



ERGO TRANZ

Compact Lift/Transporter

1. Basic Principles

The information provided herein must be supplemented with good job management, sound principles of safety, maintenance, application, training, inspection and operation consistent with data available regarding its intended use and expected environment. Conformance with good safety practices is the responsibility of the user and the operating personnel.

Before use of this device, the operator shall have read and understood the content of these instructions, the application limitations of the device, decals, warnings, and other instructions displayed on the device.

User shall keep and maintain a copy of these instructions with the device. Users shall inspect and maintain the device as required to ensure proper operation. Products not in proper operating conditions shall immediately be removed from any service until repaired. Only qualified persons shall make repairs and the repairs shall be in conformance with the manufacturer's recommendations.

Before the use each day or shift, the device shall be given a visual inspection and functional test including but not limited to; operating and safety controls, loose and missing parts, structural integrity and personal protective devices.

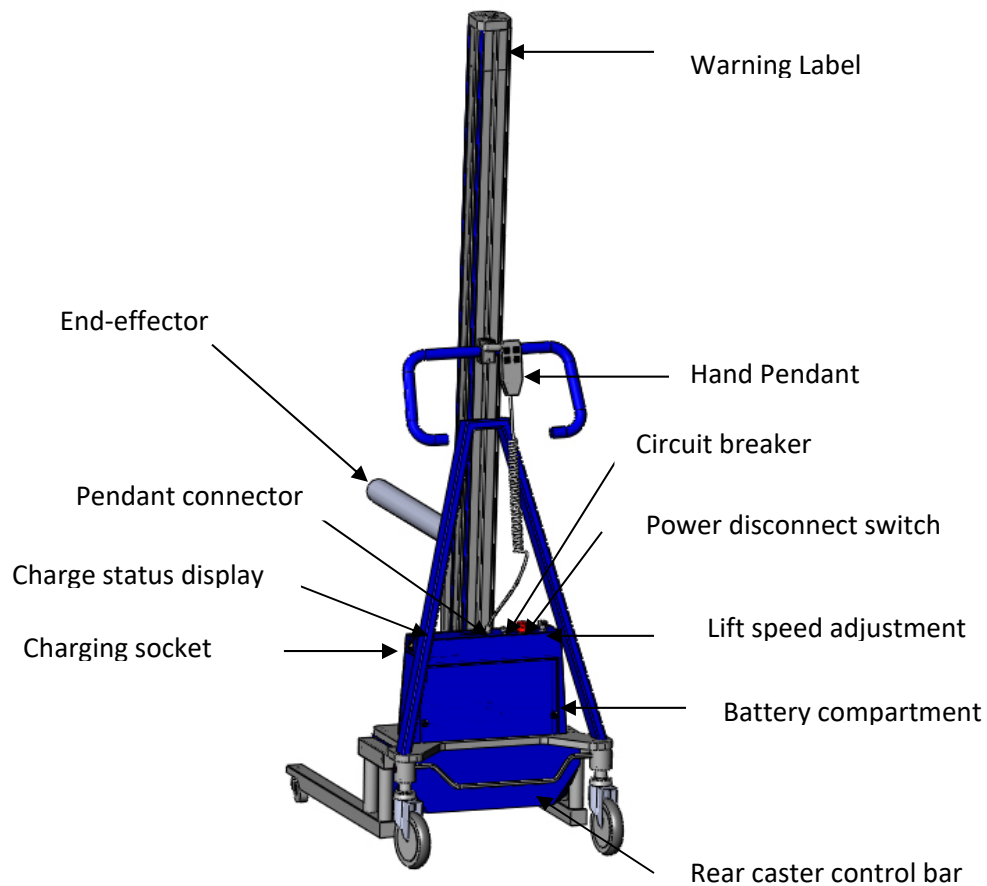
2. Protect yourself and others

To prevent accidents and the risk of being injured it is important that you read and understand these instructions before you operate the device.

