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EHLTD-Series Double Scissor Electric-Hydraulic Lift Tables

Receiving Instructions

After delivery, remove the packaging from the product. Inspect the product closely to determine whether it sustained damage during transport. If damage is discovered, record a complete description of it on the bill of lading. If the product is undamaged, discard the packaging.

NOTE: The end-user is solely responsible for confirming that product design, use, and maintenance comply with laws, regulations, codes, and mandatory standards applied where the product is used.

Technical Service & Replacement Parts

For answers to questions not addressed in these instructions and to order replacement parts, labels, and accessories, call our Technical Service and Parts Department at (260) 665-7586. The Department can also be contacted online at https://www.vestil.com/page-parts-request.php.

Electronic Copies of Instruction Manuals

Additional copies of this instruction manual may be downloaded from https://www.vestil.com/page-manuals.php.

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SIGNAL WORDS

This manual uses SIGNAL WORDS to indicate the likelihood of personal injuries, as well as the probable seriousness of those injuries, if the product is misused in the ways described. Other signal words call attention to uses of the product likely to cause property damage. The following are signal words used in this manual and their definitions.

⚠ DANGER	**Identifies a hazardous situation which, if not avoided, WILL result in DEATH or SERIOUS INJURY. Use of this signal word is limited to the most extreme situations.**
⚠ WARNING	**Identifies a hazardous situation which, if not avoided, COULD result in DEATH or SERIOUS INJURY.**
⚠ CAUTION	**Indicates a hazardous situation which, if not avoided, COULD result in MINOR or MODERATE injury.**
NOTICE	**Identifies practices likely to result in product/property damage, such as operation that might damage the product.**

SAFETY INSTRUCTIONS

Vestil strives to identify all hazards associated with the use of our products. However, material handling is dangerous and no manual can address every risk. The most effective way to avoid injury is for the end-user to exercise sound judgment whenever using this product.

⚠ WARNING

Improper or careless operation might result in serious personal injuries or death.

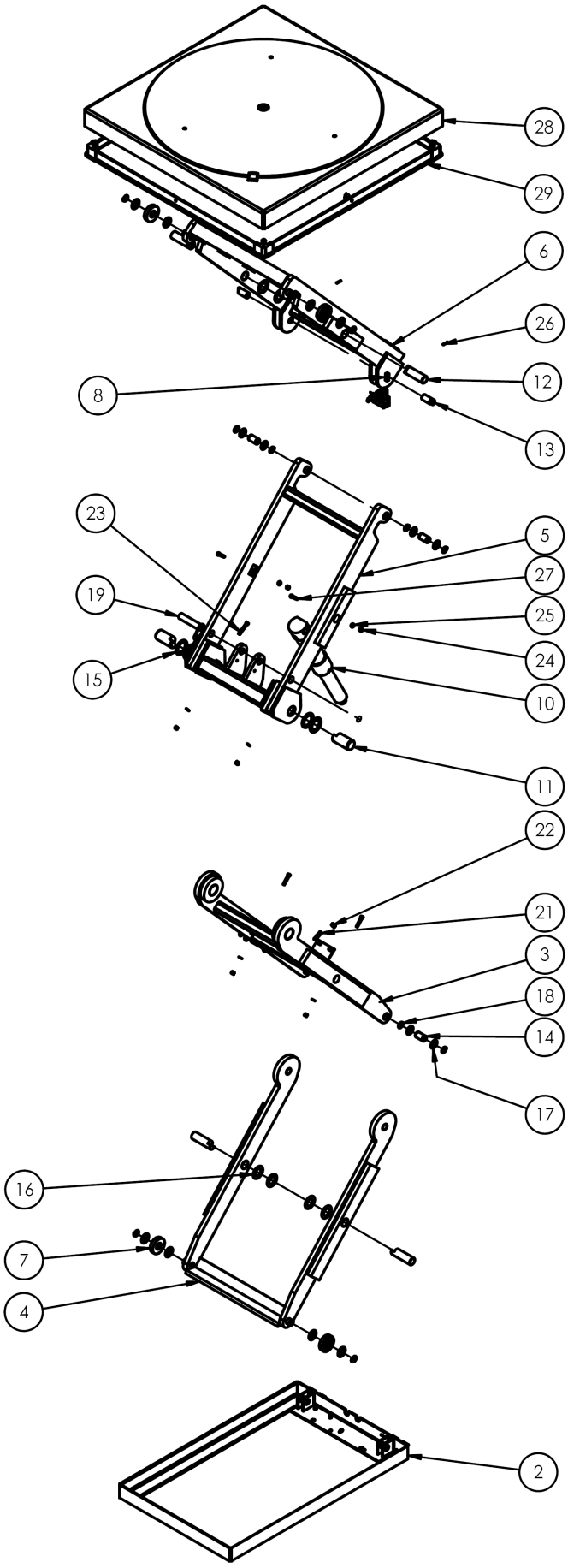
- Read the entire manual before assembling, installing, using, or servicing the table. A copy of this manual must be available at all times to persons who assemble, install, use, or service the table. Read the manual whenever necessary to refresh your understanding of use and maintenance procedures.
- This product presents pinch point and hydraulic pressure hazards to the user and bystanders. ALWAYS follow the instructions provided in this manual to avoid injury.
- This product must be solidly anchored to the supporting surface before it is used. DO NOT use the table until it is solidly anchored to the floor. See *INSTALLING THE TABLE* on p. 20-21.
- DO NOT operate a lift table with its perimeter toe guard removed, disabled, or inoperable.
- DO NOT attempt to lift a load that weighs more than the capacity of your table. The table is labeled with its capacity. See Label 1153 as shown in *LABELING DIAGRAM* on p. 27. Handle only stable and safely arranged loads within the capacity of the table.
- DO NOT allow people to stand or sit on either the table or the load. DO NOT lift people with the table.
- Stand clear of the table while raising or lowering the tabletop. Particularly avoid pivot/pinch points while the tabletop rises and lowers.
- DO NOT attempt to lift an overhanging or cantilevered load.
- DO NOT reach through the legs or crawl under the tabletop unless maintenance stops are deployed.
- DO NOT use the table in corrosive environments.
- ONLY install the table on compacted, improved surfaces capable of supporting the combined weight of the table plus a maximum rated load. The installation surface must be even and level.
- DO NOT perform maintenance on this table or its power unit UNLESS the table is unloaded and maintenance stops are in place. ONLY install manufacturer-approved replacement parts.
- Center and evenly distribute loads on the tabletop.
- Strap loads to the tabletop when necessary to prevent rolling or sliding.
- Inspect the unit according to the *INSPECTING & MAINTAINING THE TABLE* instructions on 23, 24, & 25. DO NOT use the table unless it is in *SATISFACTORY CONDITION*. See *RECORD*, p. 22.
- Observe the tabletop while raising and lowering it. It should rise smoothly and evenly from side-to-side. Watch for binding or jerky movement. Listen for unusual noises. Tag the unit "Out of order" & remove it from service if you notice damage or observe (see or hear) anything about the table that is abnormal.
- Always watch the load carefully while raising and lowering the tabletop.
- DO NOT continue to press the UP button if the tabletop is fully elevated.
- Before leaving the table unattended, unload it and relieve hydraulic pressure by pressing the DOWN button and holding it until the tabletop is completely lowered.
- DO NOT use the table UNLESS all labels are in place & easily readable. See *LABELING DIAGRAM*, p. 27.
- DO NOT modify this product in any way. Modifications automatically void the *LIMITED WARRANTY* and might make the table unsafe to use.

NOTICE

Proper use and maintenance are essential for this product to function properly.

- Periodically lubricate pivot points with bearing grease.
- Keep the product clean & dry. Only install and use this table indoors.
- Only use manufacturer-approved replacement parts. Order replacement/spare parts for this equipment by contacting the *TECHNICAL SERVICE DEPARTMENT*.
- DO NOT use brake fluid or jack oils in the hydraulic system. If oil is needed, only use an anti-wear hydraulic oil with a viscosity grade of 150 SUS at 100°F, (ISO 32 cSt @ 40°C), or Dexron transmission fluid.
- Contact the manufacturer for SDS (Safety Data Sheet) documentation

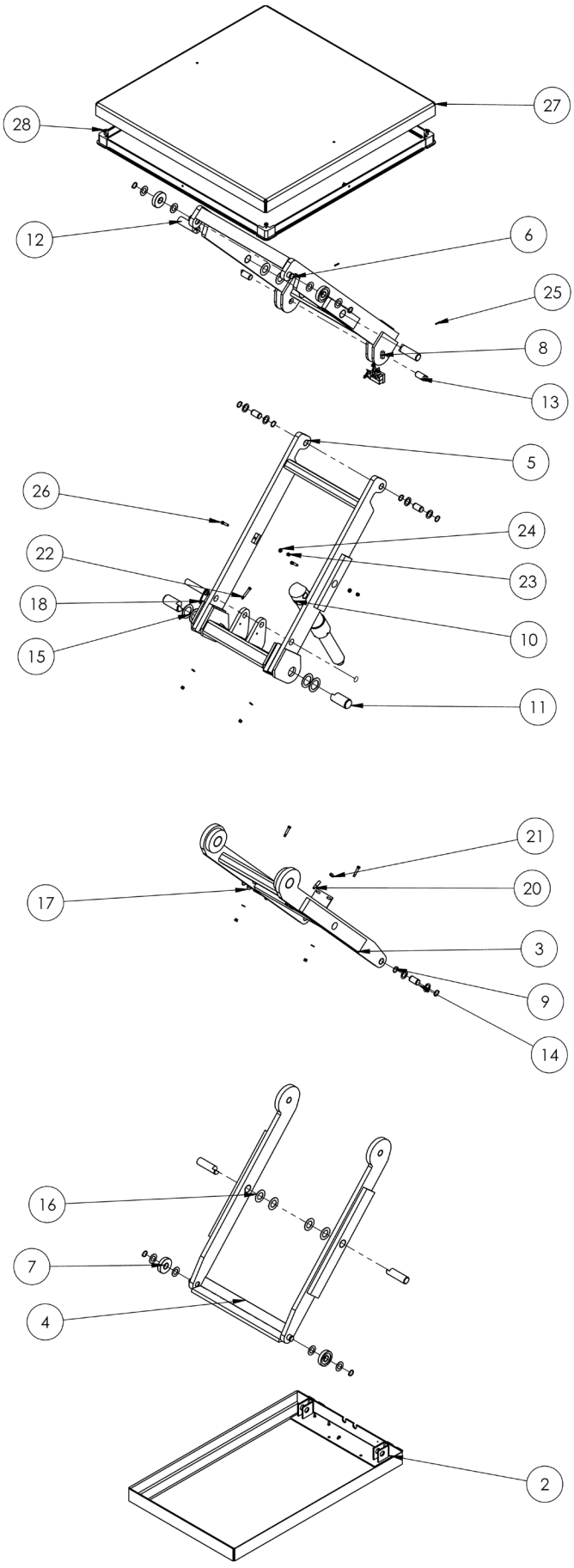
EXPLODED VIEW: EHLTD-4848-0.7-70 + ROTATE (26-006-114-001)



