

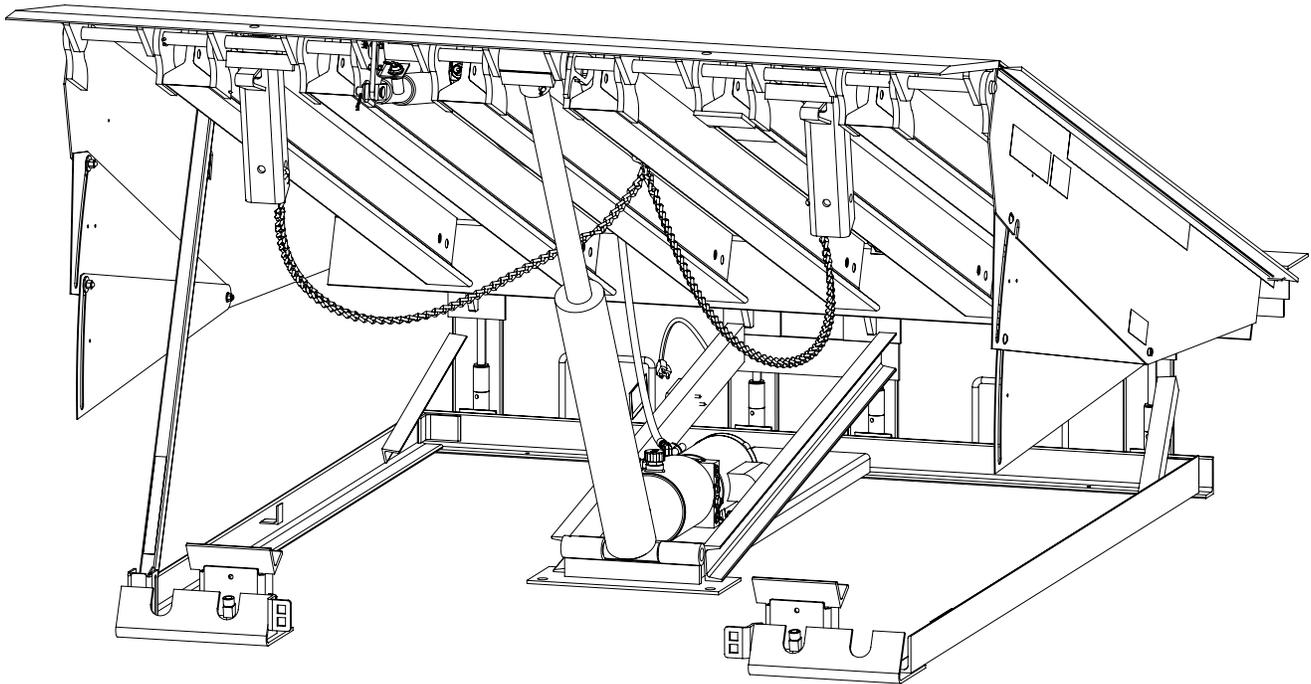


KELLEY®

Hydraulic Dock Leveler Model HK and HK-S with Three Button Control



SAFE | FRAME



This User's Manual applies to dock levelers manufactured beginning March 2014 with the serial number 61106268 and higher.

▲ WARNING

Do not install, operate or service this product unless you have read and understand the Safety Practices, Warnings, and Installation and Operating Instructions contained in this User's Manual. Failure to do so could result in death or serious injury.

User's Manual Installation, Operations, Maintenance and Parts

Part No. 6004754N

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INTRODUCTION

Welcome and thank you for choosing this dock leveler from KELLEY®. This dock leveler may be equipped with the optional ENERGY GUARD™ dock leveler sealing system.

This User's Manual contains information that you need to safely install, operate and maintain the dock leveler. It also contains a complete parts list and information about ordering replacement parts. Please keep and read this User's Manual before using your new dock leveler.

SAFETY SIGNAL WORDS

You may find safety signal words such as DANGER, WARNING, or CAUTION throughout this Owner's Manual. Their use is explained below:



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible death or injury.

▲ DANGER

Indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.

▲ WARNING

Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.

▲ CAUTION

Indicates a potentially hazardous situation which, if not avoided may result in minor or moderate injury.

NOTICE

Notice is used to address practices not related to personal injury.

SAFETY PRACTICES

⚠ WARNING

Read these safety practices before installing, operating or servicing the dock leveler. Failure to follow the safety practices could result in death or serious injury.

If you do not understand the instructions, ask your supervisor to explain them to you or call your local Kelley® distributor.

OPERATION

Use restricted to trained operators.

Follow procedures on placard posted near dock leveler.

Do not use this unit to service trailers outside its intended working range which is 12 inches above and 12 inches below dock. (18" above and 12" below dock on 10' models)

Do not operate the dock leveler with equipment, material or people on the ramp or lip.

Do not operate the dock leveler when anyone is in front of it unless they are securing the maintenance strut.

Stay clear of the dock leveler when it is moving.

KEEP HANDS CLEAR OF HINGES AT ALL TIMES. Do not use hands to position dock leveler ramp or lip in vehicle or to store dock leveler.

Do not use the dock leveler if it looks broken or does not seem to work right. Tell your supervisor it needs repair right away.

Do not stand in the driveway between the dock leveler and a backing vehicle.

Chock vehicle wheels or lock vehicle in place with a vehicle restraining device and set brakes before loading or unloading.

Stay clear of leveler unless lip supported by the vehicle bed or the ramp is supported by both front dock level supports; unsupported leveler can lower unexpectedly.

Store dock leveler at dock level after below dock end loading.

Move all equipment, material or people off dock leveler and store dock leveler at dock level before allowing the vehicle to pull out.

Do not use a fork truck or other material handling equipment to lower the ramp.

Before chocking wheels or engaging vehicle restraint, dump air from air ride suspensions and set parking brakes.

Ensure lip avoids contact with vehicle sides and cargo. If lip does not lower to vehicle bed, reposition vehicle.

INSTALLATION, MAINTENANCE AND SERVICE

Place barricades on the dock floor around the dock leveler pit and in the driveway in front of the pit while installing, maintaining or repairing the dock leveler.

Do not operate the dock leveler when anyone is in front of it unless they are securing the maintenance strut.

PUT AND PIN MAINTENANCE STRUT IN PLACE AND MAKE SURE LIP LOCK IS IN PLACE AND SUPPORTING THE LIP before climbing into the dock leveler pit or doing any maintenance or repair under the dock leveler.

Disconnect the power and properly tag or lock off before climbing into the dock leveler pit or doing any maintenance or repair under the dock leveler.

All electrical troubleshooting or repair must be done by a qualified technician and must meet applicable codes.

Disconnect the power and properly tag or lock off before doing any electrical work.

If it is necessary to make troubleshooting checks inside the control box with the power on, **USE EXTREME CAUTION!** Do not place fingers or un-insulated tools inside the control box. Touching wires or other parts inside the control box could result in electrical shock, death or serious injury.

If you have any problems or questions using or operating the dock leveler, contact your local Kelley distributor for assistance.

OWNER'S RESPONSIBILITIES

The owner's responsibilities include the following:

The owner should recognize the inherent danger of the interface between dock and transport vehicle. The owner should, therefore, train and instruct operators in the safe use of dock leveling devices.

When a transport vehicle is positioned as closely as practicable to a dock leveling device, there shall be at least 4" of overlap between the front edge of the lip and the edge of the floor or sill of the transport vehicle.

Nameplates, cautions, instructions and posted warnings shall not be obscured from the view of operating or maintenance personnel for whom such warnings are intended.

Manufacturer's recommended periodic maintenance and inspection procedures in effect at date of shipment shall be followed, and written records of the performance of these procedures should be kept.

Dock leveling devices that are structurally damaged or have experienced a sudden loss of support while under load, such as might occur when a transport vehicle is pulled out from under the dock leveling device, shall be removed from service, inspected by the manufacturer's authorized representative, and repaired as needed before being placed back in service.

The owner shall see that all nameplates, caution and instruction markings or labels are in place and legible and that the appropriate operating and maintenance manuals are provided to users.

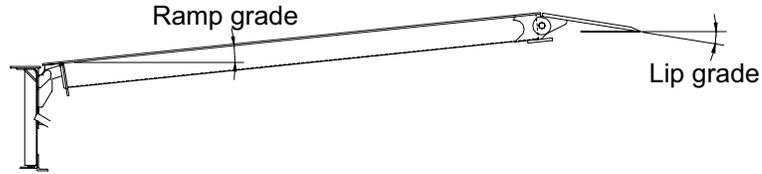
Modifications or alterations of dock leveling devices shall be made only with written permission of the original manufacturer.

When industrial vehicles are driven on and off transport vehicles during the loading and unloading operation, the brakes on the transport vehicle shall be applied and wheel chocks or positive restraints that provide the equivalent protection of wheel chocks engaged.

The dock leveler should never be used outside its vertical working range or vertical lifting range or outside the manufacturer's labeled rated capacity. It must also be compatible with the loading equipment and other conditions relating to the dock.

RAMP AND LIP GRADES

Fig. 1



VEHICLE BED POSITION from DOCK, (in.)		RAMP and LIP grades, % for each Dock Leveler length					
		6' Leveler		8' Leveler		10' Leveler	
		RAMP	LIP	RAMP	LIP	RAMP	LIP
A B O V E D O C K	18.0	--	--	--	--	16.7	8.8
	16.0	--	--	--	--	15.0	7.1
	14.0	--	--	--	--	13.2	5.4
	12.0	19.4	11.6	14.5	6.6	11.5	3.7
	10.0	16.5	8.7	12.3	4.5	9.8	2.0
	8.0	13.7	5.8	10.2	2.4	8.2	0.3
	6.0	10.8	3.0	8.1	0.2	6.5	-1.4
	4.0	8.0	0.2	6.0	-1.8	4.8	-3.1
	2.0	5.2	-2.6	3.9	-3.9	3.1	-4.7
	0.0	2.4	-5.4	1.8	-6.0	1.5	-6.4
B E L O W D O C K	-2.0	-0.3	-8.2	-0.3	-8.1	-0.2	-8.1
	-4.0	-3.1	-11.0	-2.3	-10.2	-1.9	-9.7
	-6.0	-5.9	-13.8	-4.4	-12.3	-3.5	-11.4
D O C K	-8.0	-8.7	-16.6	-6.5	-14.4	-5.2	-13.1
	-10.0	-11.5	-19.4	-8.6	-16.5	-6.9	-14.7
	-12.0	-14.4	-22.2	-10.7	-18.6	-7.5	-15.3

4° lip bend, 16" lip.

VEHICLE BED POSITION from DOCK, (in.)		RAMP and LIP grades, % for each Dock Leveler length					
		6' Leveler		8' Leveler		10' Leveler	
		RAMP	LIP	RAMP	LIP	RAMP	LIP
A B O V E D O C K	18.0	--	--	--	--	17.3	4.8
	16.0	--	--	--	--	15.6	3.0
	14.0	--	--	--	--	13.9	1.3
	12.0	20.5	8.0	15.3	2.7	12.2	-0.4
	10.0	17.6	5.0	13.1	0.6	10.5	-2.1
	8.0	14.7	2.2	11.0	-1.6	8.8	-3.8
	6.0	11.9	-0.7	8.9	-3.7	7.1	-5.5
	4.0	9.1	-3.5	6.8	-5.8	5.4	-7.1
	2.0	6.3	-6.3	4.7	-7.9	3.8	-8.8
	0.0	3.5	-9.1	2.6	-10.0	2.1	-10.5
B E L O W D O C K	-2.0	0.7	-11.9	0.5	-12.0	0.4	-12.1
	-4.0	-2.1	-14.6	-1.6	-14.1	-1.2	-13.8
	-6.0	-4.9	-17.4	-3.6	-16.2	-2.9	-15.5
D O C K	-8.0	-7.7	-20.2	-5.7	-18.3	-4.6	-17.1
	-10.0	-10.5	-23.0	-7.8	-20.4	-6.3	-18.8
	-12.0	-13.3	-25.9	-9.9	-22.5	-7.9	-20.5

7° lip bend, 16" lip (optional special order)

INSTALLATION

PIT CHECK

1. Check entire dock leveler pit for proper construction according to certified pit drawings. Check to be sure that the pit walls are square and plumb. Prep the pit floor for rear leveler legs. The pit should be clean and free of any excess debris. Chip excess concrete or large residual concrete flash left over from pouring the pit. Area surrounding the leveling feet should be smooth and free of excessive lumps. Check electrical service running to the pit to assure it agrees with the correct location and voltage for the junction box. Inspect the pit and remove all loose trash and construction debris. Verify the pit matches pit details for your leveler. See the installation troubleshooting on page 14 if the pit varies from the specification.

LEVELER CHECK PRIOR TO INSTALLATION

1. Visually check that the 4 rear hinge pins and retaining clips are in place.
2. Visually check that the lip shaft collars or shaft retainers are in place on both lip rods.
3. Verify that both the lip lock and the maintenance strut are undamaged and the maintenance strut has a safety hitch pin on a chain.
4. Visually check that the foot assemblies at the rear of the leveler are in place and undamaged.

PREPARE SITE

⚠ WARNING

Place barricades around pit on dock floor and drive while installing, maintaining or repairing dock leveler. Power to control box must be from fused disconnect supplied by others. For correct fuse size refer to wiring diagrams on pages 15-22 of this manual. Fuses to be class CC time delay. Before doing any electrical work, make certain the power is disconnected and properly tagged or locked off. All electrical work must be done by a qualified technician and must meet all applicable codes. If it is necessary to make troubleshooting checks inside the control box with the power on, USE EXTREME CAUTION. Do not place fingers or uninsulated tools inside the control box. Touching wires or other parts inside the control box could cause electrical shock, resulting in death or serious injury.

1. The control station, user's manual and dock bumpers are attached to the subframe of the dock leveler. The maintenance strut has a plastic tie wrap holding it to the subframe, remove these it before placing the leveler into the pit. Make sure the customer gets the user's manual and is properly trained.

2. Mount and wire push-button control station (See Fig. 2) and pit mounted receptacle (See Fig. 3). See wiring diagram located on the inside cover of the control box or wiring diagrams on pages 15-22 of this manual for wiring information. Follow the wiring instructions to set control for proper voltage. Wires shown in dashed lines are field connections.
3. If conduit must be installed (replacing an existing mechanical dock leveler) do so at this time. Refer to the conduit requirements on the pit detail publication 5567 and powered dock leveler wiring diagrams and typical installation drawings, and powered dock leveler wiring diagram on pages 15-22 for electrical requirements. Follow all applicable electrical codes and standards.

Fig. 2

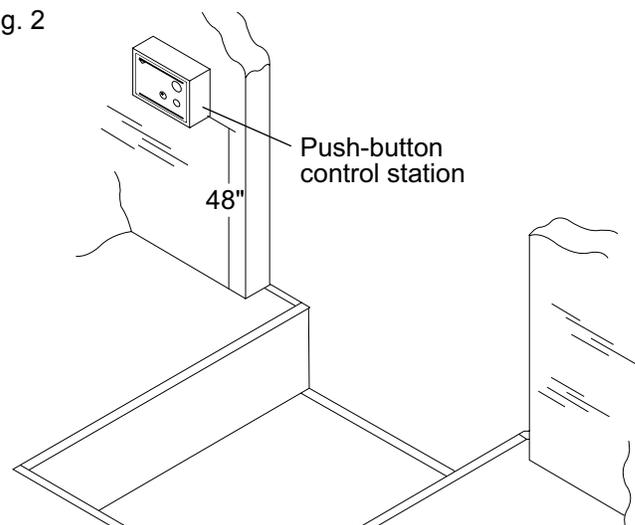
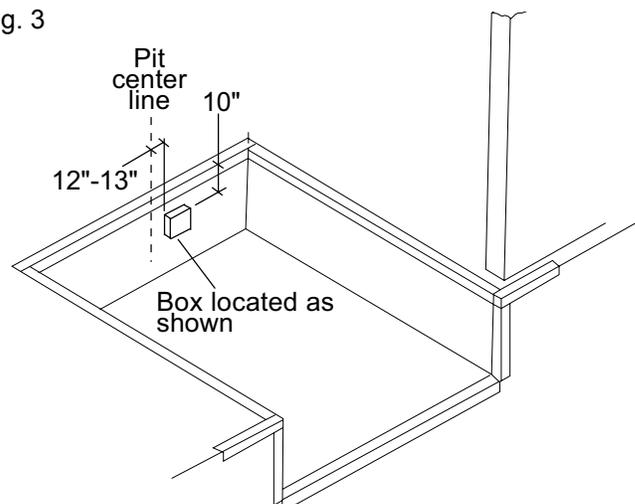


Fig. 3



INSTALLATION, continued

⚠ WARNING

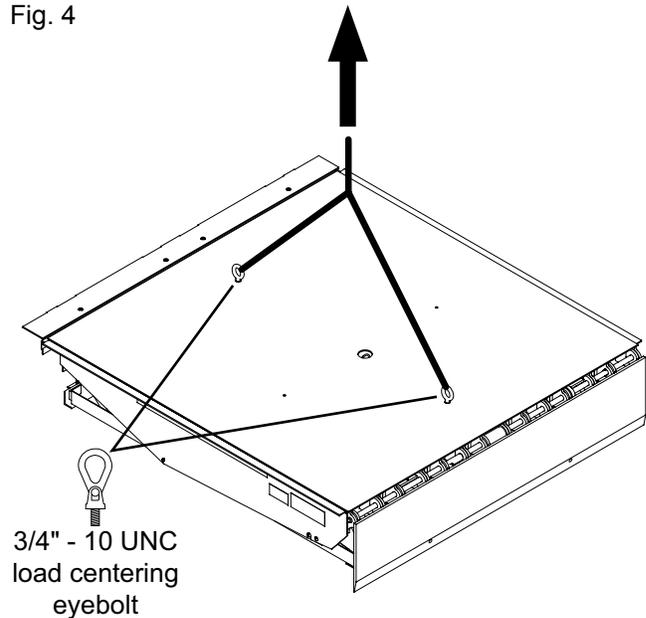
Before installing the dock leveler, read and follow the Safety Practices on page 3. Failure to follow the Safety Practices could result in death or serious injury.

INSTALLATION OF DOCK LEVELER

6' and 8' long levelers using a standard 19" subframe can be field converted to allow installation in a 24" pit by adding a 4" riser kit, Kelley Part No. 6004654. Install the new riser leveling feet. The riser blocks should be welded to the front frame supports prior to placing in the pit. See publication #6003728 and page 50 in this manual.

1. Prior to lifting leveler make sure the shipping tie down bolts seen in Fig. 14 are in place. Install two 3/4"-10UNC load centering eye bolts into the front and rear of the top plate and hoist leveler into pit. The dock leveler should not be lifted in any other manner when placed into the pit. See Fig. 4.

Fig. 4



⚠ WARNING

Inadequate lifting equipment or practices can cause a load to fall unexpectedly. Make sure the lifting chain or other lifting devices are in good condition and have a rated capacity of at least 3500 lbs for the lifting angle used. Never allow anyone to stand on or near the dock leveler when it is lifted or placed into the pit. Stand clear of the dock leveler when it is placed into the pit. Failure to follow this warning can allow the dock leveler to fall, tip, or swing into people, resulting in death or serious injury.

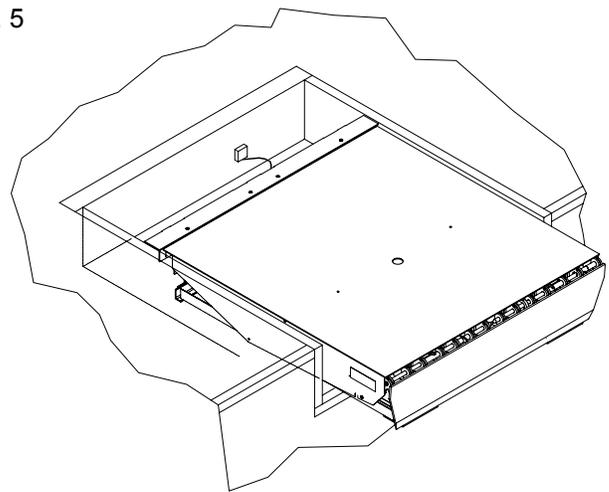
NOTICE

Route power cord clear of edges and resting surfaces so that it is not damaged during lifting and placement. Plug end may be routed up through the rear hinge until needed.

INSERTING THE LEVELER INTO THE PIT

2. Position dock leveler in pit about 7" away from the rear pit wall. Connect cord from motor, and plugs from switches to junction box at rear pit wall. Place the free length of cord inside of frame area, free of interference as the leveler is moved into the final position. See Fig. 5 and wiring diagrams on pages 15-22.

Fig. 5



NOTE:

Check the pit floor for uneven or excess concrete in the area around the leveling feet 1"-6" from the rear wall. Use chisel to level out area if necessary.

INSTALLATION, continued

3. Move the dock leveler back to the rear pit curb angle. See Fig. 6. With the rear leveler angle touching the rear pit angle, square up the sides of the pit to the sides of the leveler. The gap should be even on both sides. The rear frame angle should be within 1/4" on either sides of the pit curb angle.

NOTE:

The rear frame angle should be about 1/2" lower than the pit curb angle before leveling. This is normal. See Fig. 7.

LEVELING THE REAR FRAME

4. Using a 1/2" square drive (1/2" ratchet or impact tool) work from one side to the other, turn each of the leveling screws on the rear angle, counter-clockwise until the transition angle of the rear angle is level with the rear pit curb angle and the leveling screws are 1/4" from the top transition angle which indicates that legs are in contact with pit floor. Repeat on each leg until the transition angle is flush with the rear curb angle. See Fig 8.

NOTICE

The rear edge of the dock leveler should be level or slightly (1/16" maximum) below dock level.

The top surface of the dock leveler should be level and a smooth transition with the dock floor curb steel. The front end should be level and parallel with the rear frame angle for proper operation. Unequal Shimming of the front supports may be required to obtain a level front edge.

NOTICE

Turn off all electrical power to the leveler if it has been previously connected. Welding with dock levelers power connected can damage the electrical components. A ground must be attached to the leveler frame. Failure to do so can result in product damage.

5. Check and adjust the leveler for square and in firm contact with the rear angle. The sides of the leveler should have a 1/2" gap and parallel with the sides of the pit. Tack weld the rear angle to rear curb angle in 4 places min 3/8" at the center and at both ends. See Fig. 9 and 10.

NOTE:

Do not weld out the rear angle until after setting the front supports.

Fig. 6

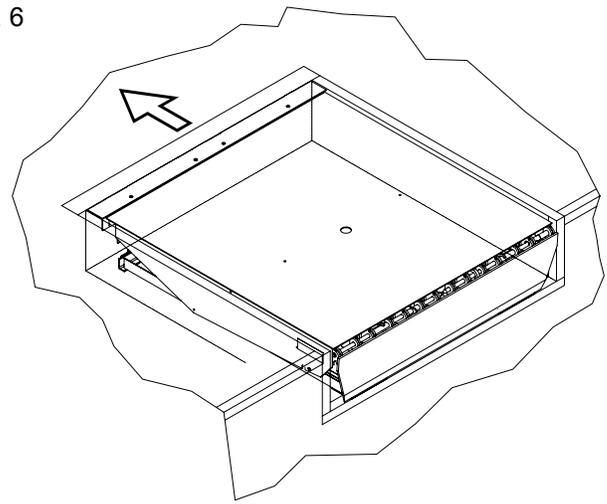
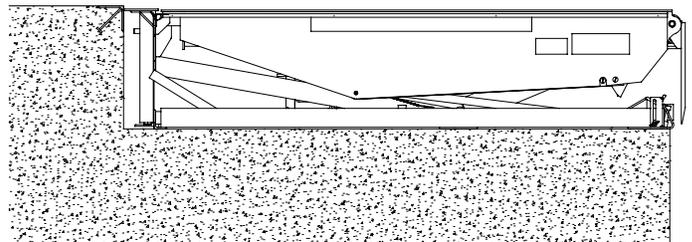
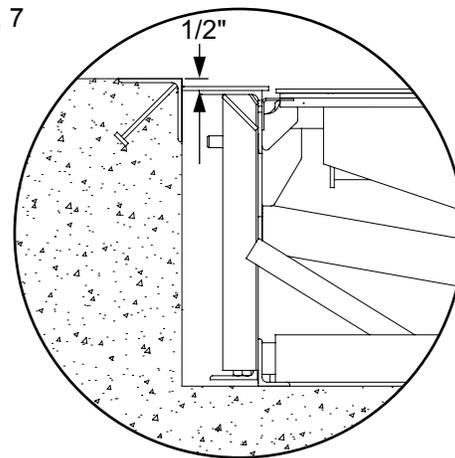


Fig. 7



INSTALLATION, continued

LEVELING THE FRONT FRAME

6. Remove and discard the shipping tie down bolts located at the lower end of the hinged lip assembly. See Fig. 14.

⚠ WARNING

Before welding the dock leveler supports to the front curb angle make sure that the dock leveler support legs line up with the "V" pocket in the dock leveler support angle. Move dock levelers support right or left for the necessary alignment.

7. Tack weld the front dock leveler supports to the front curb angle with 3/16" welds as shown in Fig. 12.

8. With the lip pendant insert 24" long 1/2" extensions between lip and lip rod onto dock leveler support leveling screw. See Fig. 12. Using a 1/2" drive (1/2" ratchet or impact tool) turn each leveling screw **counter-clockwise** until the top of the leveler is flush with the finished floor/pit curb steel where the overhead door meets the floor. See Fig. 11.

FINISH WELDING REAR FRAME

9. Weld the rear frame angle to the rear curb angle using 1/4" bevel joints in the transition angle as your guide. See Fig. 10.

10. After the rear hinge is welded check that all rear leveling legs are in contact with the floor of the pit by visually inspecting that the leveling screws are 1/4" from the top of the transition angle. Once all legs are in contact with floor, tighten each leg leveling screw **counter-clockwise** to 25-40 ft. lbs.

Fig. 8

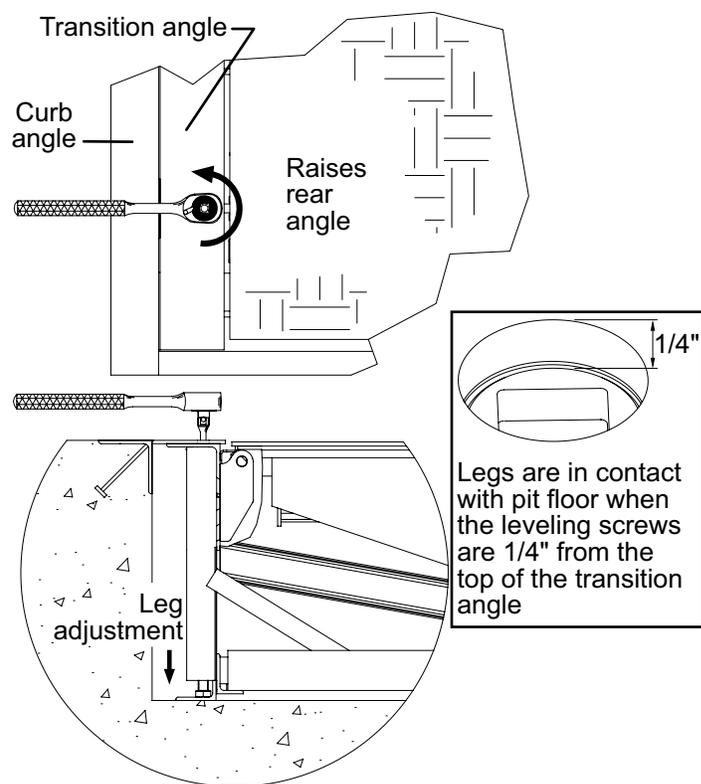


Fig. 9

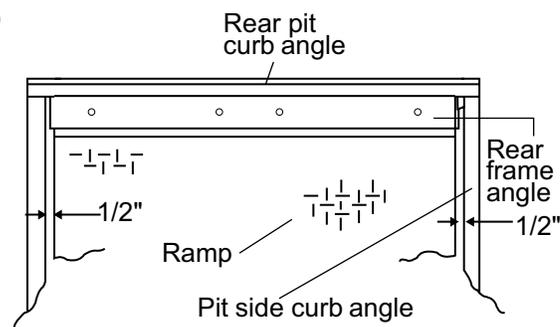
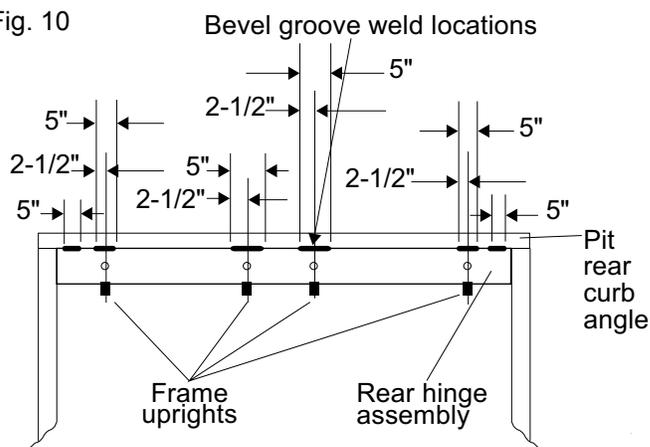


Fig. 10



INSTALLATION, continued

11. If a field installed riser kit is being used, do not use hydraulics to position leveler on maintenance strut before cylinder support riser is in place. Use a suitable lifting device to place leveler on maintenance strut per step 12 below, then position and weld in the cylinder support bracket. If electrical power is available, reconnect power and use the electrical controls to raise the ramp and lip to their full above dock position. See operating instructions on front cover of control box. If electrical power is not available, raise ramp using a chain or other suitable lifting device.