- Do not use this device if you have any doubt on how it works.
- Make sure your clothing is proper for the job in which the device is to be used.
- Do not use the device if it is broken or not working correctly.
- Learn to use the device's controls before operating the device with load or around people.
- Never overload the device or manipulate unstable or unevenly distributed loads.
- Always be alert to the work area around you and watch how you are operating the device.
- Do not place the device on ramps or grades.
- Be extra careful if you must use the device in an area where there is risk of falling objects.

- Always make sure the loads are secured before using.
- Check clearances before raising and lowering any loads.
- Read and obey all the warning labels.
- Never climb on any parts of the device.
- Never allow anyone to stand or ride anywhere on the device.
- Never allow anyone under the lift platform with loads attached.
- Never move the device towards anyone standing in front of a fixed object, causing the risk of pinning someone.
- Always check that your path is clear from debris or holes in the floor that otherwise could cause tip over or other unexpected behavior.
- Do not use on edge of docks and drop-offs, since this may cause falls and tip over.
- The stated load capacity is the maximum load the unit can handle safely.
- Never exceed the load capacity of the device.
- Always familiarize yourself with the operation of the device before applying workload.
- Always operate the unit in a location that will keep it clean and dry.

3. Transporter components



3.1 Warning label

Each warning label on your device is important. Read and obey to protect yourself and others.

The stated load capacity is the maximum weight the device can lift and carry.

Never exceed the load capacity. The load weight must always be evenly distributed over the load surface to offer stability.

3.2 Power disconnect switch

Turn ON the power to the device by releasing the Power Disconnect Switch - turn the red knob clockwise.

Turn OFF the power to the device by pressing down on the red Power Disconnect Switch.

Always turn the power OFF when device is not used.

In an emergency, immediately press down on the Power Disconnect Switch, as this will cut off the power to the device. Thereafter, do not use the device. Report the problem to your supervisor.

3.3 Circuit breaker

If the protective circuit breaker has tripped, it may, after a period of time, be manually reset. If the circuit breaker keeps on tripping, stop using the device. Report the problem to your supervisor.

3.4 Lift speed adjustment

When lifting or lowering, you have the option to select a faster speed by turning the Lift Speed knob clockwise. The farther you rotate the knob, the faster your lift platform will move. When turning the Lift Speed knob counter clockwise the lift speed will decrease proportionally.

3.5 Charge status light



The display reflects the batteries' state of charge during the charge cycle.

RED/YELLOW – Batteries need charging.

GREEN – Batteries fully charged - the device is ready to use.



3.6 Hand pendant

3.6.1 UP/DOWN motion



Push the UP button  or the Down button  on the Pendant to raise and lower the lift platform. Release the button when you get to the desired lift height.

Note: If the load on the platform exceeds the maximum load capacity of the device, the built-in overload circuit will interlock the lift function, preventing any UP/DOWN adjustment.



3.6.2 Leg IN/OUT motion (option)

Push the IN button  and the OUT button  on the Pendant to adjust the leg straddle/width. Release the button when you get to the desired leg width. This allows easy passage through narrow aisles/doorways, around objects or to improve load stability at higher lift heights.

3.6.3 Turn motion (option)

Push the Clockwise button  and the Counter Clockwise  button on the Pendant to rotate your product. Release the button when you get to the desired turning position. Built-in micro switches will establish your rotational end-points.

3.6.4 Grip motion (option)

Push the Open button  and the Close button  on the Pendant to grip or release the holding function of your product. Built-in sensor will limit the grip torque. When fully engaged this sensor will release a clicking noise.