BILL OF MATERIALS: EHLTD-4848-0.7/1.7/2.7/3.7-70 + ROTATE (26-006-114-001)

ITEM	PART NO.	DESCRIPTION	QTY.
1		FINAL ASSEMBLY W/O POWER UNIT	
	26-002-110	EHLTD-0.7-70 + ROTATE	1
	26-002-120	EHLTD-1.7-70 + ROTATE	1
	26-002-130	EHLTD-2.7-70 + ROTATE	1
	26-002-140	EHLTD-3.7-70 + ROTATE	1
2	26-514-001	WELDMENT, FRAME ASSEMBLY	1
3		WELDMENT, LOWER INNER LEG, 21 5/8 C/C	
	26-510-047	EHLTD-0.7-70 + ROTATE & EHLTD-1.7-70 + ROTATE	1
	26-510-048	EHLTD-2.7-70 + ROTATE & EHLTD-3.7-70 + ROTATE	1
4	26-510-045	WELDMENT, LOWER OUTER LEG, 21 5/8 C/C	1
5		WELDMENT, UPPER INNER LEG, 21 5/8 C/C	
	26-510-050	EHLTD-0.7-70 + ROTATE & EHLTD-1.7-70 + ROTATE	1
	26-510-051	EHLTD-2.7-70 + ROTATE & EHLTD-3.7-70 + ROTATE	1
6	26-510-046	WELDMENT, UPPER OUTER LEG, 21 5/8 C/C	1
7	01-527-001	ROLLER W/ BUSHING	4
8	01-115-001	WASHER, THRUST BEARING, 1 1/8 ID	12
9	26-117-001	SNAP RING, Ø1 1/8 PIN TRUARC #5160-112	4
10		CYLINDER, HYDRAULIC	
	99-521-906-002	EHLTD-0.7-70 + ROTATE: Ø2 1/2" X 10" RAM STYLE, MACHINED END, 3GPM VF	1
	99-521-901-002	EHLTD-1.7-70 + ROTATE: Ø3" x 10" RAM STYLE, MACHINED END, 3GPM VF	1
	99-521-906-001	EHLTD-2.7.70 + ROTATE: Ø2 1/2" X 10" RAM STYLE, MACHINED END, 2GPM VF	2
	99-521-901-001	EHLTD-3.7-70 + ROTATE: Ø3" x 10" RAM STYLE, MACHINED END, 2GPM VF	2
11	26-112-005	PIN, PIVOT, TORSION END	2
12	26-112-006	PIN, DBL SCISSOR PIVOT	4
13	01-112-008	PIN, SCISSOR PIVOT	2
14	26-112-001	PIN, HINGE	4
15	99-115-001	WASHER, THRUST	4
16	01-115-002	WASHER, THRUST BEARING	8
17	33454	NARROW MACHINERY BUSHING, PLAIN FINISH, 1 3/4" X 18 GA	8
18	68021	EXTERNAL RETAINING RING, PHOSPHATE FINISH, 1-1/8"	8
19		WELDMENT, CYLINDER PIN	
	24-612-003	EHLTD-0.7-70 + ROTATE & EHLTD-1.7-70 + ROTATE	1
	24-612-003	EHLTD-2.7-70 + ROTATE & EHLTD-3.7-70 + ROTATE	2
20		Ø5/16 - 18 x 1/2 HWH THREAD CUTTING SCREW, TYPE F, ZINC	
	32415	EHLTD-0.7-70 + ROTATE & EHLTD-1.7-70 + ROTATE	1
	32415	EHLTD-2.7-70 + ROTATE & EHLTD-3.7-70 + ROTATE	2
21	01-118-001	BOLT, CYLINDER RETAINING	2
22	36209	1/2 - 13 HEX JAM NUT PLAIN, GRADE A	2
23	26335	SHOULDER SCREW, GRADE 2, 0.375x2" LG	2
24	37021	NYLON INSERT LOCK NUT, GRADE 2, ZINC FINISH, 5/16"-18	6
25	33004	FLAT WASHER, USS, ZINC PLATED, Ø1/4"	6
26	64134	SPRING PIN	2
27	26333	SHOULDER SCREW, GRADE 2, 0.375x1.5" LG	4
28	26-513-013	WELDMENT, DECK, 48" X 48", ROTATE	1
29	01-515-013	SUB-ASSEMBLY, TOE GUARD, 48" X 48", INCLUDES HARDWARE & SWITCHES	1

EXPLODED VIEW: EHLTD-4848-1/2/3/4-70 (26-006-111-002)



BILL OF MATERIALS: EHLTD-4848-1/2/3/4-70 (26-006-111-002)

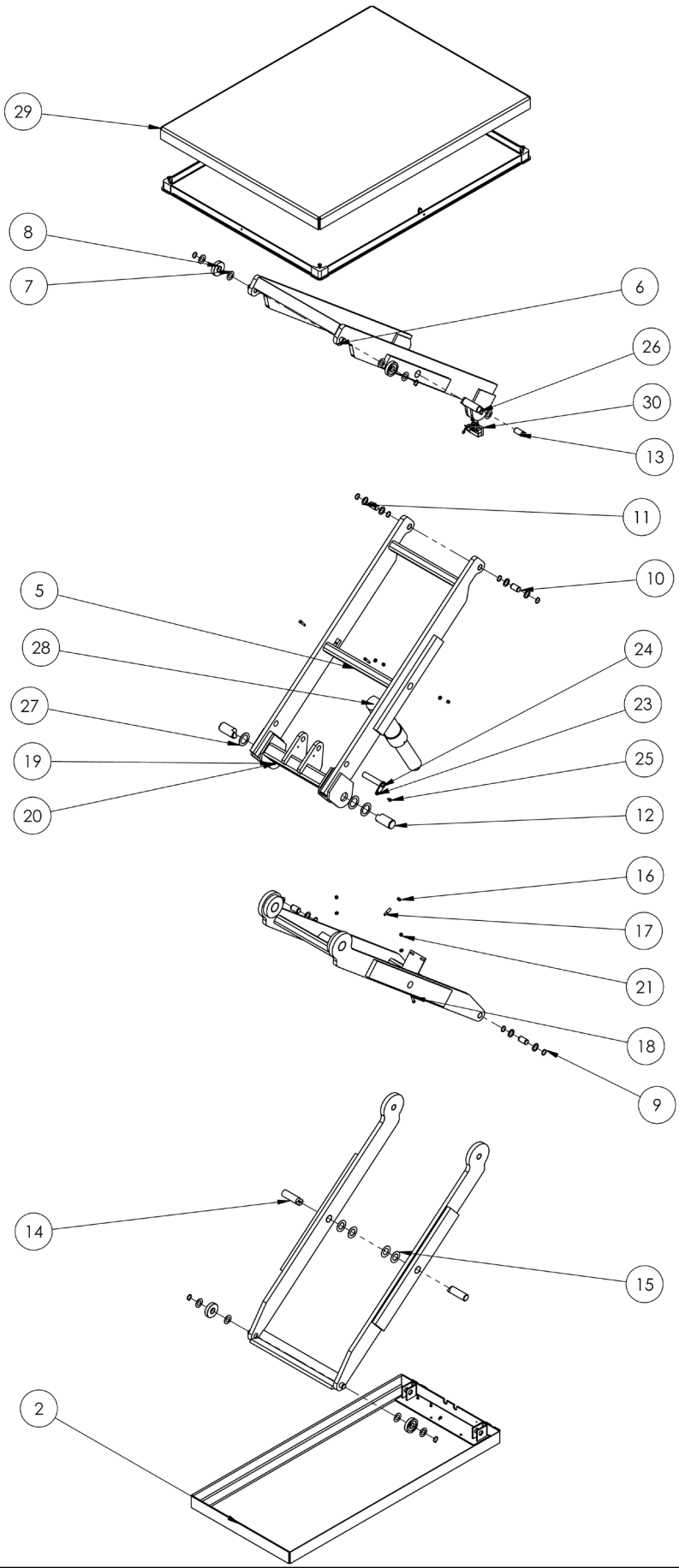
ITEM	PART NO.	DESCRIPTION	QTY.
1		FINAL ASSEMBLY W/O POWER UNIT	
	26-002-110	EHLTD-4848-1-70	1
	26-002-120	EHLTD-4848-2-70	1
	26-002-130	EHLTD-4848-3-70	1
	26-002-140	EHLTD-4848-4-70	1
2	26-514-001	WELDMENT, FRAME ASSEMBLY	1
3		WELDMENT, LOWER INNER LEG, 21 5/8 C/C	
	26-510-047	EHLTD-4848-1-70 & EHLTD-4848-2-70	1
	26-510-048	EHLTD-4848-3-70 & EHLTD-4848-4-70	1
4	26-510-045	WELDMENT, LOWER OUTER LEG, 21 5/8 C/C	1
5		WELDMENT, UPPER INNER LEG, 21 5/8 C/C	
	26-510-050	EHLTD-4848-1-70 & EHLTD-4848-2-70	1
	26-510-051	EHLTD-4848-3-70 & EHLTD-4848-4-70	1
6	26-510-046	WELDMENT, UPPER OUTER LEG, 21 5/8 C/C	1
7	01-527-001	ROLLER W/ BUSHING	4
8	01-115-001	WASHER, THRUST BEARING, 1 1/8 ID	12
9	68021	EXTERNAL RETAINING RING, PHOSPHATE FINISH, 1-1/8"	12
10		CYLINDER, HYDRAULIC	
	99-521-906-002	EHLTD-4848-1-70: Ø2 1/2" X 10" RAM STYLE, MACHINED END, 3GPM VF	1
	99-521-901-002	EHLTD-4848-2-70: Ø3" x 10" RAM STYLE, MACHINED END, 3PM VF	1
	99-521-906-001	EHLTD-4848-3-70: Ø2 1/2" X 10" RAM STYLE, MACHINED END, 2GPM VF	2
	99-521-901-001	EHLTD-4848-4-70: Ø3" x 10" RAM STYLE, MACHINED END, 2PM VF	2
11	26-112-005	PIN, PIVOT, TORSION END	2
12	26-112-006	PIN, DBL SCISSOR PIVOT	4
13	01-112-008	PIN, SCISSOR PIVOT	2
14	26-112-001	PIN, HINGE	4
15	99-115-001	WASHER, THRUST	4
16	01-115-002	WASHER, THRUST BEARING	8
17	33454	NARROW MACHINERY BUSHING, PLAIN FINISH, 1 3/4" X 18 GA	8
18		WELDMENT, CYLINDER PIN	
	24-612-003	EHLTD-4848-1-70 & EHLTD-4848-2-70	1
	24-612-003	EHLTD-4848-3-70 & EHLTD-4848-4-70	2
19		Ø5/16 - 18 x 1/2 HWH THREAD CUTTING SCREW, TYPE F, ZINC	
	32415	EHLTD-4848-1-70 & EHLTD-4848-2-70	1
	32415	EHLTD-4848-3-70 & EHLTD-4848-4-70	2
20	01-118-001	BOLT, CYLINDER RETAINING	2
21	36209	1/2 - 13 HEX JAM NUT PLAIN	2
22	26335	SHOULDER SCREW 0.375x2" LG	2
23	37021	NYLON INSERT LOCK NUT, GRADE 2, ZINC FINISH, 5/16"-18	6
24	33004	FLAT WASHER, USS, ZINC PLATED, Ø1/4"	6
25	64134	SPRING PIN	2
26	26333	SHOULDER SCREW 0.375x1.5" LG	4
27	26-513-005	WELDMENT, DECK	1
28	01-515-013	SUB-ASSEMBLY, TOE GUARD, 48" X 48", INCLUDES HARDWARE & SWITCHES	1

