

Roto-Max Work Positioner

Operation

Maintenance



Lift Products Inc.
P.O Box 349
Elm Grove Wisconsin 53122-0349
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Manual #19950

LIFT PRODUCTS, INC.

WARNING

Do not operate this lift table unless you have been trained and authorized to do so and have read all warnings and instructions in operator's manual and on the lift table.

Do not operate this lift table until you have checked its condition. Give special attention to electrical system, lift system (including limit switch), guards and safety devices.

Operate lift table only from designed operating position. Never place and part of your body into the structure. Keep feet clear of lift table.

Do not overload lift table. Check capacity plate for load weight and loading information.

Before lifting, be sure load is centered.

Do not handle unstable or loosely stacked loads. Use special care when handling long, high, or wide loads.

Watch out for obstruction, especially overhead.

Do not lift personnel.

Do not allow anyone to place any part of their body into or under the lifting mechanism.

When leaving lift table, fully lower lifting mechanism. When leaving lift table unattended, also disconnect power.

SECTION 1

DESCRIPTION

1-1 INTRODUCTION

This preliminary publication describes the Lift Table Series manufactured by Lift Products, Inc. Elm Grove, Wisconsin 53122-0349. Included are operation instructions, planned maintenance instructions, lubrication procedures, and a partial parts list with parts location illustrations.

For any maintenance instructions not contained in this preliminary publication, contact Lift Products Customer Service. Be prepared to give model number, serial number, lifting capacities and lift travel of your table.

The model number, serial number and lifting capacities are stamped on the name plate (Figure 1-1). The lift travel can be determined by subtracting the lowered height from the elevated height.

Users shall comply with all requirements indicated in current edition of A.N.S.I MN29.1. By following these requirements and the recommendations contained in this manual, you will receive many years of dependable service from your lift table.

Figure 1-2 shows the location and identification of the decals. Also listed is the touch-up paint as well as the location of the name plate. Figure 1-3 shows the locations of the lift table main components.

Note: The user shall see that all name plates and markings are in place and are maintained in a legible condition.

Serial No: Model: Lifting Capacity: Service Weight: Edgeloading Capacity: Axel Load Capacity

1-2. GENERAL DESCRIPTION

The lift tables have been designed primarily for indoor applications. All models are similar in design but differ in capacity, lift height and platform size.

The lift and lower motion is controlled by a control box attached by a cord. The control box is mounted on a magnet for easy attachment to a convenient location.

1-3 SAFETY FEATURES

The lift tables are designed and engineered to provide maximum safety for operator and payload. Some of the safety features incorporated into the design are:

- All control functions automatically return to "OFF" when released.
- Travel limit switch to restrict lift motion above the preset limit
- Pressure compensated flow control valve regulates maximum lowering speed within prescribed limits
- Maintenance Safety Bars to support lift table during maintenance operations.
- High visibility color scheme of the lift table provides visual alert of its presence

INSTALLATION

2-1. RECEIVING INSTRUCTIONS

Upon receipt, visually inspect the lift table. If any damage is found, report it to the carrier and to your Lift Products dealer immediately.

Remove all packing and strapping material. Check the platform size type of electrical system, ect., to be sure the lift table is correct for the intended application.

2-2. INSTALLATION INSTRUCTIONS

WARNING: Modification and additions which affect capacity and safe operation shall not be performed by the customer or user without manufacturers prior written approval.

1. Clean the installation area.

CAUTION: The lift table should only be picked up from under the base. Do not lift the table by the platform.

2. Position the lift table in the desired position.

NOTE: The lift table comes pre-wired with a 10 foot power cord. Check the decal located on the electrical box for the voltage/phase and be sure you have the same power supply source. The proper plug and mating receptacle must be purchased and installed by the user.

NOTE: Units equipped for a 115 volt power supply need to have a separate 20 amp rated circuit and proper wiring to ensure an actual 115 volts at the lift table electrical box when operating under a full load.