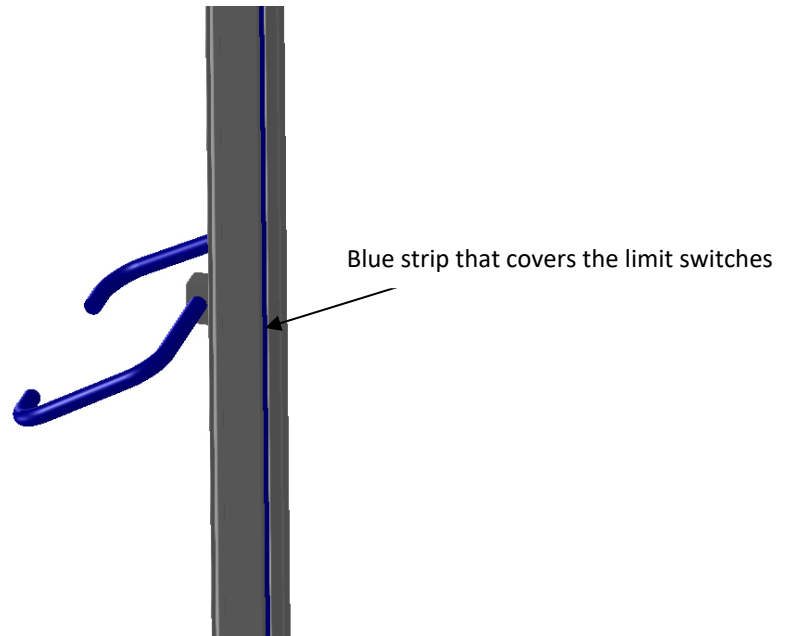
Note: To allow grip release, the Open button AND the top Enable button have to be pressed simultaneously.

3.7 Rear caster control

The control bar connected between the two rear casters may be positioned by foot for multiple functions:

- **Parking Brake.**
Push the Control Bar to the most forward position.
Always park the device in this position.
- **Directional Locked Casters.**
Move the Control Bar to the rear control position to facilitate a pointed travel.
- **Swivel Caster.**
Move the Control Bar to the middle position location to allow turning of the device.

3.8 Limit switch adjustment



The upper and lower lift travel stop points can be adjusted. The upper and one lower limit switches are located behind the blue strip on the front right side of the mast. The upper limit switch is typically set by the factory to its highest point and the lower limit switch is set to its lowest possible point.

To adjust set points, use a 0.05" Allen wrench and loosen the set screws of the limit switches.

If additional electrical wire is required to allow full adjustment, the cover beneath the bottom plate should be removed and the wire to the corresponding switch should be loosened.

When the limit switch is moved to its desired position, tighten the set screw and insert the blue strip.

4. Safety checks before operation

Always check that your device is safe before operating. Walk around the device and check it over. As an example, always check:

- The physical condition of the device.
- That the maneuvering of the device is smooth in both directions.
- The batteries are charged.
- That the Power Disconnect switch works properly.
- The UP/DOWN lift motion follows the pendant functions.
- The Lift platform automatically stops in the far top and bottom positions.
- The Lift Speed is proportional to Lift Speed settings.
- The Parking brake is holding device safely.
- All optional equipment (if so equipped) is functioning correctly.

If anything on the device doesn't look or feel right, don't use the device. **Report the problem to your supervisor.**

5. Maintenance

The device may be wiped clean with a moist rag. Any power connections to the system must be removed before cleaning and not reapplied until the system is thoroughly dry.

Before any maintenance, repair or adjustments are started on the device, the following precautions shall be applied in a safe proper work area:

- Remove all loads from the device.
- Make sure all controls are in an OFF position.
- The brake is fully applied.
- All platforms or other end-effectors are lowered to its full down or neutral position.

No attempts should be made to repair or otherwise modify the device without prior approval of the manufacturer. When components are replaced they shall be identical or equivalent to the original components.

6. General

It is recommended that the device be kept in a location that will keep it clean and dry.

When device is **NOT** in use, make sure the **POWER DISCONNECT** button is in **OFF** position.

7. Battery charging

Charge the batteries in an area that is ventilated and otherwise suited for such operation.

- Plug the provided line cord into the charging socket on the battery box.
- Plug the other end of the line cord into an appropriate AC outlet.
- Check the Charge Status display to learn the state of charge of the batteries.
- If none of the charge status lights come on, the charger is not getting power. Make sure the AC outlet is working and the line cord is OK.
- When the green charge status light comes on the charging is finished.
- Unplug the charge cord.
- The device is ready to use.

Note: Whenever storing the unit, the device should be connected to power for charger.

8. Battery maintenance

Wear protective eyewear, gloves and clothing when replacing batteries. Follow the battery manufacturer's safety recommendations.

The two battery packs are accessed after removing the protective battery compartment lid. The polarized connector simplifies removal and replacement.

