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INSTALLER: Please return this booklet to literature package and give to lift owner/operator.

LP20198

Only those technicians who have been properly trained in the usage and care of the lift should be allowed to operate the lift.

Local regulations MAY require that the trained operator be at least 18 years of age or be supervised by a trained operator while:

- A. positioning the vehicle in the service bay,
- B. positioning the lifting devices, and,
- C. actuating the lift controls.

Display this manual in a conspicuous location in the lift area convenient to the operator.

The lift is to be used for raising unoccupied motor vehicles ONLY!

ALWAYS lift the vehicle using all lifting devices together. NEVER raise just one end, one corner, or one side of the vehicle.

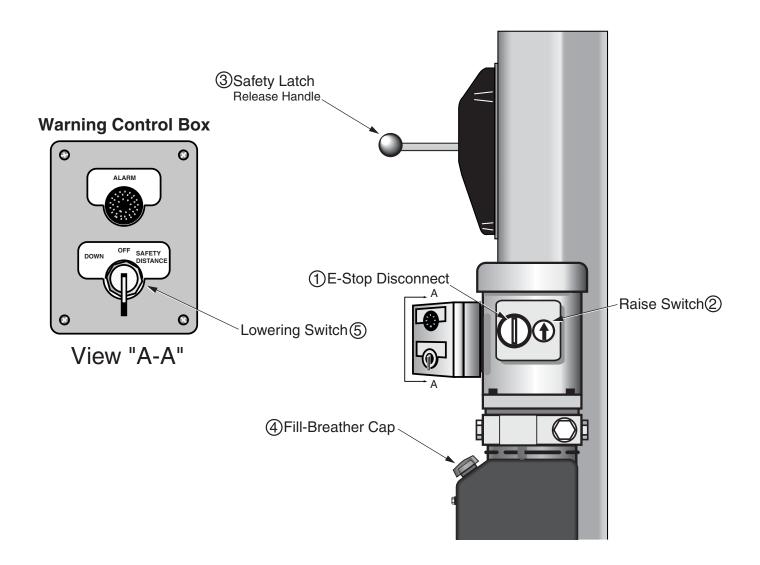
ONLY lift vehicles which have an individual axle weight that does not exceed one-half the lift capacity. See load capacity table below.

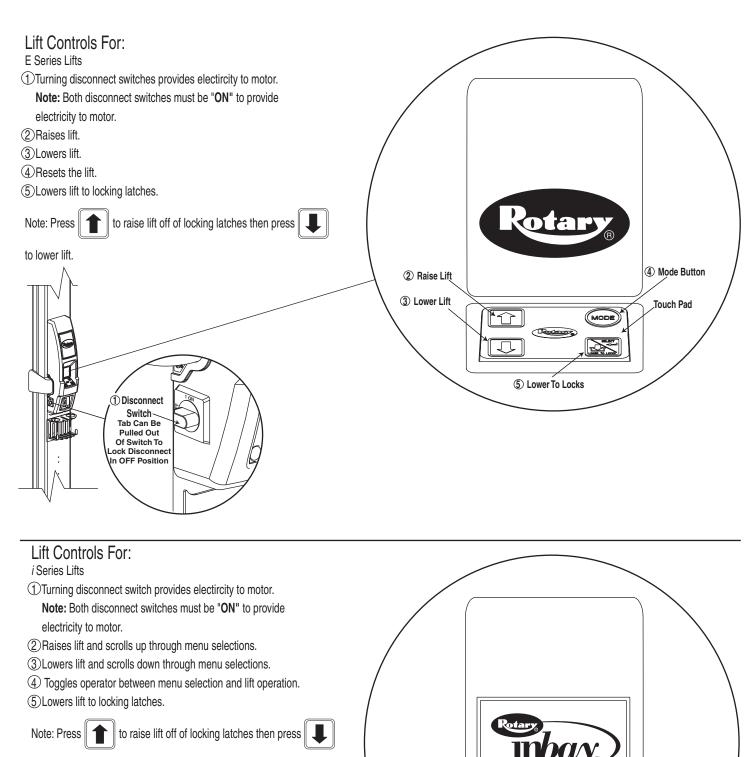
MODEL	LOAD CAPACITY
TLO7E	1100kg FOR 3-WHEEL VEHICLES
TEOTE	2300kg FOR 4-WHEEL VEHICLES

Lift Controls M Series Lifts

Lift Controls

- 1 Turning Key to the right provides electricity to the motor.
- 2 Pushing button starts the motor and raises the arms.
- 3 Pulling handle down disengages safety latches.
- 4 Remove cap to fill or add fluid to power unit tank.
- 5 Turning Knob Lowers Lift.





to lower lift.

