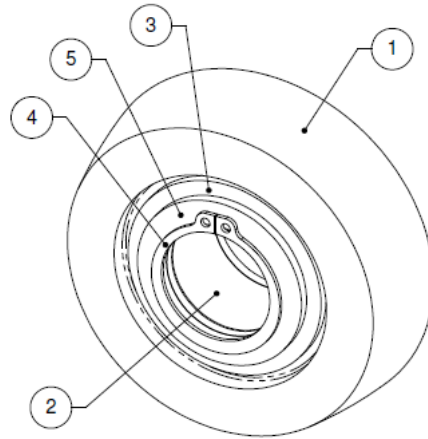
A	FIRST ISSUE	ECN	4/3/2012	RM	APVD
REV	DESCRIPTION	ECN	DATE	BY	APVD
REVISIONS					
UNLESS OTHERWISE SPECIFIED		PROPRIETARY NO PART OF THIS DOCUMENT MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, WITHOUT THE WRITTEN PERMISSION OF TIS INNOVATIVE STEEL SYSTEMS INC.			
DO NOT SCALE DRAWING DIMENSIONS ARE IN INCHES TOLERANCES APPLY AS SHOWN BELOW 1/16 DEC .001 1/8 DEC .002 1/4 DEC .005 3/8 DEC .010 1/2 DEC .015 3/4 DEC .020 1 DEC .025 1 1/2 DEC .030 2 DEC .040 3 DEC .050 4 DEC .060 5 DEC .070 6 DEC .080 8 DEC .100 10 DEC .125 12 DEC .150 16 DEC .200 20 DEC .250 25 DEC .315 30 DEC .375 40 DEC .500 50 DEC .625 60 DEC .750 80 DEC 1.000 100 DEC 1.250 125 DEC 1.562 160 DEC 2.000 200 DEC 2.500 250 DEC 3.125 315 DEC 4.000 400 DEC 5.000 500 DEC 6.250 630 DEC 8.000 800 DEC 10.000 1000 DEC 12.500		TIS INNOVATIVE STEEL SYSTEMS INC. AXLE ASSEMBLY 10" MP B 220377 A			
THIRD ANGLE PROJECTION		TITLE: AXLE ASSEMBLY DATE: Aug 13, 2010 DRAWN BY: [Signature] CHECKED BY: [Signature] APPROVED BY: [Signature] DATE: Aug 13, 2010 SCALE: 1:4 WEIGHT: 31.426 lbs SHEET 1 OF 1			

IMPORTANT

Please follow these instructions carefully to ensure proper service and correct operation of the lift.



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ITEM	QTY	PART NO	REV	DESCRIPTION
1	1	220381	-	WHEEL
2	1	220382	-	BUSHING - 2" OD X 1-1/2 ID X 1" LG
3	2	220383	-	THRUST WASHER - 2-1/2" OD x 1.508/1.504 ID
4	1	220384	-	RETAINING RING - EXTERNAL, FOR 1-1/2" SHAFT
5	1	220385	-	SHIM WASHER, 2 1/8" OD X 1.511/1.500 ID

1. Remove item 4 listed above with tool.
2. Remove item 5 from shaft end.
3. Slide item 3 from shaft end.
4. Inspect Bushing item 2 for any signs of wear, replace if necessary.
5. Lubricate shaft end with oil or light non-dust attracting grease before replacing item 1.
6. Reverse procedure to replace wheel.

IMPORTANT	Be sure to lubricate bushing prior to installing on shaft end.
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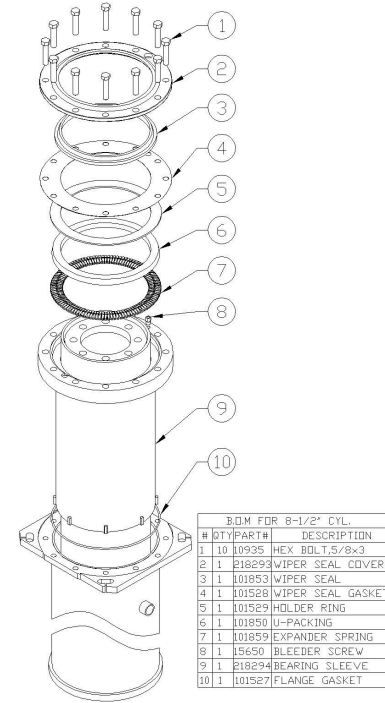


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Seal Kit Replacement Procedure

Removal of Plunger - "U" Packing

1. With Hoist in lowered position and air valve in exhaust position, remove bolster, air vent plug and all hex bolts in top cylinder wiper seal cover.
2. Remove top casting wiper spring, wiper and gasket. Pry up packing retainer ring (slot provided in bearing casing) with screwdriver and remove.
3. "Jack up" upper guide bearing, including packing and spring, with $\frac{3}{4}$ "-10 NC bolts in two tapped holes in bearing. Remove "U" packing, expander spring and flange gasket.