Note: Batteries may contain Sulfuric Acid, which cause severe burns if exposed. In case of contact, flush immediately and thoroughly with water.

9. Troubleshooting

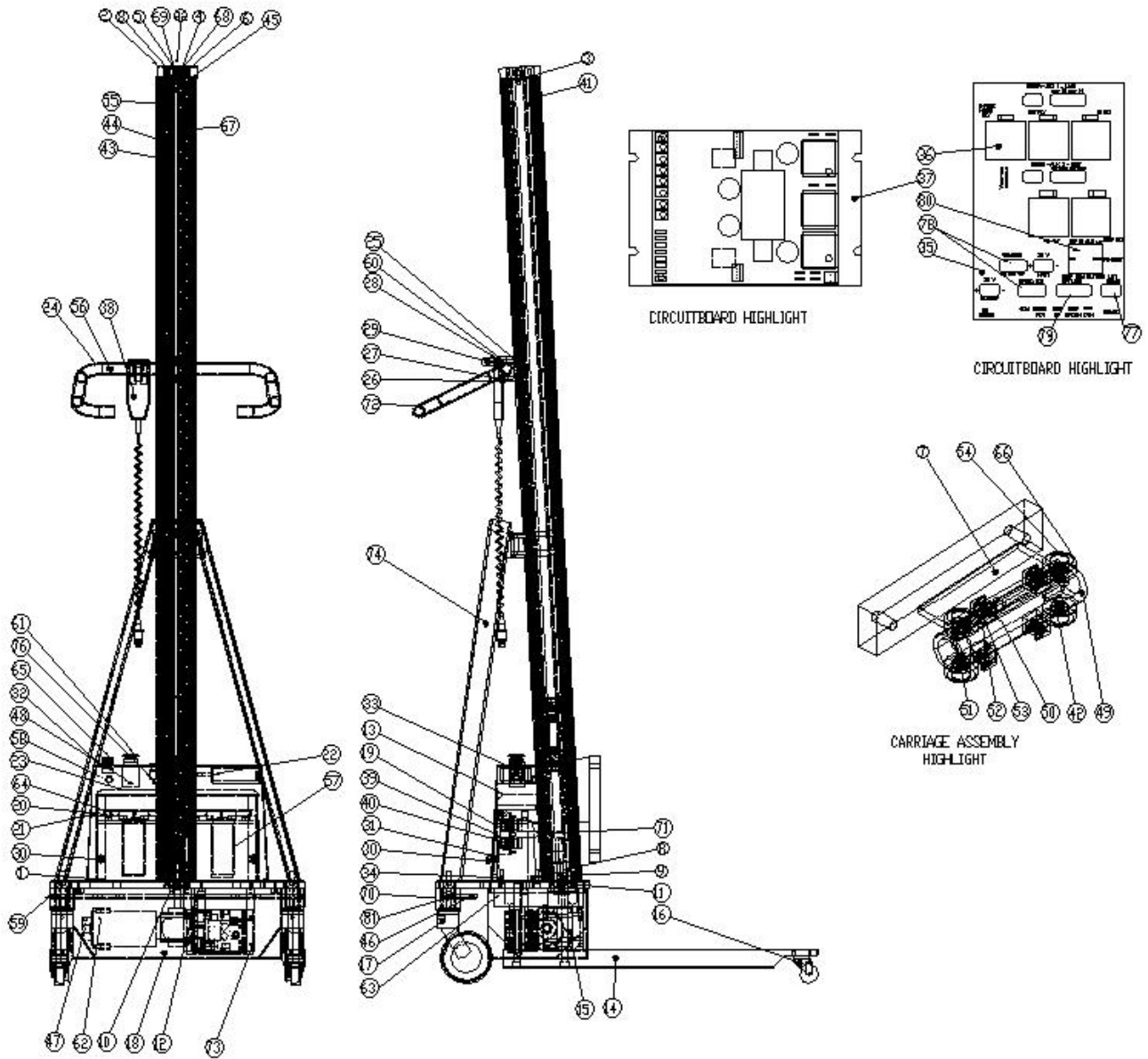
If your device doesn't work, here are a few things to check before you call for service assistance.