3. Install the proper plug and connect to the power receptacle.
4. Using the control box, check for proper operation. When the UP button is depressed the platform should remain stationary. When the DOWN button is pressed the platform should lower
5. Raise the platform and swivel both maintenance safety bars against the base. Lower the platform until the safety base contact the end of the base and the platform does not lower any further.
6. Check for oil in the hydraulic reservoir. (note: Unit is supplied with oil).
7. The base contains pre-drilled mounting holes. Mark the location of these holes on the floor.
8. Shift the lift table over, drill holes in the floor and install anchors.
9. Reposition the lift table and shim until level. Make sure the lift table is fully supported along its entire base with shims or concrete grout.
10. Bolt the base to the anchors installed in the floor.
11. Raise the platform and position the maintenance safety bars in their proper disengaged position.
12. Operated the lift table through several complete cycles and check for pinched hoses or hydraulic leaks from fittings that may have loosened during shipping.

OPERATION

3-1. GENERAL

This section gives detailed operating instructions for the lift table. Routine precautions are included for safe operation.

3-2. OPERATING PRECAUTIONS

WARNING: Improper operation of the lift table may result in operator injury or load and/or lift table damage. Observe the following precautions when operating the lift table.

1. Do not operate this lift table unless you have been trained and authorized to do so. Read all warning and instructions in this manual and on the lift table.
2. Do not operate this lift table until you have checked its condition. Give special attention to electrical system, lift system, guards and safety devices.
3. Do not exceed the rated capacity (see name plate). Overloading may result in damage to the hydraulic system and structural components. Refer to paragraph 3-3.
4. Do not handle unstable or loosely stack loads. Use special care when handling long, high, or wide loads to avoid tipping, loss of load, or striking bystanders.
5. Check for obstructions when raising or lowering the lift table.
6. Operate lift table only from design operating position. Never place any part of your body into the structure. Keep feet clear of lift table.
7. Watch out for obstructions overhead.
8. Do not lift personnel.
9. Do not allow anyone to place any part of their body into or under the lifting mechanism.
10. When leaving lift table, fully lower lifting mechanism. When leaving lift table unattended, also disconnect power.

3-3. LOAD CAPACITY

The load capacity rating is stamped on the name plate. This load capacity assumes the load is uniformly distributed and centered on the platform.

3-3.1. STATIC EDGE LOADS

The lift table is designed for uniformly distributed centered loads. If the load is lifted at the sides or ends of the platform, the static edge load stamped on the name plate should not be exceeded.

3-3.2. AXLE (ROLLING EDGE) LOADS

When a load is rolled onto the platform, the lift table should be fully lowered. The axle load stamped on the name plate should not be exceeded.

3-4. BEFORE OPERATION

Table 3-1 covers important points on the lift table which should be checked prior to operation. Depending on use, some lift tables may require additional checks. When the lift table is used on a round-the clock basis, it should be examined after each shift.

Figure 3-1 shows a sample format for a Operator Check List which can be modified as necessary to fit your operation.

WARNING: Periodic maintenance of this lift table by a QUALIFIED TECHNICIAN is required.

CAUTION: A QUALIFIED SERVICE TECHNICIAN should check the lift table monthly for proper lubrication, proper fluid levels, motor maintenance and other areas specified in Section 4.

WARNING: If the lift table is found to be unsafe and in need of repair, or contributes to an unsafe condition, report it immediately to the designated authority. Do not operate it until it has been restored to a safe condition. Do not make any unauthorized repairs or adjustments. All service must be performed by a qualified maintenance technician.