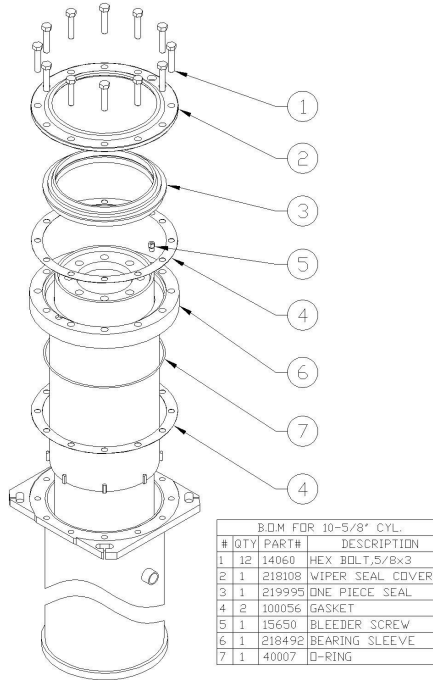


Removal of Plunger - One Piece Seal

1. With Hoist in lowered position and air valve in exhaust position, remove bolster, air vent plug and all hex bolts in top cylinder wiper seal cover.
2. Remove wiper seal cover and gasket. Pull out bearing sleeve, including "One Piece" seal with two $\frac{3}{4}$ "-10 NC eye bolts in two tapped holes in bearing sleeve. Remove O-ring and gasket. Inspect two UHMW wear strips inside the bearing sleeve, replace if necessary.



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B.O.M FOR 10-5/8" CYL.		
#	QTY	PART# DESCRIPTION
1	12	14060 HEX BOLT,5/8x3
2	1	218108 WIPER SEAL COVER
3	1	219995 ONE PIECE SEAL
4	2	100056 GASKET
5	1	15650 BLEEDER SCREW
6	1	218492 BEARING SLEEVE
7	1	40007 O-RING

Replacement of Plunger - "One Piece" Seal

1. Clean cylinder flange surface, bearing sleeve and wiper seal cover. Place new gasket in position. Be sure gasket is perfectly flat. Place new O-ring into bearing sleeve; use heavy grease to hold O-ring in place.
2. Apply a thin coat of hydraulic oil around plunger for new seal installation.
3. Position bearing sleeve into cylinder casing so that it is raised approximately 4" above fully seated position (using blocks).
4. Insert "One Piece" seal into raised bearing sleeve. Make sure seal is properly seated.
5. Insert "Seal Expander" tool into "One Piece" seal so that the top of the tool is aligned with the top of the seal.
6. Bolt "Seal Installation Flange" on to bearing sleeve using two (2) existing bolts.
7. Raise the piston up so that "Seal Expander" tool is resting on the piston. The blocks used to position the bearing sleeve can now be removed.
8. Push the sleeve on to the raised piston. This will force out the "Seal Expander" tool. The tool can now be removed. Check to make sure that bearing sleeve O-ring is still in place.
9. Lower the piston, "One Piece" seal, and bearing sleeve in to the cylinder casing. Be sure to align holes in bearing sleeve with holes in cylinder casing while lowering.
10. Remove the two (2) bolts from the "Seal Installation Flange". The flange can now be removed.
11. Make sure new seal is properly seated. Align wiper seal cover to bearing sleeve, replace all hex bolts and tighten down evenly to 110-ft./lb. torque.
12. Replace "air vent" plug, bleed air from cylinder and tighten vent plug.
13. Check oil level in reservoir. For Semi-Hydraulic hoist, remove fill plug and add oil until oil level is slightly below airline tube. For full hydraulic hoist, check fill plug gauge on oil tank and fill to proper level.
14. After a week of operation, retighten all hex bolts



HYDRAULIC OIL CHART

For best results, use hydraulic oil with a viscosity of 150 S.S.U. at 100°F, containing corrosion, rust, oxidation and foam inhibitors (ISO 32).

Listed below are sample brands, which fall in the above category and can, therefore, be recommended:

Castrol Oil – Castrol Hydraulic	Quaker State – HD-10
Imperial Oil – Teresso 32	Shell Oil – Tellus 32
Pennsylvania Oil – Merit SD	Texaco – Rando Oil 32

* For all other oil companies not listed, use their hydraulic oil equivalent to the above specifications. *



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Locking Latch Assembly Replacement Procedure

ITEM	QTY	PART NO	REV	DESCRIPTION	MATERIAL	MAKE FROM	OPERATION
1	1	103932	A	AIR CYLINDER BRACKET WELDMENT			FIT/WELD
2	1	218337	C	FRONT LATCH HOUSING			FIT/WELD
3	1	220356	A	LATCH PROFILE	4140 HTSR	PLATE - 2"	BURN/MACHINE
4	1	220355	A	LATCH PIVOT PIN	4140 HTSR	ROUND BAR - 2"	SAW/MACHINE
5	1	220431	-	AIR CYLINDER, SPRING RETN. 1.5" BORE, 1 STROKE		HUMPREY 5-S-1	PURCHASE
6	1	220357	-	SPRING ANCHOR 3/8-16 X 1.5 LG, 0.156 ID		MISUMI U-AIPO 0.38 - L 1.50	PURCHASE
7	1	100570	-	SPRING	Steel, Plain Finish		PURCHASE
8	2	220440	-	HEX HEAD BOLT - 1/2"-19 X 1-1/2" LG	Steel, Grade 5, Zinc Plated		PURCHASE
9	2	220442	-	WASHER - 1/2"	Steel, Grade 5, Zinc Plated		PURCHASE
10	2	220441	-	SOCKET SET SCREW - 3/8"-16 X 1/2" LG	Steel, Plain Finish		PURCHASE
11	1	220443	-	GREASE FITTING - 1/8"	Steel, Plain Finish		PURCHASE