▲ DANGER

Hydraulic pressure or mechanical support must be maintained on the ramp and lip to hold them in the raised position until the maintenance strut and lip lock are in place. DO NOT WORK UNDER THE DOCK LEVELER RAMP OR LIP UNLESS THE MAINTENANCE STRUT IS IN PLACE AND PINNED, AND LIP LOCK IS IN PLACE AND SUPPORTING THE LIP.

12. Return power to the leveler control. Using the push-button control station or a suitable lifting device, two people are required to perform the following steps to secure the leveler with the maintenance strut and lip lock.

- a. One person must push and hold the **RAISE** button until dock leveler reaches its highest position, lip extends fully and hold dock leveler and lip in their highest position.
- b. The second person positions the maintenance strut into the bracket located on the underside of the ramp assembly and pins it in place with hairpin clip. See Fig. 15 and the instruction label on maintenance strut.
- c. The second person then locks the lip in extended position with the lip lock provided under the deck. Pull the lip lock outward as far as it will go. Release lip lock. See instruction label on dock leveler beam near lip lock.
- d. Release button control and allow leveler to lock in maintenance position.

13. 6x12" shims of the proper thickness are to be placed under the ramp cylinder mounting pad and welded out as shown in Fig. 13.

Fig. 11

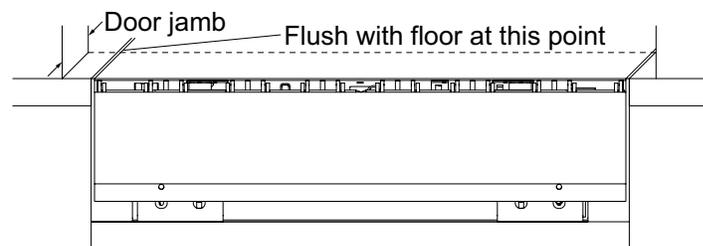


Fig. 12

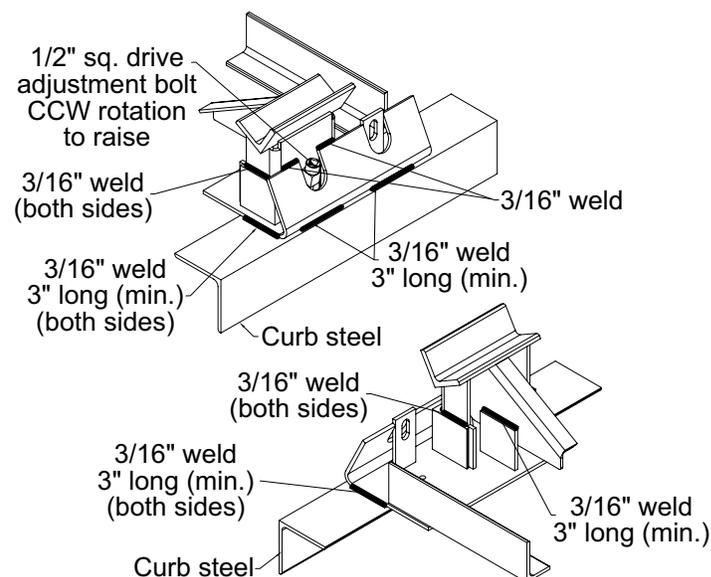
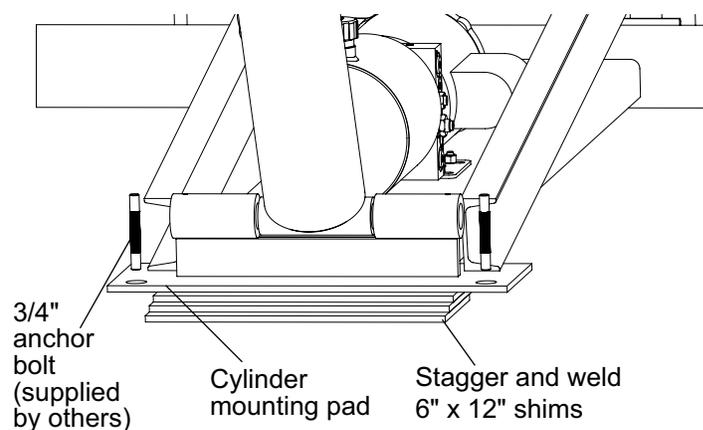


Fig. 13



INSTALLATION, continued

⚠ CAUTION

Welding with the dock levelers power connected can damage electrical components. If the dock leveler has been previously connected, turn off power to control box and unplug all electrical cords from receptacles in rear pit wall before welding. Failure to do so can result in product damage.

14. Finish welding both of the adjusted dock leveler supports in all locations shown in Fig. 12.
15. Check shims under ramp cylinder pad. Adjust thickness if necessary.

⚠ WARNING

Improper installation of anchoring devices or installation into aged or unsound concrete could result in death or serious injury.

16. Drill and install 3/4" diameter anchor bolts (min. 3" deep) in ramp cylinder mounting pad. Weld shims to pad as noted in Fig. 13.
17. Remove and discard shipping cotter pins from toe guards on both sides of dock leveler. See Fig. 16.
18. Remove lifting chain or other lifting devices. Remove lifting hooks from the sides of the ramp.
19. Read the Safety Practices on page 3, and the Operation Instructions on pages 27-34 before operating the dock leveler.

Fig. 14

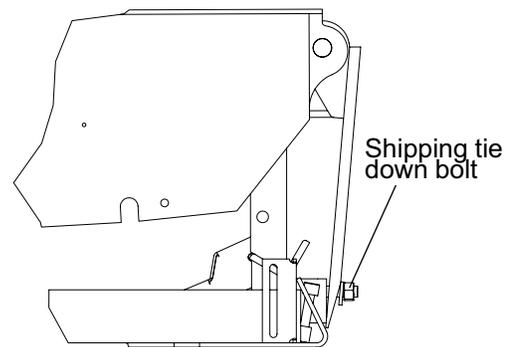


Fig. 15

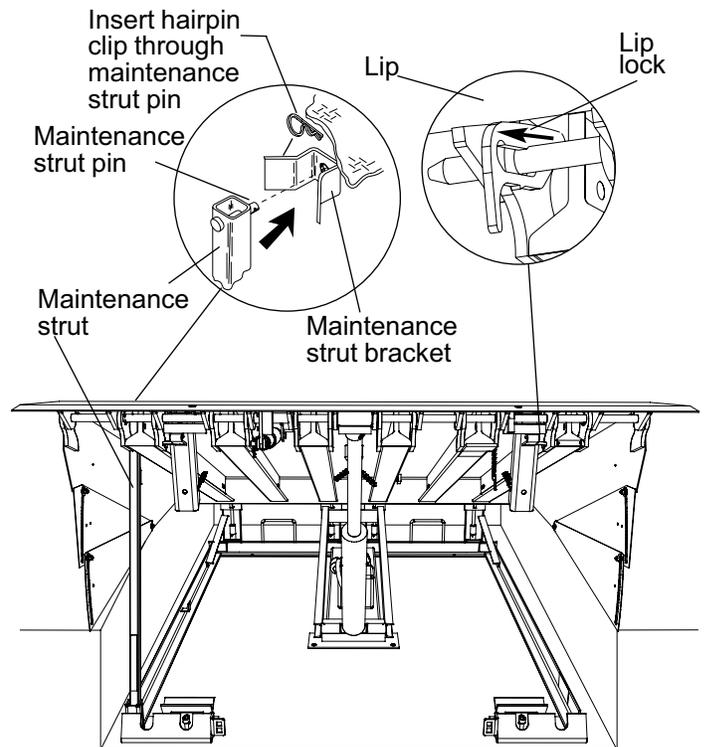
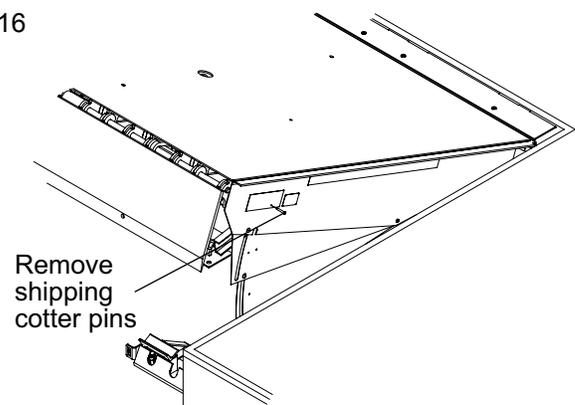


Fig. 16



INSTALLATION, continued

⚠ WARNING

Improper installation of anchoring devices or installation into aged or unsound concrete could result in death or serious injury.

NOTICE

The dock face must be flush with curb angle to assure proper bumper mounting.

20. Mount dock bumpers to face of dock. Downhill welds are unacceptable. See Fig. 17 or 18.
21. Plug or wire in electrical cords and connect power to dock leveler.

⚠ DANGER

Manually support the lip when storing the lip lock. Stand clear of the lip when removing support. The lip is free to move downward when support is removed. Anyone in the path of the lip when it moves downward can be struck.

Keep your hands, fingers and head away from the lip when it is released. They could be struck by the lip or caught between the lip and other parts of the dock leveler resulting in death or serious injury.

DO NOT REMOVE MAINTENANCE STRUT WITHOUT HYDRAULIC PRESSURE OR A MECHANICAL LIFTING DEVICE SUPPORTING RAMP. Raise ramp with hydraulic pressure or mechanical device before storing maintenance strut. Stand clear of ramp and lip when hydraulic pressure or mechanical lift is applied or removed. Ramp and lip are free to move downward when support is removed. Removing support without hydraulic pressure could allow ramp to drop RAPIDLY. If the dock leveler was raised using a mechanical device, it should be lowered using the same device.

22. Two people are needed to store the maintenance strut and lip lock.
 - a. One person must push and hold the **RAISE** button until dock leveler reaches its highest position, lip extends fully and hold dock leveler and lip in their highest position.
 - b. The second person unpins the maintenance strut from the bracket on the ramp and pushes the lip lock inward as far as it will go. He stores the maintenance strut on the subframe. See Fig. 15, and the instruction labels on the maintenance strut and on the bottom of the beam near the lip lock.

Fig. 17

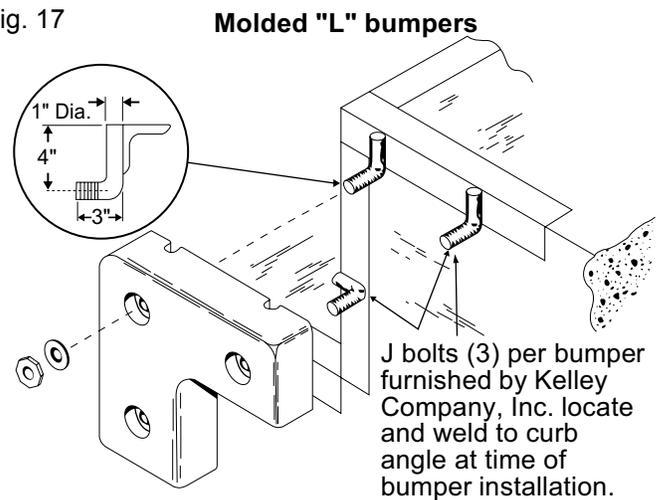
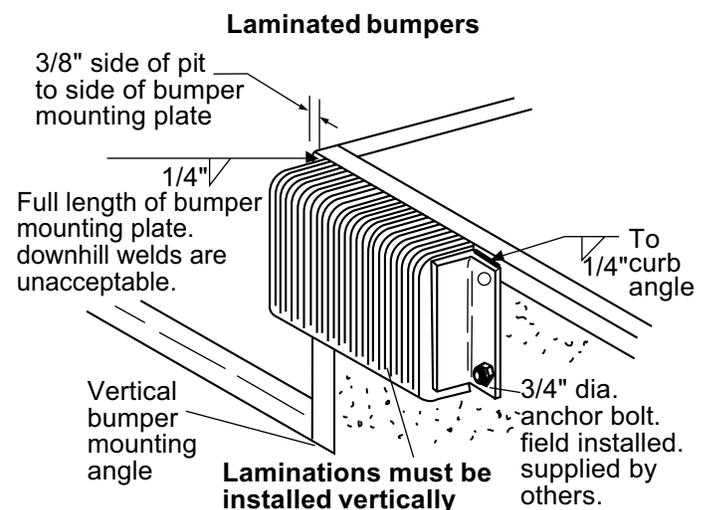


Fig. 18



INSTALLATION, continued

- c. The **RAISE** button may now be released. The ramp will lower when the button is released.

24. Place the dock leveler in both dock leveler storage position and full below dock end load position. If lip is being supported by the curb steel in either position, a deflector plate must be created to allow leveler to store and reach its full below dock position without getting hung up on the pit floor.

▲ WARNING

Improper installation that allows the pendant dock leveler lip to support the weight of the dock leveler could result in death or serious injury. It is sometimes necessary to install lip deflector plates to avoid any chance of the pendant lip supporting the weight of the dock leveler either near dock level or during a below dock end load.

25. Permanently mount the laminated dock leveler WARNING and OPERATING instruction placard on the wall near the dock leveler control. See Fig. 19. Make sure the customer gets the user's manual and is properly trained.
26. Operate the dock leveler four times through the complete cycle to check operation. (See Operation section, pages 27-34.)

NOTE:

If you have any problems or questions using or operating the dock leveler, contact your supervisor or local Kelley® distributor for assistance.

27. Optional (where applicable), install rear angle cap plugs (part number 6004488) into adjustment socket holes. Press cap flush with top surface to rear angle. See Fig. 20.

Fig. 19

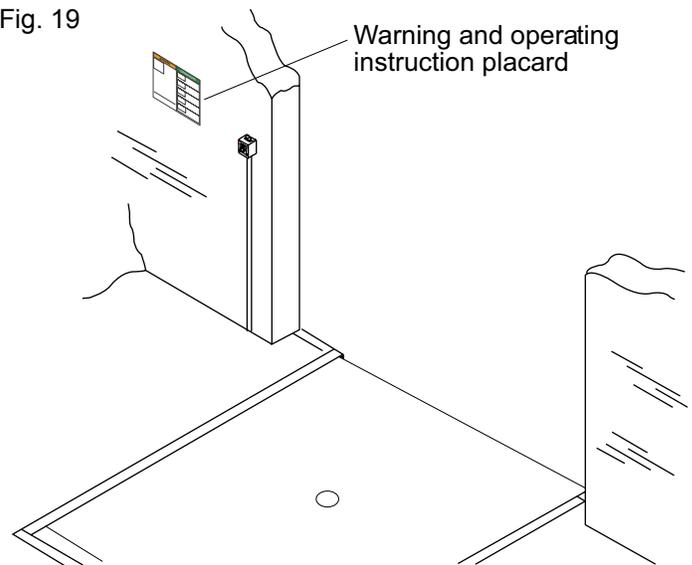
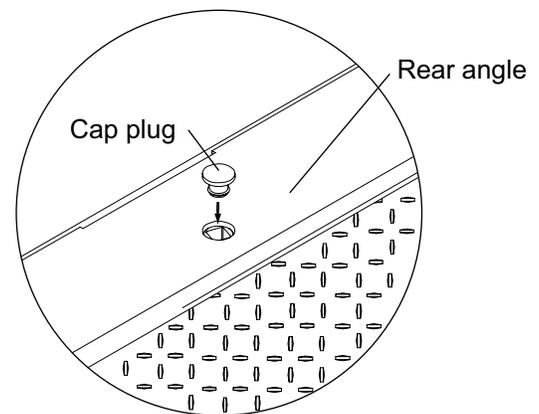


Fig. 20



INSTALLATION, continued

INSTALLATION TROUBLESHOOTING

The following procedures apply after the leveler is level in the pit.

PROBLEM	POSSIBLE CAUSE	SOLUTION
1) Leveler will not fit properly in pit.	<p>a) Pit is out of square with the sides.</p> <p>b) One side and rear angle is out of square.</p> <p>c) Pit floor irregular in rear.</p> <p>d) Pit is too deep.</p>	<p>a1) Align the sides parallel and equally spaced with the rear frame angle touching the rear curb angle in one place. Fill the gap between the rear curb angle and rear frame angle using shims in weld pattern noted in Fig. 10. See Fig. 21.</p> <p>b) Align the leveler with the two square edges. The gap on the sides should be even in the most narrow section (1/2" Max. per side). See Fig. 22.</p> <p>c) If large deformations exist in the concrete work, attempt to flatten out the rough surface using a chisel or grinder to take out the large obstructions. The rear leveling legs can be installed on out of plane surfaces up to 1/8" at each leg. See Fig. 23.</p> <p>d) Weld 4" x 4" shims to the bottom of the adjustable legs.</p>

Fig. 21

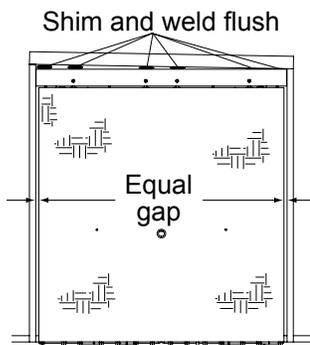


Fig. 22

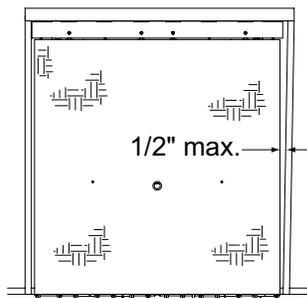
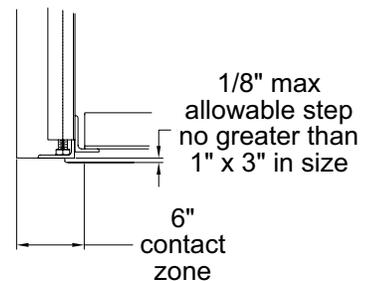


Fig. 23



WIRING DIAGRAMS — STANDARD

⚠ DANGER

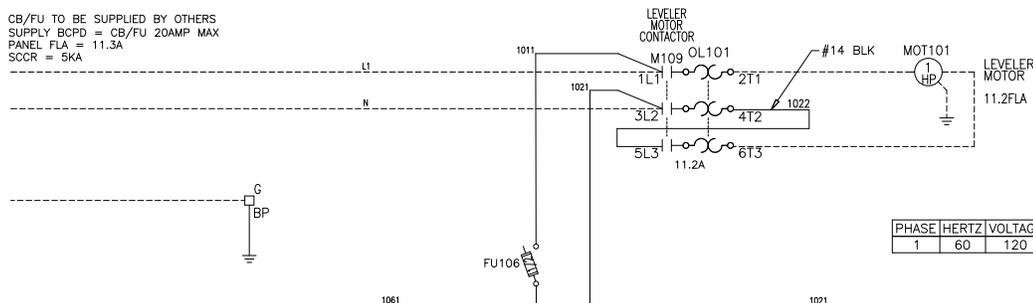
Before doing any electrical work, make certain the power is disconnected and properly tagged or locked off. All electrical work must be done by a qualified technician and meet all applicable codes. If it is necessary to make troubleshooting checks inside the control box with the power on, USE EXTREME CAUTION. Do not place your fingers or uninsulated tools inside the control box. Touching wires or other parts inside the control box could result in electrical shock, death or serious injury.

NOTE:

For 24V incoming power consult factory.

6011334 — 120V, 1PH, 60 HZ

CB/FU TO BE SUPPLIED BY OTHERS
 SUPPLY BCPD = CB/FU 20AMP MAX
 PANEL FLA = 11.3A
 SCCR = 5KA

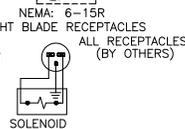


LEGEND

— PANEL WIRING
 - - - FIELD WIRING (BY OTHERS)
 NOTE: TERMINAL WILL ACCEPT STRANDED WIRES ONLY

WIRE COLOR/GAUGE (NFPA)
 (unless otherwise specified)
 208-600VAC: #14, BLK
 120VAC: #16, RED
 24VAC: #16, RED
 NEUTRAL: #16, WHT
 GROUND: GRN

CAUTION
 120VAC ONLY

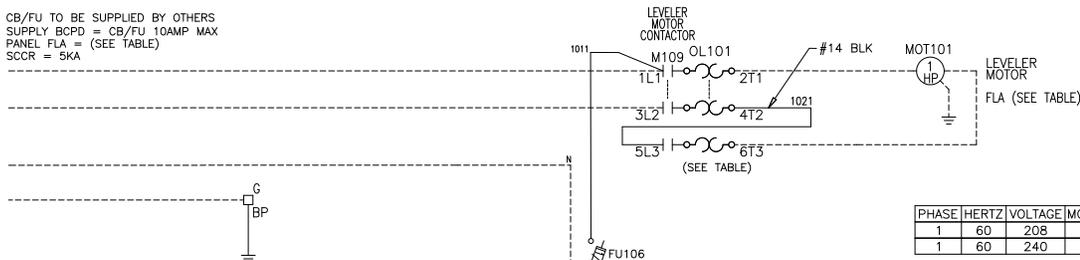


OPTIONAL DOOR
 INTERLOCK

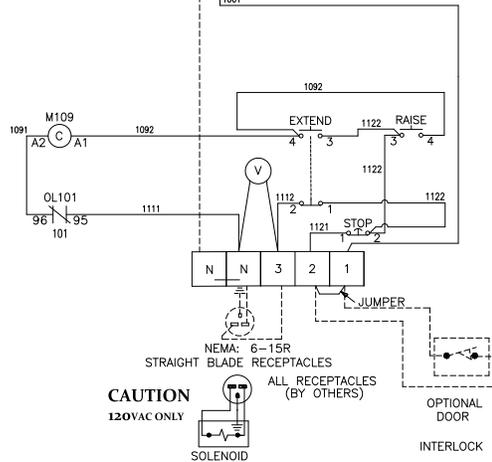
WIRING DIAGRAMS — STANDARD, continued

6011335 — 208/240V, 1PH, 60 HZ

CB/FU TO BE SUPPLIED BY OTHERS
 SUPPLY BCPD = CB/FU 10AMP MAX
 PANEL FLA = (SEE TABLE)
 SCCR = 5KA



PHASE	HERTZ	VOLTAGE	MOTOR F.L.A.	PANEL F.L.A.	O/L SETTING
1	60	208	7A	7.1A	7 AMPS
1	60	240	6.6A	6.7A	6.6 AMPS



LEGEND

— PANEL WIRING
 - - - - FIELD WIRING (BY OTHERS)
 NOTE:
 TERMINAL WILL ACCEPT STRANDED
 WIRES ONLY

WIRE COLOR/GAUGE (NEPA)
 (unless otherwise specified)
 208-600VAC: #14, BLK
 120VAC: #16, RED
 24VAC: #16, RED
 NEUTRAL: #16, WHT
 GROUND: GRN

WIRING DIAGRAMS — STANDARD, continued

6011331 — 208V, 3PH, 60 HZ

CB/FU TO BE SUPPLIED BY OTHERS
 SUPPLY BCPD = CB/FU 6AMP MAX
 PANEL FLA = 4.1A
 SCCR = 5KA

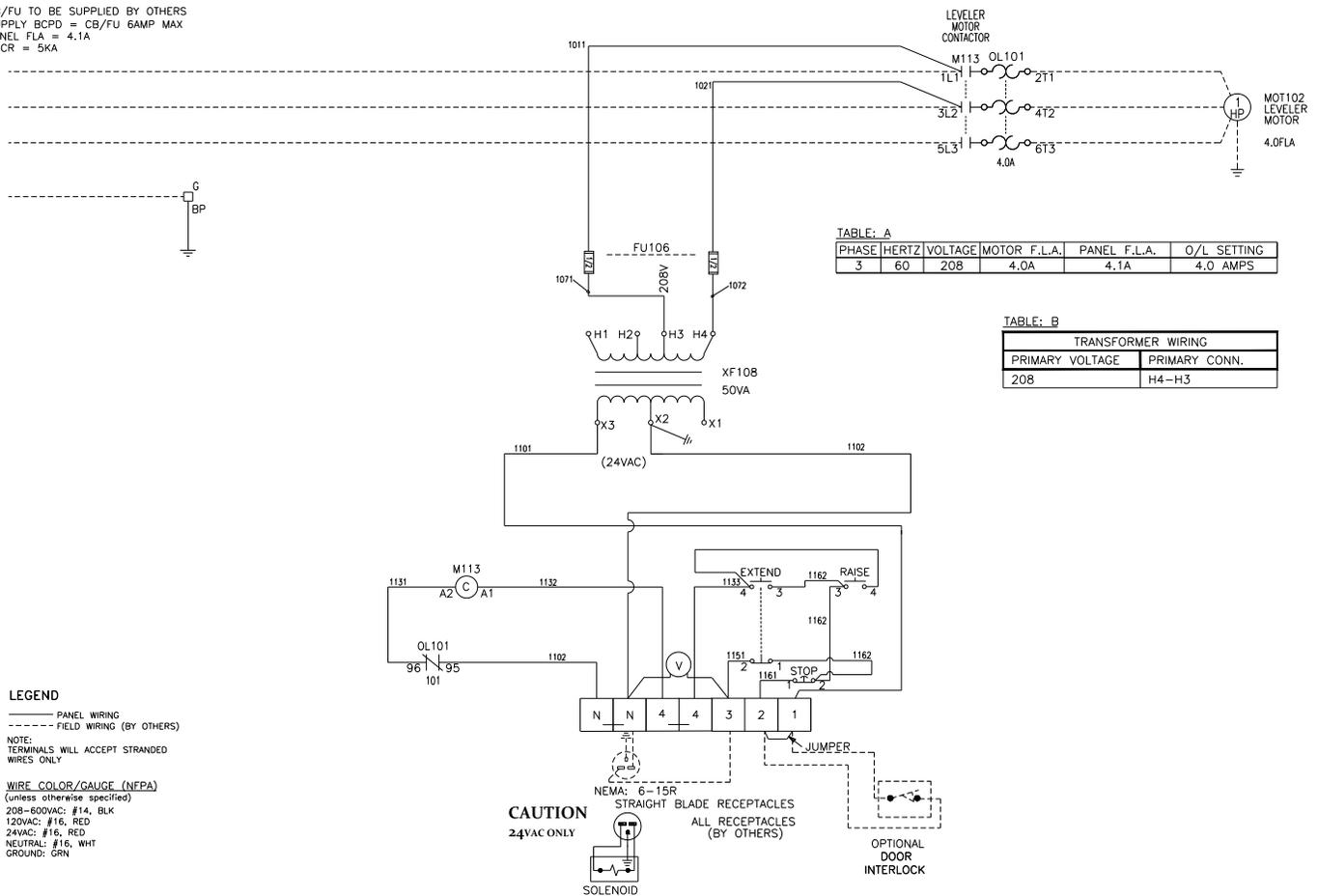


TABLE: A

PHASE	HERTZ	VOLTAGE	MOTOR F.L.A.	PANEL F.L.A.	O/L SETTING
3	60	208	4.0A	4.1A	4.0 AMPS

TABLE: B

TRANSFORMER WIRING	
PRIMARY VOLTAGE	PRIMARY CONN.
208	H4-H3

LEGEND
 ——— PANEL WIRING
 - - - - - FIELD WIRING (BY OTHERS)

NOTE:
 TERMINALS WILL ACCEPT STRANDED WIRES ONLY

WIRE COLOR/GAUGE (NFPA)
 (unless otherwise specified)
 208-600VAC: #14, BLK
 120VAC: #16, RED
 24VAC: #16, RED
 NEUTRALS: #16, WHY
 GROUND: 6RN