Table 3-1. Operator Check List

ITEM	PROCEDURE
<ul style="list-style-type: none"> • Decals & Name Plate 	<ul style="list-style-type: none"> • Check that all decals and name plate are in place and legible.
<ul style="list-style-type: none"> • Hardware 	<ul style="list-style-type: none"> • Check for signs of loose or missing hardware.
<ul style="list-style-type: none"> • Hydraulic Lines 	<ul style="list-style-type: none"> • Check for cut or frayed hose, leaking fittings or damaged lines.
<ul style="list-style-type: none"> • Lift & Lower 	<ul style="list-style-type: none"> • Check for proper operation of lift and lower to their maximum positions
<ul style="list-style-type: none"> • Lift Cylinders 	<ul style="list-style-type: none"> • Check for signs of leakage
<ul style="list-style-type: none"> • Lift Limit Switch 	<ul style="list-style-type: none"> • Check for loose or bent mounting. Check that the limit switch shuts off the pump motor at the present platform height.
<ul style="list-style-type: none"> • Lift Motor 	<ul style="list-style-type: none"> • Check for grinding or laboring sounds
<ul style="list-style-type: none"> • Pivot Points 	<ul style="list-style-type: none"> • Check for smooth pivoting action
<ul style="list-style-type: none"> • Platform 	<ul style="list-style-type: none"> • Check for dents or warpage
<ul style="list-style-type: none"> • Power & Switch Box Cords 	<ul style="list-style-type: none"> • Check for cut or frayed cord
<ul style="list-style-type: none"> • Push Buttons 	<ul style="list-style-type: none"> • Check that the push buttons do not stick or malfunction when pressed
<ul style="list-style-type: none"> • Rollers 	<ul style="list-style-type: none"> • Check upper and lower rollers for sign of wear
<ul style="list-style-type: none"> • Drift 	<ul style="list-style-type: none"> • Check for excessive downward drift when controls are in neutral position

3-5. OPERATION

3-5.1 TRAINING

Only operators trained to adhere strictly to the operating instructions shall be permitted to operate the lift table.

The user shall ensure that operators understand that safe operation is the operator's responsibility. The user shall also ensure that operators are knowledgeable of and observe the safety rules and practices.

An effective operator training program should center around company's policies, operating conditions, and lift tables. The program should be presented completely to all new operators and not condensed for those claiming previous experience.

3-5.2 LOADING

1. Always center the load on the platform as much as possible. Refer to paragraph 3-3 for load capacity.
2. If the load is lifted at the sides or ends of the platform, refer to paragraph 3-3.1 for static edge load capacity.
3. When a load is rolled onto the platform the lift table should be fully lowered. Refer to paragraph 3-3.2 for rolling edge load capacity.

3-5.3 RAISING

CAUTION: Do not exceed the rated frequency of operation indicated on the lift table.

Pressing and holding the UP push button activates the pump and motor causing the cylinder(s) to extend and the platform to raise. If the table is overloaded, the relief valve should open, preventing buildup of excessive pressure. When the lift table reaches a preset height the lift limit switch will cause the lift table to stop. When the UP push button is released the platform will remain in position.

CAUTION: Do not continue to press the UP push button if the lift table has reached the end of its travel or is not raising. The pump and/or motor can be permanently damaged by doing this.

3-5.4 LOWERING

Pressing and holding the DOWN push button activates the lower solenoid valve. Oil from the cylinder is directed back to the reservoir, allowing the lift table to lower at a controlled rate. When the DOWN push button is released, the platform will remain in position.

Electric Lift Table Daily Operator Check-Off List

Date _____ Operator _____

Truck No. _____ Model No. _____

Dept _____ Shift _____

<u>CHECK</u>	<u>OK</u>	<u>NEED MAINTENANCE</u>
<u>Decals & Name Plate</u>	_____	_____
<u>Condition of Hydraulic Lines</u>	_____	_____
<u>Condition of Power & Switchbox Controls</u>	_____	_____
<u>Lift Lower Controls</u>	_____	_____
<u>Lift Limit Operations</u>	_____	_____
<u>Missing Hardware</u>	_____	_____
<u>Hydraulic Leaks, Cylinders, Valves, Hoses, Etc.</u>	_____	_____
<u>Pivot Points</u>	_____	_____
<u>Rollers</u>	_____	_____
<u>Lift Motor</u>	_____	_____
<u>Platform</u>	_____	_____
<u>No Excessive Drift</u>	_____	_____

NOTES

4-1. GENERAL

Planned maintenance consists of periodic visual and operational checks, parts inspection, lubrication and scheduled maintenance designed to prevent or discover malfunctions and defective parts. The operator performs the checks in Section 3, and refers any required servicing to a qualified maintenance technician who performs the scheduled maintenance and required servicing.