EXPLODED VIEW: EHLTD-4848-5-70 (26-006-151-002)

BILL OF MATERIALS: EHLTD-4848-5-70 (26-006-151-002)

ITEM	PART NO.	DESCRIPTION	QTY.
1	26-002-150	FINAL ASSEMBLY W/O POWER UNIT	1
2	26-514-001	WELDMENT, FRAME ASSEMBLY	1
3	26-510-049	WELDMENT, LOWER INNER LEG, 21 5/8 C/C	1
4	26-510-045	WELDMENT, LOWER OUTER LEG, 21 5/8 C/C	1
5	26-510-052	WELDMENT, UPPER INNER LEG, 21 5/8 C/C	1
6	26-510-046	WELDMENT, UPPER OUTER LEG, 21 5/8 C/C	1
7	01-527-001	ROLLER W/ BUSHING	4
8	01-115-001	WASHER, THRUST BEARING, 1 1/8 ID	12
9	68021	EXTERNAL RETAINING RING, PHOSPHATE FINISH, 1-1/8"	12
10	99-521-906-001	CYLINDER, HYDRAULIC, Ø2 1/2" X 10" RAM STYLE, MACHINED END, 2GPM VF	3
11	26-112-005	PIN, PIVOT, TORSION END	2
12	26-112-006	PIN, DBL SCISSOR PIVOT	4
13	01-112-008	PIN, SCISSOR PIVOT	2
14	26-112-001	PIN, HINGE	4
15	99-115-001	WASHER, THRUST	4
16	01-115-002	WASHER, THRUST BEARING	8
17	33454	NARROW MACHINERY BUSHING, PLAIN FINISH, 1 3/4" X 18 GA	8
18	01-118-001	BOLT, CYLINDER RETAINING	3
19	36209	1/2 - 13 HEX JAM NUT PLAIN	3
20	26335	SHOULDER SCREW 0.375x2" LG	2
21	37021	NYLON INSERT LOCK NUT, GRADE 2, ZINC FINISH, 5/16"-18	6
22	33004	FLAT WASHER, USS, ZINC PLATED, Ø1/4"	6
23	64134	SPRING PIN	2
24	26333	SHOULDER SCREW 0.375x1.5" LG	4
25	24-112-003	PIN, CYLINDER PIVOT	1
26	26-513-005	WELDMENT, DECK	1
27	01-515-013	SUB-ASSEMBLY, TOE GUARD, 48" X 48", INCLUDES HARDWARE & SWITCHES	1

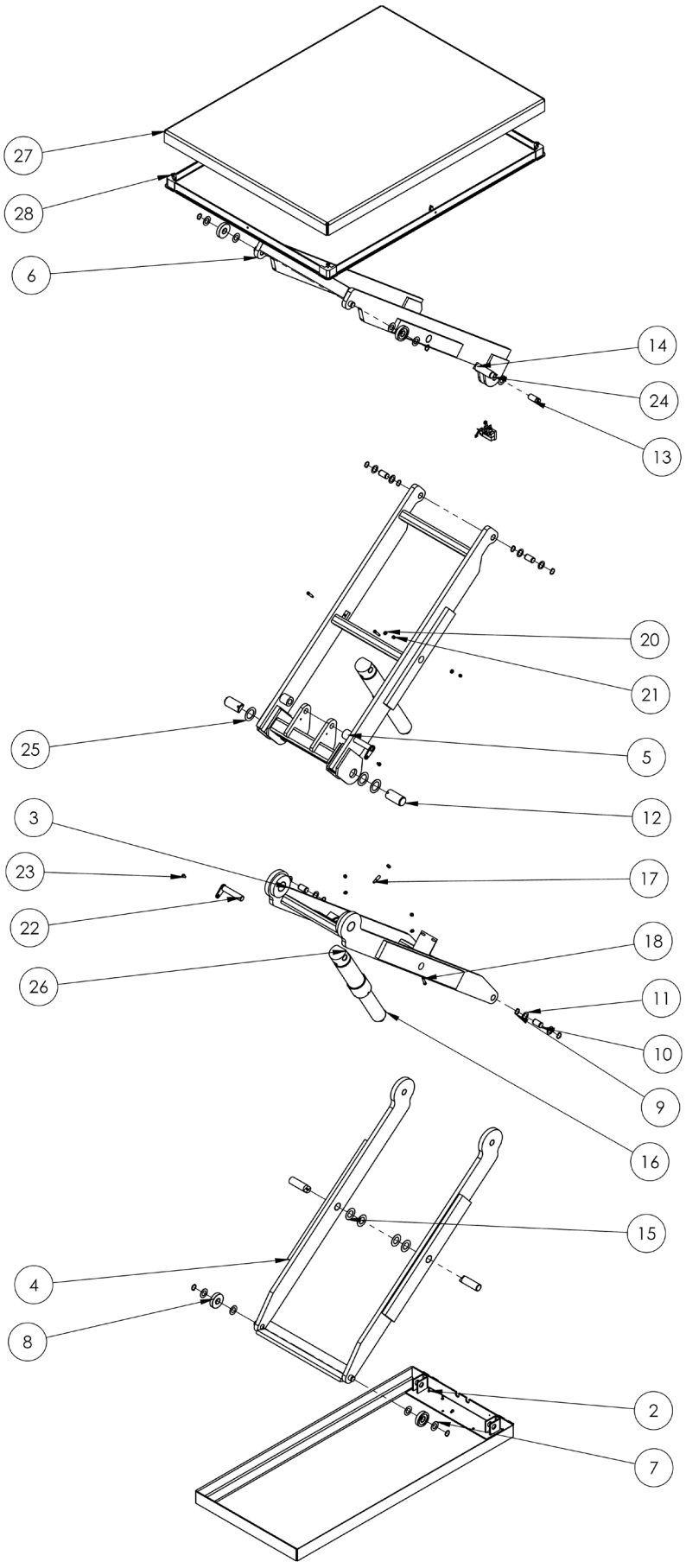
EXPLODED VIEW: EHLTD-4864-1-84 (26-006-061-002)



BILL OF MATERIALS: EHLTD-4864-1-84 (26-006-061-002)

ITEM NO	PART NO	DESCRIPTION	QTY.
1	26-02-60	FINAL ASSEMBLY W/O POWER UNIT	1
2	26-514-002	WELDMENT, FRAME ASSEMBLY	1
3	26-510-027	WELDMENT, LOWER INNER LEGS, 29 5/8 C/C	1
4	26-510-030	WELDMENT, LOWER OUTER LEG, 29 5/8 C/C	1
5	26-510-031	WELDMENT, UPPER INNER LEG, 29 5/8 C/C	1
6	26-510-034	WELDMENT, UPPER OUTER LEG	1
7	01-115-001	WASHER, THRUST BEARING, 1 1/8 ID	12
8	01-527-001	ROLLER W/ BUSHING	4
9	68021	EXTERNAL RETAINING RING, PHOSPHATE FINISH, 1-1/8"	12
10	26-112-001	PIN, HINGE	4
11	33454	NARROW MACHINERY BUSHING, PLAIN FINISH, 1 3/4" X 18 GA	8
12	26-112-005	PIN, PIVOT, TORSION END	2
13	01-112-008	PIN, SCISSOR PIVOT	2
14	26-112-006	PIN, DBL SCISSOR PIVOT	4
15	01-115-002	WASHER, THRUST BEARING	8
16	36209	1/2 - 13 HEX JAM NUT PLAIN	1
17	01-118-001	BOLT, CYLINDER RETAINING	1
18	26333	SHOULDER SCREW 0.375x1.5" LG	4
19	26335	SHOULDER SCREW 0.375x2" LG	2
20	33004	FLAT WASHER, USS, ZINC PLATED, Ø1/4"	6
21	37021	NYLON INSERT LOCK NUT, GRADE 2, ZINC FINISH, 5/16"-18	6
22	24-612-003	WELDMENT, CYLINDER PIN	1
23	04-130-001-001	PIN RETAINER	1
24	09-112-011	PIN, CYLINDER, BOX DUMPER	1
25	32415	Ø5/16 - 18 x 1/2 HWH THREAD CUTTING SCREW, TYPE F, ZINC	1
26	64134	SPRING PIN	2
27	99-115-001	WASHER, THRUST	4
28	99-021-901-001	CYLINDER, HYDRAULIC, Ø3" x 10" RAM STYLE, MACHINED END	1
29	26-513-004	WELDMENT, DECK	1
30	01-515-026	SUB-ASSEMBLY, TOE GUARD, 48" X 64", INCLUDES HARDWARE & SWITCHES	1

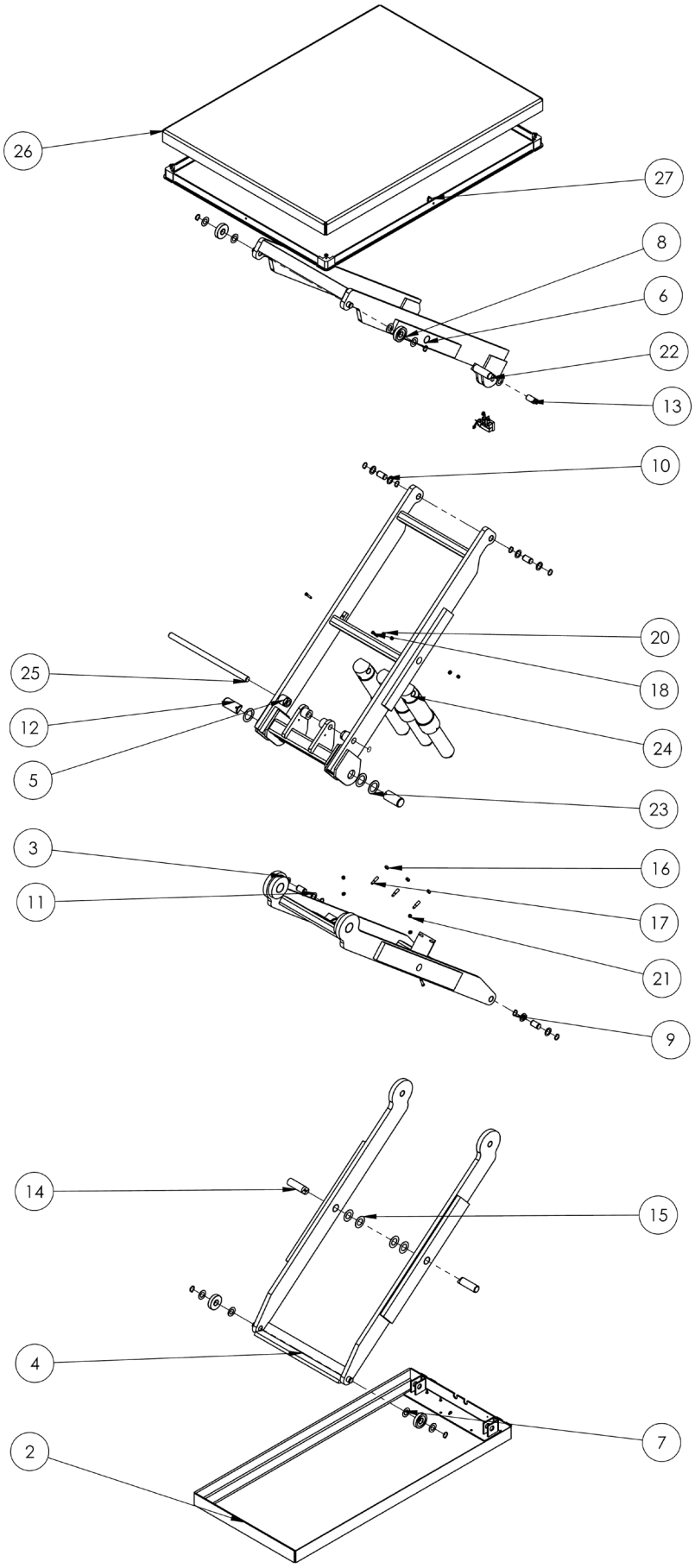
EXPLODED VIEW: EHLTD-4864-2-84 (26-006-071-002)