CAUTION
 24VAC ONLY

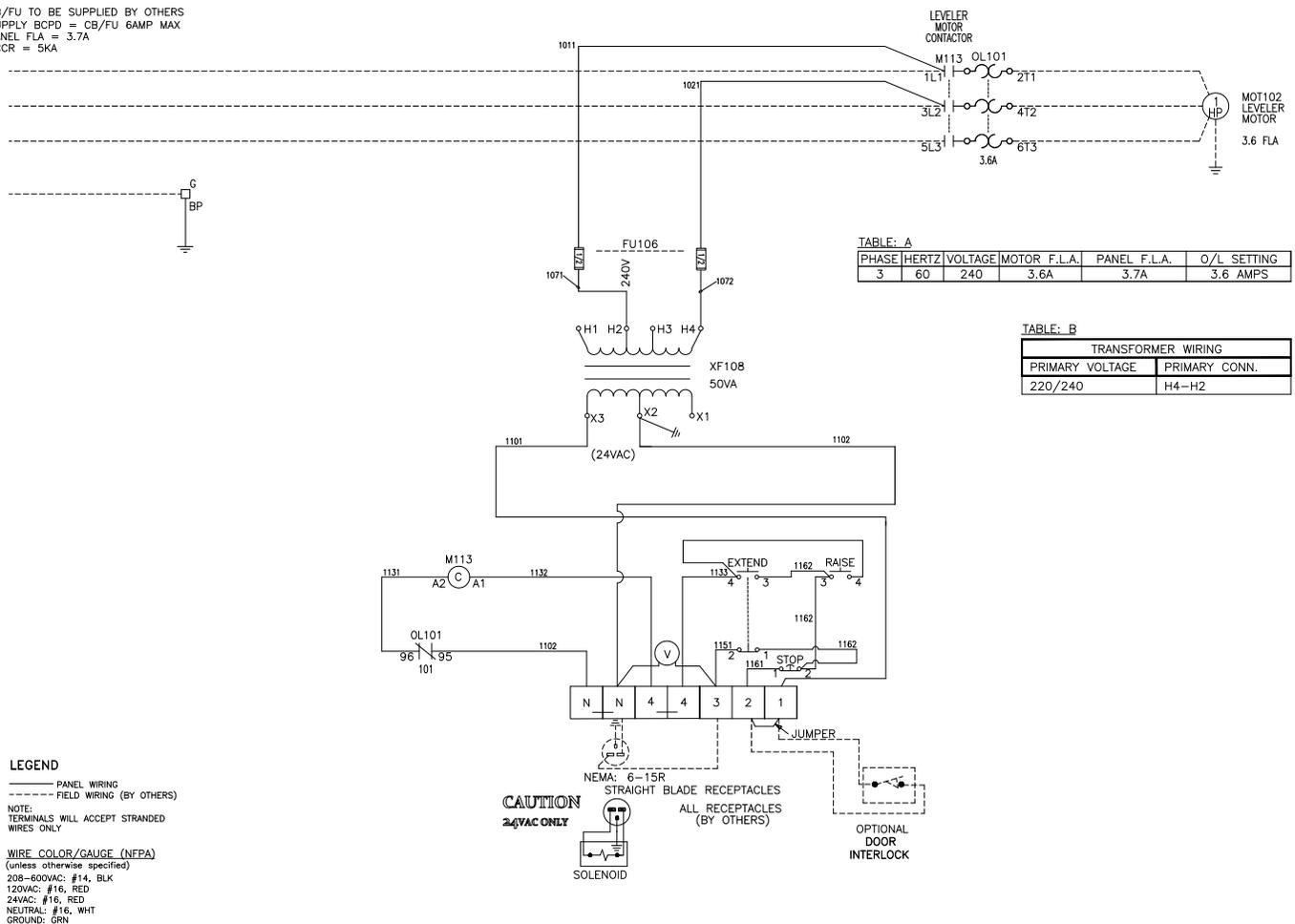
NEMA: 6-15R
 STRAIGHT BLADE RECEPTACLES
 ALL RECEPTACLES
 (BY OTHERS)

OPTIONAL
 DOOR
 INTERLOCK

WIRING DIAGRAMS — STANDARD, continued

6011751 — 240V, 3PH, 60 HZ

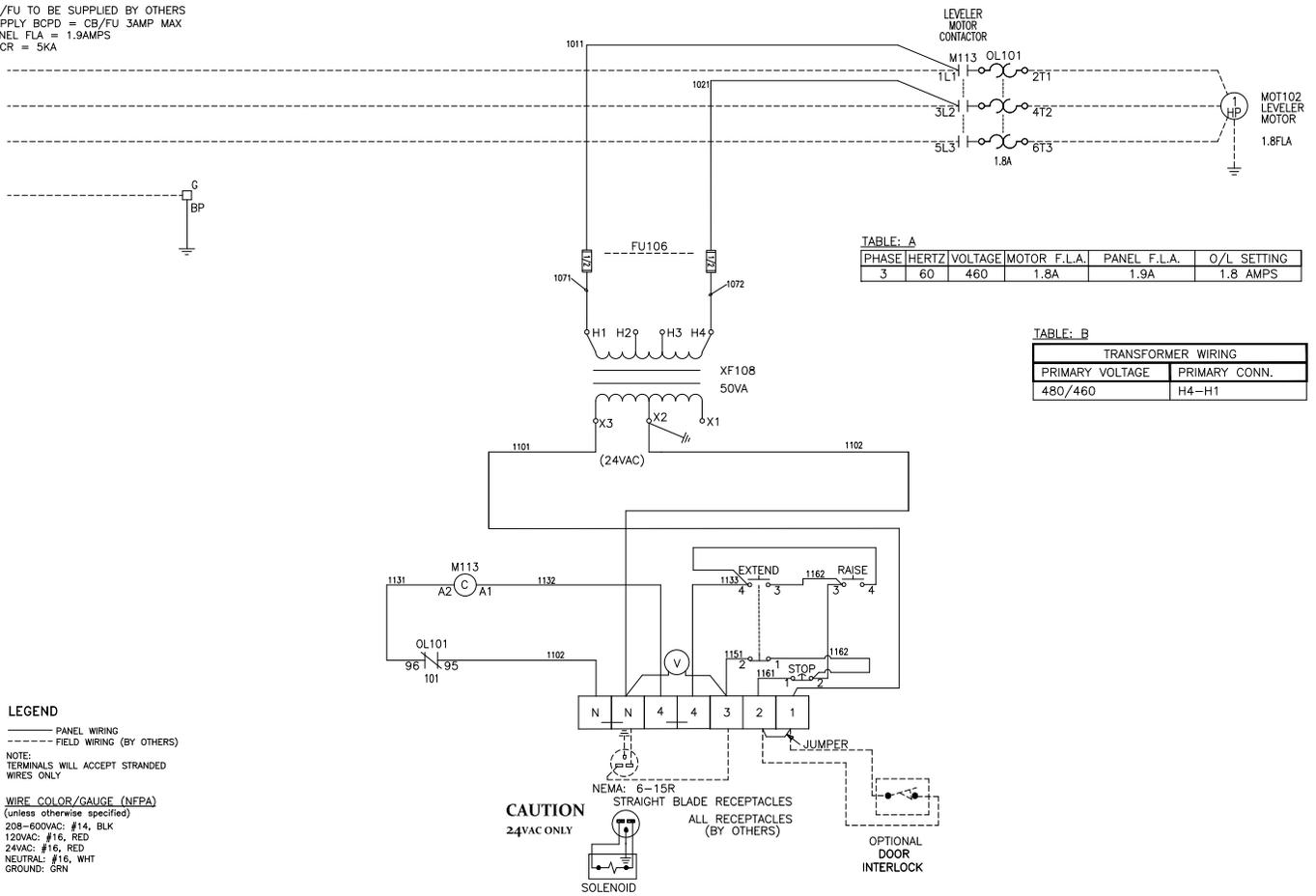
CB/FU TO BE SUPPLIED BY OTHERS
 SUPPLY BCPD = CB/FU 6AMP MAX
 PANEL FLA = 3.7A
 SCCR = 5KA



WIRING DIAGRAMS — STANDARD, continued

6011332 — 460/480V, 3PH, 60 HZ

CB/FU TO BE SUPPLIED BY OTHERS
 SUPPLY BCPD = CB/FU 3AMP MAX
 PANEL FLA = 1.9AMPS
 SCCR = 5KA



WIRING DIAGRAMS — STANDARD, continued

6011653 — 575V, 3PH, 60 HZ

CB/FU TO BE SUPPLIED BY OTHERS
 SUPPLY BCPD = CB/FU 3AMP MAX
 PANEL F.L.A. = 1.7A
 SCCR = 5KA

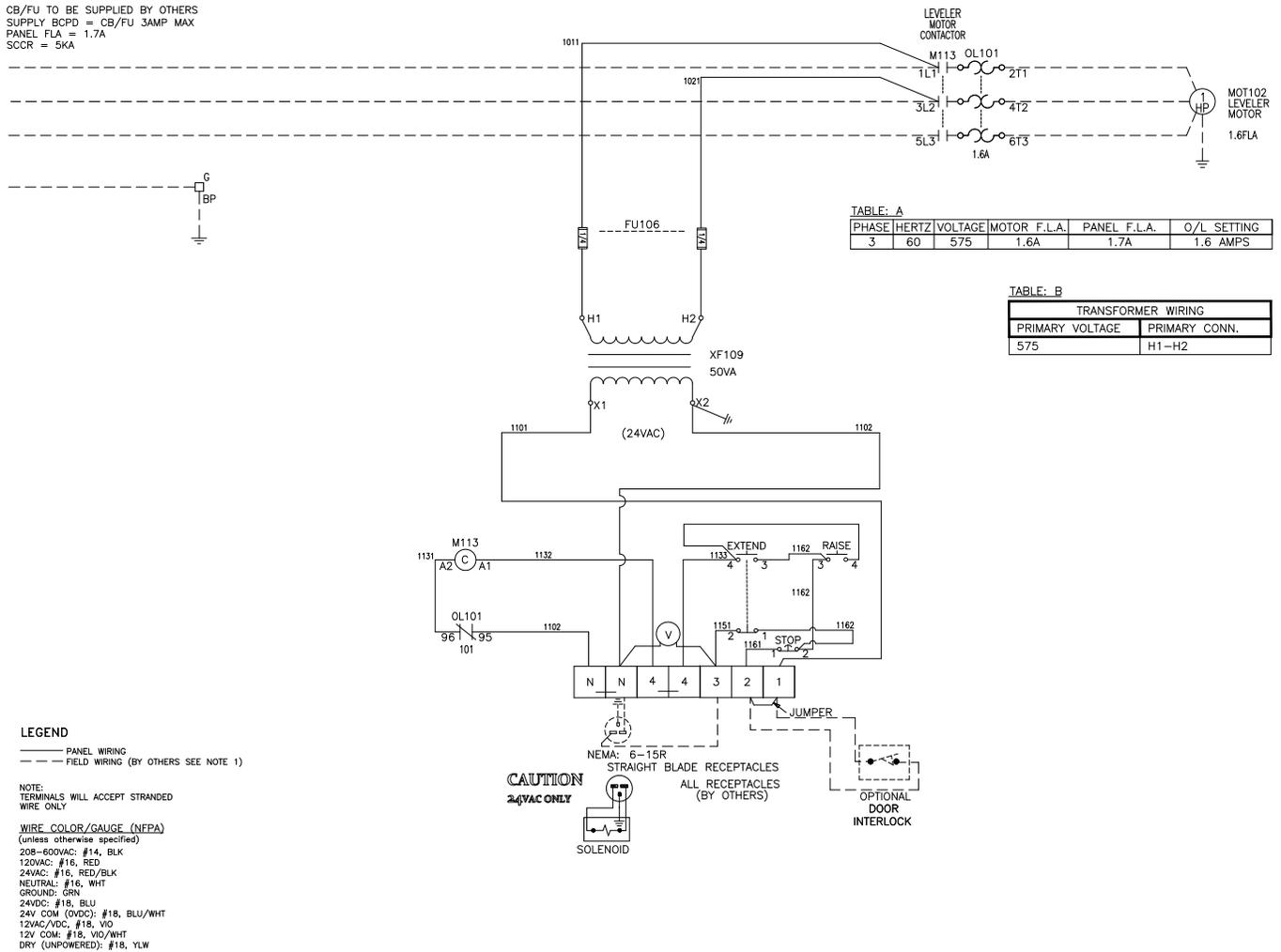


TABLE: A

PHASE	HERTZ	VOLTAGE	MOTOR F.L.A.	PANEL F.L.A.	O/L SETTING
3	60	575	1.6A	1.7A	1.6 AMPS

TABLE: B

TRANSFORMER WIRING	
PRIMARY VOLTAGE	PRIMARY CONN.
575	H1-H2

LEGEND
 ——— PANEL WIRING
 - - - FIELD WIRING (BY OTHERS SEE NOTE 1)

NOTE:
 TERMINALS WILL ACCEPT STRANDED WIRE ONLY

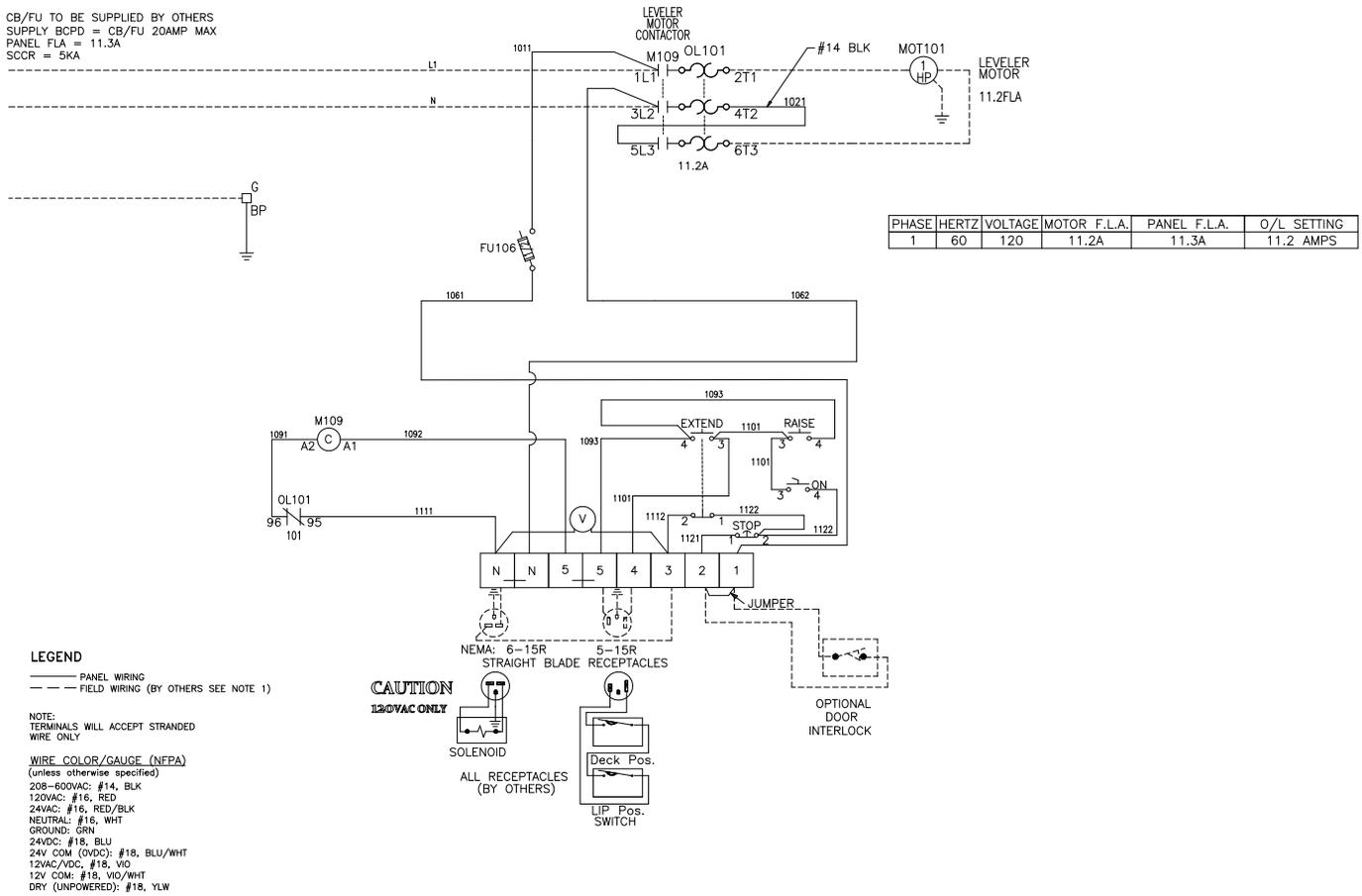
WIRE COLOR/GAUGE (NEPA)
 (unless otherwise specified)
 208-600VAC: #14, BLK
 120VAC: #16, RED
 24VAC: #16, RED/BLK
 NEUTRAL: #16, WHT
 GROUND: GRN
 24VDC: #18, BLU
 24V COM (OVDC): #18, BLU/WHT
 12VAC/VDC: #18, VIO
 12V COM: #18, VIO/WHT
 DRY (UNPOWERED): #18, YLW

1. FIELD TERMINAL WIRING: 60 / 75 DEGREE WIRE, MIN 16AWG FOR SIGNAL WIRING, MIN 14AWG FOR INCOMING POWER, SEE CHART IN PANEL FOR TORQUE REQUIREMENTS

WIRING DIAGRAMS — WITH OPTIONAL A.R.T.D., continued

6011336 — 120V, 1PH, 60 HZ

CB/FU TO BE SUPPLIED BY OTHERS
 SUPPLY BCPD = CB/FU 20AMP MAX
 PANEL F.L.A. = 11.3A
 SCCR = 5KA



LEGEND

— PANEL WIRING
 - - - FIELD WIRING (BY OTHERS SEE NOTE 1)

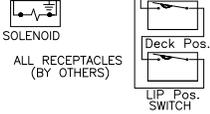
NOTE:
 TERMINALS WILL ACCEPT STRANDED
 WIRE ONLY

WIRE COLOR/GAUGE (NFPA)

(Unless otherwise specified)
 208-600VAC: #14, BLK
 120VAC: #16, RED
 24VAC: #16, RED/BLK
 NEUTRAL: #16, WHT
 GROUND: GRN
 24VDC: #18, BLU
 24V COM (D.VDC): #18, BLU/WHT
 12VAC/VDC: #18, VIO
 12V COM: #18, VIO/WHT
 DRY (UNPOWERED): #18, YLW

1. FIELD TERMINAL WIRING: 60 / 75 DEGREE WIRE, MIN 16AWG FOR SIGNAL WIRING, MIN 14AWG FOR INCOMING POWER, SEE CHART IN PANEL FOR TORQUE REQUIREMENTS
2. ALL PUSH BUTTONS ARE BLK.

CAUTION
 120VAC ONLY

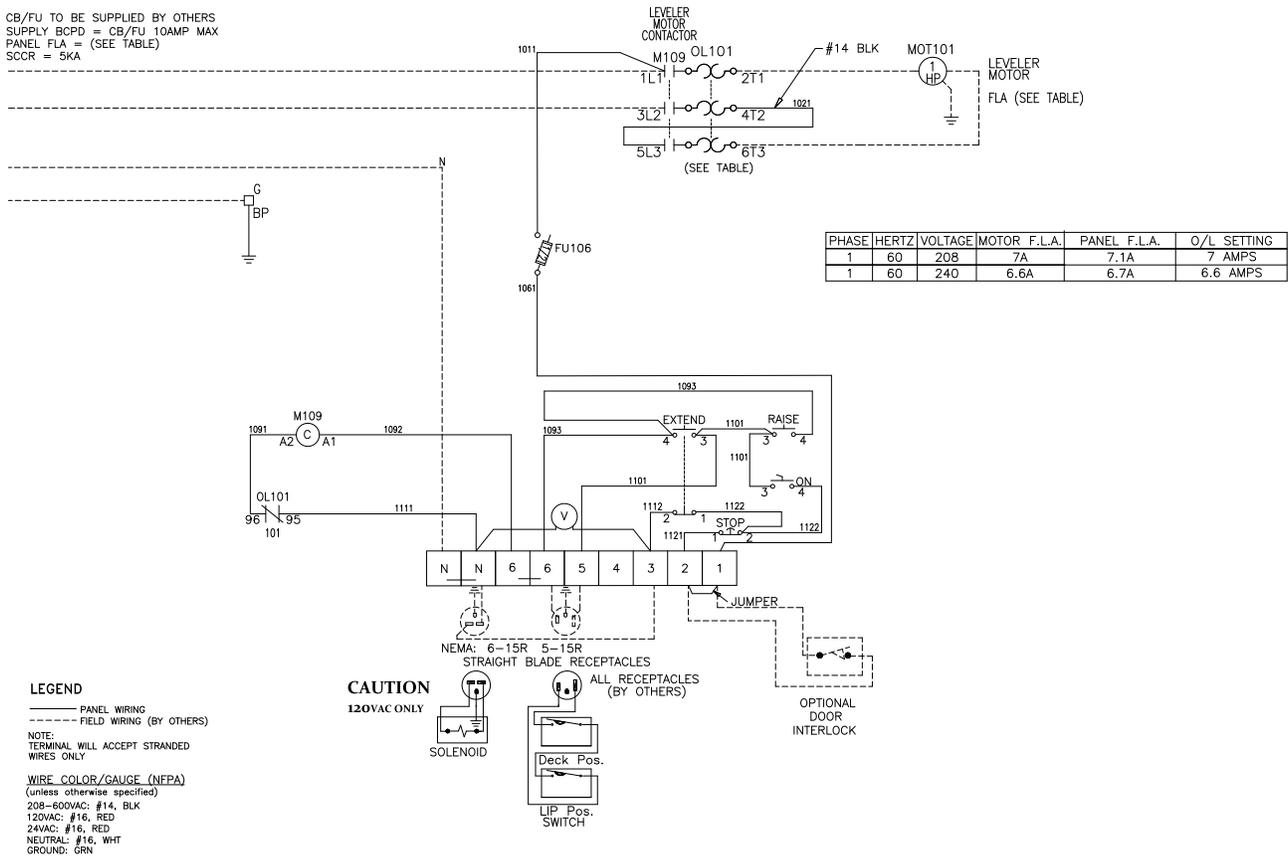


OPTIONAL
 DOOR
 INTERLOCK

WIRING DIAGRAMS — WITH OPTIONAL A.R.T.D., continued

6011337 — 208/240V, 1PH, 60 HZ

CB/FU TO BE SUPPLIED BY OTHERS
 SUPPLY BCPD = CB/FU 10AMP MAX
 PANEL FLA = (SEE TABLE)
 SCCR = 5KA



WIRING DIAGRAMS — WITH OPTIONAL A.R.T.D., continued

6011329 — 208V, 3PH, 60 HZ

CB/FU TO BE SUPPLIED BY OTHERS
 SUPPLY BCPD = CB/FU 6AMPS MAX
 PANEL FLA = 4.1A
 SCCR = 5KA

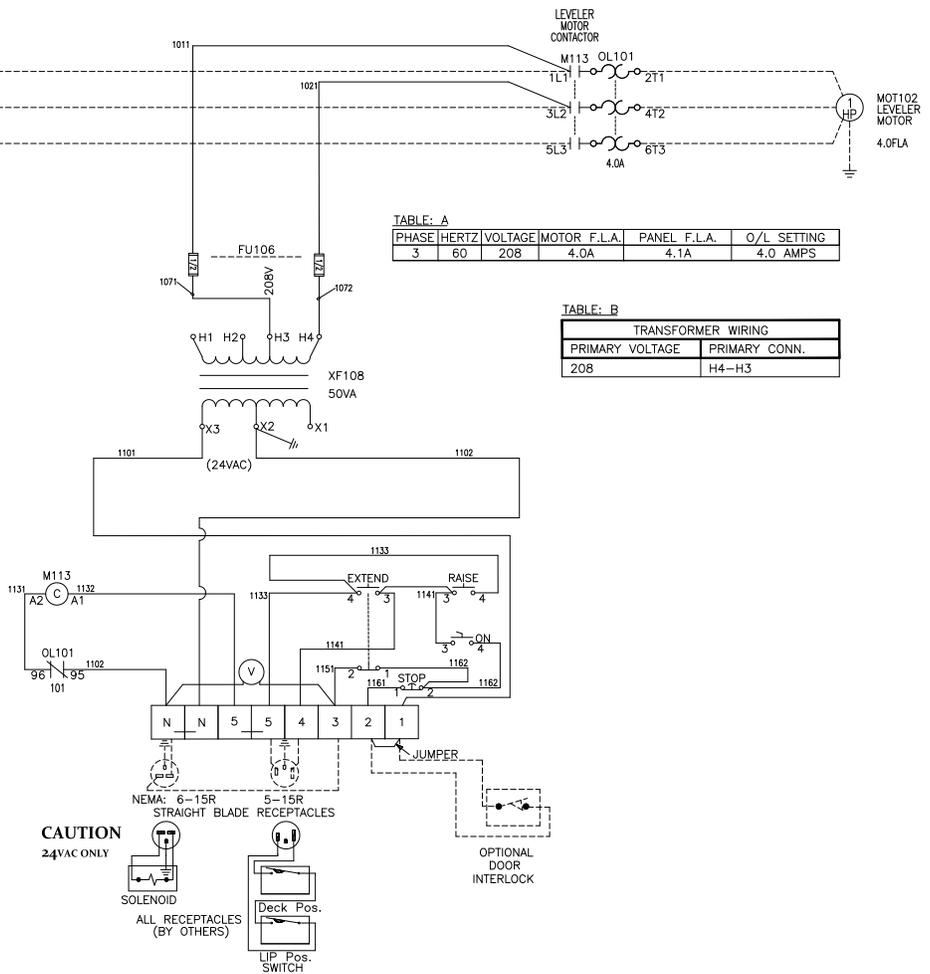


TABLE A

PHASE	HERTZ	VOLTAGE	MOTOR F.L.A.	PANEL F.L.A.	O/L SETTING
3	60	208	4.0A	4.1A	4.0 AMPS

TABLE B

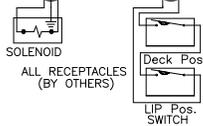
TRANSFORMER WIRING	
PRIMARY VOLTAGE	PRIMARY CONN.
208	H4-H3

LEGEND

— PANEL WIRING
 - - - - - FIELD WIRING (BY OTHERS)
 NOTE:
 TERMINALS WILL ACCEPT STRANDED
 WIRES ONLY

WIRE COLOR/GAUGE (NFPA)
 (unless otherwise specified)
 208-600VAC: #14, BLK
 120VAC: #16, RED
 24VAC: #16, RED
 NEUTRAL: #16, WHT
 GROUND: GRN

CAUTION
 24VAC ONLY



WIRING DIAGRAMS — WITH OPTIONAL A.R.T.D., continued

6011750 — 240V, 3PH, 60 HZ

CB/FU TO BE SUPPLIED BY OTHERS
 SUPPLY BCPD = CB/FU 6AMPS MAX
 PANEL FLA = 3.7A
 SCCR = 5KA

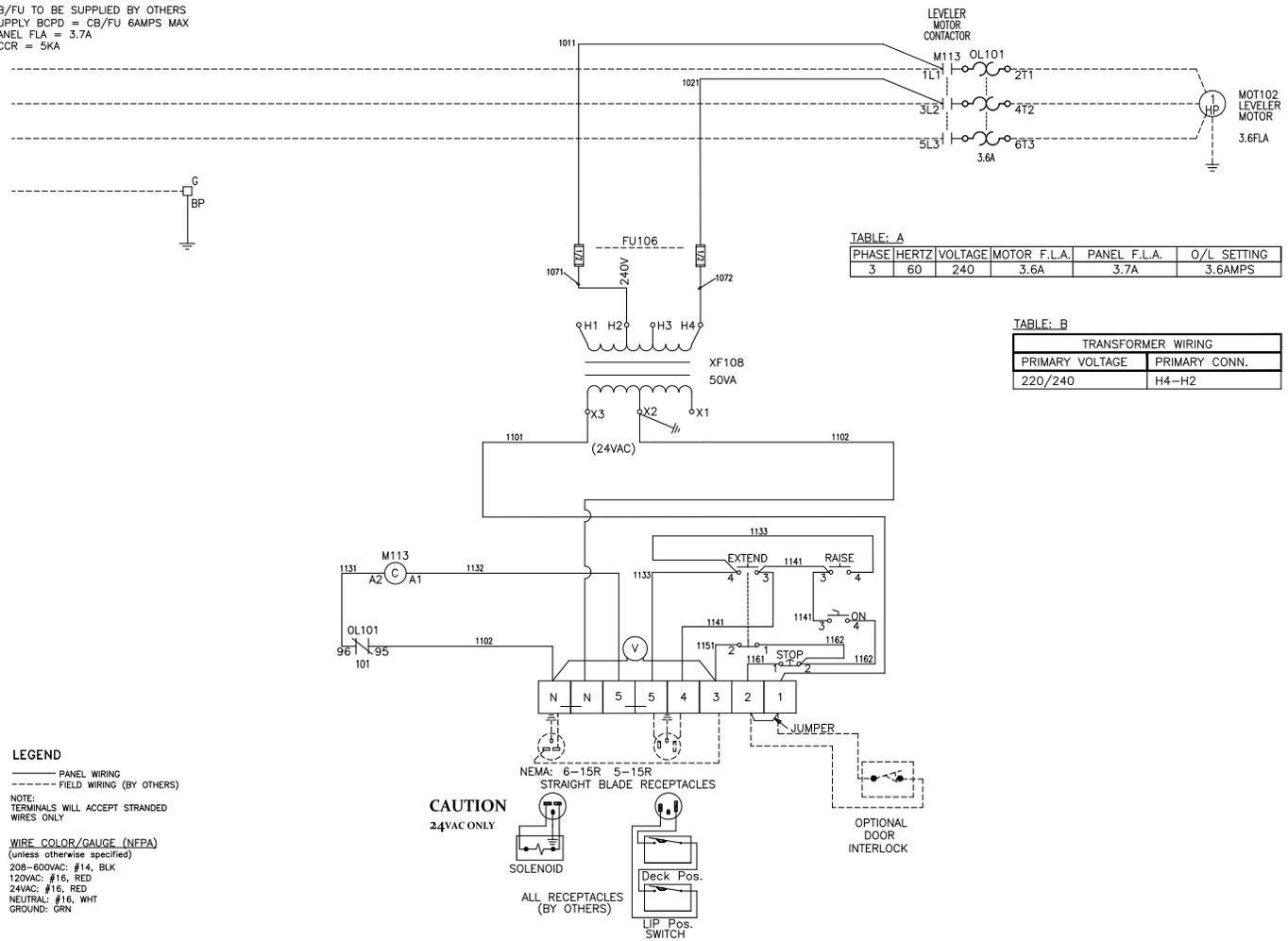


TABLE A

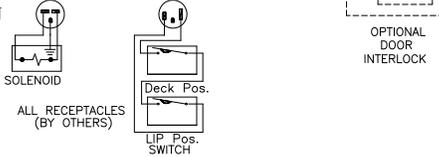
PHASE	HERTZ	VOLTAGE	MOTOR F.L.A.	PANEL F.L.A.	O/L SETTING
3	60	240	3.6A	3.7A	3.6AMPS