A	FIRST ISSUE	ECN	3/28/2012	AR	
REV	DESCRIPTION	ECN	DATE	BY	APVD
REVISIONS					
UNLESS OTHERWISE SPECIFIED		PROPRIETARY			
DO NOT SCALE DRAWING		NO PART OF THIS DOCUMENT MAY BE REPRODUCED			
DIMENSIONS ARE IN INCHES		WITHOUT THE WRITTEN PERMISSION OF			
TOLERANCES APPLY AS SHOWN BELOW		INNOVATIVE STEEL SYSTEMS INC.			
FRACTIONS		DECIMALS			
1/16" = .0625"		1/10" = .1"			
1/32" = .03125"		1/50" = .02"			
3/32" = .09375"		1/25" = .04"			
1/8" = .125"		1/20" = .05"			
3/16" = .1875"		1/10" = .1"			
1/4" = .25"		1/5" = .2"			
3/8" = .375"		3/16" = .1875"			
1/2" = .5"		1/4" = .25"			
5/8" = .625"		3/8" = .375"			
3/4" = .75"		1/2" = .5"			
7/8" = .875"		5/8" = .625"			
1" = 1.0"		3/4" = .75"			
1 1/8" = 1.125"		7/8" = .875"			
1 1/4" = 1.25"		1" = 1.0"			
1 3/8" = 1.375"		1 1/8" = 1.125"			
1 1/2" = 1.5"		1 1/4" = 1.25"			
1 5/8" = 1.625"		1 3/8" = 1.375"			
1 3/4" = 1.75"		1 1/2" = 1.5"			
1 7/8" = 1.875"		1 5/8" = 1.625"			
2" = 2.0"		1 3/4" = 1.75"			
2 1/8" = 2.125"		1 7/8" = 1.875"			
2 1/4" = 2.25"		2" = 2.0"			
2 3/8" = 2.375"		2 1/8" = 2.125"			
2 1/2" = 2.5"		2 1/4" = 2.25"			
2 5/8" = 2.625"		2 3/8" = 2.375"			
2 3/4" = 2.75"		2 1/2" = 2.5"			
2 7/8" = 2.875"		2 5/8" = 2.625"			
3" = 3.0"		2 3/4" = 2.75"			
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25 7/8" = 25.875"		25 5/8" = 25.625"			
26" = 26.0"		25 3/4" =			



Owner/Employer Responsibilities

The owner/employer:

Shall ensure that lift operators are qualified and that they are trained in the safe use and operation of the lift using the manufacturer's operating instructions; ALI/SM, "Lifting It Right" safety manual; ALI/ST, "Safety Tips" card; ANSI/ALI ALOIM, Standard for Automotive Lifts – Safety Requirements for Operation, Inspection and Maintenance; ALI/WL Series, ALI Uniform Warning Label Decals/Placards; and in the case of frame engaging lifts, ALI/LP-Guide, "Quick Reference Guide – Vehicle Lifting Points for Frame Engaging Lifts".

Shall establish procedures to periodically inspect the lift in accordance with the lift manufacturer's instructions or ANSI/ALI ALOIM, Standard for Automotive Lifts – Safety Requirements for Operation, Inspection and Maintenance; and the employer shall ensure that lift inspectors are qualified and that they are adequately trained in the inspection of the lift.

Shall establish procedures to periodically maintain the lift in accordance with the lift manufacturer's instructions or ANSI/ALI ALOIM, Standard for Automotive Lifts – Safety Requirements for Operation, Inspection and Maintenance; and the employer shall ensure that lift maintenance personnel are qualified and that they are adequately trained in the maintenance of the lift.

Shall maintain the periodic inspection and maintenance records recommended by the manufacturer or ANSI/ALI ALOIM, Standard for Automotive Lifts – Safety Requirements for Operation, Inspection and Maintenance.

Shall display the lift manufacturer's operating instructions; ALI/SM, "Lifting It Right" safety manual; ALI/ST, "Safety Tips" card; ANSI/ALI ALOIM, Standard for Automotive Lifts – Safety Requirements for Operation, Inspection and Maintenance; ALI/WL Series, ALI Uniform Warning Label Decals/Placards; and in the case of frame engaging lifts, ALI/LP-Guide, "Quick Reference Guide – Vehicle Lifting Points for Frame Engaging Lifts"; in a conspicuous location in the lift area convenient to the operator.

Shall provide necessary lockout/tag out means for energy sources per ANSI Z244.1-(Current Edition), Safety Requirements for the Lockout/Tag out of Energy Sources, before beginning and lift repairs.

Shall not modify the lift in any manner without the prior written consent of the manufacturer.