- **Battery Charger does not appear to charge the batteries.**
 - Disconnect and remove batteries.
 - Plug in Battery Charger.
 - Measure voltage between the TOP battery connector pin (+) and the BOTTOM battery connector pin (-) on battery connector terminal block inside battery compartment.
 - Measured voltage should be around 27V Dc.
 - If voltage is not present or below 24 V Dc, the battery charger has failed.

- **No up/down lift function.**
 - Pull UP the Battery Disconnect switch, allowing power to be supplied from the batteries to the motor.
 - Make sure the Lift Speed Adjustment is turned **all the way up** for full speed.
 - Check that the Circuit Breaker has not released.
 - Press UP/DOWN on pendant. If there is still no lift function proceed with electrical trouble shooting as follows:
 - Remove battery front access cover (turn wing nuts)
 - Measure VOLTAGE between TOP terminal (+) and BOTTOM (-) terminal on battery connector terminal block. Note: Leave batteries connected to terminal block during measurement.
 - If measurement is below 24V repeat measurements at the corresponding RED and BLACK wire terminals of the actual batteries.
 - If measurement is below 24V, the batteries are in need of charging. No further troubleshooting required.
 - Remove bottom cover (4 screws).
 - Check for loose connections. Press in ALL connectors including the two white control connectors on "blue" control board.
 - Check Up/Down functions to determine if function failure was due to loose connection.
 - Measure voltage between terminals marked B+ and B- on "blue" lift motor control board – terminals located at base of board.
 - If voltage is below 24V there is an open/wire breakage between battery terminal and control board location.

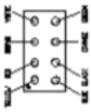
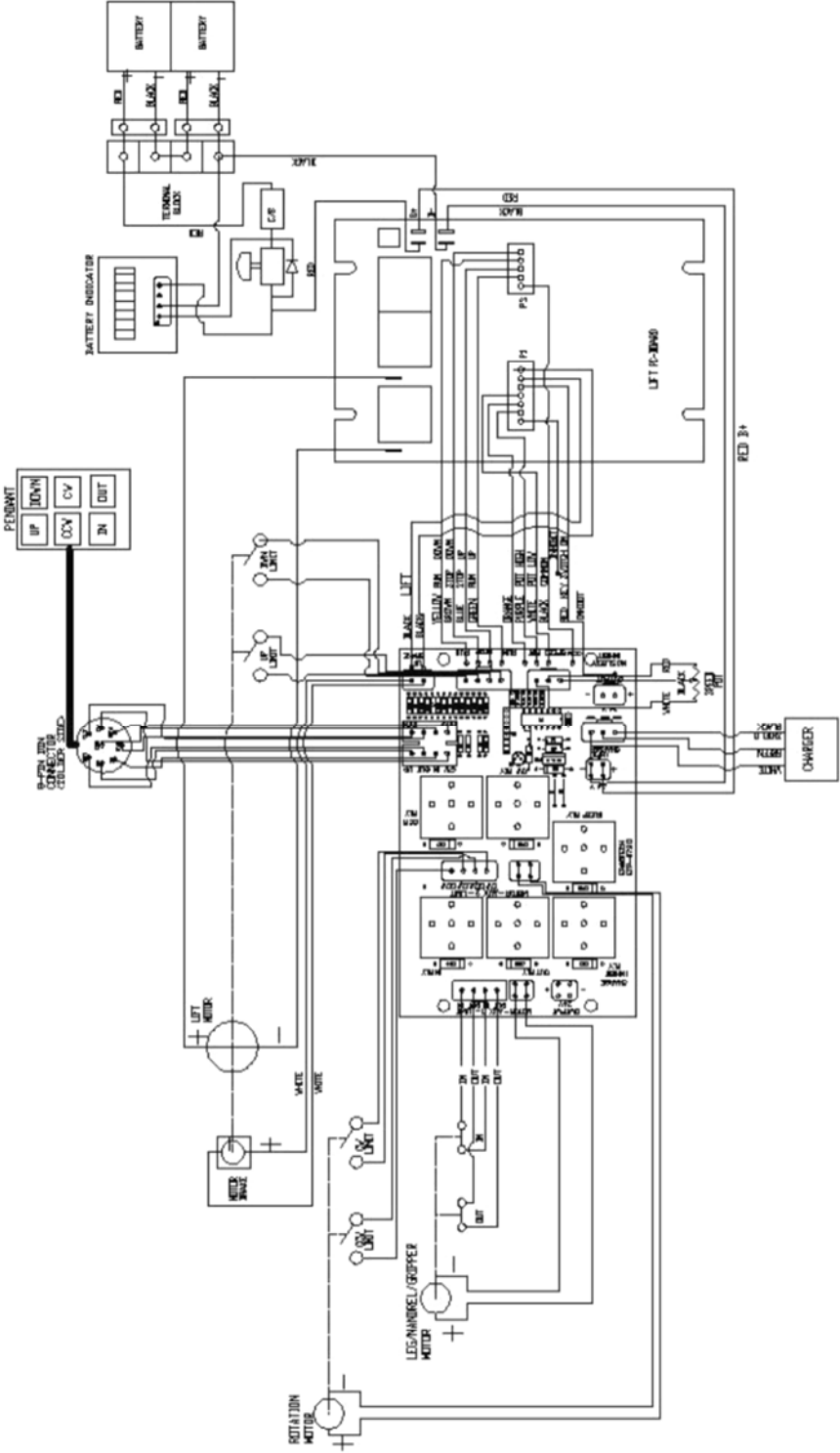
- Check that the “POWER ON” Light is lit on the “blue” control board. It should be Lit when Power Disconnect switch is in UP position. If LED is not lit check the red wire running from the large terminal P1 on “blue” control board and the second interface board.
- Measure voltage between terminals marked M1 and M2 on “blue” lift control board – terminals located at top of board, while pressing up/down pendant buttons to call for up/down lift motion. Voltage should be approximately 24Volt.
- If no output voltage between M1 and M2, the “blue” lift control board needs to be replaced.
- If voltage is present between M1 and M2, but no lift motor function: check white and black lift motor wire connections as well as the two white motor brake wire connections. Also check connection of the two black brake control wires from brake connector to white connector on “blue” control board.