TABLE B

TRANSFORMER WIRING	
PRIMARY VOLTAGE	PRIMARY CONN.
220/240	H4-H2

LEGEND
 ——— PANEL WIRING
 - - - - - FIELD WIRING (BY OTHERS)
 NOTE:
 TERMINALS WILL ACCEPT STRANDED
 WIRES ONLY
WIRE COLOR/GAUGE (NFPA)
 (unless otherwise specified)
 208-500VAC: #14, BLK
 120VAC: #16, RED
 24VAC: #16, RED
 NEUTRAL: #16, WHI
 GROUND: 6RN

CAUTION
 24VAC ONLY



WIRING DIAGRAMS — WITH OPTIONAL A.R.T.D., continued

6011330 — 460/480V, 3PH, 60 HZ

CB/FU TO BE SUPPLIED BY OTHERS
 SUPPLY BCPD = CB/FU 3AMP MAX
 PANEL FLA = 1.9AMPS
 SCCR = 5KA

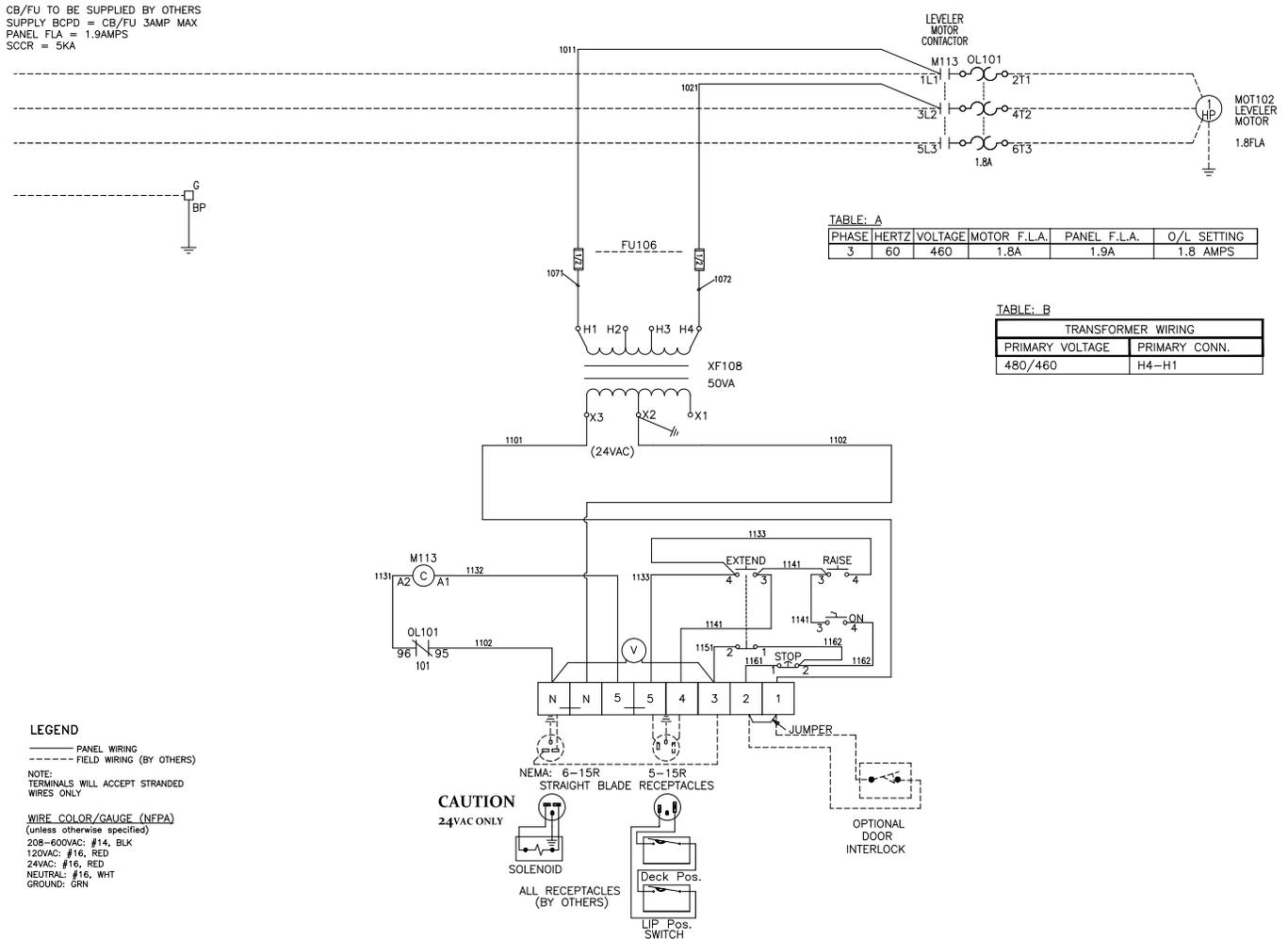


TABLE: A

PHASE	HERTZ	VOLTAGE	MOTOR F.L.A.	PANEL F.L.A.	O/L SETTING
3	60	460	1.8A	1.9A	1.8 AMPS

TABLE: B

TRANSFORMER WIRING	
PRIMARY VOLTAGE	PRIMARY CONN.
480/460	H4-H1

LEGEND

— PANEL WIRING
 - - - FIELD WIRING (BY OTHERS)

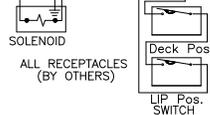
NOTE:
 TERMINALS WILL ACCEPT STRANDED
 WIRES ONLY

WIRE COLOR/GAUGE (NFPA)

(unless otherwise specified)
 208-600VAC: #14, BLK
 120VAC: #16, RED
 24VAC: #16, RED
 NEUTRAL: #16, WHT
 GROUND: GRN

CAUTION

24VAC ONLY



OPTIONAL
 DOOR
 INTERLOCK

WIRING DIAGRAMS — WITH OPTIONAL A.R.T.D., continued

6011654 — 575V, 3PH, 60 HZ

CB/FU TO BE SUPPLIED BY OTHERS
 SUPPLY BCPD = CB/FU 3AMP MAX
 PANEL FLA = 1.7A
 SCCR = 5KA

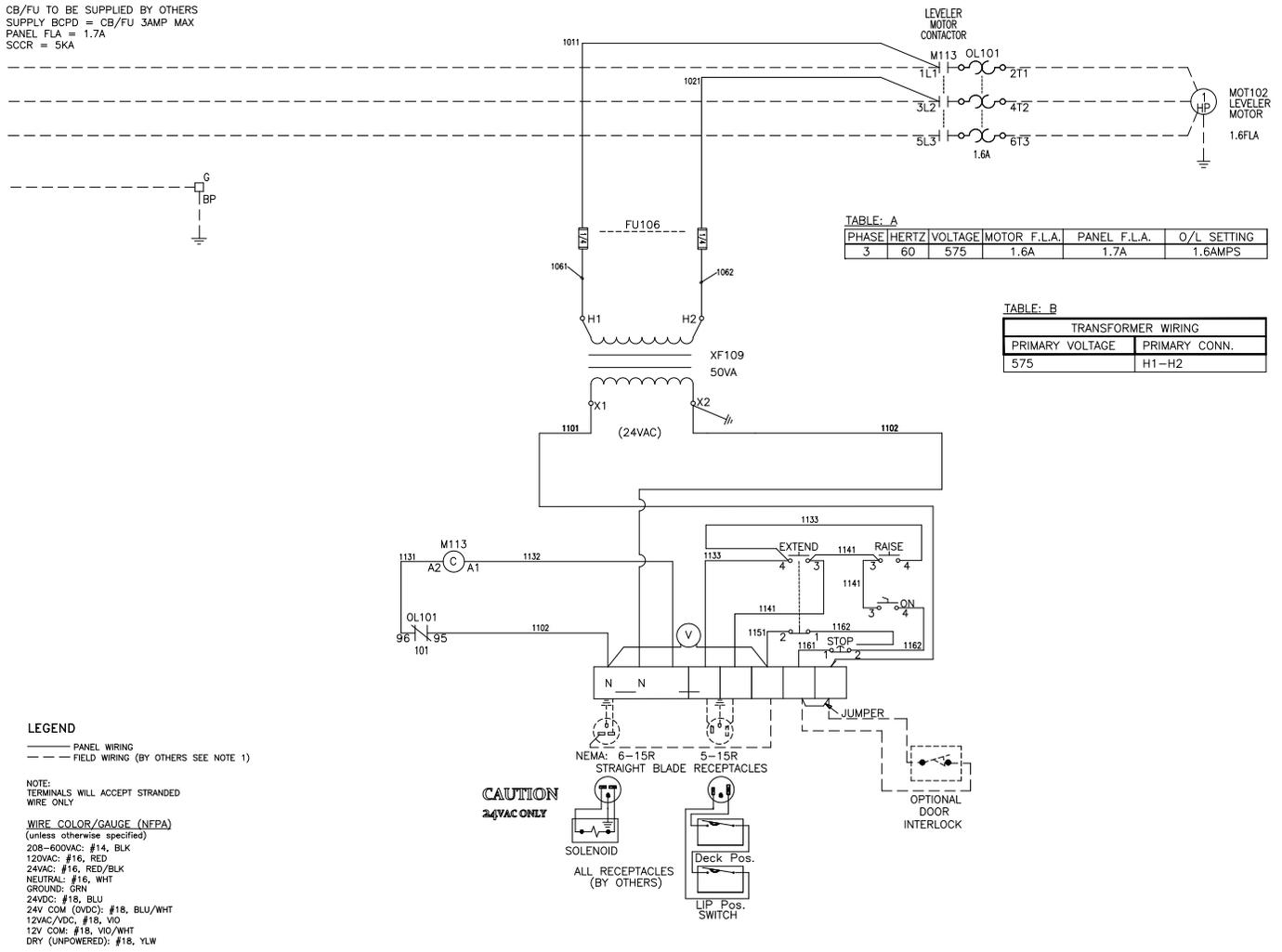


TABLE: A

PHASE	HERTZ	VOLTAGE	MOTOR F.L.A.	PANEL F.L.A.	O/L SETTING
3	60	575	1.6A	1.7A	1.6AMPS

TABLE: B

TRANSFORMER WIRING	
PRIMARY VOLTAGE	PRIMARY CONN.
575	H1-H2

LEGEND

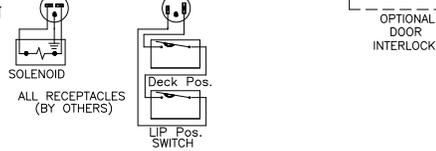
— PANEL WIRING
 - - - FIELD WIRING (BY OTHERS SEE NOTE 1)

NOTE:
 TERMINALS WILL ACCEPT STRANDED
 WIRE ONLY

WIRE COLOR/GAUGE (NFPA)
 (unless otherwise specified)

- 208-600VAC: #14, BLK
- 120VAC: #16, RED
- 24VAC: #16, RED/BLK
- NEUTRALE: #16, WHT
- GROUND: GRN
- 24VDC: #18, BLU
- 24V COM (0VDC): #18, BLU/WHT
- 12VAC/VDC: #18, VIO
- 12V COM: #18, VIO/WHT
- DRY (UNPOWERED): #18, YLW

CAUTION
 24VAC ONLY



1. FIELD TERMINAL WIRING: 90 DEGREE WIRE, MIN 16AWG FOR SIGNAL WIRING, MIN 14AWG FOR INCOMING POWER, SEE CHART IN PANEL FOR TORQUE REQUIREMENTS

DOCK LEVELERS WITH STANDARD THREE BUTTON CONTROL BOX

▲ WARNING

Before operating the dock leveler, read and follow Safety Practices on page 3.

Use of dock leveler restricted to trained operators. Follow procedures on placard posted near leveler.

DO NOT USE THE DOCK LEVELER IF IT LOOKS BROKEN, OR DOES NOT SEEM TO WORK RIGHT. Tell your supervisor it needs repair right away.

Before pressing button, ensure lip avoids contact with vehicle sides and cargo. If lip does not lower to vehicle bed, reposition vehicle.

Stay clear of leveler unless lip is supported by vehicle bed or the leveler is stored at dock level. Visually check that the lip is supported by the vehicle bed or the ramp is supported by both dock level supports before driving or walking on the ramp. Unsupported dock levelers can lower unexpectedly.

Before chocking wheels or engaging vehicle restraint, dump air from air ride suspensions and set parking brakes.

Always be certain that the vehicle wheels are chocked, or that the vehicle is locked in place by a vehicle restraining device and the brakes are set before loading or unloading. Vehicles pulling away from the dock unexpectedly can cause uncontrolled drop of the dock leveler which can result in death or serious injury.

The maximum uncontrolled drop of a Kelley® HK dock leveler from any position is 3 inches.

Always return the dock leveler to its dock level (stored) position before allowing vehicle to leave dock. If vehicle pulls away from dock before dock leveler is stored, the lip will fall to its pendant position and the ramp will drop. In addition, failure to properly store the dock leveler may leave the leveler in a position below the level of the floor. This condition may result in unexpected drop of personnel or material handling equipment and result in death or serious injury.

Failure to follow these instructions could result in death or serious injury to operators and/or bystanders.

INTRODUCTION

The KELLEY® HK Dock Leveler is designed to span and compensate for space and height differences between a loading dock and freight carrier to allow safe, efficient freight transfers.

The KELLEY® HK Dock Leveler with Three Button Control has a stop button control to stop downward movement of the ramp and shuts off the raise and extend push-button controls. A valve will not allow the ramp to lower. The stop button must be out during normal use.

Pushing and holding the raise push-button operates a hydraulic cylinder to raise the ramp. Releasing the raise push-button allows the ramp to lower.

When the dock leveler reaches its full raised position, a second hydraulic cylinder extends the dock leveler lip. The dock leveler with its lip extended settles onto the vehicle bed forming a bridge.

After loading, pushing and holding the push-button raises the ramp, and the extended lip lowers to its stored position. Releasing the push-button allows the dock leveler to lower to its level, stored position.

The Kelley® HK Dock Leveler with Three Button Control also has a lip extend push-button control to extend the dock leveler lip before the ramp reaches its full raised position. Releasing the extend push-button allows the ramp to lower.

With the dock leveler in its stored position, dock level support legs support the dock leveler ramp at a position level with the dock floor. The dock level support legs will retract when the dock leveler lip is extended, allowing the ramp and lip to lower onto and follow the vehicle bed up and down as loads are moved across the dock leveler and vehicle.

STANDARD OPERATION

⚠ WARNING

Do not operate the dock leveler when anyone is on or in front of it. Stay clear of the dock leveler when it is moving. Do not walk on dock leveler or lip until the lip is fully extended and supported by the vehicle bed. Never use a fork truck or other material handling equipment to lower the ramp and lip sections. Do not operate equipment on or move loads over dock leveler when “STOP” button is pushed in.

1. Do not operate the dock leveler until a vehicle is in position against the dock bumpers.
2. Tell vehicle driver “Your vehicle must stay at the dock.”
3. Chock or hitch vehicle.
4. Pull “STOP” button out. (Pushing “STOP” button in at any time stops movement of the ramp.)
5. If necessary, remove end loads with the ramp in the dock level (stored) position. See Fig. 24.

NOTE:

If the vehicle to be serviced is below dock level, see operating instructions for Below Dock Control (BDC) on page 25.

6. To extend the dock leveler lip into the vehicle:
 - 6.1 Pull the “STOP” button out. See Fig. 25.

NOTE:

Pushing “STOP” button in at any time stops movement of ramp.

- 6.2 Push and hold the “RAISE” button. The ramp will rise and the lip will extend once the ramp reaches the highest position. To extend the lip before the ramp reaches its highest position, push and hold the “EXTEND” button after lip edge is above vehicle bed. Release button when lip has extended. See Fig. 25.
- 6.3 Release the “RAISE” button once the lip is fully extended.
- 6.4 Ramp and lip will lower until the lip rests on the vehicle bed. See Fig. 26.

Fig. 24

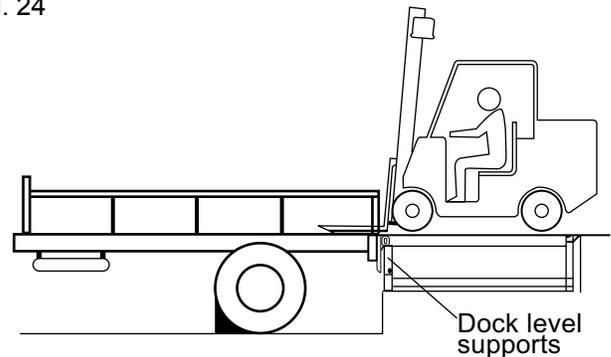


Fig. 25

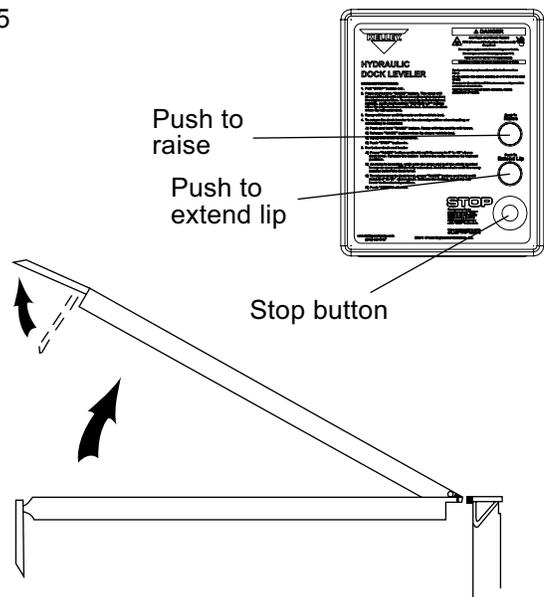
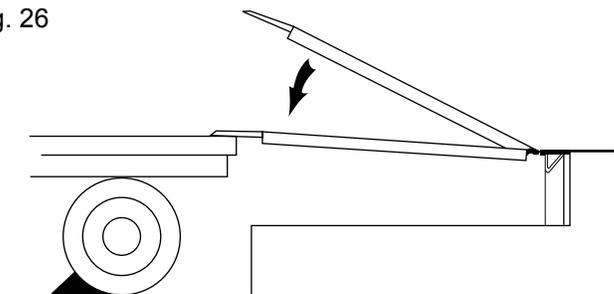


Fig. 26



STANDARD OPERATION, continued

7. Proceed with loading or unloading.
8. To return the dock leveler to the stored position when loading or unloading is complete, or to load end loads:
 - 8.1 Push and hold the “RAISE” button. The ramp will rise and the lip will lower.
 - 8.2 Release the “RAISE” button when the lip clears the vehicle bed. The ramp will lower to the dock level (stored) position.
 - 8.3 Check that the lip is not extended and the ramp is supported by both dock level supports before driving or walking on the ramp. Ramp should be level with dock floor. See Fig. 28.
 - 8.4 Push “STOP” button in.
9. Unchock or release vehicle.
10. Tell vehicle driver “Your vehicle may now leave the dock.”

BELOW DOCK CONTROL (BDC)

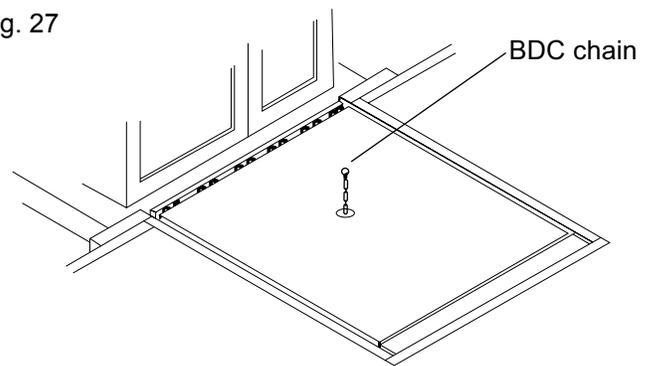
To lower the ramp without extending the lip for end loading below dock level:

1. Pull the “STOP” button out.
2. Press the “RAISE” button and hold it until the ramp is 6" to 12" above dock level. Release the “RAISE” button before the ramp reaches its highest position.
3. As ramp is lowering, walk onto the ramp and pull the BDC chain located in the middle of the ramp until it is fully extended. Hold the chain until the ramp passes below dock level. See Fig. 27.
4. Release the BDC chain.

▲ WARNING

Before allowing vehicle to leave always return the dock leveler to its dock level (stored) position with the dock level support legs supported by the front dock level supports. Failure to do so may leave the dock leveler in a position below the level of the dock floor. This condition may result in unexpected drop of personnel or material handling equipment and result in death or serious injury.

Fig. 27



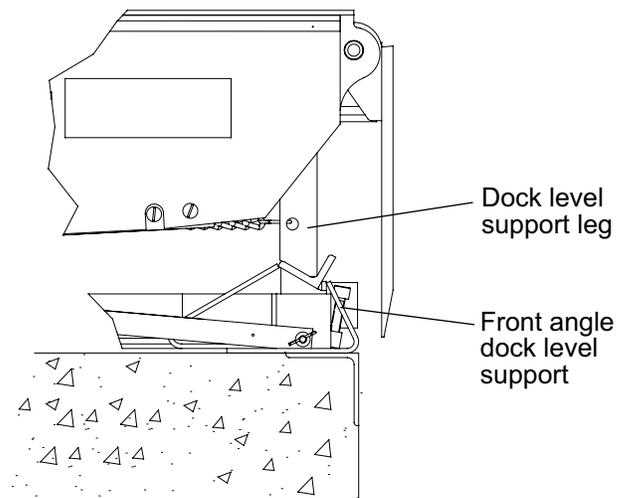
STANDARD OPERATION

5. Load or unload end loads.
6. When loading or unloading is complete, return the dock leveler to the stored position.
 - 6.1 Push and hold the “RAISE” button until the ramp is at least 4” above dock level.
 - 6.2 Release the “RAISE” button before the ramp reaches its highest position. The ramp will lower to its stored position.
 - 6.3 Visually check that the lip is not extended and the ramp is supported by both dock level supports before driving or walking on the ramp. Ramp should be level with dock floor. See Fig. 28.
7. Push “STOP” button in.
8. Unchock or release vehicle.
9. Tell vehicle driver “Your vehicle may now leave the dock”.

▲ WARNING

Before allowing vehicle to leave always return the dock leveler to its dock level (stored) position with the dock level support legs supported by the front dock level supports. Failure to do so may leave the dock leveler in a position below the level of the dock floor. This condition may result in unexpected drop of personnel or material handling equipment and result in death or serious injury.

Fig. 28



DOCK LEVELERS WITH AUTO RETURN TO DOCK (A.R.T.D) OPTION

▲ WARNING

Before operating the dock leveler, read and follow Safety Practices on page 3.

Use of dock leveler restricted to trained operators. Follow procedures on placard posted near leveler.

DO NOT USE THE DOCK LEVELER IF IT LOOKS BROKEN, OR DOES NOT SEEM TO WORK RIGHT. Tell your supervisor it needs repair right away.

Before pressing button, ensure lip avoids contact with vehicle sides and cargo. If lip does not lower to vehicle bed, reposition vehicle.

Stay clear of leveler unless lip is supported by vehicle bed or the leveler is stored at dock level. Visually check that the lip is supported by the vehicle bed or the ramp is supported by both dock level supports before driving or walking on the ramp. Unsupported dock levelers can lower unexpectedly.

Before chocking wheels or engaging vehicle restraint, dump air from air ride suspensions and set parking brakes.

Always be certain that the vehicle wheels are chocked, or that the vehicle is locked in place by a vehicle restraining device and the brakes are set before loading or unloading. Vehicles pulling away from the dock unexpectedly can cause uncontrolled drop of the dock leveler which can result in death or serious injury.

The maximum uncontrolled drop of a Kelley® HK dock leveler from any position is 3 inches.

Always return the dock leveler to its dock level (stored) position before allowing vehicle to leave dock. If vehicle pulls away from dock before dock leveler is stored, the lip will fall to its pendant position and the ramp will drop. In addition, failure to properly store the dock leveler may leave the leveler in a position below the level of the floor. This condition may result in unexpected drop of personnel or material handling equipment and result in death or serious injury.

Failure to follow these instructions could result in death or serious injury to operators and/or bystanders.

INTRODUCTION

The KELLEY® HK Dock Leveler is designed to span and compensate for space and height differences between a loading dock and freight carrier to allow safe, efficient freight transfers.

The KELLEY® HK Dock Leveler with Three Button Control and Auto-Return to Dock Option has a stop button control to stop downward movement of the ramp and shuts off the raise and extend push-button controls. A valve will not allow the ramp to lower. The stop button must be out during normal use. The Auto-Return to Dock Option has an “ON/OFF” switch to control the ramp during below dock end loading.

Pushing and holding the raise push-button operates a hydraulic cylinder to raise the ramp. Releasing the raise push-button allows the ramp to lower.

When the dock leveler reaches its full raised position, a second hydraulic cylinder extends the dock leveler lip. The dock leveler with its lip extended settles onto the vehicle bed forming a bridge.

After loading, pushing and holding the push-button raises the ramp, and the extended lip lowers to its stored position. Releasing the push-button allows the dock leveler to lower to its level, stored position.

The Kelley® HK Dock Leveler with Three Button Control also has a lip extend push-button control to extend the dock leveler lip before the ramp reaches its full raised position. Releasing the extend push-button allows the ramp to lower.

With the dock leveler in its stored position, dock level support legs support the dock leveler ramp at a position level with the dock floor. The dock level support legs will retract when the dock leveler lip is extended, allowing the ramp and lip to lower onto and follow the vehicle bed up and down as loads are moved across the dock leveler and vehicle.

OPERATION, continued

DOCK LEVELERS WITH AUTO RETURN TO DOCK (A.R.T.D) OPTION

▲ WARNING

Do not operate the dock leveler when anyone is on or in front of it. Stay clear of the dock leveler when it is moving. Do not walk on dock leveler or lip until the lip is fully extended and supported by the vehicle bed. Never use a fork truck or other material handling equipment to lower the ramp and lip sections.

1. Do not operate the dock leveler until a vehicle is in position against the dock bumpers.
2. Tell vehicle driver "Your vehicle must stay at the dock."
3. Chock or hitch vehicle.
4. Pull "STOP" button out. (Pushing "STOP" button in at any time stops movement of the ramp.)
5. If necessary, remove end loads with the ramp in the dock level (stored) position. See Fig. 29.

NOTE:

If the vehicle to be serviced is below dock level, see operating instructions for Below Dock Control (BDC) on page 30.

6. To extend the dock leveler lip into the vehicle:
 - 6.1 Pull the "STOP" button out and turn switch to "ON". See Fig. 30.

NOTE:

Pushing "STOP" button in at any time stops movement of ramp.

- 6.2 Push and hold the "RAISE" button. The ramp will rise and the lip will extend once the ramp reaches the highest position. To extend the lip before the ramp reaches its highest position, push and hold the "EXTEND LIP" button after lip edge is above vehicle bed. Release button when lip has extended. See Fig. 30.
- 6.3 Release the "RAISE" button once the lip is fully extended.
- 6.4 Ramp and lip will lower until the lip rests on the vehicle bed. See Fig. 31.

7. Proceed with loading or unloading.

Fig. 29

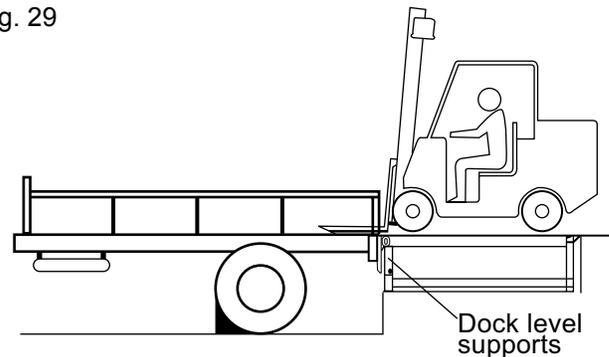


Fig. 30

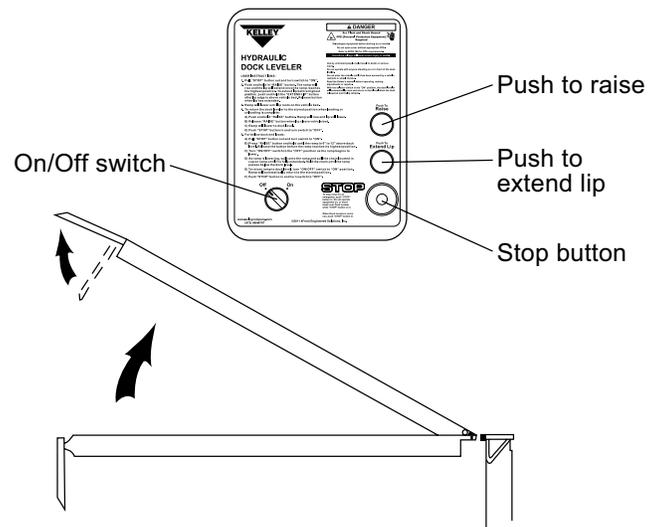
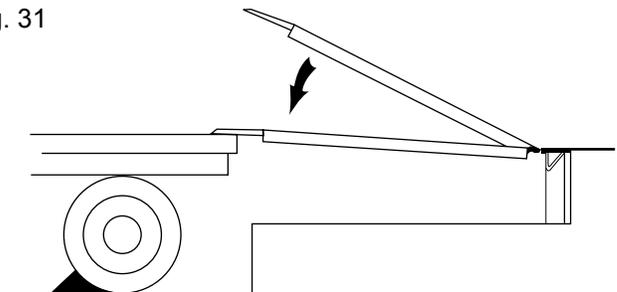


Fig. 31



8. To return the dock leveler to the stored position when loading or unloading is complete, or to load end loads:
 - 8.1 Push and hold the “RAISE” button. The ramp will rise and the lip will lower.
 - 8.2 Release the “RAISE” button when the lip clears the vehicle bed. The ramp will lower to the dock level (stored) position.
 - 8.3 Check that the lip is not extended and the ramp is supported by both dock level supports before driving or walking on the ramp. Ramp should be level with dock floor. See Fig. 33.
 - 8.4 Push “STOP” button in and turn switch to "OFF".
9. Unchock or release vehicle.
10. Tell vehicle driver “Your vehicle may now leave the dock.”