KAR LIFT SOLUTIONS
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FASTENER TORQUE CHARTS

DIAMETER & THREADS PER INCH	BOLT CLAMP LOADS									
	USS/SAE GRADE 5					USS/SAE GRADE 8				
	TENSILE STRENGTH MIN. PSI	PROOF LOAD LBS.	CLAMP LOAD LBS.	TORQUE DRY FT. LBS.	LUBRICATED FT. LBS.	TENSILE STRENGTH MIN. PSI	PROOF LOAD LBS.	CLAMP LOAD LBS.	TORQUE DRY FT. LBS.	LUBRICATED FT. LBS.
1/4-20 28	120,000	2,700	2,020	8	6.3	150,000	3,800	2,850	12	9
	120,000	3,100	2,320	10	7.2	150,000	4,350	3,250	14	10
5/16-18 24	120,000	4,450	3,340	17	13	150,000	6,300	4,700	24	18
	120,000	4,900	3,700	19	14	150,000	6,950	5,200	27	20
3/8-16 24	120,000	6,600	4,950	30	23	150,000	9,300	6,980	45	35
	120,000	7,450	5,600	35	25	150,000	10,500	7,900	50	35
7/16-14 20	120,000	9,050	6,780	50	35	150,000	12,800	9,550	70	50
	120,000	10,100	7,570	55	40	150,000	14,200	10,650	80	60
1/2-13 20	120,000	12,100	9,050	75	55	150,000	17,000	12,750	110	80
	120,000	13,600	10,200	85	65	150,000	19,200	14,400	120	90
9/16-12 18	120,000	15,500	11,600	110	80	150,000	21,800	16,350	150	110
	120,000	17,300	12,950	120	90	150,000	24,400	18,250	170	130
5/8-11 18	120,000	19,200	14,400	150	110	150,000	27,100	20,350	210	160
	120,000	21,800	16,350	170	130	150,000	30,700	23,000	240	180
3/4-10 16	120,000	28,400	21,300	260	200	150,000	40,100	30,100	380	280
	120,000	31,700	23,780	300	220	150,000	44,800	33,500	420	310
7/8-9 14	120,000	39,300	29,450	430	320	150,000	55,400	41,600	600	450
	120,000	43,300	32,450	470	350	150,000	61,100	45,800	670	500
1-8 14	120,000	51,500	38,600	640	480	150,000	72,700	54,500	910	680
	120,000	57,700	43,300	720	540	150,000	81,500	61,100	1,020	760



Periodic Qualified Inspection

Note: Some activities performed during inspections are subject to compliance with established OSHA standards including, but not limited to: personal protective equipment, walking-working surfaces, hazardous materials, lockout/tag out, compressed gas and compressed air equipment and; machinery and machine guarding. Owners/employers are responsible for ensuring compliance with the requirements of the applicable standards.

1. Owners/employers shall establish a periodic inspection procedure in accordance with the recommendations of the lift manufacturer.
2. A “qualified” automotive lift inspector shall have the following qualifications:
 - a) knowledge of personal safety practices necessary to perform routine and periodic inspections;
 - b) familiarity with industry terminology;
 - c) ability to read and understand equipment manuals, drawings and parts lists;
 - d) knowledge of purpose and function of all components, devices and accessories commonly employed on automotive lifts;
 - e) working knowledge of electrical and electronic control circuit principles as applied to the operation of pumps, motors, valves and switches;
 - f) working knowledge of mechanical principles as applied to structures, machines, mechanisms and the effects of traction on ropes, chains and sheaves;
 - g) working knowledge of hydraulic principles as applied to the operation of valves, pumps, cylinders (plungers) and piping;
 - h) working knowledge of pneumatic principles as applied to the operation of valves, compressors, cylinders (plungers), pressure vessels and piping; and
 - i) knowledge of the many and varied types and styles of automotive lifts, their uses, and any limitations or restricted applications.
3. Training for “qualified” inspectors must be achieved through experience in installation or field service work for users, manufacturers, distributors or service organizations for automotive lift products.
4. Documentation – a record of each periodic inspection shall be prepared and maintained noting all observations and findings, as well as, all repairs or replacements accomplished. The owner/employer must acknowledge the findings of the inspection by signing the inspection certificate (Appendix A-3).
5. Frequency – owners/employers shall follow the recommendations of the manufacturer as to frequency. As a minimum, all inspection points (Appendix A-4) must be checked and documented at least **annually**.



General Specifications – Movable Post

The MP-210 hoist consists of a stationary rear 10" post, a hydraulically operated moveable 10" front post, a locking system, a control box and a hydraulic power unit.

Each post is equipped with an automatic locking leg system capable of supporting the full rated hoist in the event of hydraulic failure. Disengagement of the automatic locking latch (for lowering) is controlled by an air valve located in the control box.

The adjustable position front post is moved by a hydraulic system controlled by a valve located in the control box. Both cylinders are controlled by $\frac{3}{4}$ " Barksdale valve located in the control box.

The long front pit is covered by hinged sections of non-skid floor plate attached on either side of the post plus short removable sections if required. The hinged sections can be flipped over and the removable sections attached to either end.

The hydraulic power unit has an electric motor drive and is controlled by a pushbutton switch. See hydraulic details enclosed in this manual for details.



Operator Training Log

Employer: _____

Operator: _____

Employee #: _____

Lift
Manufacturer: _____

Lift Model: _____

Serial No: _____

Lift Capacity: _____

Operator qualifications: _____

Training received:

Manufacturer's Instructions

Warning Labels

"Lifting It Right" Video

Lifting Point Guide

Safety Tips

Notes: _____

I certify that I possess the qualifications for an automotive lift operator and that I have received the required training to operate the lift.

Operator Signature

Date

I certify that the operator shown above possesses the qualifications to be an automotive lift operator and has received the required training.

Supervisor Signature

Date



KAR LIFT SOLUTIONS
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Operator Daily Lift Inspection Checklist

Operator: Review all items prior to use of the lift.