① Disconnect Switch

Tab Can Be Pulled Out

Of Switch To ock Disconnect In OFF Position

Fig.1a

(4) Mode Button

Touch Pad

technology

00/00/00 00:00

Person

(5) Menu Selection / Lower To Locks

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(MODE)

Slave Control Panel Only Runs The

Lift - You Can Not Select Any Menus From The Slave Side.

② Raise Lift / Scroll Up

(3) Lower Lift / Scroll Down

OPERATING INSTRUCTIONS

Surface Mounted Frame Engaging Lifts

WARNING

To avoid personal injury and/or property damage, permit only trained personnel to operate lift. After reviewing these instructions, get familiar with lift controls by running the lift through a few cycles before loading vehicle on lift.

Always lift the vehicle using all lifting devices. NEVER

IMPORTANT

Assure overhead bar will contact highest point on the vehicle.

1. Before Loading:

- Inspect Lift See "Operator Maintenance" on page 8. Never operate if lift malfunctions or has broken or damaged parts.
- Lift must be fully lowered and service bay clear of all personnel before the vehicle is positioned onto lift.
- Position rear ramp and front forks so that they match vehicle wheel base and are centered on columns.
- Assure area around lift is free of tools, debris, grease, and oil.
- Assure Forks and Ramp are free from grease and oil.
- Do Not allow unauthorized persons in shop area while lift is in use.
- Do Not use any part of the lift as a crane or as a support for another lifting mechanism. (i.e.: block & tackle, etc.)
- Retract forks to give widest drive through.
- For M Series Lifts, turn key switch to "ON" Position.

2. Loading:

- Do Not allow unauthorized or untrained persons to position vehicle or operate lift.
- Do Not overload lift. See capacity label on lift.
- Position vehicle with the rear wheels centered on the rear ramp. (Driving over forks is permitted with wide vehicles).
- Move forks so the front wheels are fully cradled.
- Use small wheel adapter on forks when necessary, see Fig. 2.
- For 3-wheel vehicles, center single wheel on rear ramp.

- 3. To Raise Lift:
- Do Not permit anyone on lift or inside vehicle when it is being raised (or lowered).
- Maintain visual contact with pickup points and vehicle throughout the motion of the lift while remaining clear of lift.
- For M Series Lifts, push RAISE switch on power

unit, Fig. 1. For E & i Series lifts, push

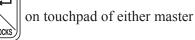


button on touchpad of master or slave control panel, Fig. 1a.

Note: Allow 2 seconds between motor starts. Failure to comply may cause motor burnout.

- Raise vehicle until tires clear the floor.
- Stop and check for stable contact with vehicle.
- Continue to raise to desired height **only** if vehicle is stable on lift.
- Lower lift onto safety latches after desired height is reached. (Lift is to be raised high enough for locking latches to engage.) For M Series lifts, turn lowering switch to DOWN position, Fig. 1. For E and *i* Series





or slave control panel.

• Repeat complete spotting, loading, and raising procedures if vehicle is unstable.

4. While Using Lift:

- Avoid excessive rocking of vehicle while on lift.
- Avoid accidental touching of exposed exhaust system on raised vehicles. Watch for air hoses and electrical cords which may be tripped over.
- Wear safety glasses while working under vehicle.

5. Before Lowering Lift:

- Remove all tools or other objects from lift area.
- Assure personnel are not in lift area.

6. To Lower Lift:

- Remain clear of lift when lowering vehicle. Keep Feet Clear!
- Raise lift off locking latches. For M Series lifts, push raise button, Fig. 1. For E and *i* Series lifts, push



on master or slave side control panel.

 For M Series, Actuate LATCH release handle fully and hold. Push LOWERING switch to DOWN position, Fig. 1a. When lift stops, turn lowering switch to SAFETY DISTANCE position while keeping feet clear.

Note: Both LATCH release and LOWERING switch are deadman-type design. Each must be held down to lower lift. Do not override these self-closing lift controls.

• For E and *i* Series lifts push



slave control panel.

7 Unloading:

- Assure lift is fully lowered.
- Retract forks as far as possible.
- Assure Exit area is clear of objects and personnel before removing vehicle from lift.