WARNING: Modifications and additions which affect capacity and safe operation shall not be performed without manufacturers prior written approval.

4-2. MONTHLY AND QUARTERLY CHECKS

Table 4-1 is an inspection and service chart based on normal usage of equipment eight hours per day, five days per week. If the lift truck is used in excess of forty hours per week, the frequency of inspection and service should be increased accordingly. These procedures must be performed by a qualified technician or your Lift Products service representative.

INTERVAL INSPECTION OR SERVICE	
Monthly	Check condition of pump motor
Monthly	Check condition of hydraulic fitting and hoses
Monthly	Check caster wheels (if equipped) for wear and proper function
Monthly	Inspect wiring for loose connections and damage insulation
Monthly	Lubricate unit (See Table 4-3)
Quarterly	Check cylinder wiper and packing

4-3. LUBRICATION

Refer to table recommended types of grease and oil. Table 4-3 in conjunction with figure 4-1 identifies the items required lubrication.

Table 4-2 Recommended Lubricants and Oils.

No. 1 Grease-Lithium base, general purpose.

No. 2 Hydraulic oil-heavy duty with viscosity of 150 SUS

(in temperature below 32 degree F use 100 SUS) foam suppressing agent and rust and oxidation inhibitors.

Part No. 900855 (1 gallon)

900893 (1 quart)

No. 3 Moly-Grease-Dow Corning Molykote 44 (contains silicone)

Part No. 055753

4-3.1. LIFT CYLINDER

1. Raise the platform
2. Swivel both maintenance safety bars down against the base.
3. Lower the platform until the safety bars contact the end of the base and the platform does not lower any further.
4. Loosen the bolt securing the bottom of each lift cylinder to the base.
5. Partially collapse the cylinder rod and lift the bottom of the cylinder out of the channel in the base.
6. Apply a light coat of moly-grease to the channel. See Table 4-2, No.3.
7. Position the cylinder(s) in the channel and secure with the mounting bolt(s).
8. Raise the platform and position the maintenance safety bars in their proper disengaged position.

FIG. 4.1				
Index No.	Location	Method of Application	Type Table 4-2	Application of Lubricant
1	Hydraulic System	N/A	No.2	Add Hydraulic oil to reservoir through breather port. Note: Unit is supplied with oil. Do not over fill.
2	Upper Rollers	Gun	No.1	Pressure lubricate (two fittings)
3	Lower Rollers	Gun	No.1	Pressure lubricate (two fittings)
4	Pivot Points	Gun	No.1	Pressure lubricate (two fittings)
5	Lift Cylinder	Brush	No.3	Refer to paragraph 4-3.1