10. Part List (ET-220/450 Fixed Legs)



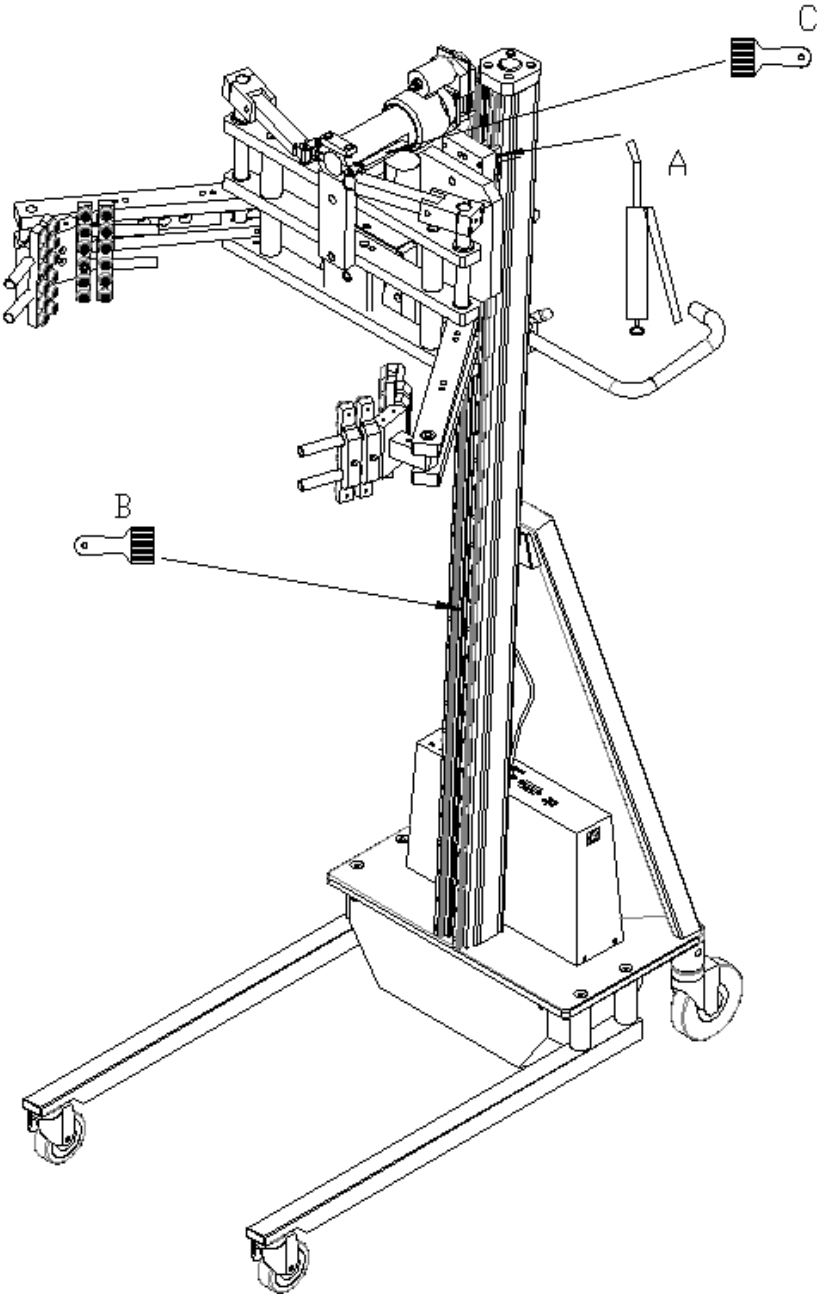
No.	Part No.	Qty	Component Description	No.	Part No.	Qty	Component Description
1	ETP070	1	Base Plate - Fixed Legs	44	ETP016	2	Reed Switch Tube
2	ETP022	1	Extrusion Cap	45	ETP119	2	New Vertical Brushes
3	ETP488	1	Upper Screw Bearing	46	ETP057	1	Caster Control Bar
4	ETP486	2	Extrusion Cap Washer	47	ETP098	1	Motor Brake
5	ETP487	1	Extrusion Cap Bearing	48	ETP498	1	Bypass Diode
6	ETP025	1	Thrust Washer	49	ETP003	1	Lift Carriage
7	ETP012	1	Lift Carriage Load Arm	50	ETP186	4	Carriage Side Bearing Bracket
8	ETP017	1	Lower Bearing Puck	51	ETP180	4	Carriage Roller Spacer
9	ETP481	1	Ball Screw Coupling	52	ETP188	4	Carriage Side Bearing Insert
10	ETP480	1	Lift Motor Coupling	53	ETP189	4	Carriage Side Bearing
11	ETP479	1	Lift Spider Coupling	54	ETP184	4	Carriage Track Roller
12	ETP013	1	Lift Motor Mount	55	ETP021	1	Cut Extrusion
13	ETP069	1	Extrusion Support	56	ETP124	2	Handle Grip Cover
14	ETP051	2	Leg Solid	57	ETP466	4	Battery Compartment Polysteren
15	ETP052	4	Leg Spacer Rod - Fixed Legs	58	EIP425	2	Ergo-I Plug
16	ETP126	2	Front Caster - 2"	59	EMP011	2	1/4" Regulator Plug
17	ETP128	2	Rear Caster - 6 "	60		1	1/4-20 Screw
18	ETP059	1	Bottom Cover	61	EFP468	1	Emergency Button
19	ETP068	1	Battery Connector Plate	62	ETP100	1	Bodine Motor Lift