BILL OF MATERIALS: EHLTD-4864-2-84 (26-006-071-002)

ITEM NO	PART NO	DESCRIPTION	QTY.
1	26-002-070	FINAL ASSEMBLY W/O POWER UNIT	1
2	26-514-002	WELDMENT, FRAME ASSEMBLY	1
3	26-510-028	WELDMENT, LOWER INNER LEGS, 29 5/8 C/C	1
4	26-510-030	WELDMENT, LOWER OUTER LEG, 29 5/8 C/C	1
5	26-510-032	WELDMENT, UPPER INNER LEG, 29 5/8 C/C	1
6	26-510-034	WELDMENT, UPPER OUTER LEG	1
7	01-115-001	WASHER, THRUST BEARING, 1 1/8 ID	12
8	01-527-001	ROLLER W/ BUSHING	4
9	68021	EXTERNAL RETAINING RING, PHOSPHATE FINISH, 1-1/8"	12
10	26-112-001	PIN, HINGE	4
11	33454	NARROW MACHINERY BUSHING, PLAIN FINISH, 1 3/4" X 18 GA	8
12	26-112-005	PIN, PIVOT, TORSION END	2
13	01-112-008	PIN, SCISSOR PIVOT	2
14	26-112-006	PIN, DBL SCISSOR PIVOT	4
15	01-115-002	WASHER, THRUST BEARING	8
16	36209	1/2 - 13 HEX JAM NUT PLAIN	2
17	01-118-001	BOLT, CYLINDER RETAINING	2
18	26333	SHOULDER SCREW 0.375x1.5" LG	4
19	26335	SHOULDER SCREW 0.375x2" LG	2
20	33004	FLAT WASHER, USS, ZINC PLATED, Ø1/4"	6
21	37021	NYLON INSERT LOCK NUT, GRADE 2, ZINC FINISH, 5/16"-18	6
22	24-612-003	WELDMENT, CYLINDER PIN	2
23	32415	Ø5/16 - 18 x 1/2 HWH THREAD CUTTING SCREW, TYPE F, ZINC	2
24	64134	SPRING PIN	2
25	99-115-001	WASHER, THRUST	4
26	99-521-901-001	CYLINDER, HYDRAULIC, Ø3" x 10" RAM STYLE, MACHINED END, 2GPM VF	2
27	26-513-004	WELDMENT, DECK	1
28	01-515-026	SUB-ASSEMBLY, TOE GUARD, 48" X 64", INCLUDES HARDWARE & SWITCHES	1

EXPLODED VIEW: EHLTD-4864-3/4/5-84 (26-006-081-002)



BILL OF MATERIALS: EHLTD-4864-3/4/5-84 (26-006-081-002)

ITEM NO	PART NO	DESCRIPTION	QTY.
1	26-002-080	FINAL ASSEMBLY W/O POWER UNIT	1
2	26-514-002	WELDMENT, FRAME ASSEMBLY	1
3	26-510-029	WELDMENT, LOWER INNER LEGS, 29 5/8 C/C	1
4	26-510-030	WELDMENT, LOWER OUTER LEG, 29 5/8 C/C	1
5	26-510-033	WELDMENT, UPPER INNER LEG, 29 5/8 C/C	1
6	26-510-034	WELDMENT, UPPER OUTER LEG	1
7	01-115-001	WASHER, THRUST BEARING, 1 1/8 ID	12
8	01-527-001	ROLLER W/ BUSHING	4
9	68021	EXTERNAL RETAINING RING, PHOSPHATE FINISH, 1-1/8"	12
10	26-112-001	PIN, HINGE	4
11	33454	NARROW MACHINERY BUSHING, PLAIN FINISH, 1 3/4" X 18 GA	8
12	26-112-005	PIN, PIVOT, TORSION END	2
13	01-112-008	PIN, SCISSOR PIVOT	2
14	26-112-006	PIN, DBL SCISSOR PIVOT	4
15	01-115-002	WASHER, THRUST BEARING	8
16	36209	1/2 - 13 HEX JAM NUT PLAIN	3
17	01-118-001	BOLT, CYLINDER RETAINING	3
18	26333	SHOULDER SCREW 0.375x1.5" LG	4
19	26335	SHOULDER SCREW 0.375x2" LG	2
20	33004	FLAT WASHER, USS, ZINC PLATED, Ø1/4"	6
21	37021	NYLON INSERT LOCK NUT, GRADE 2, ZINC FINISH, 5/16"-18	6
22	64134	SPRING PIN	2
23	99-115-001	WASHER, THRUST	4
24	99-521-901-001	CYLINDER, HYDRAULIC, Ø3" x 10" RAM STYLE, MACHINED END, 2GPM VELOCITY FUSE	3
25	24-112-003	PIN, CYLINDER PIVOT	1
26	26-513-004	WELDMENT, DECK	1
27	01-515-026	SUB-ASSEMBLY, TOE GUARD, 48" X 64", INCLUDES HARDWARE & SWITCHES	1

ELECTRIC CIRCUIT DIAGRAMS

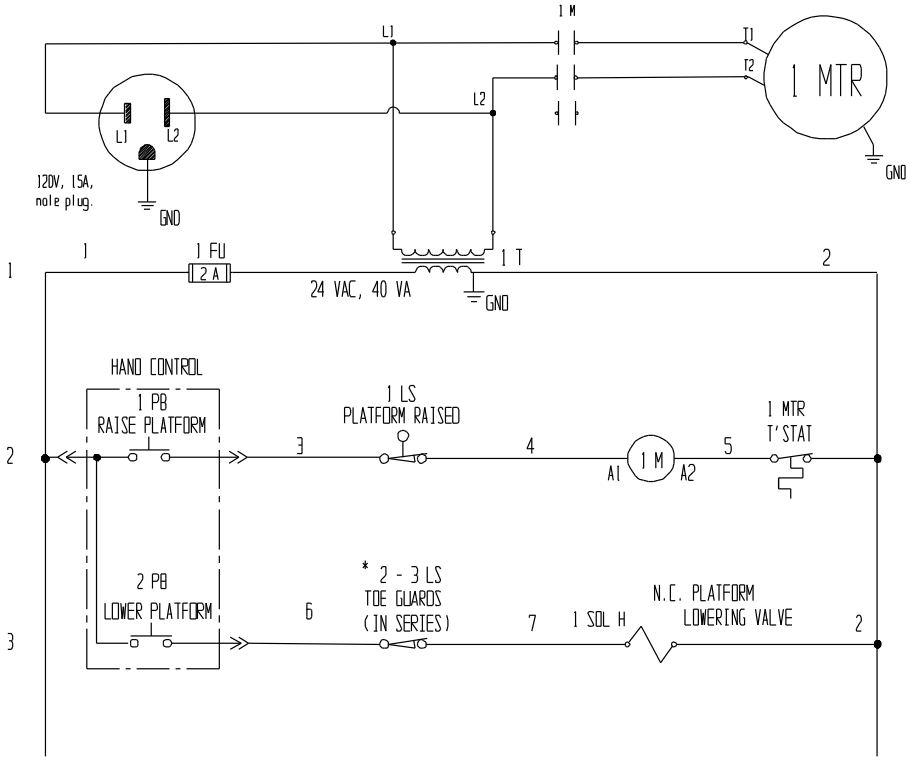
⚠ WARNING Care should be taken to identify all potential hazards and comply with applicable safety procedures before beginning work. Ensure that all system pressure and electrical power have been removed before attempting to work on the electrical or hydraulic systems. Follow all applicable lockout/tagout procedures.

⚠ WARNING The load must be removed, and the platform either positively and adequately supported or fully lowered, before any work is performed on the lift table.

Only qualified individuals trained to understand mechanical devices and their associated electrical and hydraulic circuits, as well as the hazards associated with them, should attempt troubleshooting and repair of this equipment.

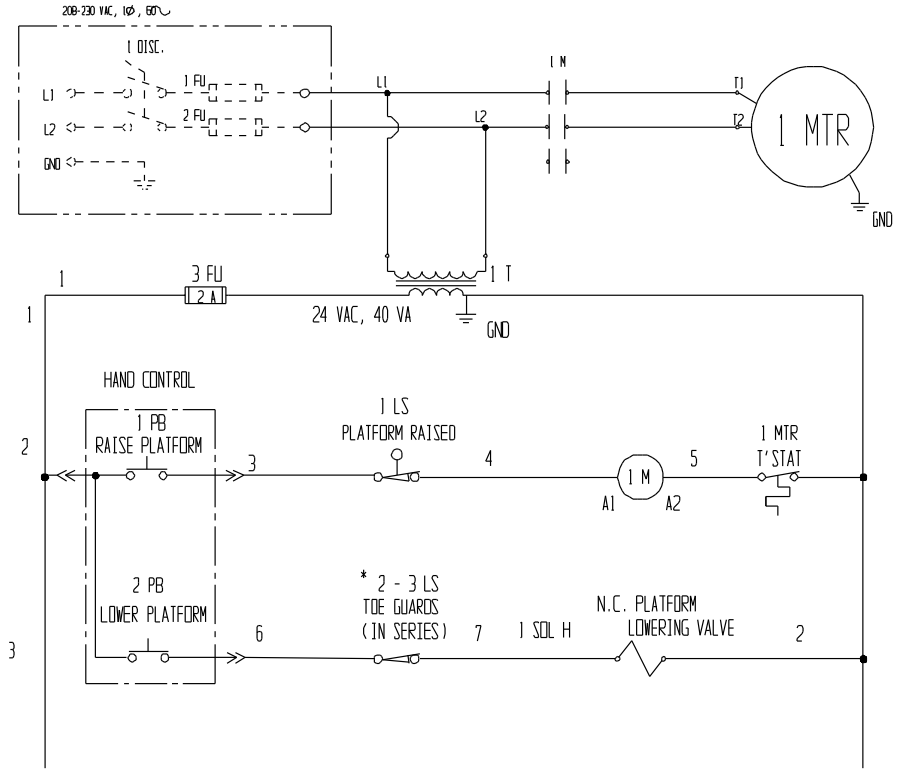
115 VAC, Single-Phase Electric Circuit Diagram (24124012 Rev. A)

Note: Overcurrent & short circuit protection and disconnect must be provided by end user.