No.	Lift Checkpoint	OK	Fix	Comments
1	Accessibility and readability of the operating procedures, safety tips and generic safety material			
2	Accessibility and readability of safety warning labels			
3	Readability of the rated load capacity			
4	Proper operation of the lift controls, restraints and locking devices			
5	Deformation or excessive wear of any of the lift structural components			
6	Deformation or excessive wear of other components such as hoses, electrical wires, drive chains, cables or screws			
7	Damage or excessive wear on any of the lift contact points which engage the vehicle during lifting			
8	Evidence of hydraulic or pneumatic leaks			
9	Unusual noises, sudden movements, erratic operation or evidence of chips or filings during use			
10	Cracks or loose concrete around floor anchor bolts, if employed			



Inspection Certificate

Lift Owner/Employer: _____

Qualified Inspector Name: _____

Qualified Inspector Company: _____

Lift Manufacturer: _____

Lift Model: _____ Serial No.: _____

Lift Capacity (pounds): _____

Lift Type:

Hydraulic

Inspection Points

Attach checklist furnished by manufacturer or equivalent checklist from ALI ALOIM-2000 indicating the observations and findings of all points of inspection recommended by the manufacturer, any adjustments made and parts replaced.

I certify that I meet the requirements of ALI ALOIM-2000 paragraph 5.2 for qualified lift inspector and that I have successfully completed the training for qualified lift inspector as described in ALI ALOIM-2000 paragraph 5.3.

Inspector Signature

Date

This inspection is not intended as a guarantee against failure or malfunction. Its purpose is to verify that the lift has been maintained in a reasonable and safe manner and that the supporting documents supplied by the manufacturer are accessible to the operator to assist in the safe operation of the lift and to call attention to repairs that may be needed to correct existing or potential malfunctions where such can be determined by visual and ordinary examination methods. The inspector or the inspector's company assumes no liability for the use, operation, management or control of this lift.



KAR LIFT SOLUTIONS
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MONTHLY AUTO LIFT INSPECTION

Make: _____ Model: _____ Serial # _____

Instructions:

1. Check (✓) the appropriate box as each item is completed. If there is more than one inspector, each person will initial the item they inspected.
2. Record comments, observations and the date items were repaired or replaced.
3. If any item was not inspected, write "NI" in the comments box. If any item is not applicable to this auto lift, write "NA".
4. Sign and date at the bottom when all items are completed.

Inspection / Service Item	OK	Needs Repair	Repaired/ Replaced	Comments / Date Repaired or Replaced
15 minute leak test (vehicle elevated)				
HYDRAULIC SYSTEM				
CAPACITY _____ lbs				
Test Function:				
Oil Level & Inspect for Leaks:				
Valves:				
Hoses:				
CABLES, CHAINS, V-BELTS, SPINDLES				
Check for Excess Play:				
Amount of Wear:				
Cables Lubricated:				
Pulleys Greased:				
PULLEYS, PINS & SPROCKETS				
Condition:				
COLUMNS, POSTS				
Rust / Damage / Wear:				
Alignment:				
Rubbing Blocks or Guide Rollers:				
ROLLING BRIDGE, WHEEL FREE				
CAPACITY _____ lbs				
Leak Test:				
Locks:				
Rollers or Slides:				
GENERAL				
Decking & Covers Secured:				
Anchor Bolts & Other Fasteners:				
Swing Arm Restraints, Telescoping Stops:				
Wheel Chocks:				
Runway Stops:				
Drive-up Ramps:				
Test Lift Locks:				
Inspect / Test Other Safety Features:				
ELECTRICAL				
Function of Switches:				
Limit Switch:				
Condition of Terminals:				
OTHER				

Inspected by: _____ Date completed: _____



Periodic Inspection Checklists

This checklist is to be used for all automotive lifts and for accessory wheels-free devices employed on lifts with runway superstructures. Use supplementary periodic inspection checklists for specific automotive lift classes.

Inspection Points

1. Record location of manufacturer instructions or generic instructions.
2. Check accessibility and readability of safety warning labels.
3. Record rated load capacity of the lift.
4. Record manufacturer name, model number and serial number.
5. Confirm adequacy of clearances around lift.
6. Examine all structural components including welds.
7. Examine electrical components and wiring.
8. Check the lift controls.
9. On lifts using runways, check to ensure proper operation of all features.
10. On lifts using swing arms, check telescoping stops.
11. On lifts requiring swing arm restraints, check for proper function.
12. Check all fastening devices for tightness including floor anchor bolts.
13. Check exposed surfaces and edges.
14. Operate the lift and check the operation of the positive stop and the lift locks.
15. On lifts employing adapters, check condition and proper operation.
16. With a representative vehicle on the lift check the lowering speed.
17. Check all points requiring lubrication.
18. On lifts equipped with lateral synchronization or equalization systems, check the operation of the systems.
19. On lifts incorporating working platforms, railings and stairways, check the railings and the walking surfaces.
20. On lifts incorporating overhead structures, verify the safety shutoff.
21. Inspect all cables and chains.
22. Check the tracking and level winding of cables and chains.
23. Report unguarded pinch points.