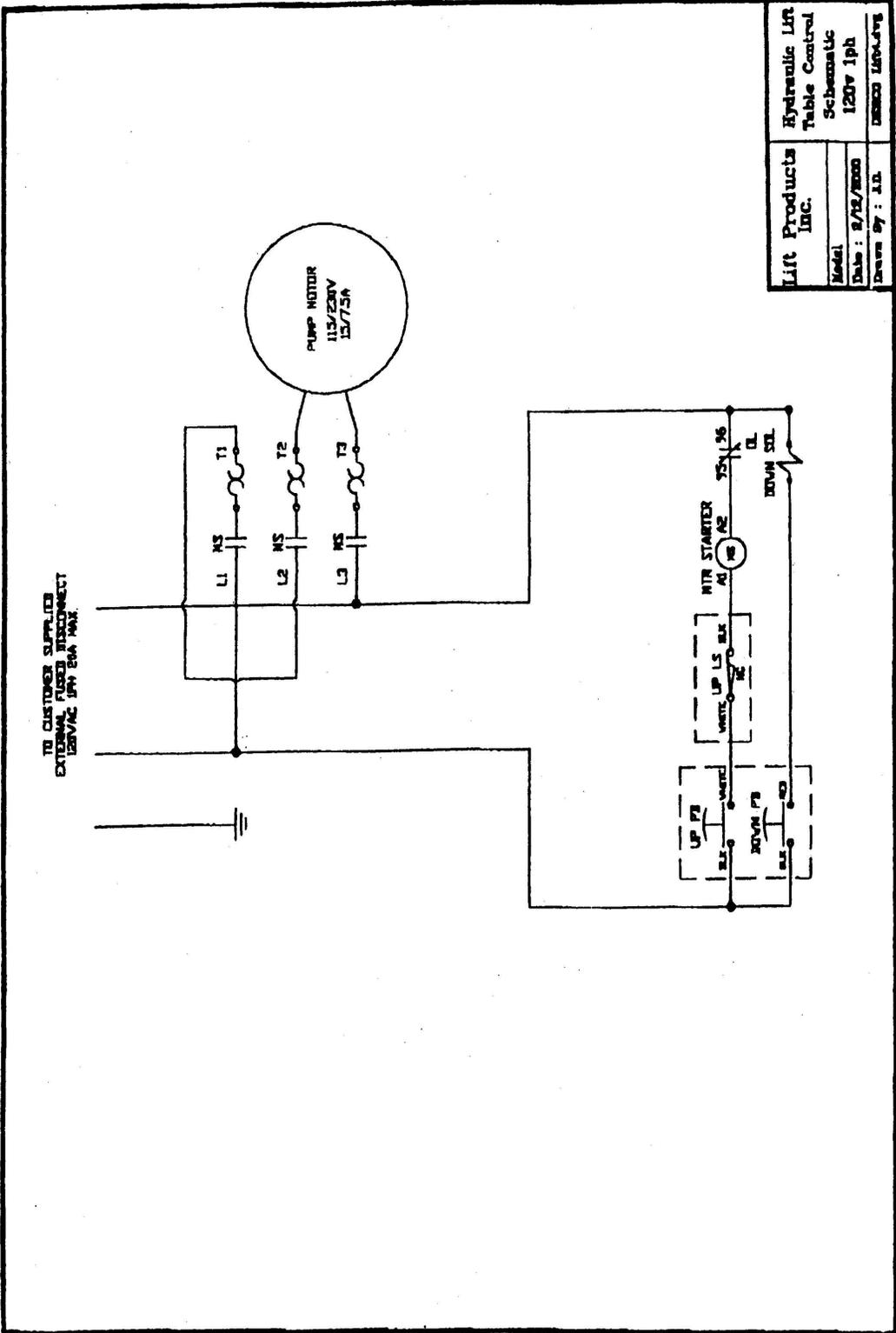
SECTION 5 TROUBLESHOOTING

5.1 GENERAL

Table 5-1 serves as a guide to determine possible causes of trouble. Refer to electrical wiring diagrams (Figure 5-1 to 5-4) as a supplement to the troubleshooting chart or when tracing an electrical circuit.

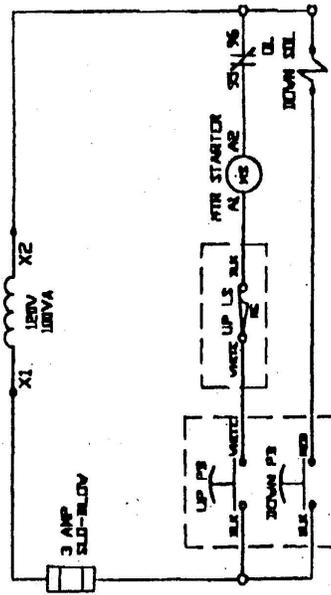
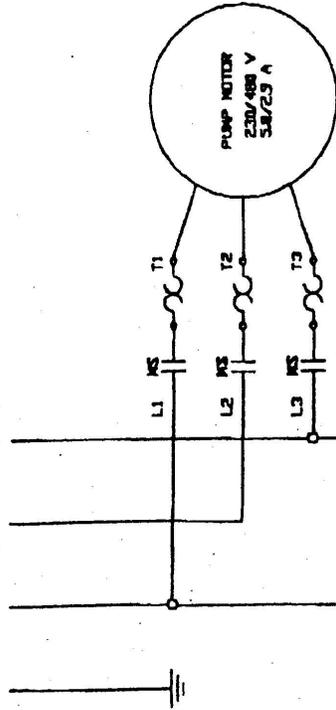
Table 5-1. Troubleshooting Chart