20	ETP465	2	Battery	63		2	Cover Mount
21	ETP056	1	Battery Cover	64	ETP121	4	Battery Terminal Cover
22	ETP110	1	Charger	65	EFP470	1	Switch Knob
23	ETP065	1	Battery Cover Lid	66	ETP182	4	Bronze Carriage Roller
24	ETP109	1	Handle Bar	67	ETP018/105	1	R37 Ball Screw - 220/450 lbs.
25	ETP062	1	Handle T-Nut	68	ETP478	1	Lower Bearing
26	ETP063-1	1	Handle Clamp	69		1	5-16 Cap Bolt
27	ETP063-2	1	Handle Clamp	70	ETP024	2	Rear Caster Mount
28		2	Washer	71	ETP019/105	1	R37 Screw Nut -220/450 lbs.
29	ETP061	1	Handle Clamp Knob	72	ETP124	2	Handle Grip Cover
30	ETP412	2	Battery Lid Wing Std	73	ETP106	2	Ergo Tranz PC Mount Bracket
31	ETP411	2	Battery Lid Clip-on	74	ETP190	1	Rear Mast Support (450 lbs)
32		1	Speed Pot	75	ETP201	2	ErgoTranz Side Label
33	ETP461	1	Cover DIN Connector	76	ETP460	1	15A Circuit Breaker
34		8	Angle Bracket	77	ETP501/502	2	2 Socket/2 Plug
35	ETP072D	1	ET- Interface Circuit Board	78	ETP504/503	1	3 Socket/3 Plug
36	ETP499	4	Relay	79	ETP495/494	3	AMP 4 Socket/4 Plug
37	ETP082	1	KB-Board	80	ETP497/496	1	AMP 6 Socket/6 Plug
38	ETP116	1	4 Button Pendant	81	ETP120	2	Caster Bar Stop Plug
39	ETP470	2	Battery Plug	82	ETP459	1	Extrusion Cap Plug
40	ETP471	2	Battery Socket	83	EIP426	1	Power Cord MEGA -110V
41	ETP123	4	PVC Blue Stripe				
42	ETP462	1	Carriage Magnet				
43	ETP464	2	Reed Switch				