24. Confirm single point operation of multiple powered posts.
25. Report water in sub-floor pits or enclosures.

Supplemental Inspection Points Hydraulic and Hydraulically Driven Mechanical Lifts

1. Check all accessible piping, tubing, hose, valves and fittings. Review lift oil consumption records.
2. Operate lift through full excursion and observe.
3. With lift loaded, stop the load at midpoint of travel and observe.
4. Check with operator to ascertain any unusual operation characteristics.
5. On lifts which incorporate trench covers, verify the proper operation.
6. On air-oil lifts check for low oil control.
7. Confirm cylinder venting provisions.
8. Confirm rotation prevention device on single post lifts.
9. On lifts utilizing pumping units, confirm adequacy of oil level at fully raised position.

Supplemental Inspection Points Mechanical and Hydraulically Driven Mechanical Lifts

1. Check for the proper operation of the slack suspension cable or slack suspension chain sensing system.
2. Check the operation of the screw drive systems. Check for proper lubrication.
3. Check screw drive systems for proper operation of the follower or safety nut.
4. Run the lift through its full cycle and check for shut off at top and bottom of travel. Check the operation of multiple screw systems.
5. On mobile wheel engaging lifts, check the mobility of the individual units.



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SAFETY WARNING LABELS FOR INGROUND LIFTS

<p>⚠ WARNING</p> <p>Avoid excessive rocking of vehicle while on lift.</p> <p>©</p>	<p>⚠ WARNING</p> <p>Chock wheel to prevent vehicle movement.</p> <p>©</p>	<p>⚠ WARNING</p> <p>Clear area if vehicle is in danger of falling.</p> <p>©</p>
<p>⚠ WARNING</p> <p>Do not override self-closing lift controls.</p> <p>©</p>	<p>⚠ WARNING</p> <p>DO NOT remove oil fill plug before reading manufacturer's manuals.</p> <p>©</p>	<p>⚠ WARNING</p> <p>Keep feet clear of lift while lowering.</p> <p>©</p>
<p>⚠ WARNING</p> <p>Position vehicle center of gravity over lift.</p> <p>©</p>	<p>⚠ WARNING</p> <p>Remain clear of lift when raising or lowering vehicle.</p> <p>©</p>	<p>⚠ WARNING</p> <p>Use lift locking device or 4 stands to support vehicle.</p> <p>©</p>



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CAUTION



Always use safety stands when removing or installing heavy components.

CAUTION



Authorized personnel only in lift area.

CAUTION



Auxiliary adapters may reduce load capacity.

CAUTION



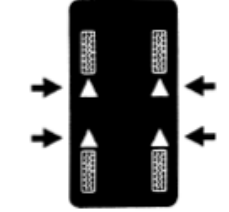
Lift to be used by trained operator only.

CAUTION



Use height extenders when necessary to ensure good contact.

CAUTION



Use vehicle manufacturer's lift points.



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Lift Lockout/Tag out Procedure:

Purpose

This procedure establishes the minimum requirements for the lockout of energy that could cause injury to personnel by the operation of lifts in need of repair or being serviced. All employees shall comply with this procedure.

Responsibility

The responsibility for assuring that this procedure is followed is binding upon all employees and service personnel from outside service companies (i.e., authorized installers, contactors, etc.). All employees shall be instructed in the safety significance of the lockout procedure by the facility owner/manager. Each new or transferred employee along with visiting outside service personnel shall be instructed by the owner/manager (or assigned designee) in the purpose and use of the lockout procedure.

Preparation

Employees authorized to perform lockout shall ensure that the appropriate energy-isolating device (i.e., circuit breaker, fuse, disconnect, etc.) is identified for the lift being locked out. Other such devices for other equipment may be located in close proximity of the appropriate energy-isolating device. If the identity of the device is in question, see the shop supervisor for resolution. Assure that proper authorization is received prior to performing the lockout procedure.



Sequence of Lockout Procedure

- 1) Notify all affected employees that a lockout is being performed and the reason for it.
- 2) Unload the subject lift. Shut it down and assure the disconnect switch is “OFF” if one is provided on the lift.
- 3) The authorized lockout person operates the main energy isolation device removing power to the subject lift.
 - If this is a lockable device, the authorized lockout person places the assigned padlock on the device to prevent its unintentional reactivation. An appropriate tag is applied stating the person’s name, at least 3” x 6” in size, an easily noticeable color, and states not to operate device or remove tag.
 - If this device is a non-lockable circuit breaker or fuse, replace with a “dummy” device and tag it appropriately as mentioned above.
- 4) Attempt to operate lift to assure the lockout is working. Be sure to return any switches to the “OFF” position.
- 5) The equipment is now locked out and ready for the required maintenance or service.

Restoring Equipment to Service

- 1) Assure the work on the lift is complete and the area is clear of tools, vehicles, and personnel.
- 2) At this point, the authorized person can remove the lock (or dummy circuit breaker or fuse) & tag and activate the energy-isolating device so that the lift may again be placed into operation.

Rules for Using Lockout Procedure

Use the Lockout Procedure whenever the lift is being repaired or serviced, waiting for repair when current operation could cause possible injury to personnel, or for any other situation when unintentional operation could injure personnel. No attempt shall be made to operate the lift when the energy isolating.