8. Power Off:

- For M Series, turn key switch to "OFF" position while lift is not in use.
- Remove key when leaving the lift unattended.

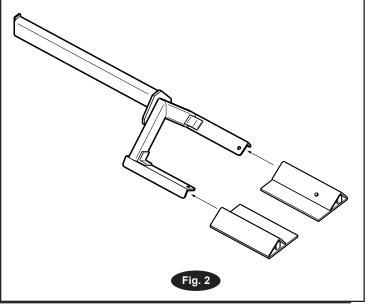
9. Trouble Shooting:

• See page 7.

10. Maintenance:

• See page 7.

CAUTION Use small wheel adapter kit when raising vehicles with less than 13" wheels. Be sure to engage dowel screw.



RESIDUAL RISKS

- Check tire inflation and attachment to axles to assure proper fit on lifting attachments of lift.
- Vehicles with heavy accessories attached, will have a changed center of gravity. Use stands when working on such vehicles.
- Assure lawn mower attachments do not cause either individual axle weight to exceed one half lift capacity.

OPERATOR INSPECTION & MAINTENANCE

(MAINTENANCE AUTHORIZED BY OPERATOR)

- Always keep bolts tight. Check periodically.
- Always keep lift components clean.
- Always, if oil leakage is observed, call local service representative.
- Daily: Check cables and sheaves for wear. If parts are worn, call local service representative.
- Daily: Inspect lifting devices for damage or excessive wear. If parts are worn, call local service representative.
- Daily: Check for permanent deformation to the latches. If present, call local service representative to replace parts.
- Monthly: Check equalizer cable tension. If parts are worn, call local service representative.

- Monthly: Check overhead switch for function.
- Every 3 Months: Check anchor bolts for tightness. Anchors should be torqued to 122Nm (12.4kg-m).
- Every 6 months: Check fluid level of lift power unit and refill to proper level in level indicator with lift fully lowered.
- Replace all decals on the lift if unable to read or missing. Reorder labels from Rotary Lift.
- Monthly: Clean and check base of lift. Remove any rust and touch-up with paint.
- Monthly: Coat the cable contact surface with a light grease such as "TUFOIL".

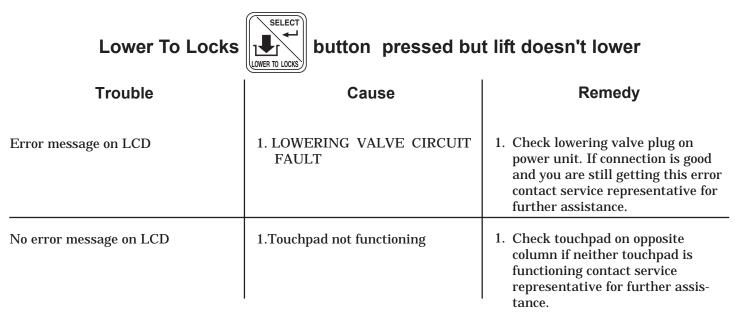
TROUBLE SHOOTING FOR OPERATORS FOR M SERIES LIFTS

Trouble	Cause	Remedy
Motor does not run.	1. Blown fuse or circuit breaker.	 Replace blown fuse or reset circuit breaker. Contact service representative for further assistance.
Motor runs but will not raise lift.	1. Low oil level.	 Fill tank to MIN mark with ISOVG32 hydraulic oil or DexronIII ATF. Contact service representative for further assistance.
Motor runs—raises unloaded lift but will not raise vehicle.	1. Overloading lift.	 Check vehicle weight and/or bal- ance vehicle weight on lift. Contact service representative for further assistance.
Lift slowly settles down.	See Remedy	1. Contact service representative for further assistance.
Slow lifting speed or oil blowing out filler breather cap.	See Remedy	1. Contact service representative for further assistance.
Lift going up unlevel.	See Remedy	1. Contact service representative for further assistance.
Anchors will not stay tight.	See Remedy	1. Contact service representative for further assistance.
Locking latches do not engage.	See Remedy	1. Contact service representative for further assistance.
Locking latches do not disengage.	See Remedy 7	1. Contact service representative for further assistance.