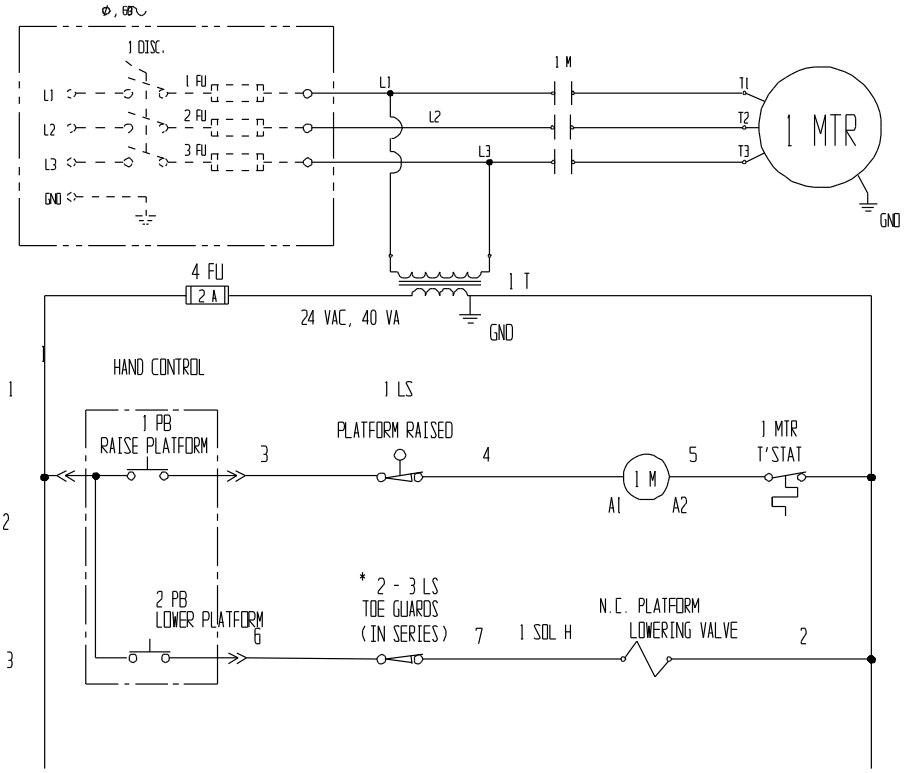
208-230 VAC, Single-Phase Electric Circuit Diagram (24124013 Rev. A)

Note: Overcurrent & short circuit protection and disconnect must be provided by end user.



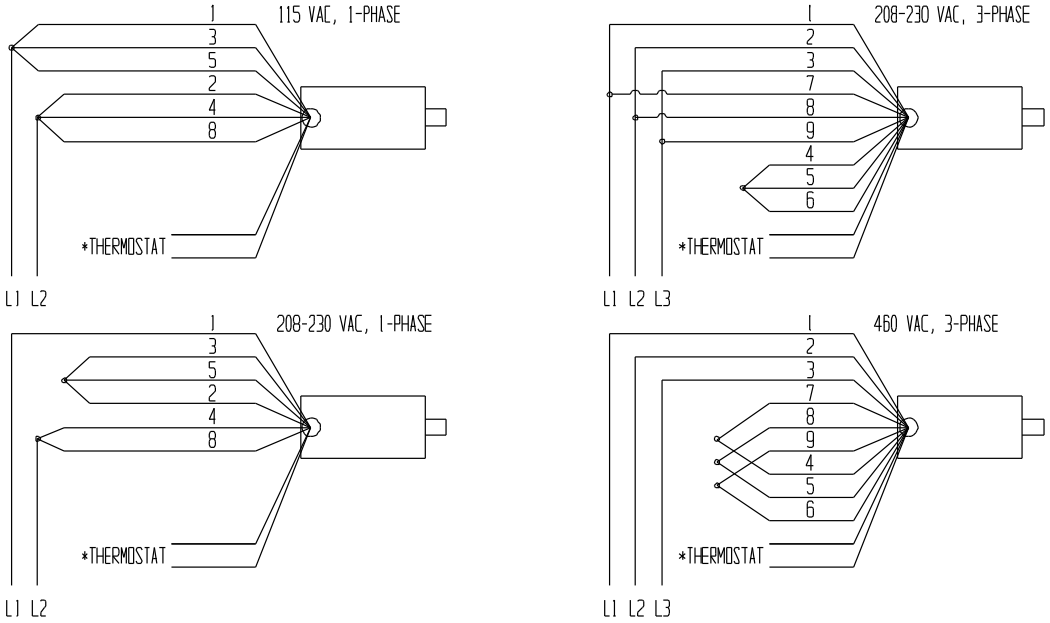
3-Phase Electric Circuit Diagram (24124014 Rev. A)

Note: Overcurrent & short circuit protection and disconnect must be provided by end user.



Motor Lead Connections (99124021).

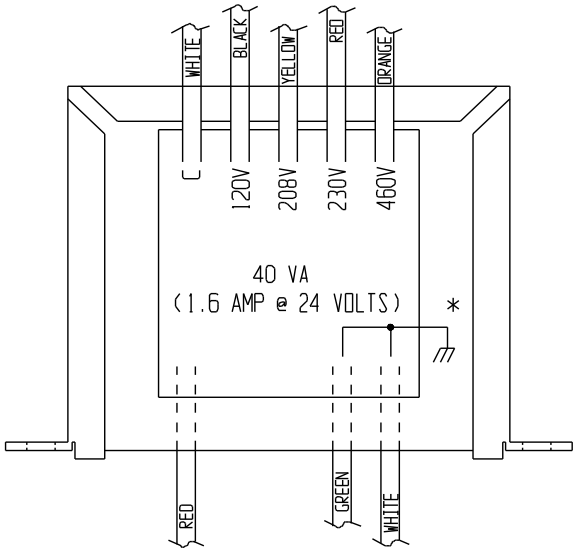
Applicable to all all .5 HP, .75 HP, and 3 HP single-phase motors, and for all 2 HP, 5.5 HP, and 6.5 HP three-phase motors.



* The two thermostat leads go to (1) the grounded side of the transformer secondary, and; (2) the motor relay coil. Polarity across the thermostat leads is not important.

⚠ WARNING When changing the motor voltage configuration, you must also change the configuration of the control transformer to match the motor voltage.

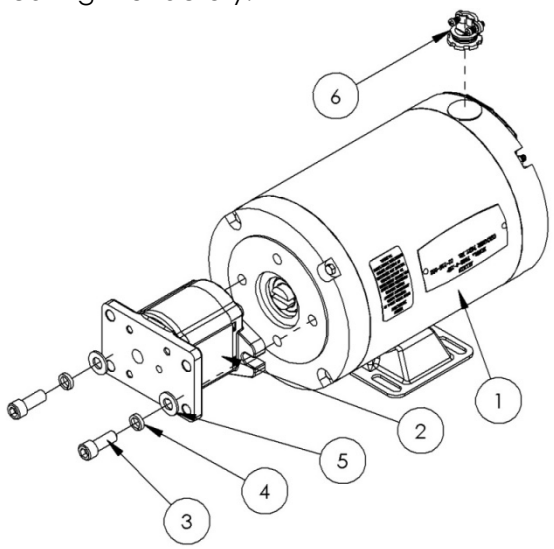
Control Voltage Transformer (01129001 Rev. G).



Power Unit Subassembly.

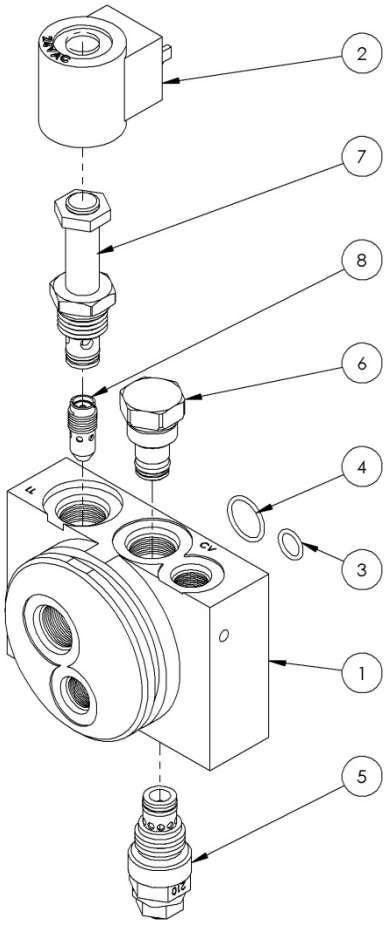
Power Unit: 2 HP, 3 PH (99-137-018-004).

Representative diagram. Contact the factory for replacement parts for your specific model. ALWAYS have the product serial number or model number on hand when calling the factory.



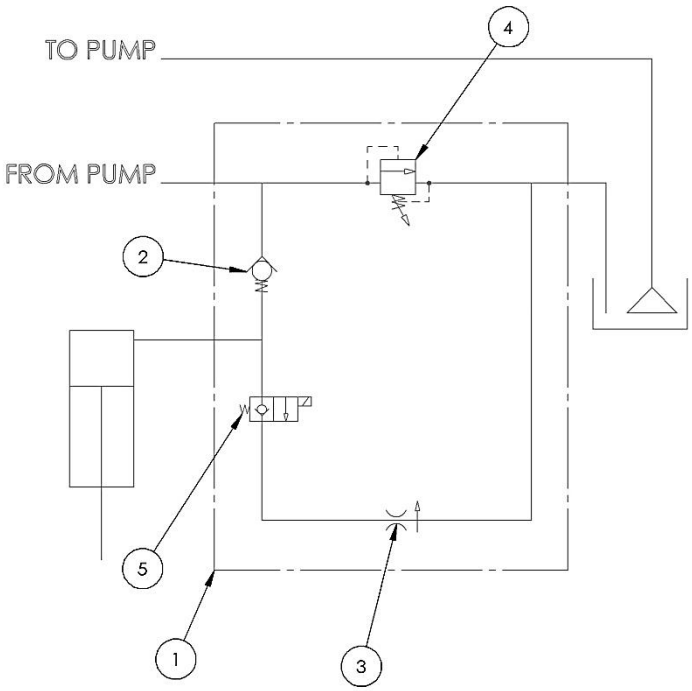
ITEM	PART NO.	DESCRIPTION	QTY
1	99-135-005	MOTOR, 2 HP, 3PH, 1725 RPM, 56F, 208-230/460V, 50/60HZ	1
2	01-143-908-002	PUMP, HYDRAULIC GEAR, .153 Disp, 2.7 cc/r	1
3	23305	SHCS, 3/8 - 16 x 1 LG.	2
4	33688	LOCK WASHER, HIGH COLLAR, 3/8	2
5	96056	WASHER, FLAT, 3/8" NOMINAL, .406" I.D., YELLOW ZINC SAE	2
6	99-034-037	ACCESSORIES, ELECTRICAL, ROMEX .375"	1

Manifold Assembly (01-627-015 Rev. A).