▲ WARNING

Before allowing vehicle to leave always return the dock leveler to its dock level (stored) position with the dock level support legs supported by the front dock level supports. Failure to do so may leave the dock leveler in a position below the level of the dock floor. This condition may result in unexpected drop of personnel or material handling equipment and result in death or serious injury.

OPERATION, continued

BELOW DOCK CONTROL (BDC)

To lower the ramp without extending the lip for end loading below dock level:

1. Pull the "STOP" button out and turn the "ON/OFF" switch to the "ON" position.
2. Press the "RAISE" button and hold it until the ramp is 6" to 12" above dock level. Release the "RAISE" button before the ramp reaches its highest position.
3. Turn the "ON/OFF" switch to the "OFF" position as the ramp begins to lower.
4. As the ramp is lowering, walk onto the ramp and pull the BDC chain located in the middle of the ramp until it is fully extended. Hold the chain until the ramp passes below dock level. See Fig. 32.
5. Release the BDC chain.
6. Load or unload end loads.
7. When loading or unloading is complete, return the dock leveler to the stored position. Turn the "ON/OFF" switch to the "ON" position. The dock leveler will automatically return to the stored position.
8. Visually check that the lip is not extended and the ramp is supported by both dock level supports before driving or walking on the ramp. Ramp should be level with dock floor. See Fig. 33.
9. Push "STOP" button in and turn switch to "OFF".
10. Unchock or release vehicle.
11. Tell vehicle driver "Your vehicle may now leave the dock".

⚠ WARNING

Before allowing vehicle to leave always return the dock leveler to its dock level (stored) position with the dock level support legs supported by the front dock level supports. Failure to do so may leave the dock leveler in a position below the level of the dock floor. This condition may result in unexpected drop of personnel or material handling equipment and result in death or serious injury.

Fig. 32

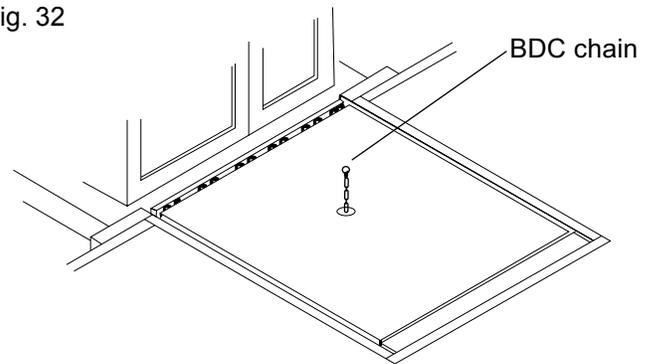
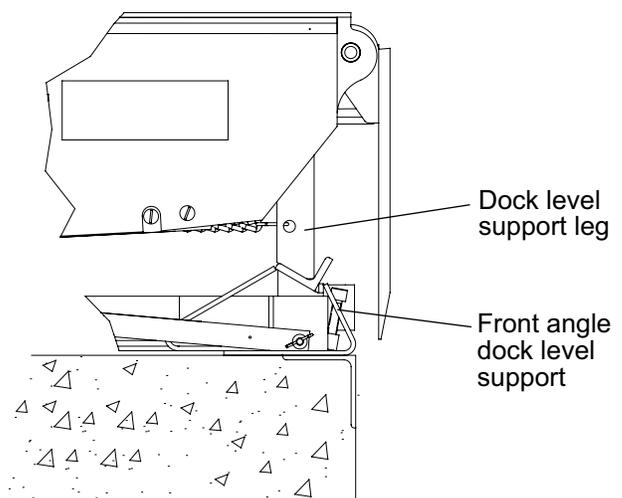


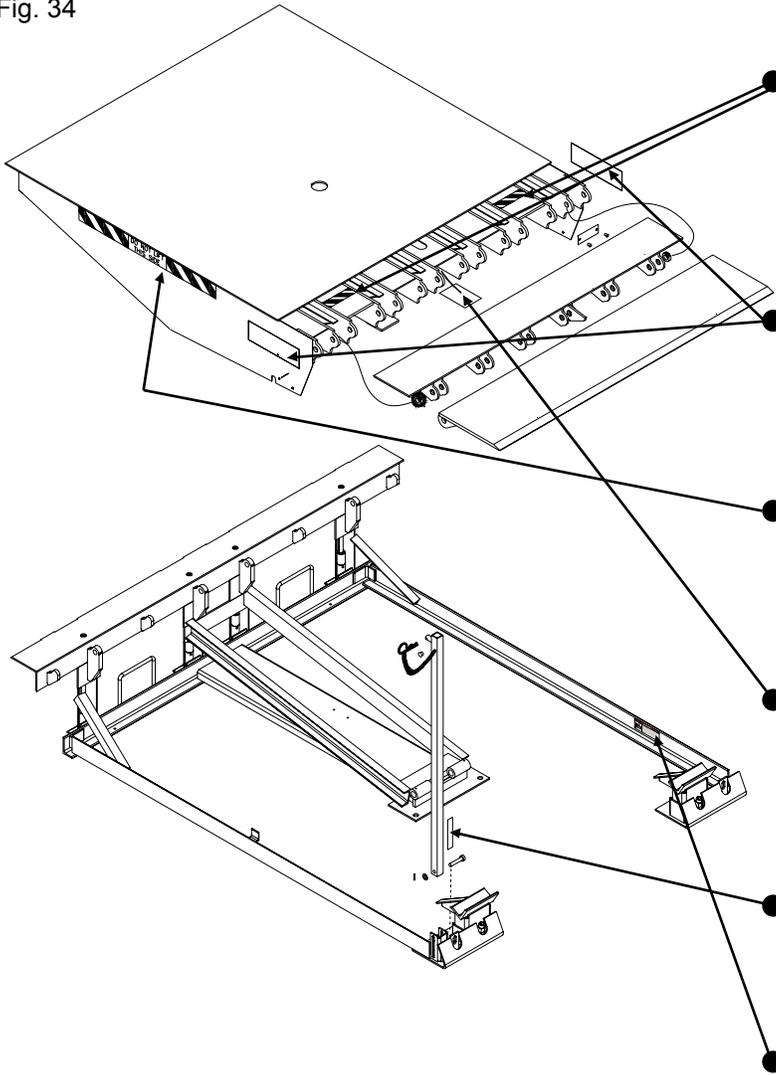
Fig. 33



PLANNED MAINTENANCE

Every 90 days (quarterly) inspect all safety labels and tags to ensure they are on the dock leveler and are easily legible. If any are missing or require replacement, please call your local Kelley distributor.

Fig. 34



6008554 (x2)
(HK-S Model Only)



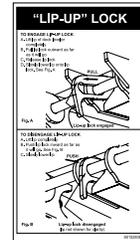
⚠ DANGER	
 <p>Unsupported dock leveler ramps can lower unexpectedly.</p> <p>Before allowing vehicles to leave the dock, always:</p> <ul style="list-style-type: none"> • Ensure no equipment, material or people are on dock leveler. • Return dock leveler to its stored position at dock level. <p><small>Failure to follow general instructions will result in death or serious injury.</small></p>	<p style="text-align: center;">SAFETY INSTRUCTIONS</p> <p>OPERATION:</p> <ol style="list-style-type: none"> 1. Read and follow all instructions and warnings in user's manual. 2. Use of dock leveler restricted to trained operators. 3. Always check "LIP-UP" lock or stoppage indicator before opening dock leveler or beginning to load or unload. 4. Always use hand or equipment to move tires or lift. 5. Before actuating dock leveler: <ul style="list-style-type: none"> • Ensure truck is locked in against bumpers. • Remove any and all loads. • Check truck alignment to avoid lip interference. If lip does not meet in proper form, reposition vehicle. • Ensure truck bed supports extend to lip or leveler frame. • Support tires before driving on leveler. • Stay clear of hinges and front and sides of moving dock leveler. <p>MAINTENANCE SERVICE:</p> <ol style="list-style-type: none"> 1. Read and follow all instructions, warnings and maintenance procedures in user's manual. 2. Maintenance service of dock leveler restricted to trained operators. 3. Make repairs to driveway and dock floor to show service work in being performed. 4. CO-NO-LOCK™ pit under dock leveler is secured supported by maintenance strut. 5. If electrical powered turn off and use OSHA lockout/tagout procedures. <p style="text-align: right;"><small>Call 202-218-1000 for replacement placards, warning labels, or user's manual. 921-074</small></p>

6008485 (x2)



138-837 (x2)

6015283



 <p>CRUSH HAZARD Do not work under dock leveler unless this maintenance strut has been secured in the upright position. See user's manual for proper procedures.</p>	<p style="text-align: center;">⚠ DANGER</p> <p style="text-align: right;"><small>921-074E</small></p>
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921-074

921-070

 <p>CRUSH HAZARD DO NOT ENTER PIT unless dock leveler is securely supported by the maintenance strut. Place barriers on driveway and dock floor to indicate service work being performed. Failure to comply will result in death or serious injury. Refer to user's manual for proper maintenance procedures.</p>	<p style="text-align: center;">⚠ DANGER</p> <p style="text-align: right;"><small>921-070</small></p>
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6004009
(STANDARD)

6004010
(WITH ARTD)

<p style="text-align: center;">⚠ DANGER</p>	<p style="text-align: center;">OPERATIONS</p>

WARNING AND OPERATION PLACARD
(MOUNTED ON WALL NEAR LEVELER)

MAINTENANCE AND LUBRICATION

▲ DANGER

Be certain, before climbing into the dock leveler pit or doing any maintenance or repair under the dock leveler, that: 1) THE MAINTENANCE STRUT IS IN POSITION AND PINNED, LIP LOCK IS IN PLACE AND SUPPORTING THE LIP [see Fig. 37 on page 38] and 2) the power is disconnected and properly tagged or locked off.

▲ WARNING

Before servicing the dock leveler, read and follow the Safety Practices on page 3 and the Operation section of this manual.

Place barricades on the dock floor around the dock leveler pit and in the driveway in front of the pit while installing, maintaining or repairing the dock leveler.

NOTICE

Use only lubricants shown. Improper lubrication or adjustments may cause operational problems.

Check all labels every 90 days. See page 31 for location and part numbers. Replace if required.

Every 90 days inspect dock bumpers. Four inches (4") of bumper protection is required. Worn, torn, loose or missing bumpers must be replaced.

HYDRAULIC FLUID LEVEL

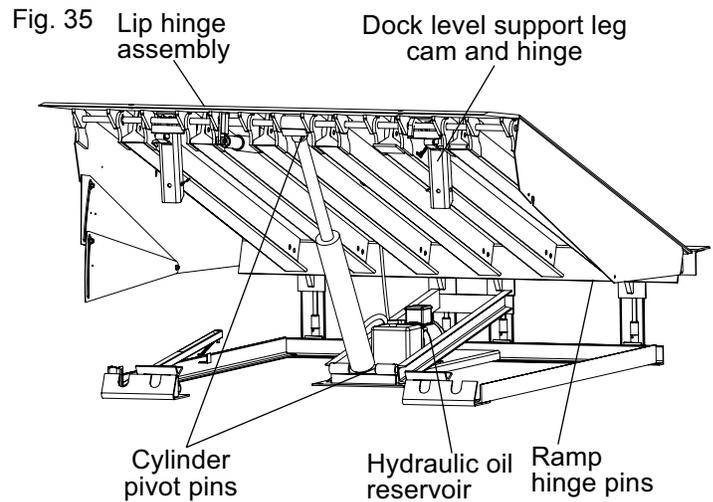
The hydraulic fluid level should be checked when the leveler is resting on the maintenance post with the lip pendant.

If the leveler is equipped with A.R.T.D., allow the deck to descend to the maintenance post and the lip to fall pendant, then push the Stop button.

MAINTENANCE AND LUBRICATION CHART

	Dock Level Support Leg Cam & Pivot Pins	Lip & Ramp Hinge Pins	Cylinder Pivot Pins	Dock Leveler Pit	Rear Support Legs
Lubrication	Every 90 Days SAE 30 On Pivot Pins & Grease Cam	Every 90 Days SAE 30	Every 90 Days SAE 30	Not Required	Not Required
Cleaning	As Required To Remove Debris	As Required To Remove Debris	As Required To Remove Debris	Every 90 Days or As Required To Remove Debris	As Required To Remove Debris

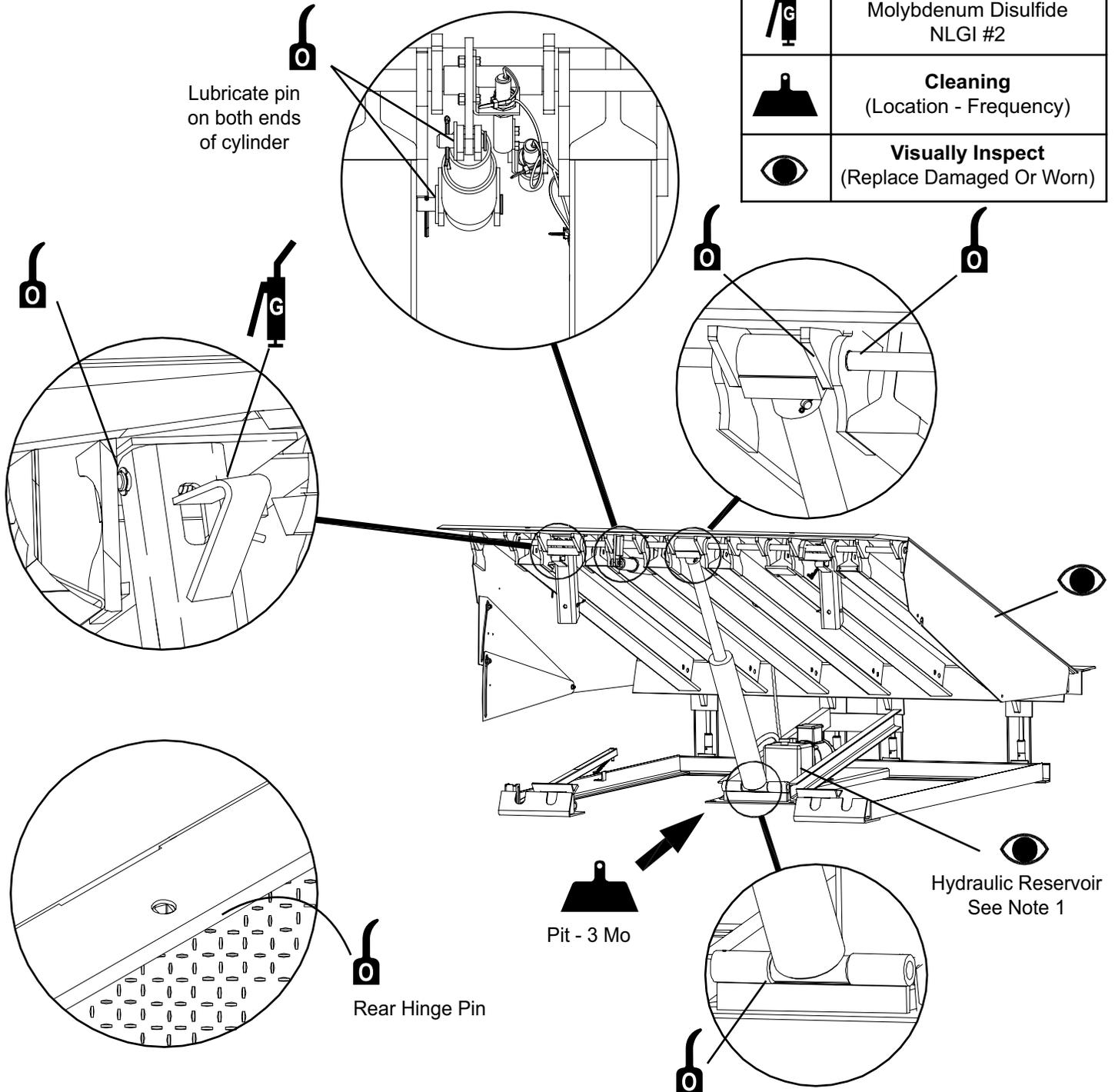
*Acceptable Hydraulic Oils: Mobil Aero HFA (49011), Exxon Univis Grade JI3, Texaco Aircraft Oil #1554, U.S. Oil Co., Inc. #ZFI-5606 (Low Temp.)



MAINTENANCE AND LUBRICATION, continued

Fig. 36

Legend	
Symbol	Description
	Lubricate - Oil Light Oil - SAE 30
	Lubricate - Grease Molybdenum Disulfide NLGI #2
	Cleaning (Location - Frequency)
	Visually Inspect (Replace Damaged Or Worn)



SERVICE TOOLS

⚠ WARNING

Before servicing the dock leveler, read and follow the Safety Practices on page 3, and the Operations Instruction section on pages 27-34 of this User's Manual.

⚠ DANGER

Be certain, before climbing into the dock leveler pit or doing any maintenance or repair under the dock leveler, that: 1) **THE MAINTENANCE STRUT IS IN POSITION AND PINNED, LIP LOCK IS IN PLACE AND SUPPORTING THE LIP** [see Fig. 37] and 2) the power is disconnected and properly tagged or locked off.

Hydraulic pressure or mechanical support must be maintained on the ramp and lip to hold them in the raised position until the maintenance strut and lip lock are in place. DO NOT WORK UNDER THE DOCK LEVELER RAMP OR LIP UNLESS THE MAINTENANCE STRUT IS IN PLACE AND PINNED, AND LIP LOCK IS IN PLACE AND SUPPORTING THE LIP.

MAINTENANCE STRUT

1. Using the push-button control station or a suitable lifting device, two people are required to perform the following steps to secure the leveler with the maintenance strut and lip lock.
 - a. One person must push and hold the raise button until dock leveler reaches its highest position and hold dock leveler in its highest position.
 - b. The second person positions the maintenance strut into the bracket located on the underside of the ramp assembly and pins it in place with hairpin clip. See Fig. 37 and the instruction label on maintenance strut.
 - c. The second person then locks the lip in extended position with the lip lock provided under the deck. Pull the lip lock outward as far as it will go. Release lip lock. See instruction label on dock leveler beam near lip lock.
 - d. The raise button may now be released.

LIP LOCK

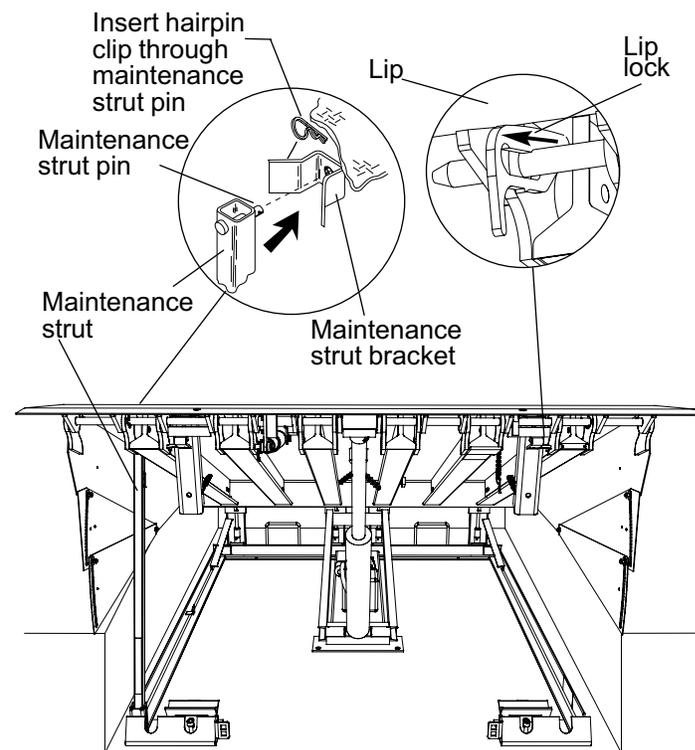
⚠ DANGER

The lip is free to move downward when it is released unless lip lock is in its support position.

DO NOT WORK UNDER THE DOCK LEVELER RAMP OR LIP UNLESS THE MAINTENANCE STRUT IS IN PLACE AND PINNED, AND LIP LOCK IS IN PLACE AND SUPPORTING THE LIP.

1. To engage lip lock, manually lift lip to fully raised position. Pull lip lock outward as far as it will go. Release lip lock. Slowly lower lip onto lip lock. See instruction label on dock leveler beam near lip lock.
2. To disengage lip lock, lift lip completely. Push lip lock inward as far as it will go. Slowly lower lip. See instruction label on dock leveler beam near lip lock.

Fig. 37



TROUBLESHOOTING GUIDE, continued

▲ DANGER

Be certain, before climbing into the dock leveler pit or doing any maintenance or repair under the dock leveler, that: 1) THE MAINTENANCE STRUT IS IN POSITION AND PINNED, LIP LOCK IS IN PLACE AND SUPPORTING THE LIP [see Fig. 37] and 2) the power is disconnected and properly tagged or locked off.

▲ WARNING

Before servicing the dock leveler, read and follow the Safety Practices on page 3 and the Operation section of this manual.

RAMP FAILS TO RAISE:

1. If motor fails to run:
 - 1.1 Check that all cords are tightly plugged into the pit receptacle.
 - 1.2 Check for electrical power to the control box.
 - 1.3 Check "ON/OFF" and "STOP" switches on control box.

▲ WARNING

Before doing any electrical work, make certain the power is disconnected and properly tagged or locked off.

- 1.4 Check for loose wires in control box.
 - 1.5 Check fuses. Replace if required.
 - 1.6 If problem can not be found, contact a qualified electrician.
2. If motor runs:
 - 2.1 Check hydraulic oil level in reservoir. Add if required. See Fig. 38 for proper levels and type of oil to be used.
 - 2.2 Check for loose hydraulic hose fittings or broken hoses. Repair or replace as required.
 - 2.3 Check for binding in ramp cylinder pivots.
 - 2.4 Check hydraulic bypass pressure and adjust as required. See Fig. 39.
 - 2.5 Check solenoid valve "STOP" function for proper operation.

LIP FAILS TO EXTEND:

1. Check for damage to lip cylinder and/or pivot pins.
2. Check for leakage in lip cylinder or hydraulic hose feeding cylinder.
3. Check for binding in lip hinge.

Fig. 38

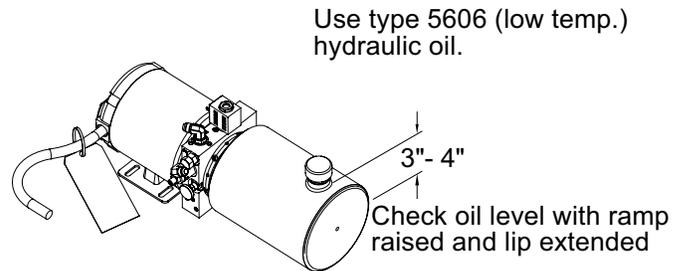
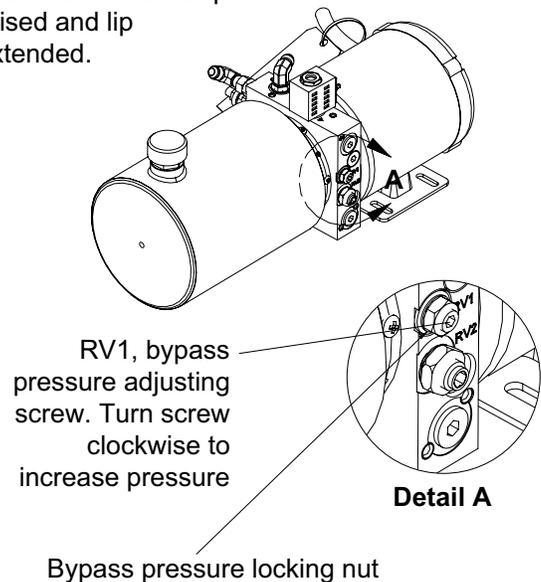


Fig. 39

Set bypass pressure at 2000 PSIG with ramp raised and lip extended.



TROUBLESHOOTING GUIDE, continued

4. Check hydraulic oil level in reservoir. Add if required. See Fig. 38.
5. Check hydraulic bypass pressure and adjust as required. See Fig. 39.
6. Check lip sequence valve pressure setting. See Fig. 40.

LIP EXTENDS BEFORE RAMP REACHES FULL ABOVE DOCK POSITION:

1. Check lip sequence valve pressure setting. See Fig. 40.
2. Check solenoid valve "STOP" function for proper operation.

LIP FAILS TO DROP TO THE PENDANT POSITION WHEN RAMP IS RAISED FROM VEHICLE:

1. Check for damage to lip cylinder and/or pivot pins.
2. Check for binding in lip hinge.
3. Check lip sequence valve pressure setting. See Fig. 40.

RAMP WILL NOT RETURN TO STORED POSITION FROM FULL BELOW DOCK POSITION:

(Applies to A.R.T.D. option only)

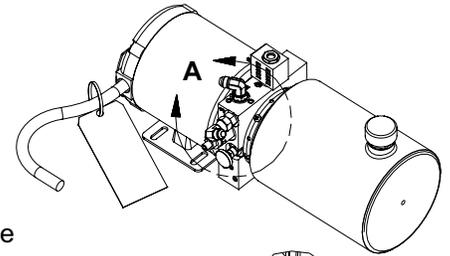
NOTE:

Ramp will not raise if a lift vehicle or other heavy material is left on top of the ramp.

1. Check to be sure "STOP" button is out.
2. Check to be sure the control box switch is in the "ON" position.
3. Check for electrical power to control box.
4. Check to assure that the dock leveler lip is falling to the full pendant position. Lip should be 1/2" to 1-1/2" from the face of the dock when the ramp is in the full below dock position. The return to dock switch is connected to the lip and will not operate if the lip remains in the full or partially extended position.
5. Check return to dock switch and mounting bracket. If hardware is loose or missing, the switches can move on the brackets. Switch contacts should be closed when dock leveler is full below dock and lip is pendant. See wiring diagrams on pages 15-22. See Fig. 41.

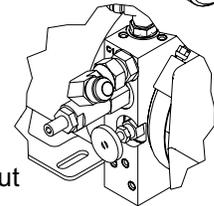
Fig. 40

Set lip sequence pressure at 1500 PSIG. Pressure gauge should read 1500 PSI before lip begins to extend



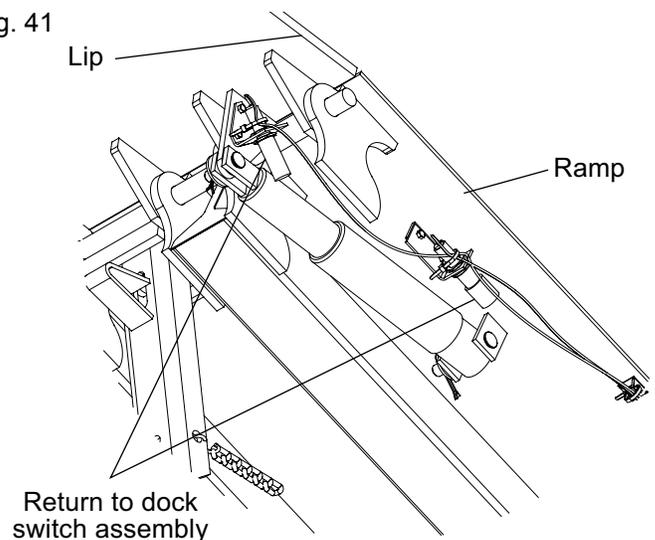
Lip sequence valve pressure adjusting screw. Turn screw clockwise to increase pressure.

Sequence valve locking nut



Detail A

Fig. 41



TROUBLESHOOTING GUIDE, continued

NOTE:

Return to dock level switch should turn off pump/motor when ramp reaches approximately 4" to 6" above dock level.

ARTD PROXIMITY SWITCH ADJUSTMENT

The ARTD function returns the ramp to the stored position when the deck lowers to the full below dock position, the lip is pendant and the "ON/OFF" switch on the control panel is in the **ON** position.