TROUBLE SHOOTING FOR OPERATORS FOR *i* SERIES LIFTS

	FOR / SERIES LIFTS	
Up button pressed but lift doesn't raise		
Trouble	Cause	Remedy
Error message on LCD.	1. Overhead Sensor Fault	1. Check sensor for contact with vehicle.
No error message on LCD.	1. Touch pad not functioning.	1. Check touchpad on opposite column if neither touchpad is functioning contact service representative for further assistance.
Motor won't run from either column.	1. Incorrect voltage to power unit.	1. Contact service representative for further assistance.
Motor runs but will not raise lift.	1. Overloading lift.	 Check vehicle weight and/or balance vehicle weight on lift. Contact service representative for further assistance
Locking latches do not engage.	1. Broken latch spring.	1. Contact service representative for further assistance.
Down butto	on pressed but lift	doesn't lower
Trouble	Cause	Remedy
Error message on LCD.	 LOWERING VALVE CIRCUIT FAULT Latch Release Fault 1 	 Check lowering valve plug on power unit. If connection is good and you are still getting this error contact service representative for further assistance. Solenoid failure master control panel side. Contact service repre-
	3. Latch Release Fault 2	sentative for further assistance.3. Solenoid failure slave control panel side. Contact service representative for further assistance.
No error message on LCD.	1. Touchpad not functioning	1. Contact service representative for further assistance.

TROUBLE SHOOTING FOR OPERATORS FOR *i* SERIES LIFTS



TROUBLE SHOOTING FOR OPERATORS FOR E SERIES LIFTS



pressed but lift doesn't raise

Trouble	Cause	Remedy
9 signals.	1. Overhead Sensor Fault	1. Check sensor for blockage
Press button nothing happens	1. Touch pad not functioning.	1. Check touchpad on opposite column if neither touchpad is functioning contact service representative for further assistance.
Motor won't run from either column.	1. Incorrect voltage to power unit.	1. Contact service representative for further assistance.
Motor runs but will not raise lift.	1. Overloading lift.	 Check vehicle weight and/or bal- ance vehicle weight on lift. Contact service representative for further assistance
Locking latches do not engage.	1. Broken latch spring.	1. Contact service representative for further assistance.

TROUBLE SHOOTING FOR OPERATORS FOR E SERIES LIFTS

Down button pressed but lift doesn't lower		
Trouble	Cause	Remedy
6 signals.	1. LOWERING VALVE CIRCUIT FAULT	1. Check lowering valve plug on power unit. If connection is good and you are still getting this error contact service representative for further assistance.
7 signals.	1. Latch Release Fault 1	1. Solenoid failure master control panel side. Contact service representative for further assistance.
&ignals.	1. Latch Release Fault 2	1. Solenoid failure slave control panel side. Contact service representative for further assistance.
Press button nothing happens.	1. Touchpad not functioning	1. Check touchpad on opposite column if neither touchpad is functioning. Contact service representative for further assistance.

nappens.



Trouble	Cause	Remedy
Press ELECT button nothing happens.	1. Touchpad not functioning	 Check touchpad on opposite column if neither touchpad is functioning. Contact service representative for further assistance.
6 Signals	1. Bad Circuit Board	1. Contact service representative for further assistance.

REPAIR MAINTENANCE

(MAINTENANCE AUTHORIZED BY QUALIFIED SERVICE REPRESENTATIVE ONLY)

- Lockout any energy sources before beginning any repairs.
- DO NOT modify the lift in any manner without the prior written consent of the manufacturer.
- If electrical problems develop, make repairs according to local electrical codes. Use genuine Rotary Lift parts when replacement is necessary.
- Replace worn parts as required with genuine Rotary parts.
- Adjust equalizer cable tension per lift installation instructions.
- Monthly: Lubricate locking latch shafts. Push latch handle several times for oil to penetrate joints.

Annual Inspection

(performed by Authorized Personnel)

Aside from the routine checks that are stated under "Operator Maintenance", the following annual inspection is to be performed and a record of this inspection permanently retained on site. All deficiencies are to be corrected by the proper authorized personnel.

Inspection Points

- · Check accessibility of the operating procedures.
- Check accessibility and readability of all labels.
- Check the rated load capacity of the lift.
- Examine all structural components including welds.
- Check electrical cords for insulation damage.
- Check fluid level.
- Check the lift controls for function.
- Check all fastening devices for tightness including floor anchor bolts.
- · Check exposed surfaces and edges.
- Operate the lift and check the operation of the positive stop and the lift safety latches.
- · Check for proper operation of lifting devices.
- With a representative vehicle on the lift, check the lowering speed (not to exceed 0.15m/s).
- Check the operation of the synchronization or equalization system so that both sides raise and lower equally.
- *Check the function of overhead switch and/or overhead sensors (Overhead sensors only on E and i series lifts).
- Check all accessible piping, tubing, hose, valves and fittings. Review lift oil consumption records.
- *Operate lift through full excursion and observe.
- With lift loaded, stop the lift at midpoint of travel and observe for drifting down and hydraulic leaks.
- Check with operator to ascertain any unusual operating characteristics.