ITEM	PART NO.	DESCRIPTION	QTY
1	01-127-010	MANIFOLD, L-H-L	1
2	99-034-008	COIL WITH DIN CONNECTOR	1
3	99-144-008	O-RING, MANIFOLD, 1/2" OD	1
4	99-144-009	O-RING, MANIFOLD, 3/4" OD	1
5	99-153-006	VALVE, PRESSURE RELIEF, 210 BAR	1
6	99-153-011	CHECK VALVE, SIZE 08, NOSE-IN/SIDE-OUT	1
7	99-153-015	VALVE SOLENOID, STANDARD, w/o COIL	1
8	99-153-040	FLOW CONTROL, PRES. COMP., 2.0 GAL.	1

Hydraulic Schematic (01-125-008).



ITEM	PART NO.	DESCRIPTION	QTY
1	01-127-010	MANIFOLD, LHL	1
2	99-153-011	CHECK VALVE, SIZE 08, NOSE-IN/SIDE-OUT	1
3	*0.5 GPM* 99-153-049	FLOW CONTROL, PRES. COMP.	1
	1.0 GPM 99-153-038		
	1.5 GPM 99-153-039		
	2.0 GPM 99-153-040		
4	99-153-006	VALVE, PRESSURE RELIEF, 210 BAR	1
5	99-153-015	VALVE SOLENOID, STANDARD, w/o COIL	1

INSTALLATING THE TABLE

Read the installation instructions in their entirety before installing the scissor lift table.

Consult the factory in the event of questions or problems at the time of installation.

Modifications or additions to the lift table, without prior authorization by the manufacturer, may void the warranty. See ANSI standard MH29.1-2003, *Safety Requirements for Industrial Scissor Lifts*, Section 12.6. Attaching ancillary equipment to the platform will lower its load capacity.

The installation shall comply with all applicable regulations for its location and use.

The end user is responsible for verifying that this lift table and its installation are suitable for its environment and application.

This lift table shall be installed only by qualified and trained personnel with access to appropriate equipment. Electrical connections shall be performed by a qualified electrician.

Before You Begin.

The Electric Hydraulic Scissors Lift Table must be anchored to a smooth, level, and adequately strong concrete surface. If the lift table will be installed in a pit, first determine where and how the electrical and/or hydraulic connections will be made when the lift table is in place.

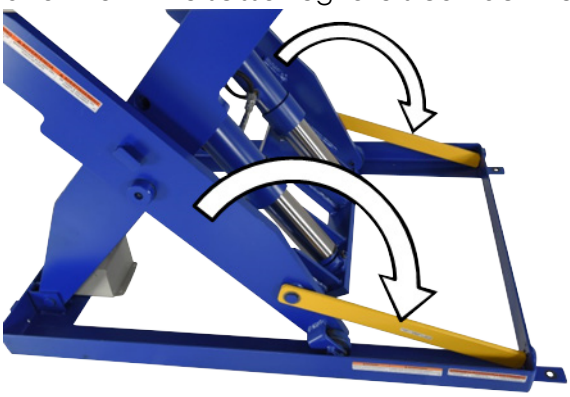
Tools And Supplies.

The following tools and supplies may be needed to install your Electric Hydraulic Scissor Lift Table. These items are not supplied with the product.

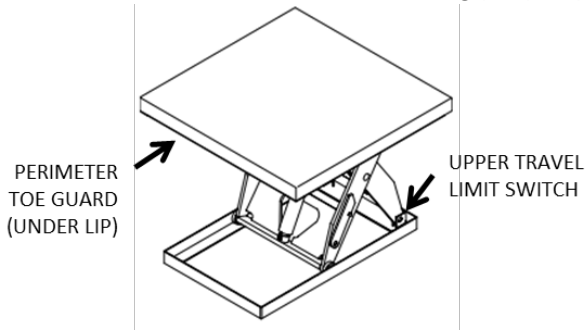
- A fork truck or hoist capable of unloading the left table and setting it in place.
- A smooth, level concrete surface on which to mount the lift table.
- Four concrete anchors. The customer is responsible for selecting anchors appropriate for the EHLTD model and concrete floor conditions. DO NOT operate an unsecured lift table.
- A power supply and electrical disconnect matching the motor's voltage and current requirements. Refer to the lift table's data plate, labels on the control enclosure, and the electrical diagrams in this manual for more information. The end-user is responsible for supplying the required ground-fault and short-circuit protection on the supply. Motor overload protection is provided by a thermostat built into the motor.

Installation.

1. The platform must be lowered and fully supported under its frame when moved. Support the lift table with straps or forks that span the entire width or length of the base frame. Remove the 4x4 wood dunnage from the base. Use care to avoid damaging the electrical and hydraulic components in the lift table.
2. Move the lift table into position.
3. Temporarily connect the power supply to the power cable supplied with the lift table. Raise the platform near to its full raised height. Place both of the maintenance stops in the corners of the base frame. Lower the platform until the scissor leg rollers contact the maintenance stops.



   To raise the platform without using a power supply, use a hoist with straps or chain rigging, or the forks on a lift truck. Lift from the hinged end of the platform. Take care not to damage the aluminum perimeter toe guard under the platform. Use the 4x4 wood dunnage to secure the base while lifting the platform.
4. Anchor the frame to the floor through the four mounting holes in the frame.
5. Shim and/or grout to ensure the entire length of each base side frame is level and fully supported. The entire base frame rail must be supported with no gaps in its foundation for the lift table to function properly.
6. Have a qualified electrician make a permanent connection to the power supply.
7. Operate the lift table through several full raise and lower cycles. Verify that actuating the upper travel limit switch (mounted on the base frame, near the left-side hinge) prevents further upward travel of the platform. Verify that actuating the perimeter toe guard switches (under the platform) from any side of the lift table prevents further downward travel of the platform. DO NOT place a lift table in service if either of these devices isn't functioning properly.



8. Check the hydraulic oil level. It should be filled to within 1" to 1-½" of the reservoir's fill hole. *Note: the reservoir is an integral part of the scissor mechanism on many models*. If oil is needed, use an anti-wear hydraulic oil with a viscosity grade of 150 SUS at 100°F (ISO 32 at 40°C) or a non-synthetic automatic transmission fluid.
9. Clean up any debris or spilled oil. Verify that all of the labels applied to the table are in satisfactory condition. See *RECORD*; p. 22.

RECORD OF SATISFACTORY CONDITION (THE "RECORD")

After assembling and installing the scissor lift table, and before using it for the first time, make a record describing its appearance. Thoroughly photograph the lift table from multiple angles, including all welds and anchor points, and all labeling applied to it. If your unit includes an integral, manual carousel (ROTATE option), turn the carousel clockwise and counterclockwise. Describe the sound of the carousel. How much force is required to turn it? Does the carousel wobble? Describe where each label is located. Collect all photographs and writings into a file. Mark the file appropriately to identify it. This record documents satisfactory condition. Compare the results of future inspections to this record to determine if the lift table is in satisfactory condition. Do not use the lift table unless it is in satisfactory condition. Purely cosmetic changes, like damaged paint or powder coat, do not constitute changes from satisfactory condition. However, touchup paint should be applied to all affected areas as soon as damage occurs.

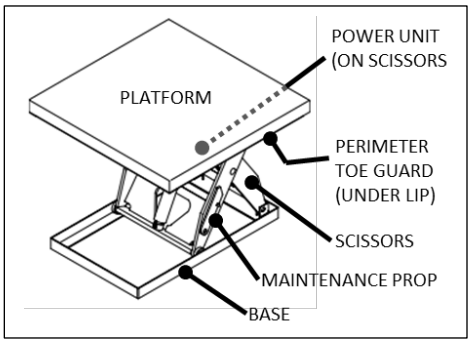
OPERATING THE TABLE

Consult ANSI standard MH29.1, Section 12 for the owner's/user's responsibilities regarding the operation, care, and maintenance of this machine.

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 in this section.

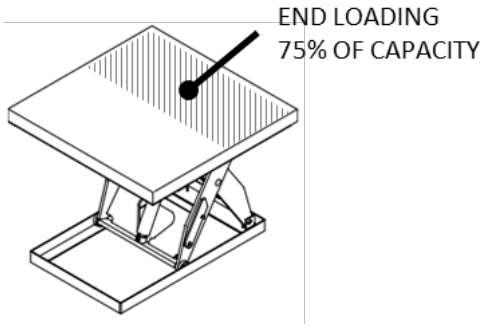
The standard-model scissor lift table is suitable for use indoors in most non-classified industrial locations and many commercial locations. It is intended to lift stable, evenly-distributed, nonhazardous materials loads having a size or footprint approximately the same size as the platform.

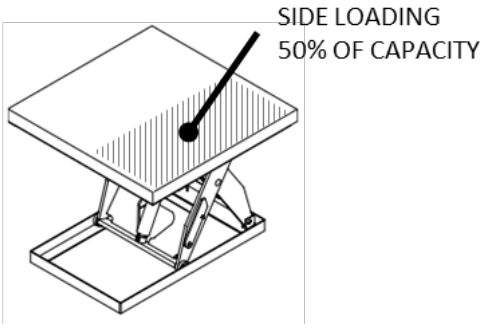
The drawing identifies major components of your lift table.



Loading the platform.

The load rating, in pounds, is shown on the machine data plate located on the hinged end of the platform. This indicates the net capacity of the scissor lift table for a static load, centered and evenly distributed on the platform. For off-center loads, the lift table's maximum capacity is 75% of the rated capacity for end loading (either end), and 50% for side loading (either side) (see diagram). NOTE: Center loads on units equipped with the –ROTATE, manual carousel option, on the carousel. Rotate loads carefully. Do not drop loads onto the platform or carousel.



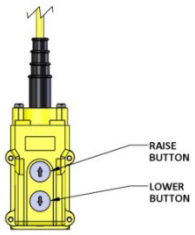


⚠ WARNING *DO NOT exceed the lift table's load ratings. Injury to personnel or permanent damage to the lift table can result from exceeding the listed capacity. Note: Take into account the weight of any equipment added to the platform by third parties when determining the maximum working load to be placed on the platform.*

⚠ WARNING *The platform rollers are not captured. DO NOT overhang any load over the side of the platform. A cantilevered or overhanging load at the hinged end can cause the platform to tilt and dump the load. For applications involving side or end edge loading, consult the factory.*

⚠ WARNING *This lift table is not approved for lifting personnel.*

Operation.



At the beginning of every shift, inspect the perimeter toe guard for correct operation. First raise the platform. Push and hold a section of the perimeter toe guard up against the platform. The platform should not move when the "LOWER" button is pressed. Perform this check on all four sides of the platform.

Check the condition of the guards, controls, scissor mechanism, hydraulic lines, and limit switches. If any item is in need of repair or otherwise contributes to an unsafe condition, remove the lift table from service until it has been restored to a safe operating condition.