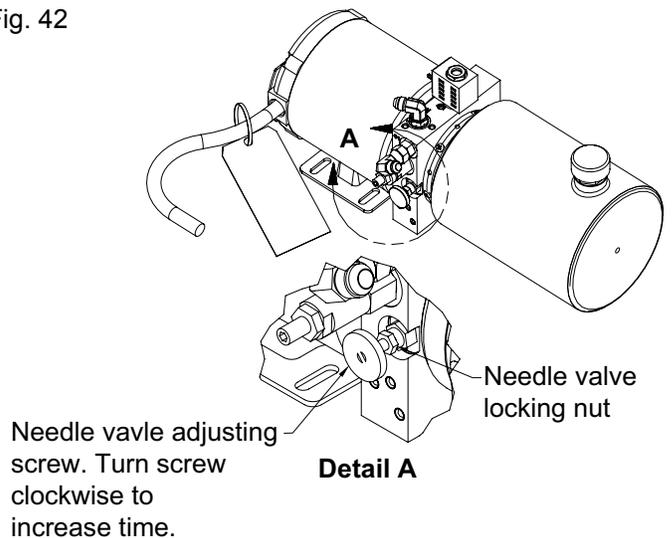
The brackets holding the proximity switches must be tightly bolted to the lip lifter and deck mounting plate when in operation. The angle of the lip lifter sensor is fixed and is not adjustable. The angle of the deck position switch is adjustable to control how high the ramp rises when returning to the stored position.

1. In order to adjust the ARTD function, loosen the nuts on the proximity switch on the deck bracket to change the angle of the sensor. Tilting the cap end of the sensor downward will stop the upward motion of the deck at a lower angle. Tilting the cap end of the sensor up will cause the upward motion of the deck to stop at a higher angle.
2. The angle of the deck sensor needs to be adjusted such that the deck raises up high enough for the dock level support legs to swing back into the vertical support position and clear the frame pedestals – approximately 4-6" above dock. Once the dock level support legs have cleared the frame pedestals the pump/motor should switch off and the ramp will return to the stored position.
3. If the ramp rises and falls repeatedly when storing, the cap end of the switch needs to be tilted slightly downward from its position.

RAMP LOCK DURING DOWNWARD TRAVEL:

1. Check solenoid valve "STOP" function for proper operation.
2. Check for debris in pit which may be restricting downward travel.
3. Downward speed of the ramp is controlled by a needle valve located in the pump/motor. Turn valve in to eliminate locking. See Fig. 42. See chart on page 43 for amount of time dock leveler should move from its fully raised position to full below dock position.

Fig. 42



TROUBLESHOOTING GUIDE, continued

NOTE:

Do not adjust needle valve more than 1/4 turn. Test operation. Readjust turning valve a maximum of 1/4 turn between testing. During testing DO NOT turn more than four (4) 1/4 turns.

DOCK LEVEL SUPPORTS WILL NOT RETRACT FOR BELOW DOCK OPERATION:

1. Check for broken chain to dock level support legs. See Fig. 43.
2. Check connection of dock level control chain to the dock level support legs. See Fig. 43.
3. Check for binding of dock level control chain. See Fig. 43.
4. Check for binding in dock level support legs.
5. Check length of below dock control chain. Adjust chain so dock level support legs are retracted as shown in Fig. 43.

DOCK LEVEL SUPPORT LEGS WILL NOT SWING FULLY FORWARD:

NOTE:

Lip must be pendant.

1. Check for binding or debris which may be restricting leg.
2. Check below dock control chains to ensure chain has enough slack to allow leg to swing forward. Adjust as required. See Fig. 43.

LIP PLATE WILL NOT STAY OUT/FALLS AS LEVELER IS LOWERING:

1. Pilot operated check valve (PC2) may not be closing. Remove and inspect for foreign matter. Clean as required. See Fig 44.

Fig. 43

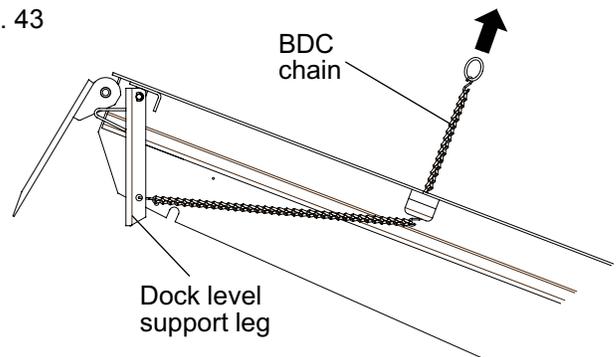
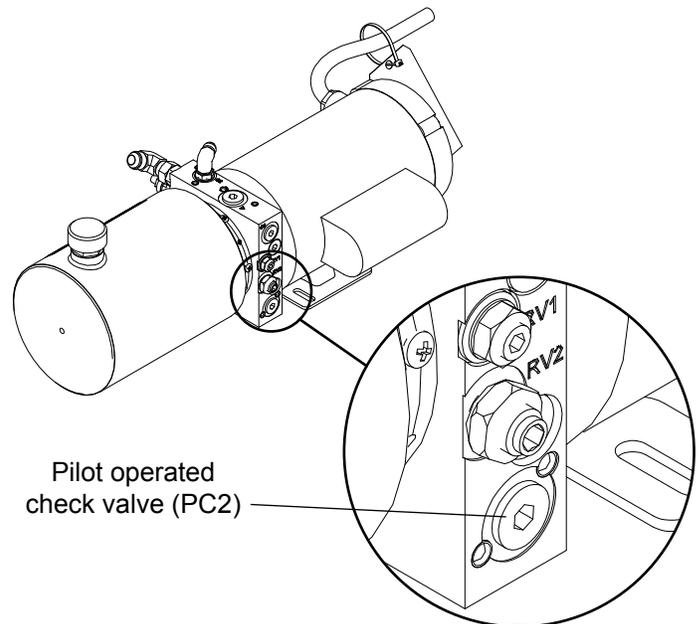
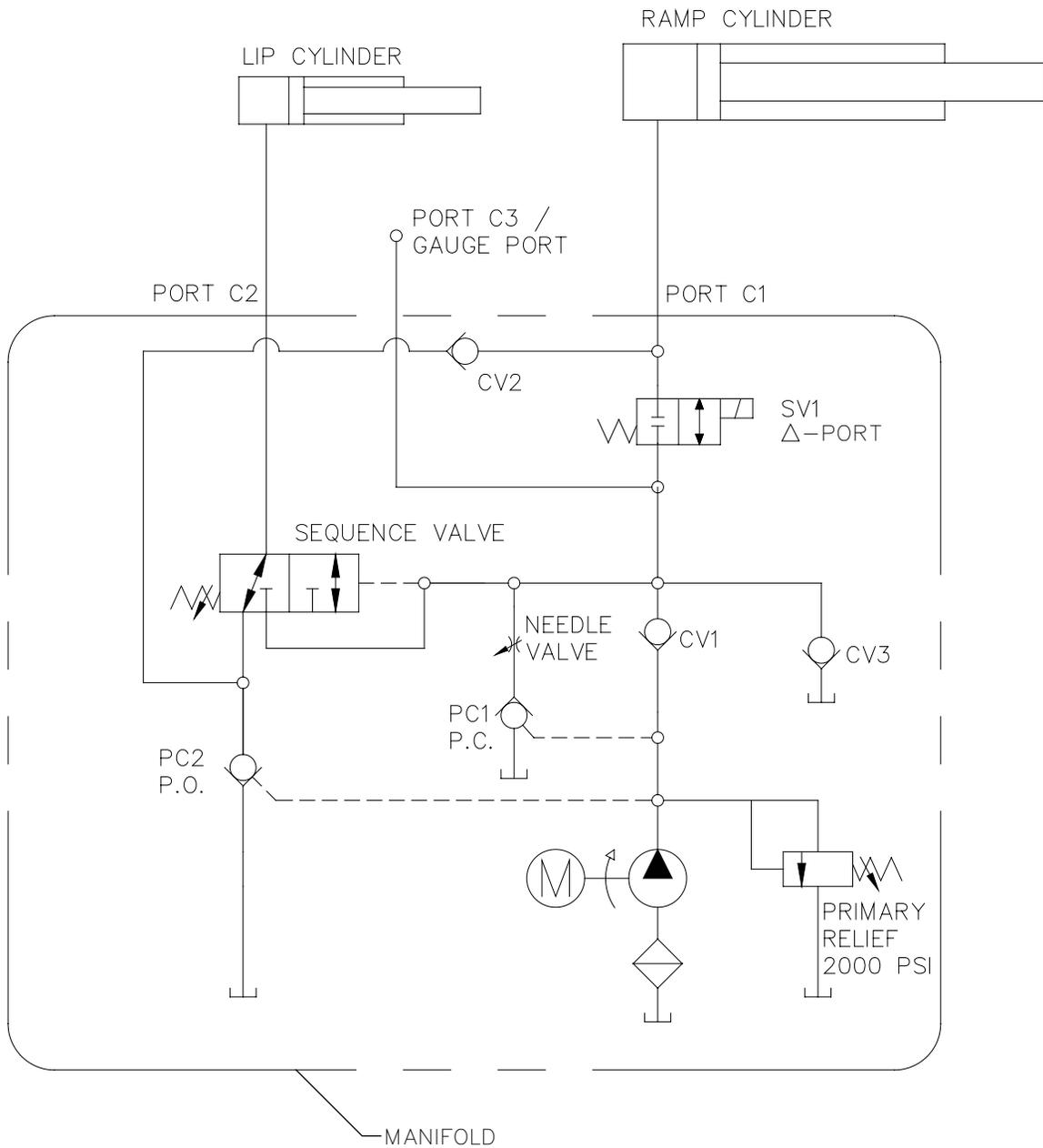


Fig. 44



HYDRAULIC DIAGRAM

Fig. 45



PARTS REPLACEMENT

CONTROL BOX TRANSFORMER — 3 PHASE ONLY

1. When replacing the transformer make sure jumper wires are installed per wiring diagrams, for appropriate phase and voltage.

HYDRAULIC OIL HOSES

1. When removing hydraulic oil hose(s) remove from motor/pump assembly first then from cylinder assembly.
2. When installing hydraulic oil hose(s) attach to cylinder first, making sure O-ring is in place, then attach to pump/motor assembly.

▲ DANGER

Be certain, before climbing into the dock leveler pit or doing any maintenance or repair under the dock leveler, that: 1) THE MAINTENANCE STRUT IS IN POSITION AND PINNED, LIP LOCK IS IN PLACE AND SUPPORTING THE LIP [see Fig. 37 on page 38] and 2) the power is disconnected and properly tagged or locked off.

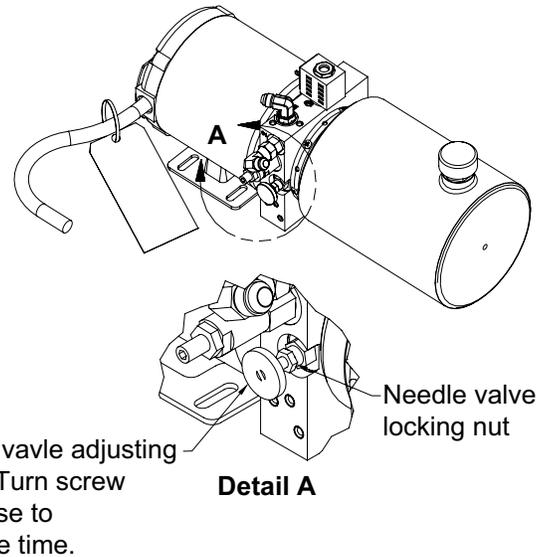
After replacing hose and/or motor pump assembly, run pump/motor at least four (4) times with the maintenance strut and lip lock in place. This is required to remove air from the system. Check oil level and add oil if required. Use extreme care when removing maintenance strut and lip lock. Ramp and lip could move down rapidly if air remains in the system. Run dock leveler four (4) times through the complete operating cycle before placing dock leveler into service.

MOTOR/PUMP ASSEMBLY

1. To set the downward speed of the ramp:
 - 1.1 Loosen needle valve locking nut. See Fig. 46.
 - 1.2 Turn valve in 1/4 turn increments only. "IN" clockwise will increase time, "OUT" counterclockwise will decrease time. Tighten needle valve locking nut.
 - 1.3 Raise ramp and lip.
 - 1.4 Time ramp float down time. Ramp should lower to below dock stop per chart at right.
 - 1.5 Repeat 1.1 through 1.4 until correct.

Adjust valve "OUT" in 1/4 turn increments only to achieve proper lowering time.

Fig. 46



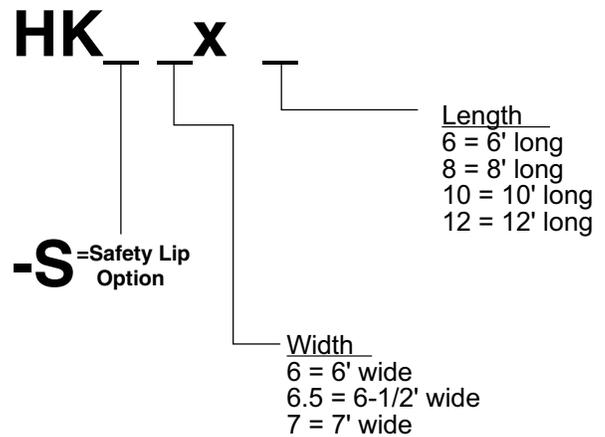
LENGTH OF DOCK LEVELER	PIT SIZE	seconds \pm 1 second fully raised to full below dock
6' & 8'	19"	12
10'	23"	18

PARTS LIST

- To determine the correct replacement parts to order for your adjustable dock leveler, you will need to know its model number, pit size, and capacity.
- The model number and capacity can be found on the dock leveler product label located on the fixed toe guard. The meaning of each digit in the model number is shown in Fig. 47.
- To determine the nominal size of your dock leveler, see Fig. 48.
- You will also need to measure the pit depth to determine pit size for correct replacement parts. See Fig. 48.

Example: HK6x8
 - 6' wide
 - 8' long

Fig. 47



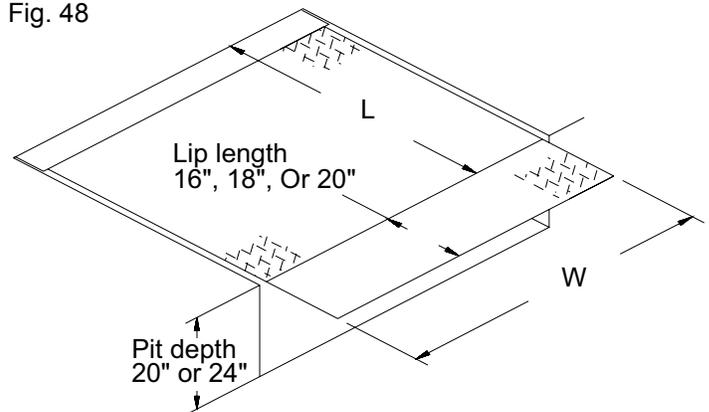
⚠ WARNING

To ensure proper function, durability and safety of the product, only replacement parts that do not interfere with the safe, normal operation of the product must be used. Incorporation of replacement parts or modifications that weaken the structural integrity of the product, or in any way alter the product from its normal working condition at the time of purchase from Kelley could result in product malfunction, breakdown, premature wear, death or serious injury.

NOTE:

Kelley DISCLAIMS all liability for failure to comply with this warning. WARRANTIES relating to MERCHANTABILITY and/or FITNESS FOR INTENDED USE are specifically DISCLAIMED in the event the purchaser fails to comply with this warning.

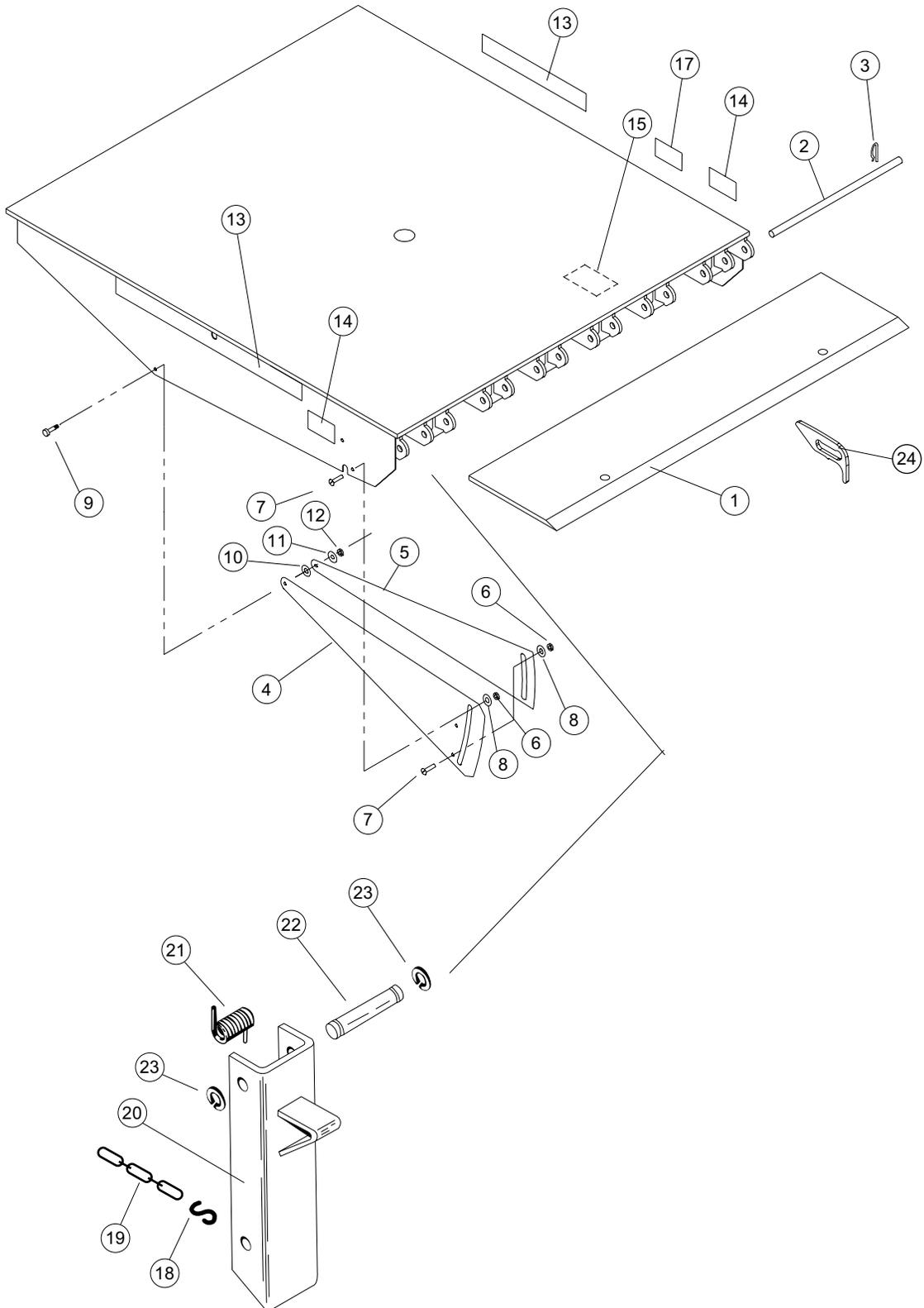
Fig. 48



NOMINAL SIZE WxL (FT.)	W (IN.)	L (IN.)
6x6	72	63
6x8	72	87
6x10	72	111
6.5x6	78	63
6.5x8	78	87
6.5x10	78	111
7x6	83	63
7x8	83	87
7x10	83	111

PARTS LIST, continued
MODEL HK RAMP, LIP, AND TOE GUARD ASSEMBLIES

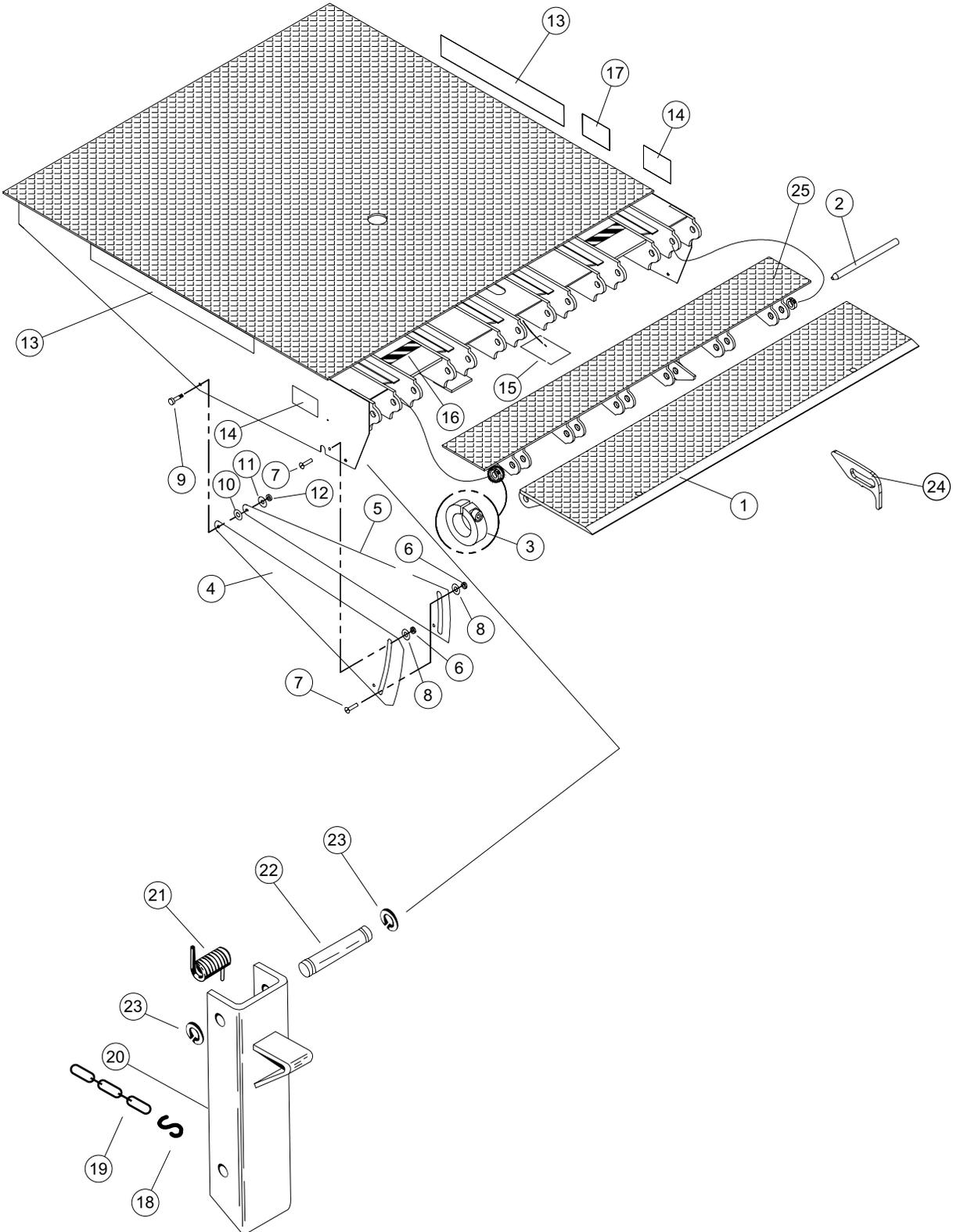
Fig. 49



PARTS LIST, continued

MODEL HK-S RAMP, LIP, AND TOE GUARD ASSEMBLIES

Fig. 50



PARTS LIST, continued
RAMP, LIP, AND TOE GUARD ASSEMBLIES

Item	Quantity	Description	Model HK	Model HK-S
1	1	LIP, 6FT WIDE, 30K AND 35K CAPACITY		
		16" x 6' w. 4 Degree BEND	711-858	—
		16" x 6' w. 7 Degree BEND	711-857	—
		18" x 6' w. 4 Degree BEND	711-860	—
		18" x 6' w. 7 Degree BEND	711-859	—
		20" x 6' w. 4 Degree BEND	711-862	—
		20" x 6' w. 7 Degree BEND	711-861	—
		LIP, 6-1/2FT WIDE, 30K AND 35K CAPACITY		
		16" x 6-1/2' w. 4 Degree BEND	711-876	—
		16" x 6-1/2' w. 7 Degree BEND	711-875	—
		18" x 6-1/2' w. 4 Degree BEND	711-878	—
		18" x 6-1/2' w. 7 Degree BEND	711-877	—
		20" x 6-1/2' w. 4 Degree BEND	711-880	—
		20" x 6-1/2' w. 7 Degree BEND	711-879	—
		LIP, 7FT WIDE, 30K AND 35K CAPACITY		
		16" x 7' w. 4 Degree BEND	711-894	—
		16" x 7' w. 7 Degree BEND	711-893	—
		18" x 7' w. 4 Degree BEND	711-896	—
		18" x 7' w. 7 Degree BEND	711-895	—
		20" x 7' w. 4 Degree BEND	711-898	—
20" x 7' w. 7 Degree BEND	711-897	—		
LIP, 6FT WIDE- 40K, 45K, AND 50K CAPACITY				
16" x 6' w. 4 Degree BEND	711-864	711-864		
16" x 6' w. 7 Degree BEND	711-863	711-863		
18" x 6' w. 4 Degree BEND	711-866	711-866		
18" x 6' w. 7 Degree BEND	711-865	711-865		
20" x 6' w. 4 Degree BEND	711-868	711-868		
20" x 6' w. 7 Degree BEND	711-867	711-867		
LIP, 6-1/2FT WIDE- 40K, 45K, AND 50K CAPACITY				
16" x 6-1/2' w. 4 Degree BEND	711-882	711-882		
16" x 6-1/2' w. 7 Degree BEND	711-881	711-881		
18" x 6-1/2' w. 4 Degree BEND	711-884	711-884		
18" x 6-1/2' w. 7 Degree BEND	711-883	711-883		
20" x 6-1/2' w. 4 Degree BEND	711-886	711-886		
20" x 6-1/2' w. 7 Degree BEND	711-885	711-885		
LIP, 7FT WIDE- 40K, 45K, AND 50K CAPACITY				
16" x 7' w. 4 Degree BEND	711-900	711-900		
16" x 7' w. 7 Degree BEND	711-899	711-899		
18" x 7' w. 4 Degree BEND	711-902	711-902		
18" x 7' w. 7 Degree BEND	711-901	711-901		
20" x 7' w. 4 Degree BEND	711-904	711-904		
20" x 7' w. 7 Degree BEND	711-903	711-903		
2	2	LIP SHAFT		
		6' w. Dock Leveler	712-957	713-786
		6-1/2' w. Dock Leveler	712-958	713-787
		7' w. Dock Leveler	712-959	713-788
3	1	Retainer. Shaft - Hinge Pin	035-451	—
		Collar, Shaft - Hinge Pin	—	131-542

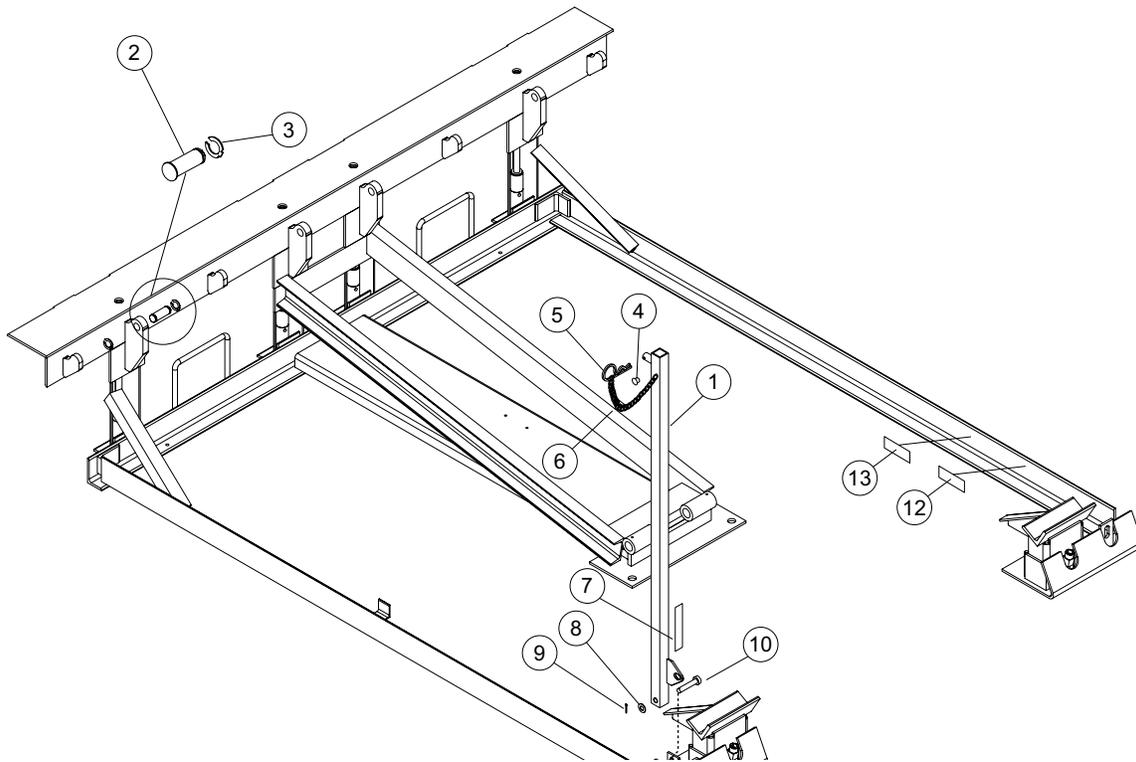
PARTS LIST, continued
RAMP, LIP, AND TOE GUARD ASSEMBLIES