**Perform check with and without a vehicle representative load.*

TROUBLE SHOOTING FOR AUTHORIZED MAINTENANCE PERSONNEL FOR ALL Series Lifts

FOR ALL Series Lints		
Trouble	Cause	Remedy
Motor does not run.	 Incorrect voltage to motor. Bad wiring connections. Motor up switch burned out. Overhead limit switch burned out. 	 Supply correct voltage to motor. Repair and insulate all connections. Replace switch/touchpad. Replace switch/overhead sensor/ reflector.
Motor runs but will not raise lift	 Motor windings burned out. Overloading lift Motor running on low voltage Debris in lowering valve Pump sucking air Suction stub off pump Low oil level Improper relief valve adjustment 	 5. Replace motor. 1. Check vehicle weight and/or balance vehicle weight on lift 2. Supply correct voltage to motor 3. Clean lowering valve 4. Tighten all suction line fittings 5. Replace suction stub 6. Fill tank to proper level with ISOVG32 hydraulic oil or Dexron III ATF 7. Replace relief valve cartridge
Lift slowly settles down.	 Debris in check valve seat. Debris in lowering valve seat. External oil leaks. 	 Clean check valve. Clean lowering valve. Repair external leaks.
Slow lifting speed or oil blowing out filler breather cap.	 Air mixed with oil. Air mixed with oil suction. Oil return tube loose. 	 Change oil to Dexron III ATF or ISOVG32. Tighten all suction line fittings. Reinstall oil return tube.
Lift going up unlevel.	 Equalizer cables out of adjustment. Lift installed on unlevel floor. 	 Adjust equalizer cables to correct tension. Shim lift to level columns (Not to exceed 13mm). If over 13mm, break out floor and level per lift installation instructions.
Anchors will not stay tight.	 Holes drilled oversize. Concrete floor thickness or holding strength not sufficient. 	 Relocate lift using new bit to drill holes. Reference installation instructions for proper anchoring method and minimum spacing requirements. Break out old concrete and re- pour new pads for lift per lift installation instruction.
Locking latches do not engage. (M Series lifts only)	 Latch shafts rusted. (Usually occurs on outside installations or in high humidity areas such as vehicle wash bays.) 	1. Remove covers, oil latch mecha- nism. Depress latch release handle several times to allow oil to coat shaft.
Locking latches do not disengage. (M Series lifts only)	 Latch cable is broken. Cable is off sheaves. Latch cable is loose. 	 Replace cable. Check position of upper sheaves. Replace cable.

Note: Shim thickness of 51mm is possible by using optional shim kit #FC5393. Contact your authorized Rotary repair person. 12

TROUBLE SHOOTING FOR AUTHORIZED MAINTENANCE PERSONNEL FOR ALL Series Lifts

Trouble

Lift stops short of full rise or chatters.

Cause

- **1.** Low oil level
- **2.** Air in hydraulic lines/cylinder

Remedy

- 1. Fill tank to MIN____ mark with ISOVG32 hydraulic oil or DexronIII ATF.
- 2. Start unit, raise lift about 610mm. Open cylinder bleeders approximately 2 turns. Close bleeders when fluid streams. Lower lift and fill tank.

TROUBLE SHOOTING FOR AUTHORIZED MAINTENANCE PERSONNEL FOR *i* Series Lifts





pressed but lift doesn't raise

Trouble	Cause	Remedy
Error message on LCD	1. Overhead Sensor Fault	1. Check sensor for contact with vehicle.
	2. Power unit circuit fault	2. Have certified electrician check wiring to power unit.
No error message on LCD	1. Touchpad not functioning	1. Replace touchpad.
Locking latches will not engage	1. Broken latch spring	1. Replace latch spring