The standard EHLTD scissor lift table is provided with a handheld pushbutton control and either an internally, or externally, mounted electric-hydraulic power unit.

- Press the "RAISE" pushbutton to energize the power unit and raise the platform. The platform will rise only while the pushbutton is pressed. When the pushbutton is released, the platform will stop and hold its position. At the platform's maximum height, a limit switch shuts off the motor.
- Press the "LOWER" pushbutton to open the hydraulic valve and lower the platform. The platform descends by gravity, and the pump motor will not run. Release the pushbutton to stop the motion of the platform. If the perimeter toe guard encounters an object, the valve will close and prevent further descent of the platform.
- The lowering speed is preset at the factory, and will not exceed a speed of 30 fpm. In the event of a hydraulic line failure, a velocity fuse internal to the cylinder will prevent the platform from lowering.
- Each EHLTD lift table is provided with hydraulic overload protection to prevent it from attempting to raise a load that exceeds its rated capacity.
- Lift tables with external modular power units have pushbutton controls and a key switch in the power unit cover. The key switch must be turned to the "ON" position to operate the controls.

⚠CAUTION	*Always watch the area around the platform and any load on the platform when it is in operation.*
⚠CAUTION	*Never use the lift table if any damage or unusual noise is observed, if it is in need of repair, or if any other malfunction is observed. Notify your supervisor or maintenance personnel.*
⚠WARNING	*Keep all personnel clear of the machine when it is in operation. Before operating the lift table, make certain no part of any person or object is under the platform.*
⚠WARNING	*Guards shall be in place before operating the lift table.*
⚠WARNING	*Guards cannot protect against every possible condition, and should not be considered a substitute for good judgment and care in use, loading, handling, storage, etc. of the lift table.*

INSPECTING AND MAINTAINING THE TABLE

Regular maintenance is necessary to maximize the service life of this product. Compare all inspection results to the *RECORD OF SATISFACTORY CONDITION* discussed on p. 22. Only use the table if it is in satisfactory condition. If an inspection reveals any changes from satisfactory condition, complete all repairs before returning the table to service. Only use manufacturer-approved replacement parts.

DON'T GUESS! Contact *TECHNICAL SERVICE* if you have questions that are not addressed in these instructions or if you are uncertain how to address an issue discovered during an inspection. Technical Service can be contacted by calling (260) 665-7586 and asking for the Service and Parts Department or by submitting your questions through Vestil's online parts and service portal at https://www.vestil.com/page-parts-request.php.

⚠WARNING	*Care should be taken to identify all potential hazards and comply with applicable safety procedures before beginning work.*
⚠WARNING	*Remove any load and install the maintenance stops before beginning any inspection or service on the lift table. See below.*

Only qualified individuals trained to understand mechanical devices, electrical and hydraulic circuits, and the hazards associated with them, should attempt troubleshooting and repair of this equipment.

Inspection procedures.

Prior to performing any inspection or maintenance on this lift table:

- Read and understand these maintenance procedures.
- Remove the load from the platform. Do not attempt to service a loaded lift table.
- Fully lower the platform, OR use both maintenance stops to support the weight of the platform. To use the maintenance stops, raise the platform to its full height. Set the stops in the corners of the base frame. Lower the platform until the (scissor leg) rollers contact the stops.
- Disconnect power and follow established lockout/tagout policies as required.

Install maintenance stops in corners of base frame

Initial inspection.

Prior to use, any new, altered, modified, or repaired scissor lift table shall be inspected by a qualified person. Complete both the daily & monthly inspections before releasing the lift table for regular use.

Daily inspection.

At the beginning of each shift, a designated person shall complete these inspections. Remove the lift table from service and repair or replace any damaged parts if any of the following is found.

1. Look for:
   a. Frayed wires.
   b. Oil leaks.
   c. Pinched, chafed, worn, or cracking hydraulic hoses.
   d. Damage, deformation, or cracks in any structural member or any weld. Give special attention to the hydraulic cylinder mounting brackets.
   e. Loose or missing fasteners.
   f. Unusual noise or evidence of binding.
2. Test the function of the upper travel limit switch and the perimeter toe guard.
3. Test the manual carousel (if applicable). Make sure that it rotates normally in both the clockwise and counterclockwise directions. If the carousel is noisy, the load bearings should be replaced. Contact the *TECHNICAL SERVICE AND REPLACEMENT PARTS DEPARTMENT*.

Monthly inspection.

Have a qualified person inspect for:

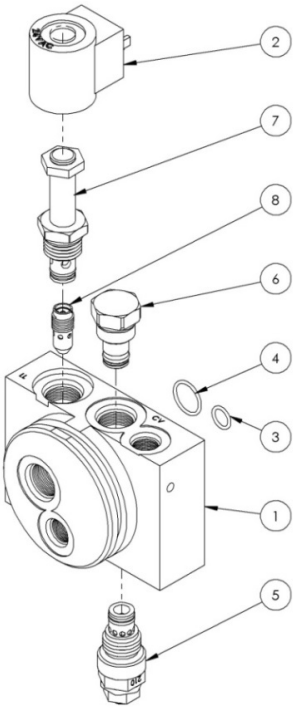
1. Oil level. The oil should be 1" to 1-½" below the reservoir fill hole with the platform in the fully lowered position. See the Annual Inspection section for the hydraulic oil specification.
2. Worn or damaged hydraulic hoses or electrical wires.
3. Wear in the pivot points on the legs.
4. Looseness or wear in the rollers.
5. Integrity of the retaining hardware on all rollers and all pivot point pins.
6. Integrity of the frame anchor bolts, and for cracks in the concrete around them.
7. Proper functioning of hand- or foot-operated mechanisms.
8. Unusual noises or movement during operation.
9. Condition of all information, safety, and warning labels. These should be clean and clearly legible.
10. Dirt and debris. Clean, sweep, or wipe down as needed.

Annual inspection.

Check the condition of the oil. Change the oil if it darkens, becomes gritty, or turns a milky color (indicating the presence of water). Replace with an anti-wear hydraulic oil with a viscosity grade of 150 SUS at 100°F (ISO 32 cSt @ 40°C), such as AW 32, HO 150 or Dexron non-synthetic transmission fluid. You may use a synthetic transmission fluid if you flush the system with the synthetic fluid before filling the reservoir. 150 SUS at 100°F (ISO 32 cSt @ 40°C) or Dexron transmission fluid.

Solenoid valve maintenance.

In the event that the platform creeps down slowly after releasing the "DOWN" control, it will be necessary to remove the lowering cartridge valve for inspection and cleaning.



1. Remove any load from the platform.

2. Raise the platform. Place the maintenance stops in the corners of the base frame. Lower the platform until it rests on the stops.

3. On most EHLTD models, the power unit is attached to the hinged side of the scissor lift mechanism. The manifold assembly is attached to the end of the power unit.

4. Remove the nut holding the solenoid coil (item (2), right) on the solenoid valve stem. Remove the coil (2), then unscrew the valve (7) from the manifold.

5. Inspect the valve for contaminants. Inspect the O-rings and back-up washers for cuts, tears, or other damage.

6. With the valve immersed in mineral spirits or kerosene, insert a thin tool such as a small screwdriver or a small hex wrench in the hole at the bottom of the valve (illustration, next page). Push the spool in and out several times. A properly functioning spool should move freely, with about 1/16" of travel. Use mineral spirits to flush the valve.

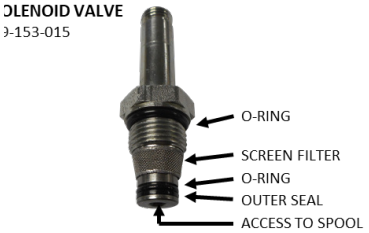
7. If the spool continues to stick, the stem could be bent. The valve will need to be replaced.

8. Blow the valve off with a compressed-air gun while again pushing the spool in and out.

9. Inspect the bottom of the manifold's valve cavity for contaminants.

10. Make sure both O-rings and outer seal (flat) are seated on the valve body. Make sure the screen filter is in place and seated at the bottom of the threads on the valve body (illustration).

11. Reinstall the solenoid valve, tightening to 20 lb·ft of torque. Reattach the solenoid coil and the retaining nut.



Bleeding Air from the Hydraulic Cylinder(s).

Air can enter the hydraulic system at any time its components are opened for service. Symptoms of air in the system include erratic or bouncing motion of the platform, sponginess in holding position, unusual noises, or foaming in the hydraulic fluid. Trapped air can also trigger the cylinder's velocity fuse, slowing or preventing the cylinder from lowering.

Cycling the platform up and down without a load can expel much of the trapped air through the hydraulic reservoir. If it becomes necessary to bleed air from the system:

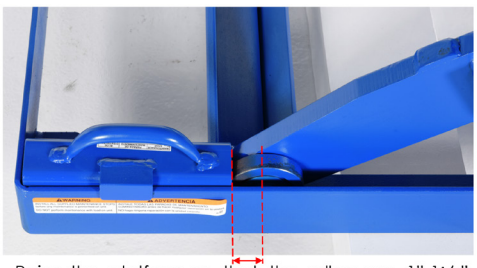
1. Remove any load from the platform.

2. Raise the platform. Place the maintenance stops in the corners of the base frame. Lower the platform until the rollers are about ½"-1" away from the maintenance stops. Some motion is necessary to expel air from the system.

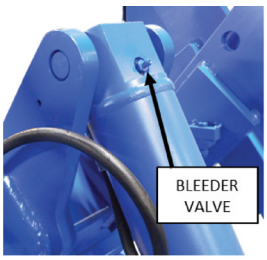
3. Hold a rag over the cylinder's bleeder valve to capture expelled oil. The valve is located at the top of the cylinder (see illustration). Use a ¼" wrench to open the valve about a half-turn.

4. Oil and air will sputter from the valve. Once no more air comes out, close the valve.

5. For multi-cylinder lift tables, it will be necessary to open the bleeder valves on all cylinders simultaneously in order to bleed the valves.



Raise the platform so that the rollers are 1"-1½" away from the maintenance stops



TROUBLESHOOTING GUIDE

⚠ WARNING *Care should be taken to identify all potential hazards and comply with applicable safety procedures before beginning work.*

⚠ WARNING *Remove any load and install the maintenance props before beginning any inspection or service on the lift table. See below.*

Only qualified individuals trained to understand mechanical devices, electrical and hydraulic circuits, and the hazards associated with them, should attempt troubleshooting and repair of this equipment.
Consult the factory for any problems not addressed in this manual. ALWAYS have the product serial number or model number on hand when calling the factory.