Item	Quantity	Description	Part Number
4	2	TOE GUARD, MIDDLE SLIDING - 19" PIT 6' LG. DOCK LEVELER 8' LG. DOCK LEVELER TOE GUARD, MIDDLE SLIDING - 23" PIT 10' LG. DOCK LEVELER	155-554 155-555 155-557
5	2	TOE GUARD, BOTTOM SLIDING - 19" PIT 6' LG. DOCK LEVELER 8' LG. DOCK LEVELER TOE GUARD, BOTTOM SLIDING - 23" PIT 10' LG. DOCK LEVELER	155-554 155-556 155-557
6	A/R	NUT, LOCK, 3/8-16	000-253
7	A/R	SCR., TRUSS HD. 3/8-16 X 1	131-477
8	A/R	SPACER, TOE GUARD	152-878
9	2	SCREW, SHOULDER	131-455
10	A/R	WASHER, 3/8" FLAT	000-214
11	2	WASHER, 5/16" FLAT	000-055
12	2	NUT, 5/16-18 NYLOC	131-456
13	2	SAFETY STRIPE LABEL	138-837
14	2	WARNING LABEL	6008485
15	1	LIP LOCK LABEL	6015283
16	2	LABEL, SAFETY STRIPE MODEL HK-S ONLY	6008554
17	1	DECAL, KELLEY®	921-140
18	3	"S" HOOK	000-181
19	1	CHAIN, BELOW DOCK CONTROL — ALL 6' AND 8' LG. LEVELERS CHAIN, BELOW DOCK CONTROL — ALL 10' LG. LEVELERS	6003453 6003452
20	2 2	SUPPORT, DOCK LEVEL — HK SUPPORT, DOCK LEVEL — HKS	708-780 713-815
21	2	SPRING, TORSION	030-195
22	2	PIN, GROOVED 5/8" DIA. X 3-1/2	035-338
23	4	KLIPRING, EXT. 5/8"	049-060
24	1	LEVER, LIP LOCK	6015269
25	1	GUARD, SAFETY LIP - MODEL HK-S ONLY 6' W DOCK LEVELER 6-1/2' W DOCK LEVELER 7' W DOCK LEVELER	714-220 714-219 714-218

PARTS LIST, continued

SUBFRAME AND MAINTENANCE STRUT ASSEMBLIES

Fig. 51

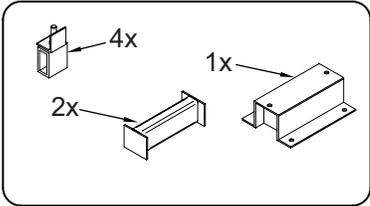
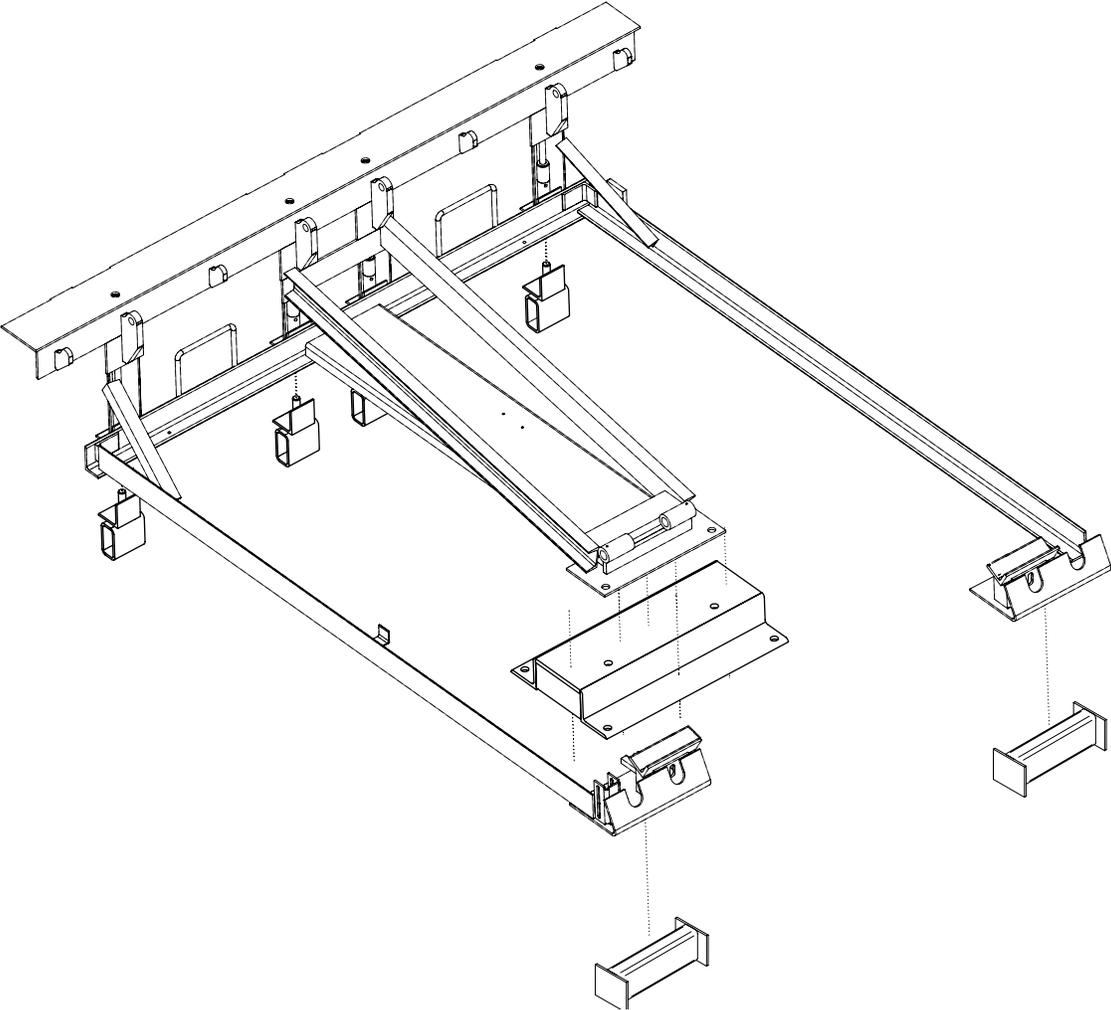


Item	Quantity	Description	Part Number
1	1	MAINTENANCE POST, 6' LG. DECK WITH 20" BACKFRAME MAINTENANCE POST, 6' LG. DECK WITH 24" BACKFRAME MAINTENANCE POST, 8' LG. DECK WITH 20" BACKFRAME MAINTENANCE POST, 8' LG. DECK WITH 24" BACKFRAME MAINTENANCE POST, 10' LG. DECK WITH 24" BACKFRAME	713-308 6013622 708-882 6013623 713-345
2	4	PIN, HINGE 6', 8', AND 10' LG. MODELS	6004128
3	A/R	RETAINER, SHAFT - HINGE PIN	236-110
4*	1	SCREW, DRIVE	000-518
5*	1	PIN, COTTER - HAIR	035-200
6*	1	CHAIN, SASH	032-195
7*	1	DECAL, MAINT. STRUT	921-074
8	1	WASHER, FLAT 3/8	000-214
9	1	PIN, COTTER	035-036
10	1	PIN, CLEVIS	035-051
11	1	DOCUMENTATION KIT, HK3B (STANDARD) MANUAL PLACARD DOCUMENTATION KIT, HK3B (ARTD OPTION) MANUAL PLACARD	184-474 6004754 6004009 184-475 6004754 6004010
12	1	DANGER LABEL — ENTERING PIT	921-070
13	1	SERIAL TAG	6009761

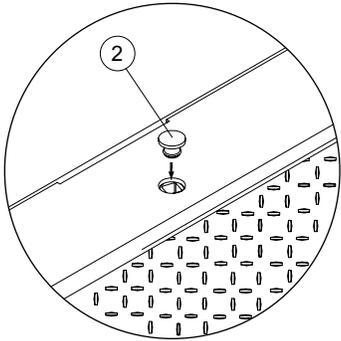
*Included in item 1.

PARTS LIST, continued
OPTIONAL SUBFRAME RISER KIT

Fig. 52



1. Field installed riser kit



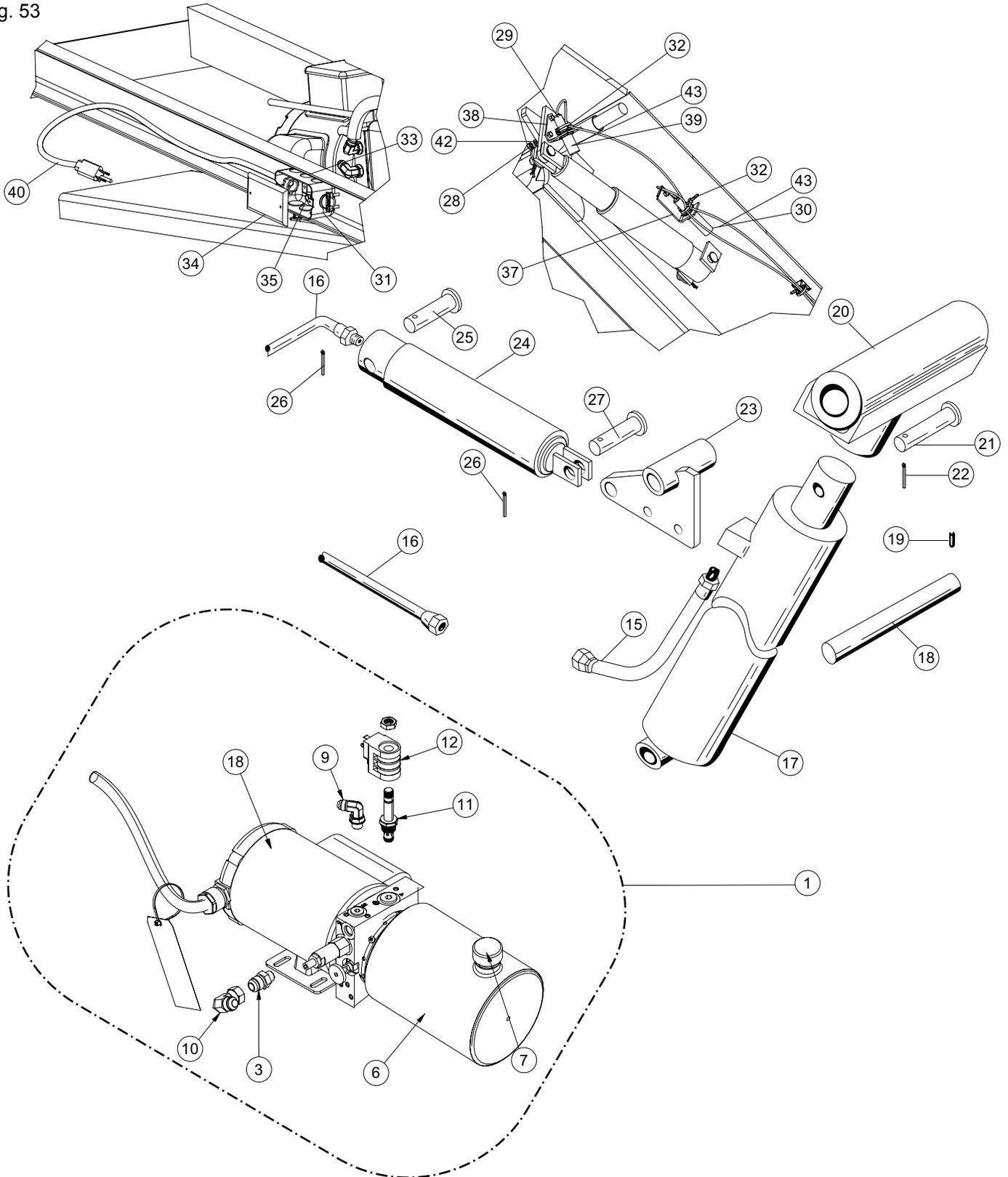
2. Rear angle cap plug

Item	Quantity	Description	Part Number
1	1	RISER KIT (FIELD INSTALLED)	6004654
2	4	REAR ANGLE CAP PLUGS (KELLEY) OPTIONAL	6004487

PARTS LIST, continued

HYDRAULIC COMPONENTS AND RETURN TO DOCK LEVEL SWITCH

Fig. 53



PARTS LIST, continued

HYDRAULIC COMPONENTS AND RETURN TO DOCK LEVEL SWITCH

Item	Quantity	Description	Part Number
1	1	MOTOR/PUMP UNIT (INCLUDES ITEMS 2-13 AND ITEMS 17, 18) 100-120V, 1 PH, 50/60 HZ 200-240V, 1 PH, 50/60 HZ 190-240V, 3 PH, 50/60 HZ 380-480V, 3 PH, 50/60 HZ 575V, 3 PH, 60 HZ 24V	6011436 6011437 6011438 6011439 6011440 6012006
2	1	LABEL, CAUTION 100-120V, 1 PH, 50/60 HZ 200-240V, 1 PH, 50/60 HZ 190-240V, 3 PH, 50/60 HZ 380-480V, 3 PH, 50/60 HZ 575V, 3 PH, 60 HZ 24V	155-988 155-989 156-059 156-060 156-192 6010601
3	1	ADAPTER FITTING 8 JIC MALE - 6SAE	6006640
4	1	SEQUENCE VALVE	6011696
5	1	DECAL, CAUTION	138-751
6	1	RESERVOIR, TANK KIT	6012632
7	1	FILLER CAP, BREATHER	6013207
8	1	NEEDLE VALVE	6011694
9	1	ELBOW, 90° 3/8" JIC - 6SAE	313214
10	1	ELBOW, 90° 1/2 JIC - 8JICF SWIVEL TO 8 JICM	6011446
11	1	SOLENOID VALVE, NC	313-569
12	1	COIL, SOLENOID 24VAC COIL, SOLENOID 125VAC	313-564 313-259
13	1	CORD SET W/PLUG	713-782
14	2	BOLT, HX HD TF 1/4-20X3/4	131-359
15	1	HOSE, HYD. RAMP CYL.	708-939
16	1	HOSE, HYD. LIP CYL.	708-940
17	1	CYLINDER, RAMP 6' LONG 8' LONG 10' LONG	713-250 713-296 713-373
18	1	PUMP UNIT, 120/208/240V, SINGLE PHASE PUMP UNIT, 208/240/480V, THREE PHASE PUMP UNIT, 575V, THREE PHASE PUMP UNIT, 24V	6012590 6012591 6012592 6012589

PARTS LIST, continued

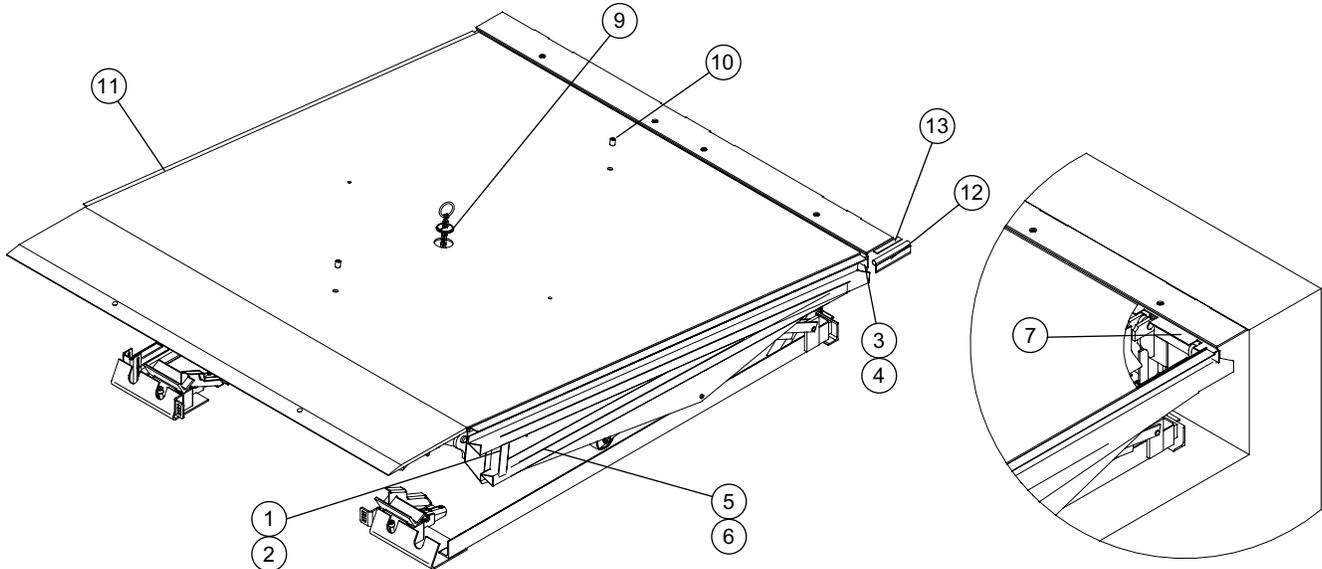
HYDRAULIC COMPONENTS AND RETURN TO DOCK LEVEL SWITCH

Item	Quantity	Description	Part Number
18	1	PIN, CYLINDER	709-409
19	2	PIN, ROLL	035-096
20	1	CLEVIS, CYLINDER	712-376
21	1	PIN, CLEVIS	035-039
22	1	PIN, COTTER	035-036
23	1	LIP LIFTER	712-377
24	1	CYLINDER, LIP	708-887
25	1	PIN, GROOVED, 3" Lg	700-050
26	2	Cotter pin	6001832
27	1	PIN, GROOVED, 1-1/8" Lg	700-049
28	4	HN-ANSI B18.2.2 - 1/4 - 20	214-161
29	2	AC INDUCT PROX SWITCH, N/O, 18 MM	625-040
30	1	CAP, ARTD	6008289
31	2	Wire Strain Relief	521-110
32	4	Cable Tie, Nylon - 8 1/4"	131-475
33	1	2" X 4" JUNCTION BOX	6008982
34	1	2" X 4" J BOX COVER	6008987
35	2	TEK #12-14 X 3/4" UNC Self Tapping Screw	215-702
36	2	ZIP TIE PANDUIT ANCHORS (not shown)	131-476
37	1	ARTD On Deck Bracket	6008286
38	1	ARTD On Lip Bracket	6008288
39	1	CAP, Lip switch	6000721
40	1	Cord - Molded Plug	712-027
41	3	Wire Nut (not shown)	161-011
42	4	LW 1/4 MED ZINC PLD BULK	234-281
43	2	BALL - Switch	416-115
44	1	ARTD PROXIMITY SWITCH ASSEMBLY (INCLUDES ITEMS 33-48)	6009078

PARTS LIST, continued

OPTIONAL ENERGY GUARD™ DOCK LEVELLER SEALING SYSTEM

Fig. 54



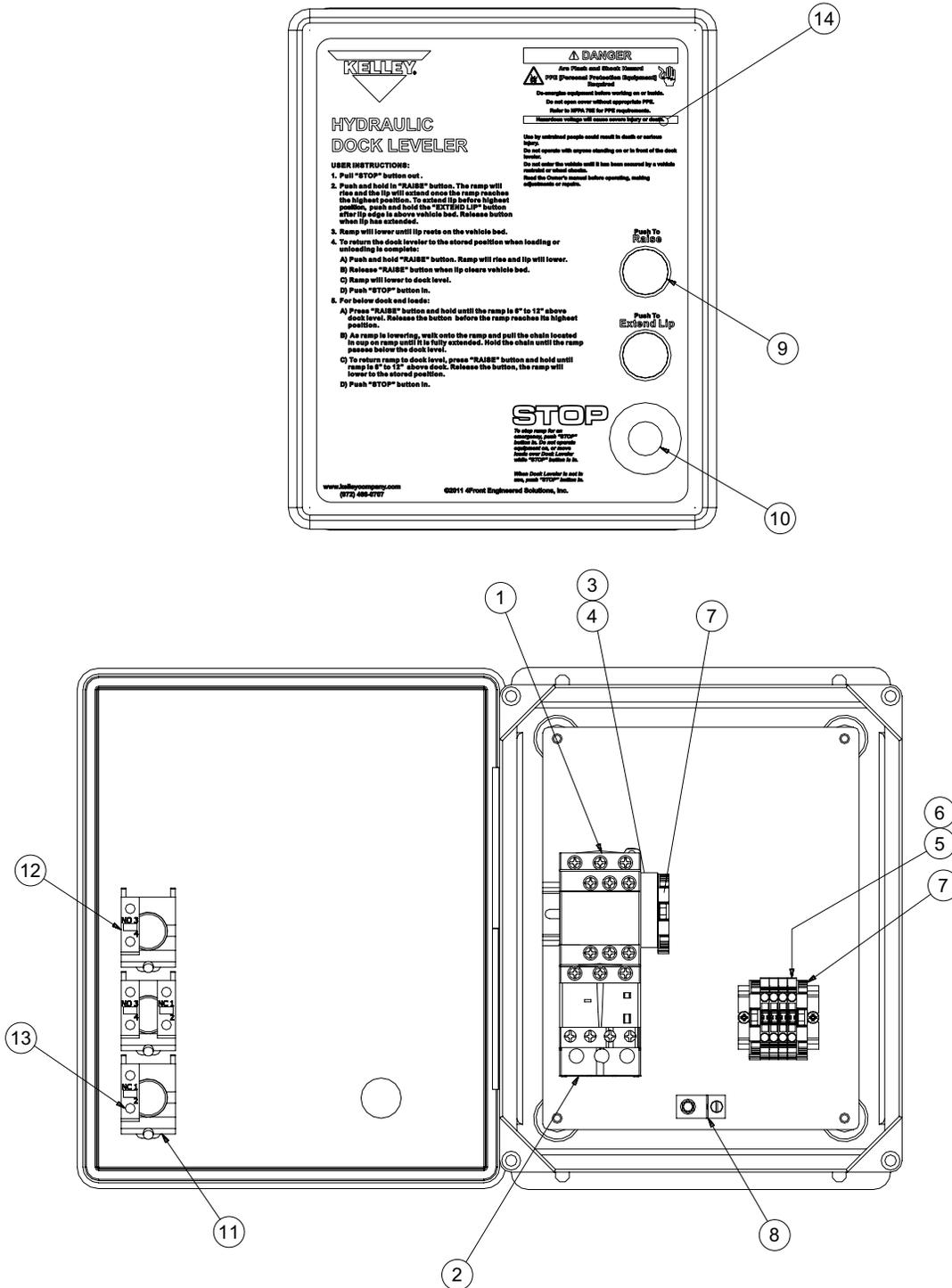
Item	Description	Quantity									Part Number
		6x6 6008228	6.5x6 6008229	6x7 6008230	6x8 6008231	6.5x8 6008232	7x8 6008233	6x10 6008234	6.5x10 6008235	7x10 6008236	
1	5-1/2" front seal	2	2	2	2	2	2	2	2	2	6008166
2	Vertical seal	2	2	2	2	2	2	2	2	2	6008173
3	6' upper seal 8' upper seal 10' upper seal	2	2	2	2	2	2	2	2	2	6008167 6008169 6008171
4	Aluminum strip 53-1/2" Aluminum strip 77-1/2" Aluminum strip 101-1/2"	2	2	2	2	2	2	2	2	2	6008175 6008177 6008179
5	6' Lower seal 8' Lower seal 10' Lower seal.	2	2	2	2	2	2	2	2	2	6008168 6008170 6008172
6	Aluminum strip 6' upper Aluminum strip 8' upper Aluminum strip 10' upper	2	2	2	2	2	2	2	2	2	6008174 6008176 6008178
7	6' Kelley rear seal 6.5' Kelley rear seal 7' Kelley rear seal	1	1	1	1	1	1	1	1	1	6007671 6007672 6007673
8	TEK screws (not shown)	26	26	26	26	26	26	28	28	28	215702
9	Chain cup seal	2	2	2	2	2	2	2	2	2	0392
10	3/4-10 Set screw	2	2	2	2	2	2	2	2	2	6008249
11	W/seal 600 W brush W/seal 800 W brush W/seal 600 W brush cut	2	2	2	2	2	2	2	2	2	328907 328908 328910
12	Corner bulb seal	2	2	2	2	2	2	2	2	2	6009507
13	Transition angle seal (optional)	2	2	2	2	2	2	2	2	2	6008247

PARTS LIST, continued

CONTROL BOX ASSEMBLY — STANDARD

6011334 — 120V, 1PH, 60 HZ

Fig. 55



PARTS LIST, continued
CONTROL BOX ASSEMBLY — STANDARD
6011334 — 120V, 1PH, 60 HZ

Item	Quantity	Description	Part Number
1	1	CONTACTOR 18A 1NO+1NC120V	6000469
2	1	OVERLOAD 12 - 18AMPS	6000478
3	1	TERMINAL, FUSED	6000538
4	1	FUSE, 0.5A TIME DELAY, BUSSMAN	6008836
5	4	TERMINAL, 2 CONDUCTOR	6000542
6	1	VARISTOR, 250VAC/330VDC	6011554
7	3	END STOP, SCREWLESS	6000549
8	1	GROUNDING LUG	6008813
9	2	PUSH BUTTON - BLACK	6000506
10	1	PUSH BUTTON, MUSHROOM STOP- RED	6002478
11	3	BODY MOUNTING COLLAR	6000515
12	2	CONTACT BLOCK, N.O.	632228
13	2	CONTACT BLOCK, N.C.	632229
14	1	DECAL,KELLY HK	6011375
15	1	SCHEMATIC, HK, 3PB, 1PH, 120V	6011334S

NOTE:

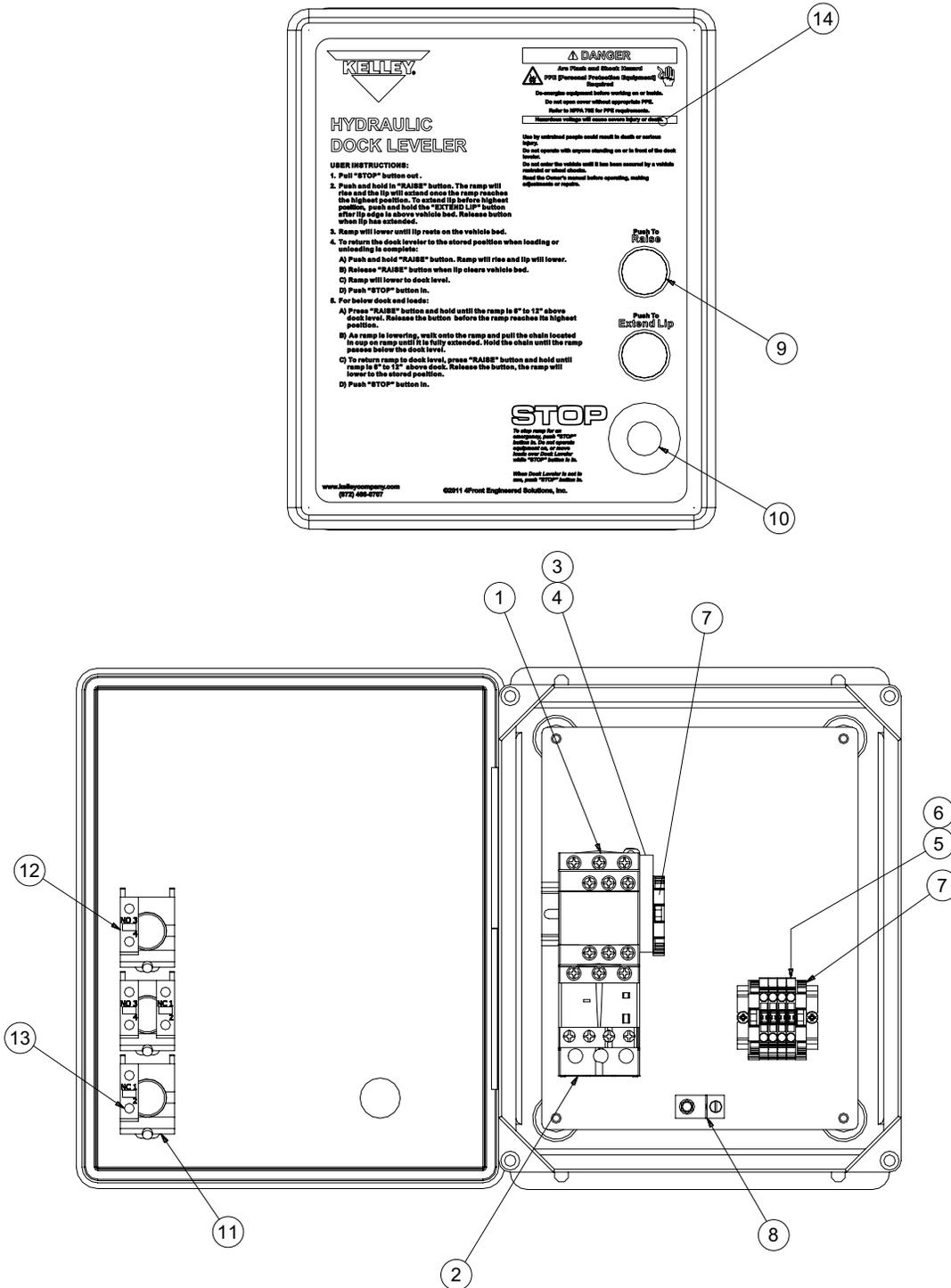
For 24V incoming power consult factory.