11. Electrical schematics



12. Maintenance

- A. **Load Arm Bearings** - Grease every 100th hour using white lithium or equivalent (ET-600 Only)
90 degree needle required, McMaster Carr #10475K92
- B. **Vertical Lift Ball Screw** - Grease every 100th hour using white lithium or equivalent (All models)
- C. **Gripper Ball Screw** -Grease every 100th hour using white lithium or equivalent (If applicable)



13. Technology

13.1 Battery charger

The built-in charger is a fully automatic, state of the art, switch mode 24Volt battery charger suitable for either gel-cell or wet sealed lead acid batteries. The advanced technology offers universal charger input (90VAC to 264V AC) allowing the charger to be connected anywhere in the world, while appropriately staging the charging cycle through suitable charge modes, and protecting the batteries for long life. The charger can therefore, be left connected indefinitely, while maintaining full charge without harming the batteries. While the charger is connected, the transporter lift circuit is disabled for safety reasons.

13.2 Solid state lift speed control

The electronic DC motor speed control offers a smooth bi-directional drive and brake control of the lift. The state of the art design provides a highly efficient operation with infinitely variable speed adjustment in both up and down directions while assuring a safe lift hold/brake control at any desired lift height. A built-in over current circuitry protects against attempting to overload the device beyond the load rating while an under voltage cutback function protects against operation under low battery capacity.

13.3 Sleep mode

The electronic system includes a sleep mode function that automatically deactivates the unit when it is left idle for more than approximately 3 minutes. The electronic system immediately wakes up again when any of the pendant buttons are pressed. This supervisory function extends battery life.

14. Warranty policy

The product is warranted against manufacturing defects in materials and workmanship for a period of one (1) year from the date of shipment. Batteries not included.

This warranty shall not cover failure or defective operation caused by operation in excess of recommended capacities, misuse, negligence, improper use, abuse, or alteration or repair not authorized by the manufacturer. The manufacturer is in no way liable to any party for any loss of profit, loss of use, installation of defective equipment, damages, incidental or consequential damages.

Any remedies under this warranty are limited to repair or replacement of failed component returned to the manufacturer during the warranty period. All defective parts replaced under this warranty shall become the property of the manufacturer and must be returned to the manufacturer properly packaged.

15. Contact information

Ergotronix, Inc.
6408 Parkland Drive,
Sarasota, FL 34243