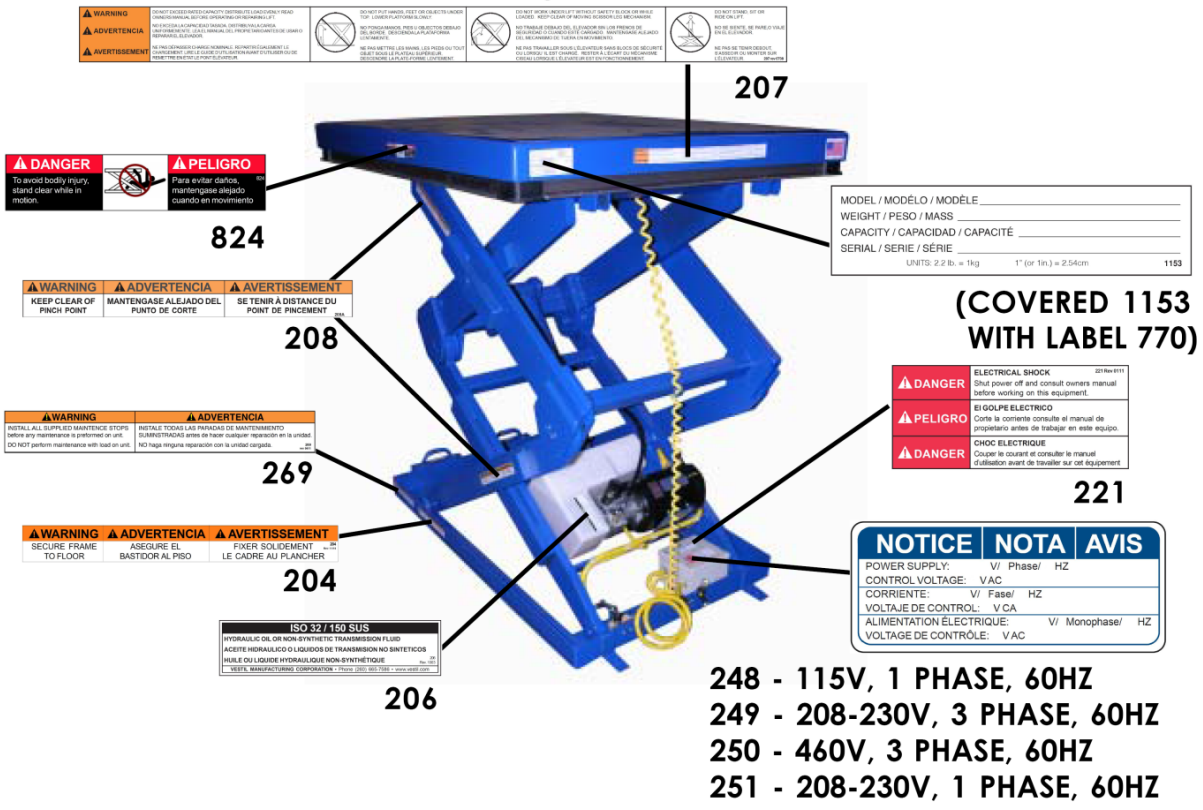
PROBLEM	POSSIBLE CAUSES	ACTION
Power unit doesn't run when "UP" button is pressed.	Transformer fuse is blown.	Test with meter. Replace if bad.
	No supply voltage.	Test with meter. Check fuses, breakers, and overloads to determine the cause
	Upper-travel limit switch is engaged or bad.	Inspect and test switch. Replace if bad.
	Bad control transformer.	Check for 24 VAC at secondary. Replace if bad.
	Bad motor relay coil.	Test with meter. Replace if bad.
	Bad solenoid start switch (DC units).	The green LED on motor relay will be off, or will turn off when the UP pushbutton is pressed.
	Battery voltage low (DC units).	Test with meter. Charge battery if low (is the motor relay LED on?)
Motor runs but platform doesn't move. Power unit not noisy.	Motor rotation is wrong (AC-powered units only).	Verify the motor runs CW, opposite the shaft end.
	Pump is failing to produce pressure.	Contact Technical Service.
Motor hums or pump squeals, but the platform does not move, or the platform moves only slowly.	Pump is failing to produce pressure.	Contact Technical Service.
	Excess voltage drop to motor, due to power wire size too small, wire run too long, or incoming voltage too low.	Check the power installation for adequacy. Check the incoming voltage *while the motor is running*. Correct any problems found.
	Motor is "single-phasing".	Determine and correct cause of voltage loss on phase.
	Pressure relief opening at full pressure.	Check for structural damage or binding of the scissor legs, etc. Check for platform overload condition.
	Contamination holding open the lowering valve or the check valve.	Remove and inspect valves. Clean per instructions in the "Inspecting and Maintaining" section.
Platform raises, then drifts down.	Contamination holding open the lowering valve or the check valve.	Remove and inspect valves. Clean per instructions in "Inspecting and Maintaining" section.
Spongy or jerky platform movement.	Excessive air in the hydraulic cylinders.	Bleed air per procedure described in the "Inspecting and Maintaining" section.
Platform won't lower.	Perimeter toe guard actuated.	Check for a toe guard extrusion or rubber corner that is stuck. Adjust if necessary.
	Perimeter toe guard switch or wire broken.	Inspect visually; check with mutimeter. Repair as needed.
	Solenoid coil is bad.	Check with multimeter using the diode-check function. (Reading for ohms will not provide an accurate test of the coil). Replace if bad.
	Physical blockage of the mechanism.	Inspect for foreign material or objects blocking the scissors or the rollers.
	Solenoid valve, flow control, or suction hose screen plugged.	Remove and inspect valves. Clean per instructions in "Inspecting and Maintaining" section.
Platform lowers too slowly.	Solenoid valve, flow control, or suction hose screen plugged.	Remove and inspect valves. Clean per instructions in "Inspecting and Maintaining" section.
	Velocity fuse locking (indicated by platform only slowly creeping down).	Check for air in hydraulic system. Bleed air as needed.
	Flow control valve spool sticking.	Remove and inspect valves. Clean per instructions in "Inspecting and Maintaining" section.
Platform lowers too quickly.	Flow control valve spool sticking.	Remove and inspect valves. Clean per instructions in "Inspecting and Maintaining" section.

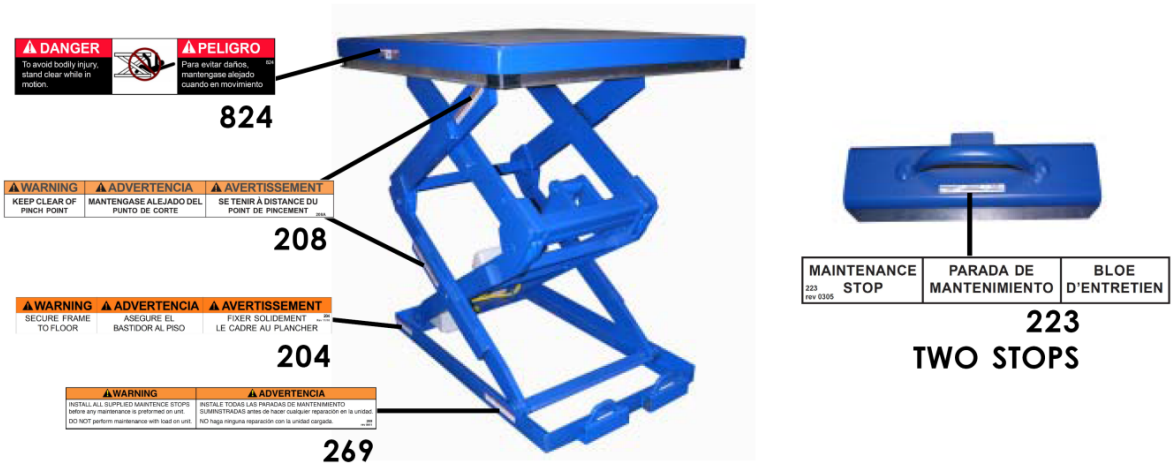
LABELING DIAGRAM

The lift table should be labeled as shown in the diagrams. However, label content and location are subject to change so your product might not be labeled exactly as shown. Thoroughly photograph the lift table when you first receive it as discussed in the *RECORD OF SATISFACTORY CONDITION* section on p. 22. Make sure that your Record includes a photograph of each label. Replace all labels that are or later become damaged, missing, or not easily readable (e.g. faded).

To order replacement labels, contact the *TECHNICAL SERVICE AND REPLACEMENT PARTS DEPARTMENT* online at http://www.vestilmfg.com/parts_info.htm. Alternatively, you may request replacement parts and/or service by calling (260) 665-7586 and asking the operator to connect you to the Parts Department.

On Platform Edge or on Aluminum Trim if Unit Equipped with Accordion Skirting





ELECTRIC HYDRAULIC SCISSOR LIFT TABLES

LIMITED WARRANTY

Vestil Manufacturing Corporation ("Vestil") warrants this product to be free of defects in material and workmanship during the warranty period. Our warranty obligation is to provide a replacement for a defective, original part covered by the warranty after we receive a proper request from the Warrantee (you) for warranty service.

Who may request service?

Only a warrantee may request service. You are a warrantee if you purchased the product from Vestil or from an authorized distributor AND Vestil has been fully paid.

Definition of "original part"?

An original part is a part used to make the product as shipped to the Warrantee.

What is a "proper request"?

A request for warranty service is proper if Vestil receives: 1) a photocopy of the Customer Invoice that displays the shipping date; AND 2) a written request for warranty service including your name and phone number. Send requests by one of the following methods:

US Mail	Fax	Email
Vestil Manufacturing Corporation	(260) 665-1339	info@vestil.com
2999 North Wayne Street, PO Box 507	Phone	Enter "Warranty service request" in subject field
Angola, IN 46703	(260) 665-7586	

In the written request, list the parts believed to be defective and include the address where replacements should be delivered. After Vestil receives your request for warranty service, an authorized representative will contact you to determine whether your claim is covered by the warranty. Before providing warranty service, Vestil will require you to send the entire product, or just the defective part (or parts), to its facility in Angola, IN.

What is covered under the warranty?

The warranty covers defects in the following original, dynamic parts: motors, hydraulic pumps, motor controllers, and cylinders. It also covers defects in original parts that wear under normal usage conditions ("wearing parts"), such as bearings, hoses, wheels, seals, brushes, and batteries.

How long is the warranty period?

The warranty period for original dynamic components is 1 year. For wearing parts, the warranty period is 90 days. Both warranty periods begin on the date Vestil ships the product to the Warrantee. If the product was purchased from an authorized distributor, the periods begin when the distributor ships the product. Vestil may, at its sole discretion, extend a warranty period for products shipped from authorized distributors by up to 30 days to account for shipping time.

If a defective part is covered by the warranty, what will Vestil do to correct the problem?

Vestil will provide an appropriate replacement for any covered part. An authorized representative of Vestil will contact you to discuss your claim.

What is not covered by the warranty?

The Warrantee (you) are responsible for paying labor costs and freight costs to return the product to Vestil for warranty service.

Events that automatically void this Limited Warranty.

- Misuse;
- Negligent assembly, installation, operation or repair;
- Installation/use in corrosive environments;
- Inadequate or improper maintenance;
- Damage sustained during shipping;
- Collisions or other accidents that damage the product;
- Unapproved modifications: Do not modify the product IN ANY WAY without first receiving written authorization from Vestil.

Do any other warranties apply to the product?

Vestil Manufacturing Corp. makes no other express warranties. All implied warranties are disclaimed to the extent allowed by law. Any implied warranty not disclaimed is limited in scope to the terms of this Limited Warranty. Vestil makes no warranty or representation that this product complies with any state or local design, performance, or safety code or standard. Noncompliance with any such code or standard is not a defect in material or workmanship.