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DECLARATION OF CONFORMITY

Ref. No. QC-DOC-4.0

We **Omer North America Inc**
(name of manufacturer)

Of **2300 Speers Rd Oakville Ontario Canada L6L2X8**
(address)

declare under our sole responsibility that product

MP210 Hydraulic Operated Movable Post Two 10" Cylinders Automotive Lift
(name, type or model or serial number)

To which this declaration relates is in conformity with the technical requirements of the following standards

SAE J2184 Vehicle Lift Points for Service Garage Lifting

USA - Occupational Safety and Health Administration – Excavation Standard CFR 1926

Canada - Occupational Health and Safety – SOR/86-304

ANSI/UL 201

CSA C22.2 No.68

ANSI/ALI ALIS, Safety Requirements for Installation and Service of Automotive Lifts

ANSI/ALI ALCTV: 2011

ANSI/ASSE Z244.1 – 2003: Control of Hazardous Energy – Lockout/Tagout and Alternative Methods

ANSI/ALI ALCTV-1998 Standard for Automotive Lifts Safety Requirements for Construction, Testing And Validation

ANSI Z34.1-1987 and the ALI/ETL Automotive Lift Certification Program Procedural Guide.

(name of authorized officer)

(title of authorized officer)

(date of issue)

(signature)



Glossary of Lift Terms

ALI: Automotive Lift Institute. An industry trade association consisting of vehicle lift manufacturers in the United States and Canada. ALI promotes the safe design, construction, installation, operation and maintenance of vehicle lifts.

ALI-Certified/ETL-Certified: A lift bearing

the gold “ALI Certified/Validated by ETL” label has been tested and certified to meet the safety and performance standards outlined in ANSI/ ALI ALCTV-1998 or ANSI/ALI ALCTV-2006.

ANSI/ALI ALCTV-1998: A set of voluntary

lift performance and safety standards governing lift design and construction. Will be replaced by ANSI/ALI ALCTV-2011.

Adapters: Movable or stationary supports that are attached to a lift superstructure (such as the arms) and allow the lift to accommodate a vehicle without affecting its rated load capacity. They provide additional height to help the lift clear frame obstructions.

Arms: The horizontal bars that extend from the lift column or superstructure under the vehicle.

Arm Restraint: A device to restrain pivotal movement of an unloaded arm on a swing arm, frame-engaging lift, such as a two-post surface lift.

Arm Sweep: The area that vehicle lift arms can access under a vehicle as limited by the reach of the arms when fully extended and retracted. Arm sweep diagrams illustrate this area, with Specific c vehicle pick-up points identified to show if the lift can access them.

Asymmetrical Lift: A two-post surface lift with columns placed forward of the vehicle’s center of gravity. This enables maximum door opening of passenger cars.

Automatic Ramp Chocks: On a drive-on lift, such as a four-post surface lift, the ramps pivot as the lift rises, creating a chock at the end of the runways to keep the vehicle from rolling. They lower automatically when the lift lowers.

Axle-Engaging: A type of lift that connects with the vehicle at its axles.

Base Plate: The flat piece of steel at the bottom of surface lift columns that is used to attach the lift to the shop floor.

Carriage: The part of a surface lift that slides up and down on the column. Arms attach to the carriage.

Cassette: A polymer composite housing that completely encloses the lift. It is used in the latest generation of in-ground lifts to protect the lift from the environment and protect the environment from the lift.

Drive-Through Lift: A lift and shop arrangement that allows the vehicle to be driven on the lift, serviced, and then driven off, all in the same direction. Used for fast-turn operations like oil changes and tire work.

Equalizer Controls: Controls that maintain an equal lifting height between columns to ensure that the vehicle stays level while being raised and lowered.

Ergonomics: The science of designing equipment to maximize productivity by reducing operator fatigue and discomfort.

ETL: Intertek Testing Services, an independent, worldwide testing organization that manages ALI’s vehicle lift certification program and conducts third-party tests of vehicle lifts for Certification.

Extended Height: An optional feature on some two-post lifts that makes it possible to raise tall vehicles, like vans, to full height.



Frame-Engaging: A type of lift that connects with a vehicle at manufacturer-designated pickup points on the frame.

ISO 9001: An internationally recognized standard of quality management focused on enhancing customer satisfaction.

Lock Release: The mechanism that releases the lift's safety lock so a vehicle can be lowered. Releases are either manual or air-powered.

Overhead Switch Bar: A mechanism at the top of a two-post surface lift that automatically shuts off the lift when the vehicle has reached full height.

Pads: Rubber padded lifting surfaces that contact the underside of the vehicle. Most commonly used for fast-turn services because vehicles can be positioned on the pads quickly.

Pick-Up/Vehicle Lifting Points: Areas on a vehicle frame identified by the manufacturer as the correct spots for lift adapters to connect to the vehicle in order to lift it properly. ALI publishes a quick reference guide to 10 years worth of pick-up points on CD-ROM: *Vehicle Lifting Points for Frame Engaging Lifts*. It is available from ALI members.

Rated Load Capacity: The maximum rated weight that a lift is designed to raise. This is listed on a nameplate attached to the lift.

Rise Time: The time it takes to lift a vehicle from the floor to full height. Faster rise times can offer greater productivity, because less time is spent waiting for the vehicle to get to the proper height.

Rolling Jacks: Optional devices mounted in the center of drive-on lifts that are used to engage a vehicle's axle and raise the wheels off the runways.

Runways: The members of the superstructure of a drive-on lift that support the vehicle.

Single-Point Release: On lifts that have locks on more than one column, this control enables the operator to lower the lift from one location, without manually unlocking each individual lock.