PARTS LIST, continued

CONTROL BOX ASSEMBLY — STANDARD

6011335 — 208V/240V, 1PH, 60 HZ

Fig. 56



PARTS LIST, continued
CONTROL BOX ASSEMBLY — STANDARD
6011335 — 208V/240V, 1PH, 60 HZ

Item	Quantity	Description	Part Number
1	1	CONTACTOR 18A 1NO+1NC 120V	6000469
2	1	OVERLOAD 5.5 - 8AMPS	6000476
3	1	TERMINAL, FUSED	6000538
4	1	FUSE, 0.5A TIME DELAY, BUSSMAN	6008836
5	5	TERMINAL, 2 CONDUCTOR	6000542
6	1	VARISTOR, 250VAC/330VDC	6011554
7	3	END STOP, SCREWLESS	6000549
8	1	GROUNDING LUG	6008813
9	2	PUSH BUTTON - BLACK	6000506
10	1	PUSH BUTTON, MUSHROOM STOP- RED	6002478
11	3	BODY MOUNTING COLLAR	6000515
12	2	CONTACT BLOCK, N.O.	632228
13	2	CONTACT BLOCK, N.C.	632229
14	1	DECAL,KELLY HK	6011375
15	1	SCHEMATIC, HK, 3PB, 1PH, 208/240V	6011335S

NOTE:

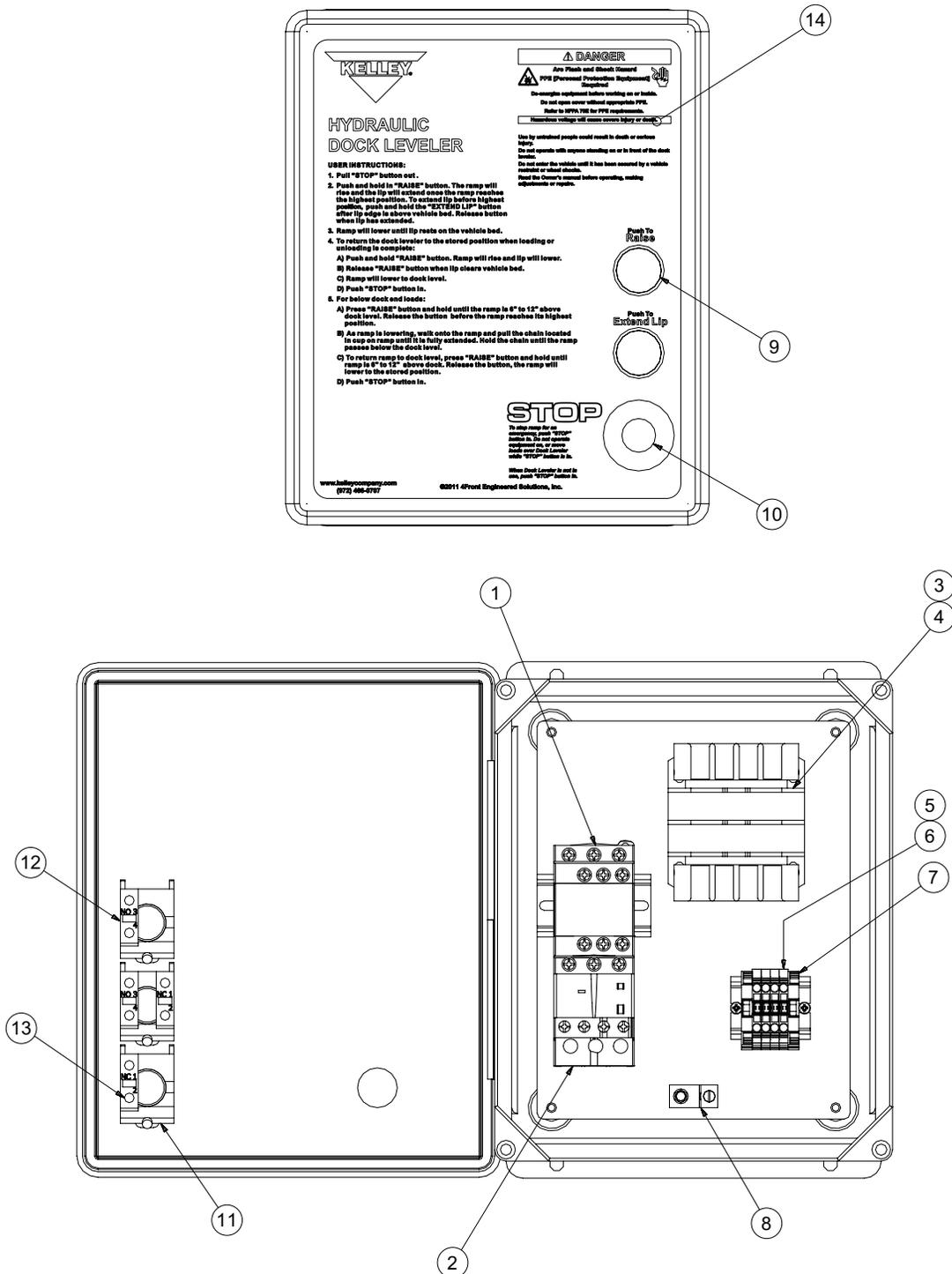
For 24V incoming power consult factory.

PARTS LIST, continued

CONTROL BOX ASSEMBLY — STANDARD

- 6011331 — 208V, 3PH, 60 HZ
- 6011751 — 240V, 3PH, 60 HZ
- 6011332 — 460/480V, 3PH, 60 HZ
- 6011653 — 575V, 3PH, 60 HZ

Fig. 57



PARTS LIST, continued
CONTROL BOX ASSEMBLY — STANDARD
6011331 — 208V, 3PH, 60 HZ
6011751 — 240V, 3PH, 60 HZ
6011332 — 460/480V, 3PH, 60 HZ
6011653 — 575V, 3PH, 60 HZ

Item	Quantity	Description	Part Number
1	1	CONTACTOR 18A 1NO+1NC 24V	6000467
2	1	OVERLOAD 2.5 - 4AMPS (6011331 and 6011751) OVERLOAD 1.6 - 2.5AMPS (6011332 and 6011653)	6000474 6000473
3	1	XFMR,200/480-23/110,50VA (6011331, 6011751 and 6011332) XFMR,550/600V-24, 50VA (6011653)	6011359 6011649
4	2	FUSE, ATQR1/2A, 600V, CC, FERRAZ SHAWMUT (6011331, 6011751, 6011332) FUSE, ATQR1/4A, 600V, CC, FERRAZ SHAWMUT (6011653)	6011358 6011974
5	7	TERMINAL, 2 CONDUCTOR	6000542
6	1	VARISTOR ,30V 11000pF	6011360
7	2	END STOP, SCREWLESS	6000549
8	1	GROUNDING LUG	6008813
9	2	PUSH BUTTON - BLACK	6000506
10	1	PUSH BUTTON, MUSHROOM STOP-RED	6002478
11	3	BODY MOUNTING COLLAR	6000515
12	2	CONTACT BLOCK, N.O.	632228
13	2	CONTACT BLOCK, N.C.	632229
14	1	DECAL,KELLY HK	6011375
15	1	SCHEMATIC,HK,3PB,3PH,208V SCHEMATIC,HK,3PB,3PH,240V SCHEMATIC,HK,3PB,3PH,480V SCHEMATIC,HK,3PB,3PH,575V	6011331S 6011751S 6011332S 6011653S

NOTE:

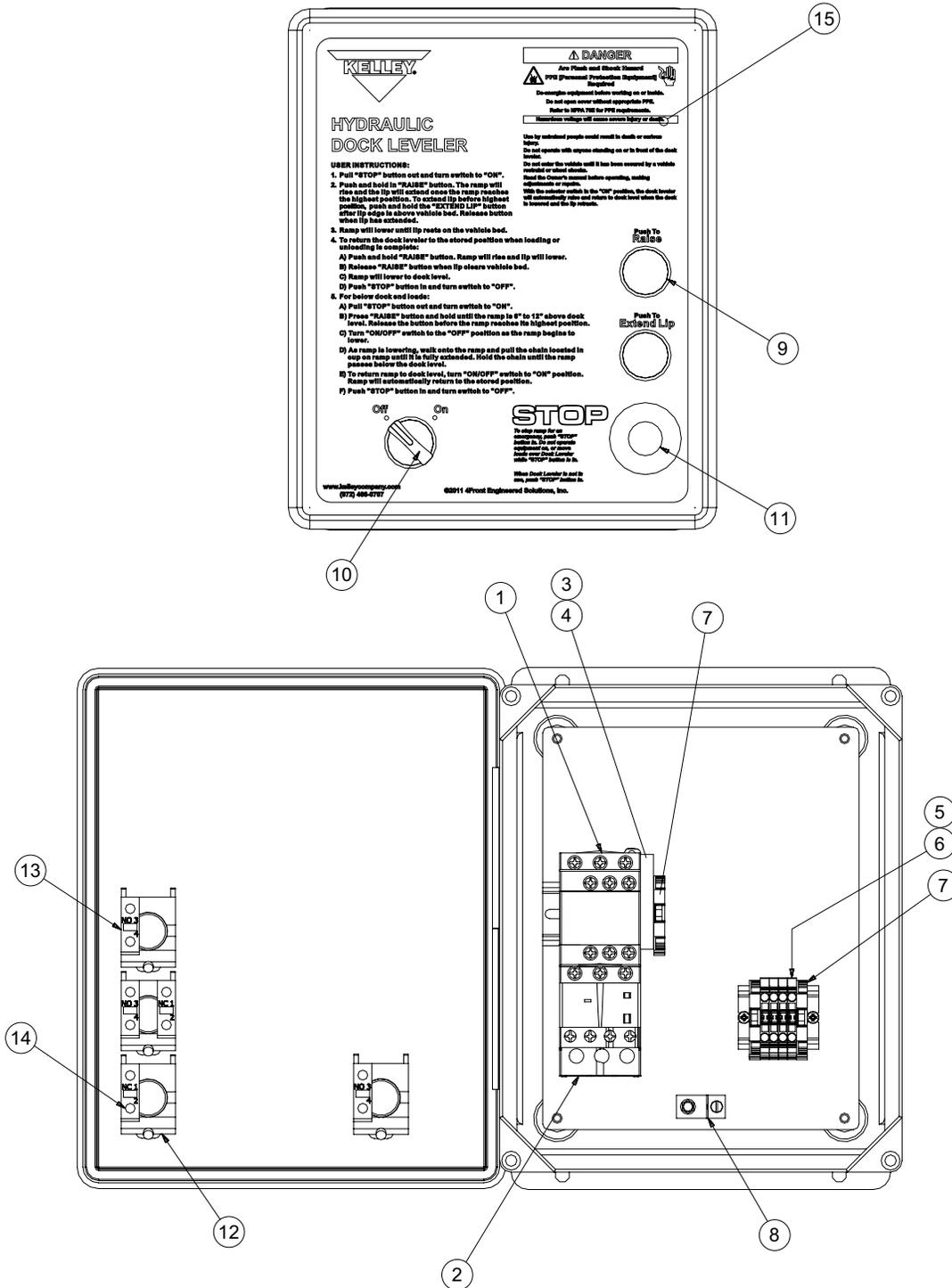
For 24V incoming power consult factory.

PARTS LIST, continued

CONTROL BOX ASSEMBLY — OPTIONAL AUTO-RETURN TO DOCK

6011336 — 120V, 1PH, 60 HZ

Fig. 58



PARTS LIST, continued
CONTROL BOX ASSEMBLY — OPTIONAL AUTO-RETURN TO DOCK
6011336 — 120V, 1PH, 60 HZ

Item	Quantity	Description	Part Number
1	1	CONTACTOR 18A 1NO +1NC 120V	6000469
2	1	OVERLOAD 12 - 18AMPS	6000478
3	1	TERMINAL, FUSED	6000538
4	1	FUSE, 0.5A TIME DELAY — BUSSMAN	6008836
5	8	TERMINAL, 2 CONDUCTOR	6000542
6	1	VARISTOR, 250VAC/330VDC	6011554
7	3	END STOP, SCREWLESS	6000549
8	1	GROUNDING LUG	6008813
9	2	PUSH BUTTON - BLACK	6000506
10	1	SELECTOR SWITCH 2 POS. MAINT.	632217
11	1	PUSH BUTTON, MUSHROOM STOP- RED	6002478
12	4	BODY MOUNTING COLLAR	6000515
13	3	CONTACT BLOCK, N.O.	632228
14	2	CONTACT BLOCK, N.C.	632229
15	1	DECAL, KELLY HK	6011376
16	1	SCHEMATIC, HK, 4PB, 1PH, 120V	6011336S

NOTE:

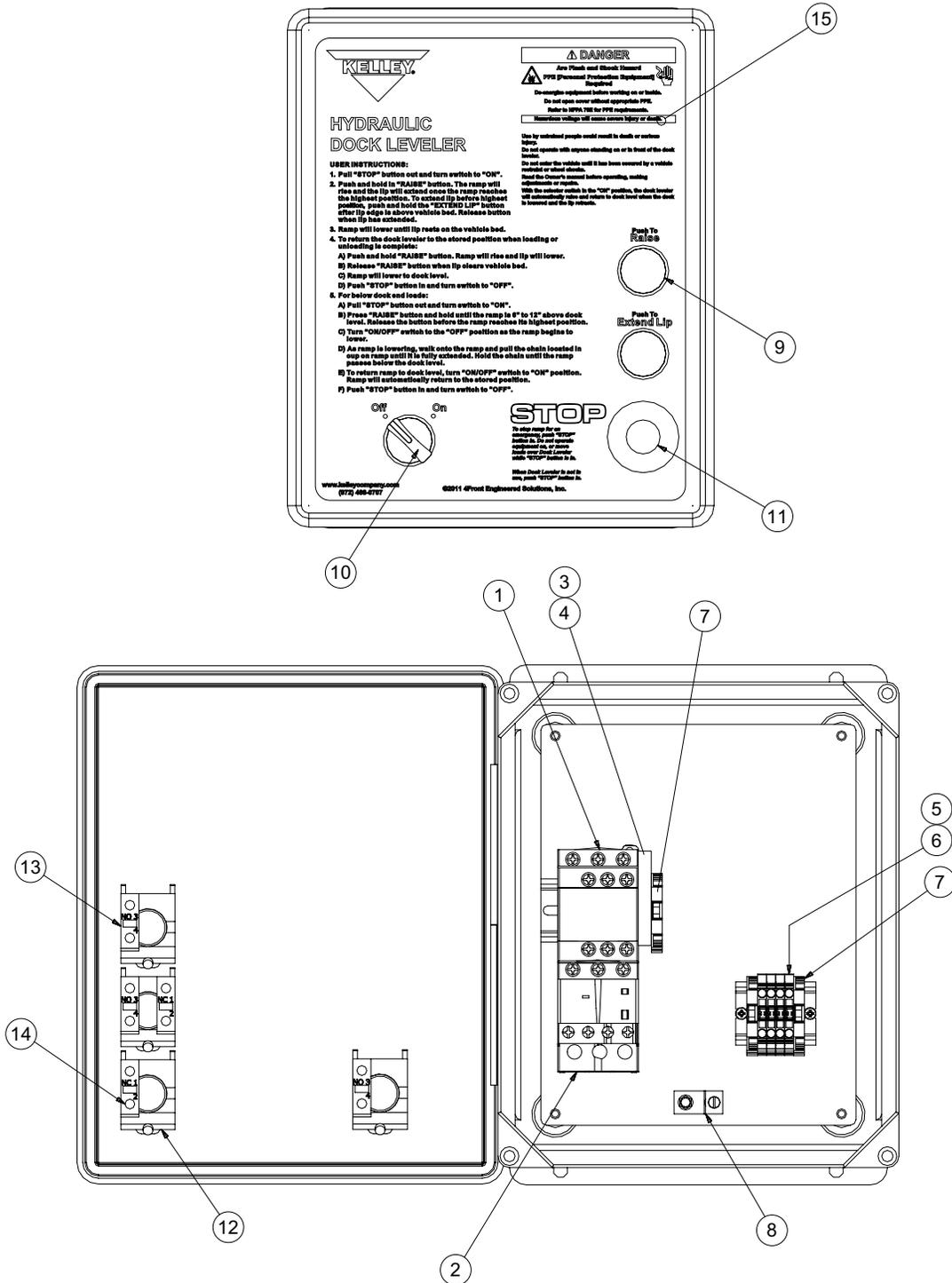
For 24V incoming power consult factory.

PARTS LIST, continued

CONTROL BOX ASSEMBLY — OPTIONAL AUTO-RETURN TO DOCK

6011337 — 208/240V, 1PH, 60 HZ

Fig. 59



PARTS LIST, continued
CONTROL BOX ASSEMBLY — OPTIONAL AUTO-RETURN TO DOCK
6011337 — 208/240V, 1PH, 60 HZ

Item	Quantity	Description	Part Number
1	1	CONTACTOR 18A 1NO+1NC 120V	6000469
2	1	OVERLOAD 5.5 - 8AMPS	6000476
3	1	TERMINAL, FUSED	6000538
4	1	FUSE, 0.5A TIME DELAY	6008836
5	9	TERMINAL, 2 CONDUCTOR	6000542
6	1	VARISTOR, 250VAC/330VDC	6011554
7	3	END STOP, SCREWLESS	6000549
8	1	GROUNDING LUG	6008813
9	2	PUSH BUTTON - BLACK	6000506
10	1	SELECTOR SWITCH: 2 POS. MAINT.	632217
11	1	PUSH BUTTON, MUSHROOM STOP- RED	6002478
12	4	BODY MOUNTING COLLAR	6000515
13	2	CONTACT BLOCK, N.C.	632229
14	3	CONTACT BLOCK, N.O.	632228
15	1	DECAL,KELLY HK	6011376
16	1	SCHEMATIC, HK, 4PB, 1PH, 208/240V	6011337S

NOTE:

For 24V incoming power consult factory.

PARTS LIST, continued

CONTROL BOX ASSEMBLY — OPTIONAL AUTO-RETURN TO DOCK

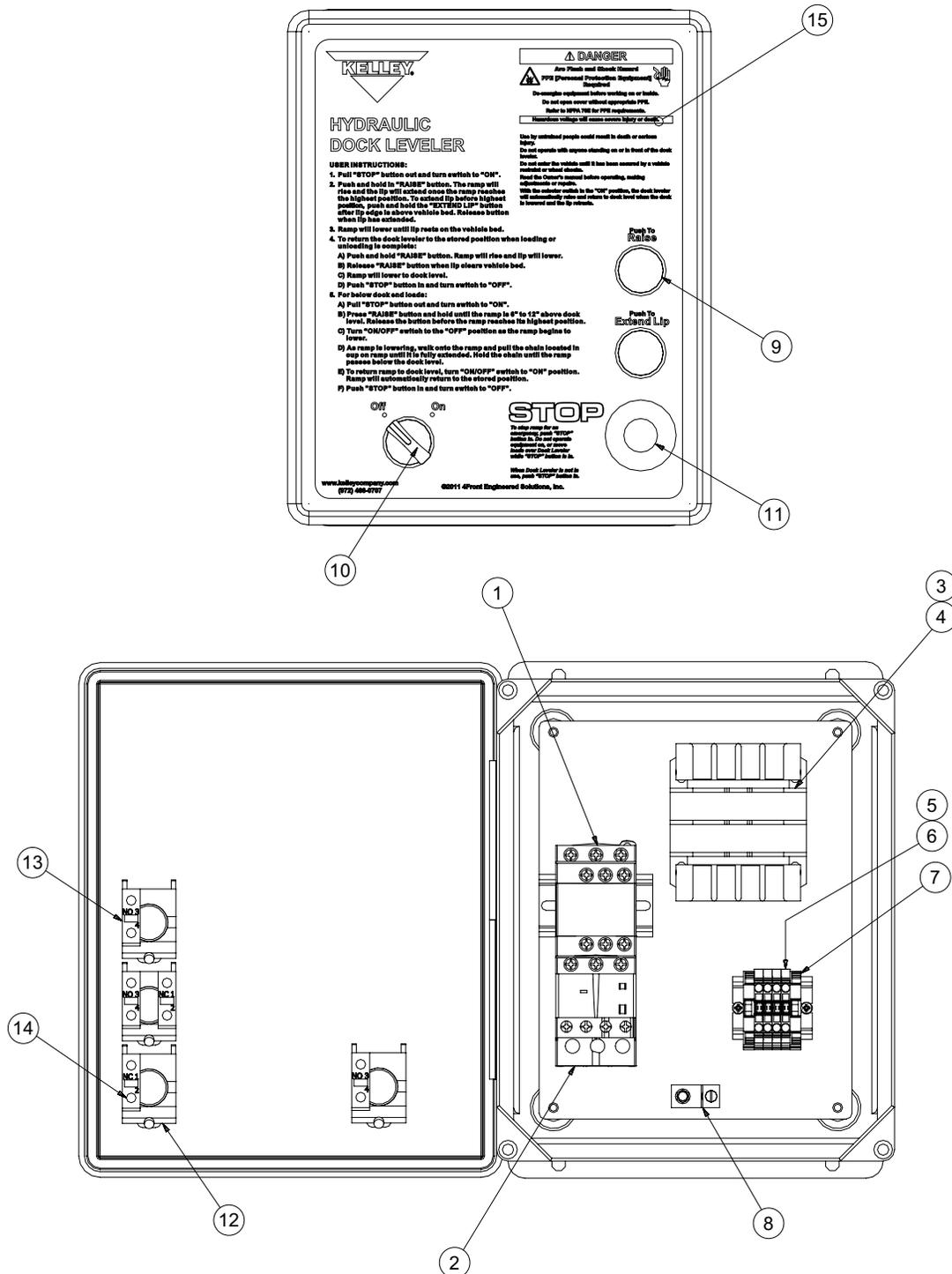
6011329 — 208V, 3PH, 60 HZ

6011750 — 240V, 3PH, 60 HZ

6011330 — 460-480V, 3PH, 50/60 HZ

6011654 — 575V, 3PH, 60 HZ,

Fig. 60



PARTS LIST, continued
CONTROL BOX ASSEMBLY — OPTIONAL AUTO-RETURN TO DOCK
6011329 — 208V, 3PH, 60 HZ
6011750 — 240V, 3PH, 60 HZ
6011330 — 460-480V, 3PH, 50/60 HZ
6011654 — 575V, 3PH, 60 HZ,

Item	Quantity	Description	Part Number
1	1	CONTACTOR 18A 1NO+1NC 24V	6000467
2	1	OVERLOAD 2.5 - 4AMPS (6011329, 6011750) OVERLOAD 1.6 - 2.5 AMPS (6011330, 6011654)	6000474 6000473
3	1	XFMR,200/480-23/110,50VA (6011329, 6011750, 6011330) XFMR,550/600V-24, 50VA (6011654)	6011359 6011649
4	2	FUSE, ATQR1/2A, 600V, CC, FERRAZ SHAWMUT FUSE, ATQR1/4A, 600V, CC, FERRAZ SHAWMUT	6011358 6011974
5	8	TERMINAL, 2 CONDUCTOR	6000542
6	1	VARISTOR ,30V 11000PF	6011360
7	2	END STOP, SCREWLESS	6000549
8	1	GROUNDING LUG	6008813
9	2	PUSH BUTTON - BLACK	6000506
10	1	SELECTOR SWITCH: 2 POS. MAINT.	632217
11	1	PUSH BUTTON, MUSHROOM STOP- RED	6002478
12	4	BODY MOUNTING COLLAR	6000515
13	3	CONTACT BLOCK, N.O.	632228
14	2	CONTACT BLOCK, N.C.	632229
15	1	DECAL,KELLY HK	6011376
16	1	SCHEMATIC,HK,4PB,3PH,208V SCHEMATIC,HK,4PB,3PH,240V SCHEMATIC,HK,4PB,3PH,480V SCHEMATIC,HK,4PB,3PH,480V	6011329S 6011750S 6011330S 6011654S

NOTE:

For 24V incoming power consult factory.

LIMITED WARRANTY, MODEL HK

THIS LIMITED WARRANTY IS KELLEY'S SOLE AND EXCLUSIVE WARRANTY WITH RESPECT TO THE DOCK LEVELER AND IS IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED

Kelley warrants that this DOCK LEVELER will be free from flaws in material and workmanship under normal use for a period of one (1) year from the earlier of 1) 60 days after the date of initial shipment by Kelley, or 2) the date of installation of the DOCK LEVELER by the original purchaser, provided that the owner maintains and operates the DOCK LEVELER in accordance with this User's Manual.

Hydraulic Limited Warranty – The hydraulic power unit and cylinders for this dock leveler are warranted to cover the cost of replacement parts only for an extended period of four (4) years after the initial 1 yr. warranty period.

The LIP HINGE for this DOCK LEVELER is warranted for the rated lifetime of the DOCK LEVELER provided that the LIP HINGE is maintained per this User's Manual. The rated lifetime of the DOCK LEVELER shall be determined by the KELLEY DOCK LEVELER LIFE RATING SYSTEM, publication number 10-768, available from Kelley upon request.

In the event that this DOCK LEVELER proves deficient in material or workmanship within the applicable Limited Warranty period, owner shall so notify Kelley, and Kelley will, at its option:

1. Replace the DOCK LEVELER, or LIP HINGE, or the deficient portion(s) thereof, without charge to the owner; or
2. Alter or repair the DOCK LEVELER, or LIP HINGE, on site or elsewhere, without charge to the owner.

This Limited Warranty does not cover any failure caused by improper installation, abuse, improper operation, negligence, or failure to maintain and adjust the DOCK LEVELER properly. Parts requiring replacement due to damage resulting from vehicle impact, abuse, or improper operation are not covered by this warranty. KELLEY DISCLAIMS ANY RESPONSIBILITY OR LIABILITY FOR ANY LOSS OR DAMAGE OF ANY KIND (INCLUDING WITHOUT LIMITATION, DIRECT, INDIRECT, CONSEQUENTIAL OR PUNITIVE DAMAGES, OR LOST PROFITS OR LOST PRODUCTION) arising out of or related to the use, installation or maintenance of the DOCK LEVELER (including premature product wear, product failure, property damage or bodily injury resulting from use of unauthorized replacement parts or modification of the DOCK LEVELER). Kelley's sole obligation with regard to a DOCK LEVELER that is claimed to be deficient in material or workmanship shall be as set forth in this Limited Warranty. This Limited Warranty will be null and void if the original purchaser does not notify Kelley's warranty department within ninety (90) days after the product deficiency is discovered. .

THERE ARE NO WARRANTIES, EXPRESS OR IMPLIED, WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF, INCLUDING, BUT NOT LIMITED TO, A WARRANTY OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE, ALL OF WHICH KELLEY HEREBY DISCLAIMS.

LIMITED WARRANTY, MODEL HK-S

THIS LIMITED WARRANTY IS KELLEY'S SOLE AND EXCLUSIVE WARRANTY WITH RESPECT TO THE DOCK LEVELER AND IS IN LIEU OF ANY OTHER GUARANTEES OR WARRANTIES, EXPRESS OR IMPLIED

Kelley warrants that this DOCK LEVELER will be free from flaws in material and workmanship under normal use for a period of one (1) year from the earlier of 1) 60 days after the date of initial shipment by Kelley, or 2) the date of installation of the DOCK LEVELER by the original purchaser, provided that the owner maintains and operates the DOCK LEVELER in accordance with this User's Manual.

Hydraulic Limited Warranty – The hydraulic power unit and cylinders for this dock leveler are warranted to cover the cost of replacement parts only for an extended period of four (4) years after the initial 1 yr. warranty period.

In the event that this DOCK LEVELER proves deficient in material or workmanship within the applicable Limited Warranty period, owner shall so notify Kelley, and Kelley will, at its option:

1. Replace the DOCK LEVELER or the deficient portion(s) thereof, without charge to the owner; or
2. Alter or repair the DOCK LEVELER on site or elsewhere, without charge to the owner.

This Limited Warranty does not cover any failure caused by improper installation, abuse, improper operation, negligence, or failure to maintain and adjust the DOCK LEVELER properly. Parts requiring replacement due to damage resulting from vehicle impact, abuse, or improper operation are not covered by this warranty. KELLEY DISCLAIMS ANY RESPONSIBILITY OR LIABILITY FOR ANY LOSS OR DAMAGE OF ANY KIND (INCLUDING WITHOUT LIMITATION, DIRECT, INDIRECT, CONSEQUENTIAL OR PUNITIVE DAMAGES, OR LOST PROFITS OR LOST PRODUCTION) arising out of or related to the use, installation or maintenance of the DOCK LEVELER (including premature product wear, product failure, property damage or bodily injury resulting from use of unauthorized replacement parts or modification of the DOCK LEVELER). Kelley's sole obligation with regard to a DOCK LEVELER that is claimed to be deficient in material or workmanship shall be as set forth in this Limited Warranty. This Limited Warranty will be null and void if the original purchaser does not notify Kelley's warranty department within ninety (90) days after the product deficiency is discovered. .

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Please direct questions about your dock leveler to your local distributor or to 4Front Engineered Solutions, Inc.

Your local Kelley® distributor is:

Corporate Head Office:

1612 Hutton Dr. Suite 140
Carrollton, TX. 75006
Tel. (972) 466-0707
Fax (972) 323-2661

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