MALFUNCTION	PROBABLE CAUSE	CORRECTIVE ACTION
Does not raise but pump motor is running	<ul style="list-style-type: none"> a. Oil level is low. b. Load heavier than capacity. c. Filter is clogged. d. Defective pump or motor. 	Add oil to reservoir. Refer to name plate for maximum load capacity. Remove and clean. Replace.
Platform raises slowly	<ul style="list-style-type: none"> a. Load heavier than capacity. b. Lack of lubrication. c. Defective rollers. d. Defective pump. e. Defective cylinder. f. Defective relief valve. 	Refer to name plate for maximum load capacity. Lubricate. Replace. Overhaul cylinder. Replace.
Does not raise but pump motor not running.	<ul style="list-style-type: none"> a. No electrical power. b. Defective controls. c. Defective motor. 	Check power source. Repair as required. Replace.
Platform does not lower.	<ul style="list-style-type: none"> a. Maintenance safety bar or obstruction blocking movement. b. Defective lowering solenoid valve. c. Defective controls. 	Correct condition. Replace. Repair as required.
Platform creeps downward under load.	<ul style="list-style-type: none"> a. External leak in hydraulic system. b. Defective packaging in cylinder c. Defective solenoid valve. d. Defective relief valve. 	Look for loose fittings in the hydraulic line. Repair fittings. Look for oil on top of the cylinder packing. Overhaul cylinder. Replace. Replace.



Lift Products Inc.	Hydraulic Lift Table Control
Model:	Schematic
Date: 8/12/2000	120v 1ph
Drawn By: J.D.	DESIGN 1804-175

TO CUSTOMER SUPPLIED
EXTERNAL FUSES DISCONNECT
480VAC 3PH 250A MAX



Lift Products Inc.	Hydraulic Lift Table Control Schematic 480v 3ph
Model : 240/480	
Date : 2/22/2000	
Drawn By : J.D.	DESIGN LARSEN

Roto-Max Parts List

Description	Models	Part Number
Electric Motor	RTMX-25HS (115V)	34H54X307
Electric Motor	RTMX-30 (115V)	34H54X307
Electric Motor	RTMX-35 (230/460 3ph)	34H716W640G1
Electric Motor	230/460 3 phase option	34H716W640G1
Transformer	230/460 3 phase only	125-E060
Pump Assembly	RTMX-25HS	G1106F1A120R15
Pump Assembly	RTMX-30/35	G1104F1A125R15
Cylinder Kit	All Models	125-R012
Cylinder	All Models	125-2/M92
Flow Control Valve	All Models	125-1352/1.5
Steel Hydraulic Line	All Models	125-36/7290
Pressure Hose	All Models	125-31RB
Push Button Control	All Models	125-990901
Foot Control Assembly	All Models	125-5769
Motor Starter	All Models 115 Volt	125-RSC22
Motor Starter	All Models 230/460 3ph	125-RCS18
Limit Switch	All Models	125-RSH
Center Rotate Bearings	All Models	125-W-2
Outer Rotate Bearings	All Models	125-6204ZZ
Cam Follower/Scissor Arm	All Models	125-CNB48SB

NOTE: SPECIFY MODEL AND SERIAL NUMBER WHEN ORDERING PARTS.

LIFT PRODUCTS, INC.

REGISTRATION INFORMATION

(To validate your warranty and receive updated service bulletins, please complete this form)

Date _____ Model No. _____ Serial No. _____

How did you first hear of Lift Products?

____ Magazine Ad (Specify which magazine) _____
____ Recommended by a dealer (Name of Dealer) _____
____ Received information in the mail _____
____ Internet _____
____ Other (Please specify) _____

What factors caused you to choose Lift Products? _____

Describe how and where products are being used? _____

Name of person completing this form _____

Title _____

Company _____

Street Address _____

City, State, Zip _____

Phone _____ Fax No. _____

Purchased From:

Name of Dealer _____

Street Address _____

City, State, Zip _____

Phone No. _____ Fax No. _____

Please fax this form to 262-521-5725.