Spotting Dish: A floor-mounted reference marker used to help properly position the vehicle prior to lifting.



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Omer North America Inc. - WARRANTY

GENERAL WARRANTY INFORMATION:

OMER OBLIGATION UNDER THIS WARRANTY IS LIMITED TO REPAIRING OR REPLACING ANY PART OR PARTS RETURNED TO THIS FACTORY, TRANSPORTATION CHARGES PREPAID, WHICH PROVE UPON INSPECTION TO BE DEFECTIVE AND WHICH HAVE NOT BEEN MISUSED. DAMAGE OR FAILURE TO ANY PART DUE TO FREIGHT DAMAGE OR FAULTY MAINTENANCE IS NOT COVERED UNDER THIS WARRANTY. THIS WARRANTY DOES NOT COVER ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES INCLUDING, BUT NOT LIMITED TO, LOST REVENUES OR BUSINESS HARM. THIS EQUIPMENT HAS BEEN DESIGNED FOR USE IN NORMAL COMMERCIAL VEHICLE MAINTENANCE APPLICATIONS. A SPECIFIC INDIVIDUAL WARRANTY MUST BE ISSUED FOR UNITS THAT DEVIATE FROM INTENDED USAGE, SUCH AS HIGH CYCLE USAGE IN INDUSTRIAL APPLICATIONS, OR USAGE IN EXTREMELY ABUSIVE ENVIRONMENTS, ETC..

OMER RESERVES THE RIGHT TO DECLINE RESPONSIBILITY WHEN REPAIRS HAVE BEEN MADE OR ATTEMPTED BY OTHERS. THIS WARRANTY DOES NOT COVER DOWNTIME EXPENSES INCURRED WHEN UNIT IS IN REPAIR. THE MODEL NAME AND SERIAL NUMBER OF THE EQUIPMENT MUST BE FURNISHED WITH ALL WARRANTY CLAIMS. THIS WARRANTY STATEMENT CONTAINS THE ENTIRE AGREEMENT BETWEEN OMER AND THE PURCHASER UNLESS OTHERWISE SPECIFICALLY EXPRESSED IN WRITING. THIS NON-TRANSFERABLE WARRANTY APPLIES TO THE ORIGINAL PURCHASER ONLY. THIS WARRANTY IS APPLICABLE TO UNITS LOCATED ONLY IN THE UNITED STATES OF AMERICA AND CANADA. THE OWNER SHOULD CONTACT OMER FOR SPECIFIC WARRANTY PROVISIONS FOR UNITS LOCATED OUTSIDE OF THESE COUNTRIES.

1-YEAR WARRANTY:

THIS WARRANTY IS APPLICABLE TO THE FOLLOWING OMER LIFT ONLY: OMLP210

STRUCTURAL COMPONENTS:

ALL STRUCTURAL AND MECHANICAL COMPONENTS OF THIS UNIT ARE GUARANTEED FOR THE ABOVE STATED TIME FRAME, SPECIFIC TO MODEL, FROM THE DATE OF INVOICE, AGAINST DEFECTS IN WORKMANSHIP AND/OR MATERIALS WHEN LIFT IS INSTALLED AND USED ACCORDING TO SPECIFICATIONS.

POWER UNIT:

ALL POWER UNIT COMPONENTS (MOTOR, PUMP AND RESERVOIR) ARE GUARANTEED FOR THE ABOVE STATED TIME FRAME, SPECIFIC TO MODEL, FROM THE DATE OF INVOICE, AGAINST DEFECTS IN WORKMANSHIP AND/OR MATERIALS WHEN THE LIFT IS INSTALLED AND USED ACCORDING TO SPECIFICATIONS.

ELECTRICAL COMPONENTS:

ALL ELECTRICAL COMPONENTS (EXCLUDING MOTOR) ARE GUARANTEED FOR ONE YEAR FOR PARTS ONLY (EXCLUDING LABOR), FROM THE DATE OF INVOICE, AGAINST DEFECTS IN WORKMANSHIP AND/OR MATERIALS WHEN THE LIFT IS INSTALLED AND USED ACCORDING TO SPECIFICATIONS.

PNEUMATIC (AIR) COMPONENTS:

ALL PNEUMATIC (AIR) COMPONENTS (I.E. AIR CYLINDERS AND POPPET AIR VALVES) ARE GUARANTEED FOR ONE YEAR FOR PARTS ONLY (EXCLUDING LABOR), FROM THE DATE OF INVOICE, AGAINST DEFECTS IN WORKMANSHIP AND/OR MATERIALS WHEN THE LIFT IS INSTALLED AND USED ACCORDING TO SPECIFICATIONS.

WARRANTY EXCEPTIONS:

ALL "SPECIAL" LIFTS AND/OR "CUSTOMIZED" OPTIONS ON THIS UNIT ARE GUARANTEED FOR ONE YEAR FOR PARTS ONLY (EXCLUDING LABOR), FROM THE DATE OF INVOICE, AGAINST DEFECTS IN WORKMANSHIP AND/OR MATERIALS WHEN THE LIFT IS INSTALLED AND USED ACCORDING TO SPECIFICATIONS.

THIS WARRANTY SUPERSEDES ALL OTHER WARRANTY POLICIES PREVIOUSLY STATED AND IN ALL OTHER OMER PRODUCT SPECIFIC LITERATURE.



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