TROUBLE SHOOTING FOR AUTHORIZED MAINTENANCE PERSONNEL FOR *i* Series Lifts

Down button pressed but lift doesn't raise		
Trouble	Cause	Remedy
Error message on LCD	1. LOWERING VALVE CIRCUIT FAULT	1a. Replace lowering valve.1b. Check lowering valve plug.
	 Latch Release Fault 1 Latch Release Fault 2 	 Faulty solenoid or faulty connection on master control panel side. Replace components. Faulty solenoid or faulty connection on slave control panel side. Replace components.
No error message on LCD	1. Touchpad not functioning	1. Replace touchpad.
Lower To Locks	button pressed but	lift doesn't lower
Trouble	Cause	Remedy
Error message on LCD	1. LOWERING VALVE CIRCUIT FAULT	1a. Replace lowering valve.1b. Check lowering valve plug.
No error message on LCD	1. Touchpad not functioning	1. Replace touchpad.

TROUBLE SHOOTING FOR AUTHORIZED MAINTENANCE PERSONNEL FOR E Series Lifts

Up button pressed but lift doesn't raise		
Trouble	Cause	Remedy
9 Signals.	1. OVERHEAD SENSOR HAS BEEN TRIPPED	1. Check sensor for contact with vehicle.
	2. Power unit circuit fault	2. Have certified electrician check wiring to power unit.
Press button nothing happen	1. Touchpad not functioning	1. Replace touchpad.
Locking latches will not engage	1. Broken latch spring	1. Replace latch spring

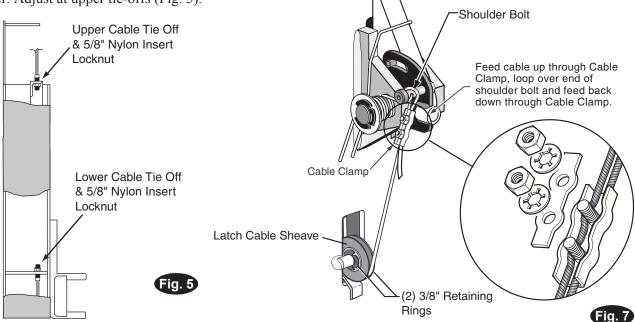
TROUBLE SHOOTING FOR AUTHORIZED MAINTENANCE PERSONNEL FOR E Series Lifts

Down button pressed but lift doesn't lower		
Trouble	Cause	Remedy
6 Signals	1. LOWERING VALVE CIRCUIT FAULT	 Replace lowering valve. Check lowering valve plug.
7 Signals	1. Latch Release Fault 1	 Faulty solenoid or faulty connec- tion on master control panel side. Replace components.
8 Signals	1. Latch Release Fault 2	 Faulty solenoid or faulty connec- tion on slave control panel side. Replace components.
Press button nothing	1. Touchpad not functioning	1. Replace touchpad
happens Lower To Locks but lift doesn't lower		
Trouble	Cause	Remedy
Press SELECT LOWER TO LOCKS button nothing happens	1. Touchpad not functioning	1. Replace Touchpad.
6 Signals	1. Bad circuit board.	1. Replace circuit board.

Latch Cable Adjustment For M Series Lifts

Checking and Adjusting Equalizer Cables:

Raise lift to check equalizer cable tension. Below carriage, grasp adjacent cables between thumb and forefinger, with about 67N effort you should just pull the cables together. Adjust at upper tie-offs (Fig. 5).



Checking and Adjusting Locking Latch Cable:

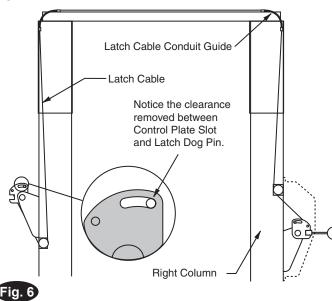
1. Raise carriages past the first latch position and then lower onto latches.

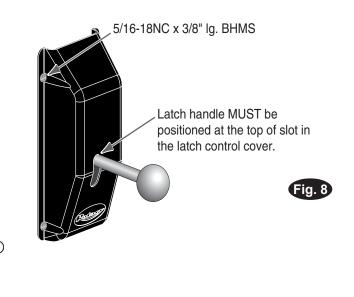
2. Check that the latches have fully engaged when the latch handle is released. Be sure carriage is resting on latch dog.

3. Raise carriages fully off latches, push latch handle and check that the latches have fully disengaged.

4. Make necessary adjustments if required, see Fig. 7, recheck latch function. Latch handle must be as shown in Fig. 8.

Pull Control Plate down, making sure the Latch Dog itself does not move, to eliminate clearance between Control Plate slot and Latch Dog pin (Fig. 6). Loosen clamp and remove slack in the cable. Tighten the clamp.





For E and *i* Lifts Only

MANUAL LOWERING OF LIFT

If your lift is in a raised position and you lose power it is important to know how to lower the lift manually. Make sure nothing is under the lift and all unauthorized personnel are away from the lift area. 1.) Place a hydraulic jack and pipe under the carriage on the master control side. Jack should be rated to lift the capacity of the vehicle.

2.) Raise lift off of the locking latch. You should only have to raise lift approximately 2mm to disengage the lock.

3.) Remove access panel from the master control panel (slave control panel for step 6) and pull locking latch back, Fig. 9. If you can't pull it back with your fingers then you don't have the latch off of the lock. Repeat step #2 until lock is disengaged.

4.) Place a flat piece of steel behind latch dog and back of column to keep it off of the lock.

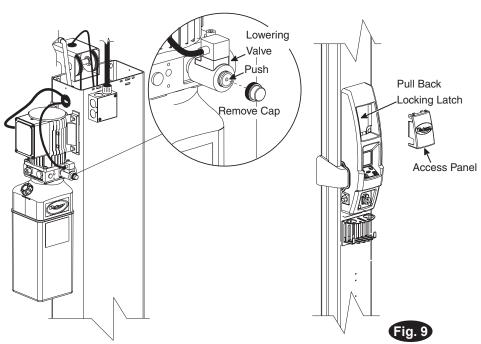
5.) Slowly lower hydraulic jack and pipe out from under the arm carriage.

6.) Repeat procedures 1 through 5 on slave control panel column.

7.) The lift is now being held up by hydraulics at this point

8.) Remove cap from lowering valve and press to lower lift, Fig. 9. The lift will lower at a slow speed. Replace cap on lowering valve after lift has been lowered.9.) If your facility lost power your lift will operate when you regain power.

10.) If your facility power was not lost have a certified electrican check wiring to lift or call an authorized service representative



EC Declaration of Conformity to Type

Manufacturer's Name	 Rotary Lift/Dover Corporation
Manufacturer's Address	 2700 Lanier Drive Madison, Indiana 47250 USA
Representative's Name	 John Uhl
Representative's Address	 Rotary Lift 2700 Lanier Drive Madison, Indiana 47250 USA
Type of Equipment	 Hydraulic Automotive Lift
Model Numbers	 TLO7E (E, M, & i Series)
Relevant Directives	 98/37/EC
Approval Body	 TÜV Rheinland
Certificate Number	 BM 60002498 0001

I, the undersigned, hereby declare that the equipment specified above conforms with the type-tested sample certified by the Approval Body stated above.

Place: Madison, Indiana, USA

phi U

(Signature)

ENGINEERING MANAGER

Trained Operators and Regular Maintenance Ensures Satisfactory Performance of Your Rotary Lift.

Replacement Parts: See installers package for parts breakdown sheet. Order Genuine Rotary replacement parts from your nearest Authorized Parts Distributor.

Maintenance Assistance: Contact your local Rotary distributor.

Should further assistance be required, contact Rotary Lift, at one of the phone numbers listed below.

World Headquarters: Rotary Lift A DOVER COMPANY

2700 Lanier Drive Madison, Indiana USA Phone: 1.800.640.5438 Phone: 1.812.273.1622 Fax: 1.800.578.5438 Fax: 1.812.273.6502 Email: userlink@rotarylift.com Internet: www.rotarylift.com Italy: (European Manufacturing Headquarters) Rotary Lift Europe S.r.I. Manoppello Scalo Phone: +39.085.856.9058 Fax: +39.085.856.9059 Email: rotary.europe@rotaryeurope.com Germany: (European Sales Headquarters) Rotary Lift Germany GmbH Bensheim Phone: +49.6251.582.640 Fax: +49.6251.582.6422 Email: sales@rotarylift.de United Kingdom: (Regional Sales Office) Rotary Lift (UK) LTD. Halstead, Essex Phone: +44.178.747.7711 Fax: +44.178.747.7720 Email: sales@rotarylift.idps.co.uk Canada: (Regional Sales Office) **Dover Corp. (Canada) LTD.** Rotary Lift Division Mississauga, Ontario Phone: 905.812.9920 Fax: 905.812.9719 Email: canada@rotarylift.com



(Regional Sales Office)

Rota

Austral-Asia: