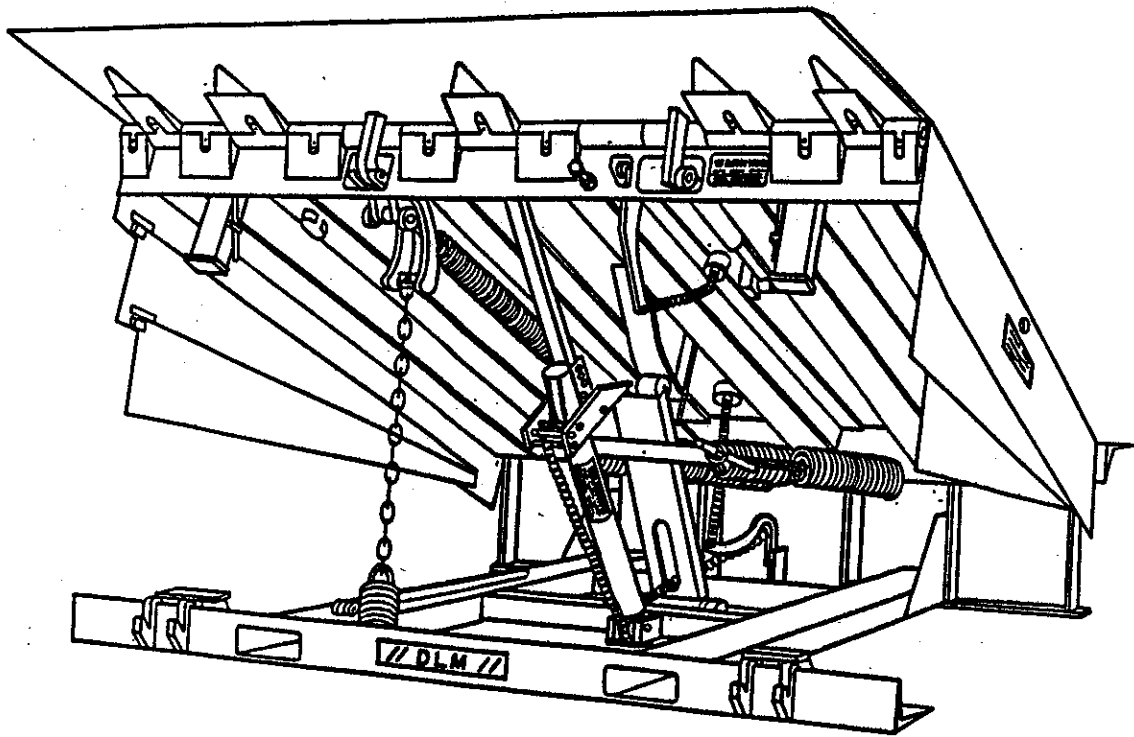


D SERIES MECHANICAL

DOCK LEVELERS



WARNING: Read and understand all warnings and instructions before attempting to install or operate the leveler. Always use the maintenance strut when working under the open deck. Failure to observe these and other safe work habits may result in personal injury and/or property damage.























INSTALLATION AND OPERATING INSTRUCTIONS

D96 MECHANICAL

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GOOD SAFETY PRACTICES DOCK LEVELING DEVICES

LEARN THE SAFE WAY TO OPERATE THIS EQUIPMENT. READ AND UNDERSTAND THE MANUFACTURER'S INSTRUCTIONS. IF YOU HAVE ANY QUESTIONS, ASK YOUR SUPERVISOR.

	STAY CLEAR OF DOCK LEVELING DEVICE WHEN FREIGHT CARRIER IS ENTERING OR LEAVING AREA.	
	CHOCK / RESTRAIN ALL FREIGHT CARRIERS.	
	DO NOT USE A BROKEN OR DAMAGED DOCK LEVELING DEVICE.	
	DO NOT MOVE OR USE THE DOCK LEVELING DEVICE IF ANYONE IS UNDER OR IN FRONT.	
	KEEP HANDS AND FEET CLEAR OF PINCH POINTS.	
	LIP MUST REST SECURELY ON FREIGHT CARRIER BED.	
	DO NOT USE DOCK LEVELING DEVICE IF FREIGHT CARRIER IS TOO HIGH OR TOO LOW.	
	DO NOT OVERLOAD THE DOCK LEVELING DEVICE.	
	KEEP A SAFE DISTANCE FROM BOTH SIDE EDGES.	
	DO NOT OPERATE ANY EQUIPMENT WHILE UNDER THE INFLUENCE OF ALCOHOL OR DRUGS.	
	DO NOT LEAVE EQUIPMENT OR MATERIAL UNATTENDED ON DOCK LEVELING DEVICE.	

INSTALLATION INSTRUCTIONS FOR D-SERIES MECHANICAL DOCK LEVELER

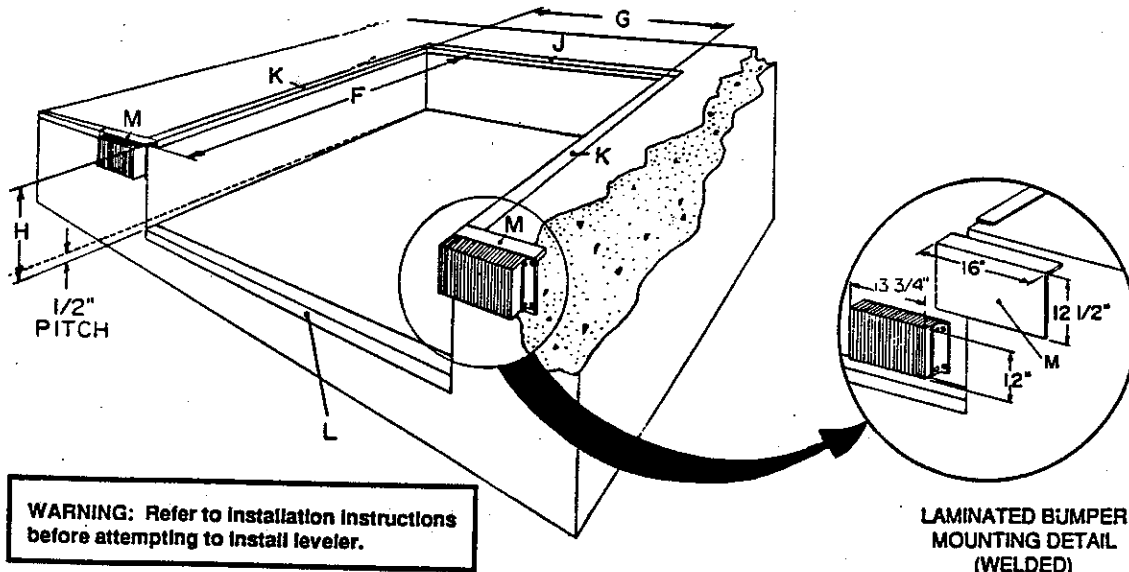
Installation to be performed by qualified, experienced installation personnel. DLM, Inc does not install levelers and cannot be responsible for installation.

WARNING

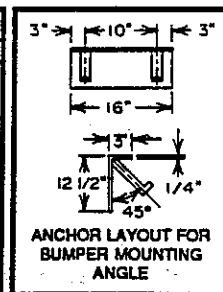
Always use safe work habits.

WARNING: Read and understand all warnings and instructions before attempting to install or operate the leveler. Always use the maintenance strut when working under the open deck. Failure to observe these and other safe work habits may result in personal injury and/or property damage.

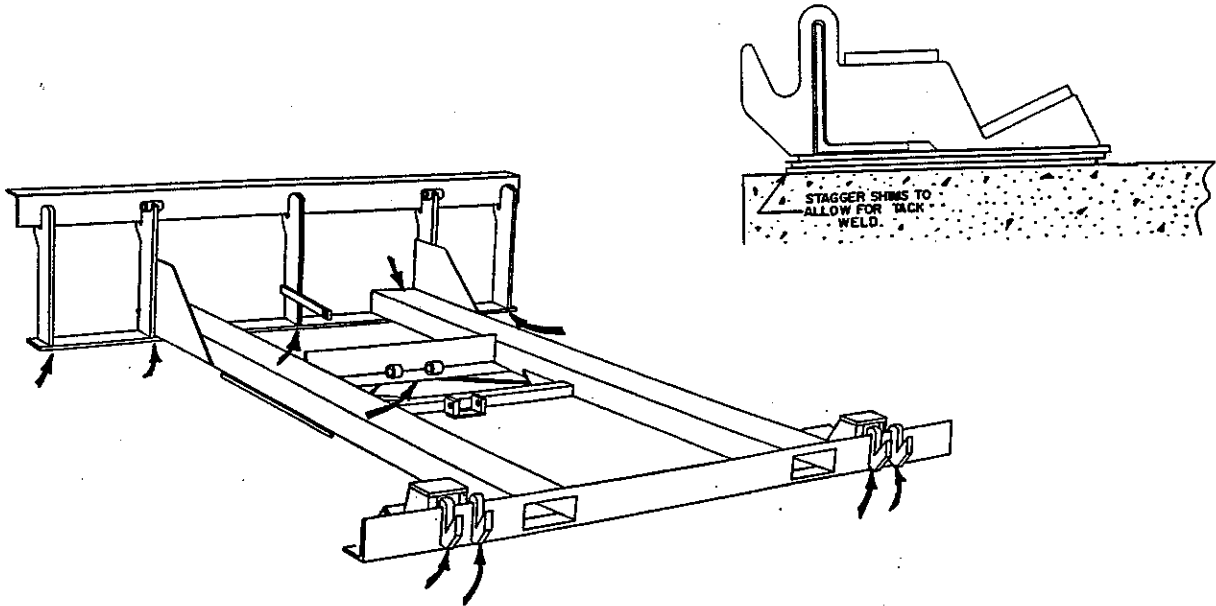
1. Check pit for proper construction. Clean out all debris. Make sure the walls of the pit are plumb and square. Measure dimensions shown in figure 1 and table 1, measure pit depth along a straight edge laid across the width of the pit 6 1/2 inches from the rear wall and 2 inches from the edge of the dock.



	PIT DIMENSIONS			H	CURB ANGLE REQUIRED			
	MODEL	F	G		J	K	L	M
50,000 LB. AND 80,000 LB. CAPACITY ALL MODELS HAVE 20" LIP & 23 1/2" PIT DEPTH STANDARD.	6 x 5	51.5"	74"	PIT DEPTH TO BE 19" AT REAR AND SLOPE 1/2" TO FRONT.	80°	48.5°	74°	BUMPER PLATE 3" x 12-1/2" x 16"
	6 x 6	63.5"	74"		80°	60.5°	74°	
	6 x 8	87.5"	74"		80°	84.5°	74°	
	6.5 x 6	63.5"	80"		86°	60.5°	80°	
	6.5 x 8	87.5"	80"		86°	84.5°	80°	
	7 x 6	63.5"	85"		91°	60.5°	85°	
	7 x 8	87.5"	85"		91°	84.5°	85°	
	6 x 10	111.5"	74"	23" AT REAR 23 1/2" AT FRONT	80°	108.5°	74°	BUMPER CURB ANGLE ON EDGE MINIMUM 16" LONG
	6.5 x 10	111.5"	80"		86°	108.5°	80°	
	7 x 10	111.5"	85"		91°	108.5°	85°	



2. If and pit depth (H in figure 1) is less than $18\frac{5}{8}$ (or $23\frac{1}{2}$ for 10ft levelers and 50K levelers) chisel out depth. If pit depth is more than $18\frac{5}{8}$ (or $23\frac{1}{2}$ for 10ft levelers and 50K levelers) it will be necessary to shim up the difference.
3. It is very important to properly support the understructure of the leveler. The entire load moving across the leveler is supported at the load points. There are ten load bearing areas on the understructure of the leveler. (There are eleven on the fifty thousand pound capacity levelers.) (See figure 2 and figure 3)



4. Remove the shipping straps from the front of the leveler.
5. Position leveler in pit. Install shims as necessary at load points making sure all corners are flush with floor of building.
6. Once a flush fit is obtained all around the leveler, tack weld the two rear angles together. (See figure 4)

WARNING

Leveler should not be operated until rear angle of unit is welded to pit angle.

When working under the open board, use the maintenance strut.

7. Actuate the leveler by pulling and holding the release ring located in the recess at the rear of the leveler
8. Make sure that the maintenance strut is securely in place before entering the area under the leveler.

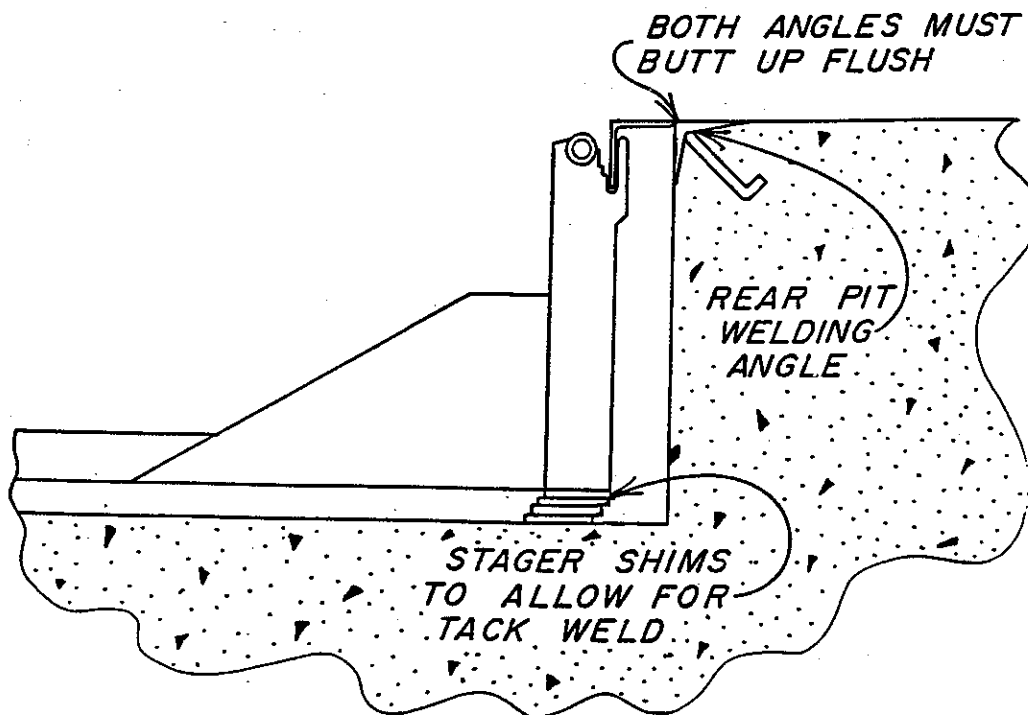


figure 4

9. Shim any remaining load bearing points and weld all shims securely to the under structure of the leveler to prevent shifting.
10. Weld the front angle of the under structure to the curb angle securely.
11. Finish welding the rear angle of the leveler to the rear curb angle. Six 6" long welds 6" apart are sufficient.
12. Check all load bearing points to make sure ALL shims are welded to under structure and the leveler is properly supported. Installation of the leveler is now complete. Please make sure that the bumpers are securely affixed to the building.

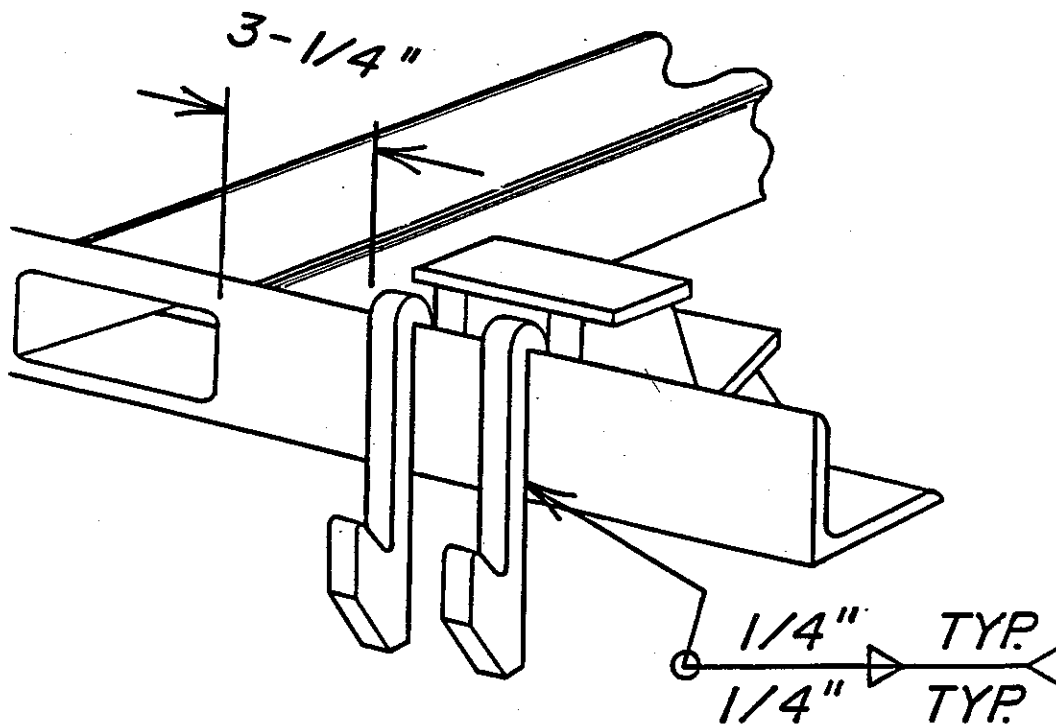
WARNING

Read and understand all warnings and procedures in the operating instructions before attempting to operate the leveler.

ATTENTION

Levelers with 18" or 20" lips have longer lip keepers which are shipped with the leveler but are not attached. Install one lip keeper on each side of the fork truck slots. Measurements and welding information are given in figure 5.

figure 5



OPERATING INSTRUCTIONS FOR D-SERIES MECHANICAL DOCK LEVELER

WARNING

Do not operate the leveler while any equipment or personnel are standing on or in front of the leveler.

Do not activate the leveler until the truck is situated squarely against the bumpers and the truck's wheels are securely chocked.

Do not walk or drive any equipment on the leveler until all motion has stopped and the hinged lip rests securely on the bed of the truck.

Always return the dock leveler to the safe cross traffic position after unloading and/or loading operations are completed.

Never leave dock leveler unattended unless it is in the safe cross traffic position.

Never allow untrained personnel to operate the leveler.

Do not attempt to lift any part of the leveler by hand.

Always use safe work habits.

1. With the leveler in the stored position, position truck squarely against the dock bumpers. Make sure that the wheels of the truck are securely chocked before attempting to load or unload.

Never attempt to operate the leveler or any material handling equipment at a level or grade which exceeds the operating range of the equipment as specified by the manufacturer.

PERCENT OF GRADE
dock/truck differential

		4"	6"	8"	10"	12"	14"	16"
d e c k	5'	8.7	13.1	17.5	21.9	26.2	-	-
	6'	6.9	10.4	13.9	17.3	20.8	-	-
	8'	4.9	7.3	9.8	12.2	14.7	-	-
l e v e l e r	10'	3.8	5.7	7.6	9.5	11.3	13.2	15.1

2. When unloading, be sure to keep leveler in the stored position until any extreme end load has been removed from the truck. If the truck bed is below dock level see step 7.
3. Actuate the leveler by pulling and holding the release ring located at the rear of the leveler until the deck rises fully and extends the lip.

WARNING

Never attempt to walk on unsupported hinged lip.

Do not attempt to walk on raised deck with anyone under the leveler or hinged lip.

Never release either operating ring until all deck motion has stopped.

- 4a. For above dock level trucks, simply walk out on the deck of the leveler. The deck of the leveler will begin to descend and come to rest when the hinged lip contacts the bed of the truck.
- 4b. For below dock level trucks, retract the safety legs by pulling and holding ring located in the recess towards the front of the leveler. The leveler will come to rest when the hinged lip contacts the bed of the truck. The safety legs are reactivated upon the release of the ring.

WARNING

Never use forklift or any other material handling equipment to lower the leveler.

Should the leveler malfunction, keep all personnel and equipment away from the area and call your qualified service representative immediately.

5. With the hinged lip resting securely on the bed of the truck complete unloading and/or loading operations.
6. To remove the leveler from the truck before the truck departs, actuate the leveler as in step 3 above, slowly walk the leveler down allowing enough time for the lip to fold completely, making sure that the lip rests securely in the keepers (safe cross traffic positions).

7. To replace or remove an end load below dock level, cycle the leveler as in step 3 above, then slowly walk leveler down allowing enough time for the lip to fold completely, then deactivate the safety legs by pulling and holding the ring located in the front of the leveler. Allow the lip to miss lip keepers and lower to its full downward position.

8. Always make sure that the leveler is in safe cross traffic position and that the lip rests securely in the keepers before leaving the dock unattended.

LUBRICATION

1. Always follow all procedures and warnings in the operating instructions.
2. Set up lubrication procedures on a regular basis, approximately every three months.
3. Zerk fittings are provided on all grease applications.
4. **DO NOT** lubricate the ratchet bar or pawl on the hold down assembly.
5. While performing maintenance on leveler always inspect parts susceptible to damage caused by moving vehicles.

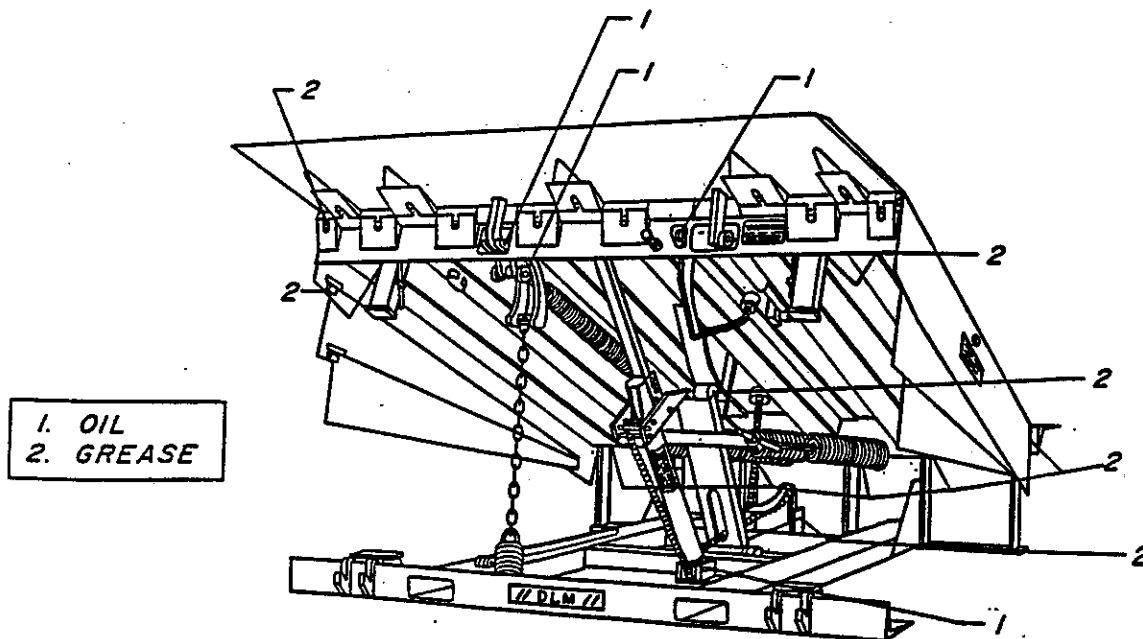
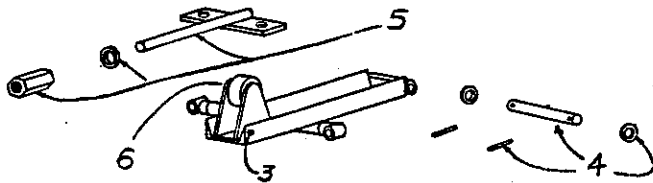
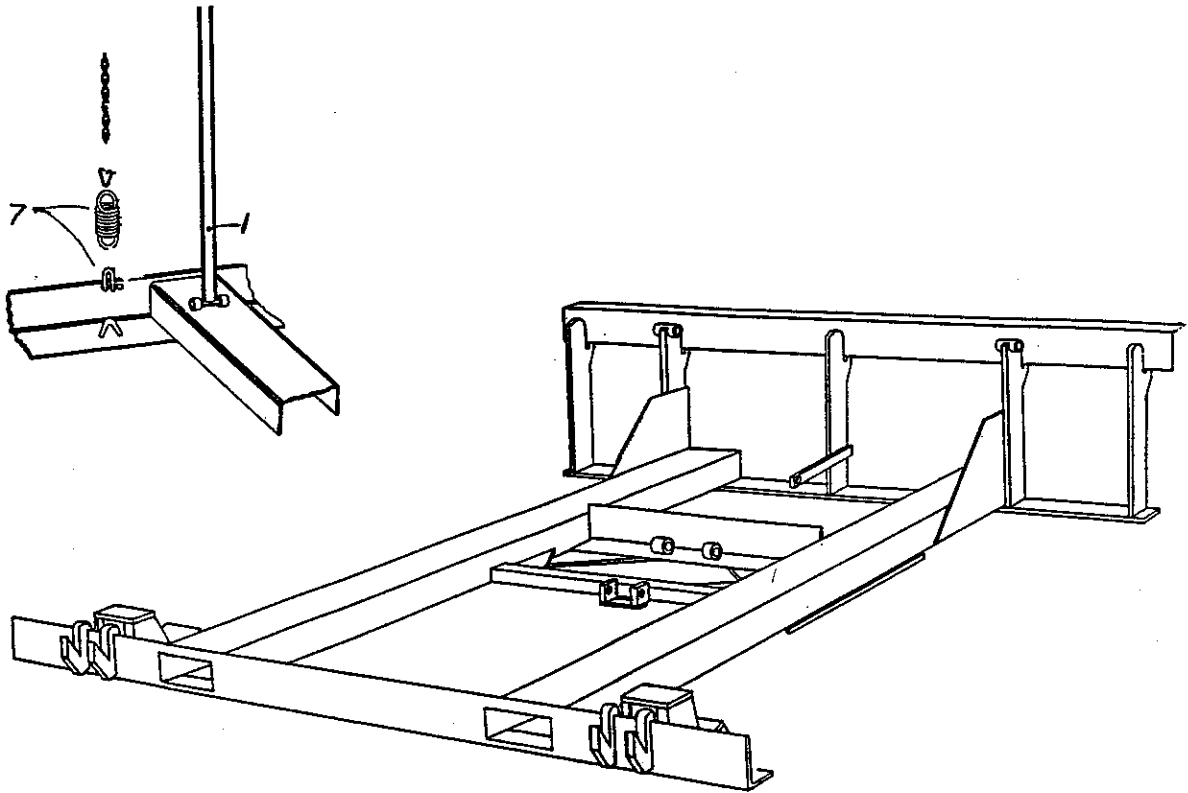


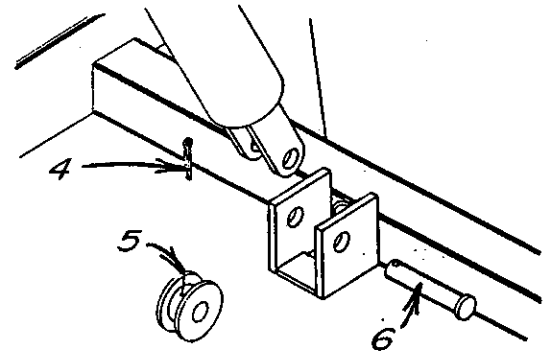
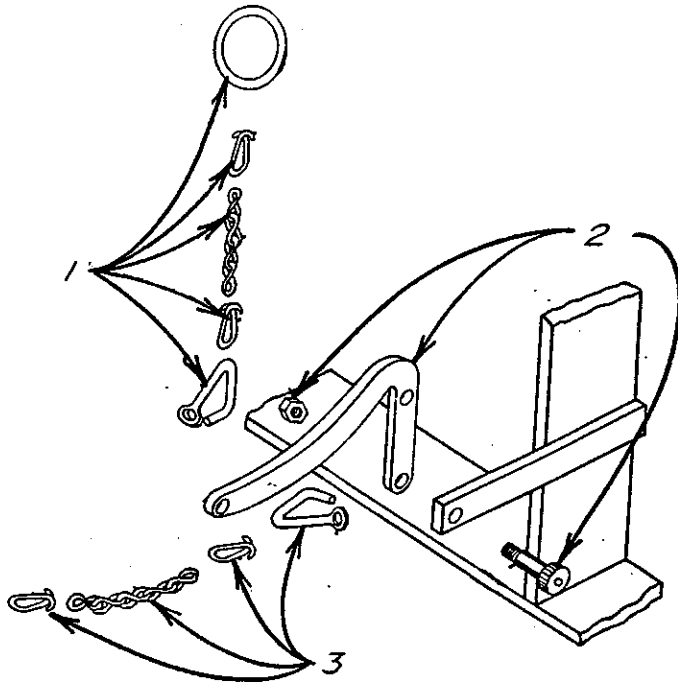
figure 6

UNDER STRUCTURE ASSEMBLY



ITEM	DESCRIPTION	MODEL	PART NUMBERS
1	PROP BAR ASSEMBLY	5ft 6ft 8ft 10ft	OTP-1533 OTP-1534 OTP-1535 OTP-1536
3	LIFT ARM ASSEMBLY D1Z 24in D1W 27 3/8in D1Y 28 3/8in D1X 33 7/8in		OTP-6413 OTP-6416 OTP-6414 OTP-6415
4	LIFT ARM PIVOT PIN ASSEMBLY	ALL	OTH-6442
5	T-BAR ASSEMBLY		OTH-6423 OTH-6424 OTH-6425 OTH-6426
6	CASTER WHEEL ASSEMBLY	ALL	OTH-2402
7	SNUBBER SPRING ASSEMBLY	ALL	OTH-6439

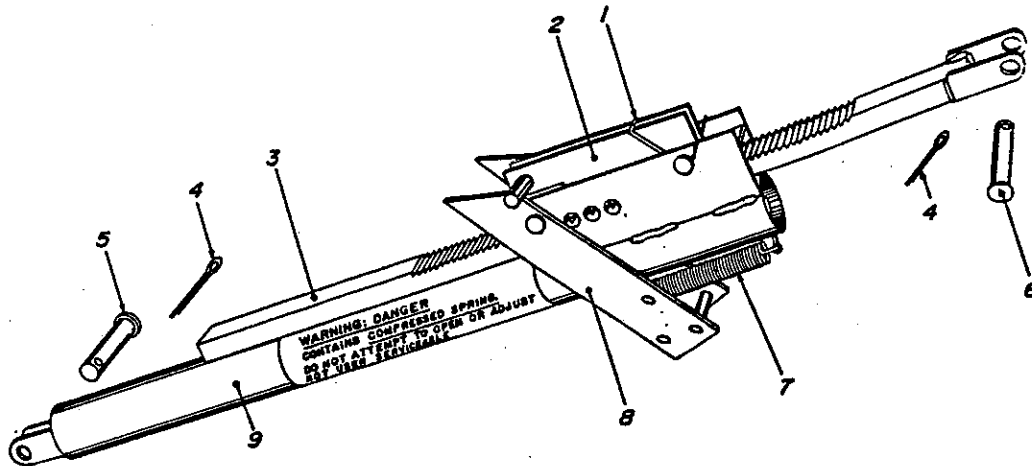
E-Z PULL RELEASE ASSEMBLY



E-Z PULL RELEASE ASSEMBLY PARTS

ITEM	DESCRIPTION	MODEL	PART NUMBERS
1	E-Z PULL CHAIN ASSEMBLY	ALL	OTP-6920
2	E-Z RELEASE ARM ASSEMBLY	ALL	OTP-6930
3	HOLD DOWN RELEASE CHAIN ASSY	5ft	OTP-6921
		6ft	OTP-6922
		8ft	OTP-6923
		10ft	OTP-6924
4	COTTER PIN	ALL	OTH-2374
5	CHAIN ROLLER	ALL	OTH-2405
6	CLEVIS PIN	ALL	OTH-2356

HOLD DOWN ASSEMBLY OTP-2563

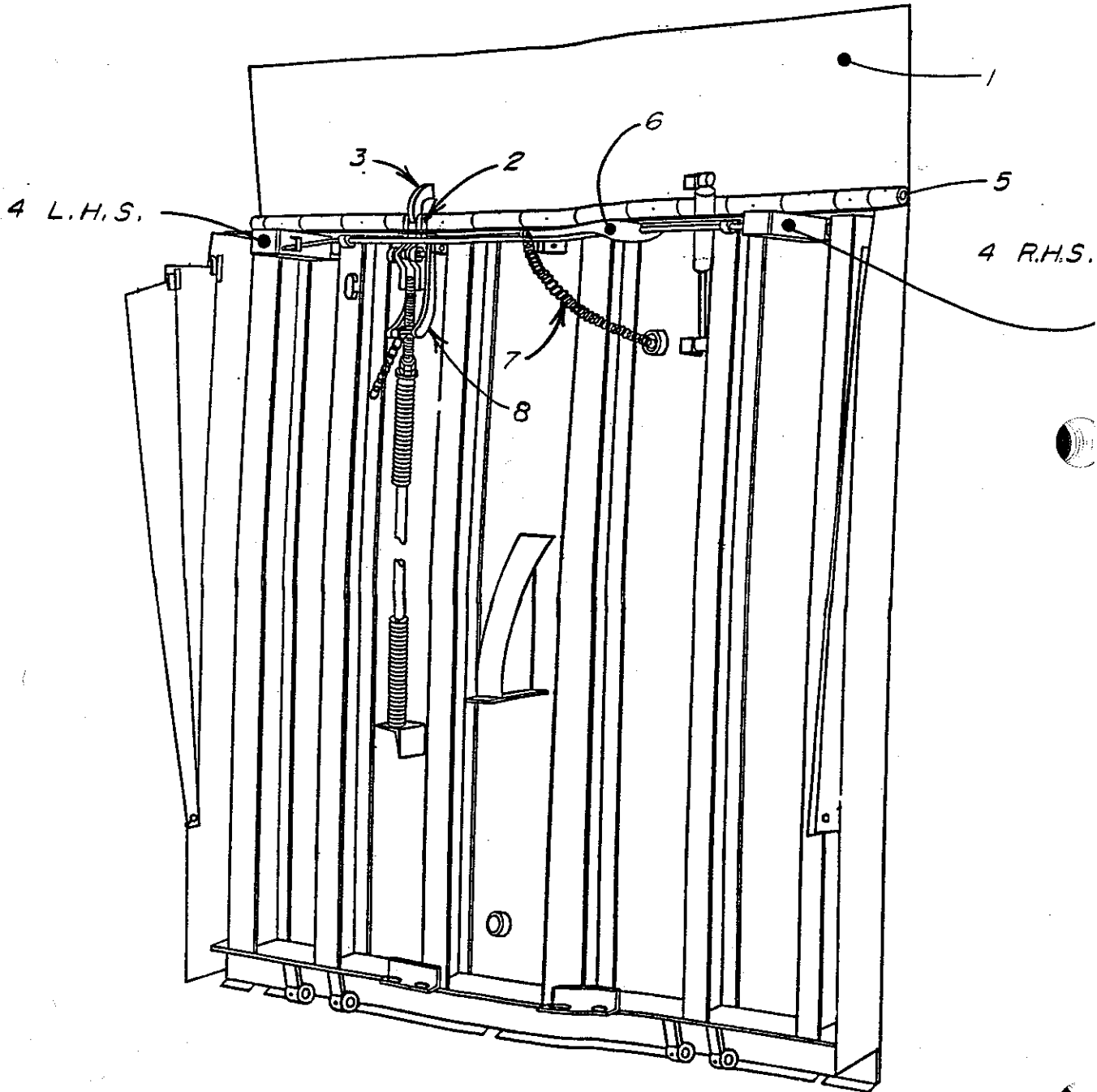


WARNING: Danger
Contains compressed spring.
Do not attempt to open or adjust.
Not User Serviceable.

HOLD DOWN ASSEMBLY PARTS

ITEM	DESCRIPTION	MODEL	PART NUMBER
1	PAWL SPRING		OTH-2556
2	PAWL ASSY		
3	RATCHET BAR		
*	RATCHET BAR & PAWL ASSEMBLY (must be replaced as a set)		OTH-2575
4	COTTER PIN		OTH-2374
5	CLEVIS PIN		OTH-2356
6	CLEVIS PIN		OTH-2355
7	RELEASE ARM SPRING		OTH-2559
8	RELEASE ARM		OTH-2569
9	FLOAT ASSEMBLY		OTH-2565

DECK ASSEMBLY



DECK ASSEMBLY

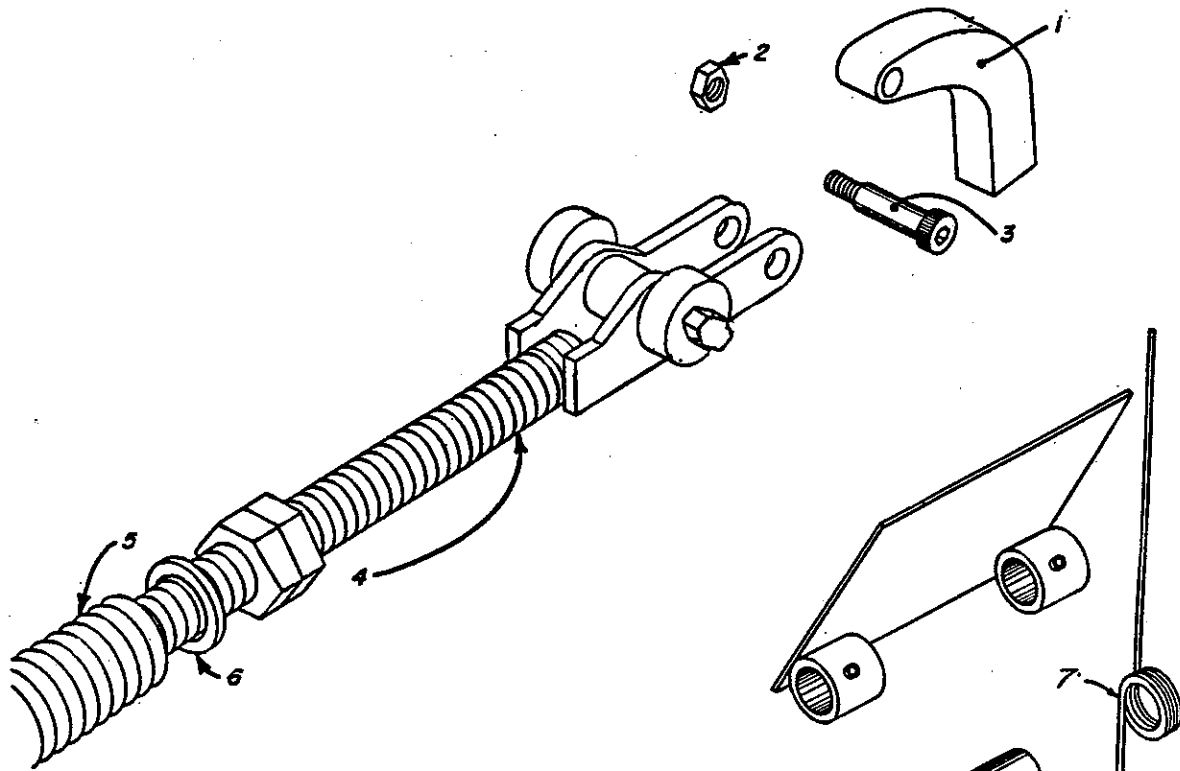
ITEM	DESCRIPTION	MODEL	PART NUMBERS
1	LIP PLATE ASSEMBLY 6ft x 16in	25K	OTH-6236
		30K	OTH-6240
		35K	OTH-6243
		45K	OTH-6246
		50K	OTH-6239
	6ft x 18in	25K	OTH-6237
		30K	OTH-6241
		35K	OTH-6244
		45K	OTH-6247
		50K	OTH-6242
	6ft x 20in	25K	OTH-6238
		30K	OTH-6238
		35K	OTH-6245
		45K	OTH-6248
		50K	OTH-6249
	6.5ft x 16in	25K	OTH-6221
		30K	OTH-6250
		35K	OTH-6253
		45K	OTH-6256
		50K	OTH-6218
	6.5ft x 18in	25K	OTH-6222
		30K	OTH-6251
		35K	OTH-6254
		45K	OTH-6257
		50K	OTH-6219
6.5ft x 20in	25K	OTH-6223	
	30K	OTH-6252	
	35K	OTH-6255	
	45K	OTH-6258	
	50K	OTH-6259	

DECK ASSEMBLY

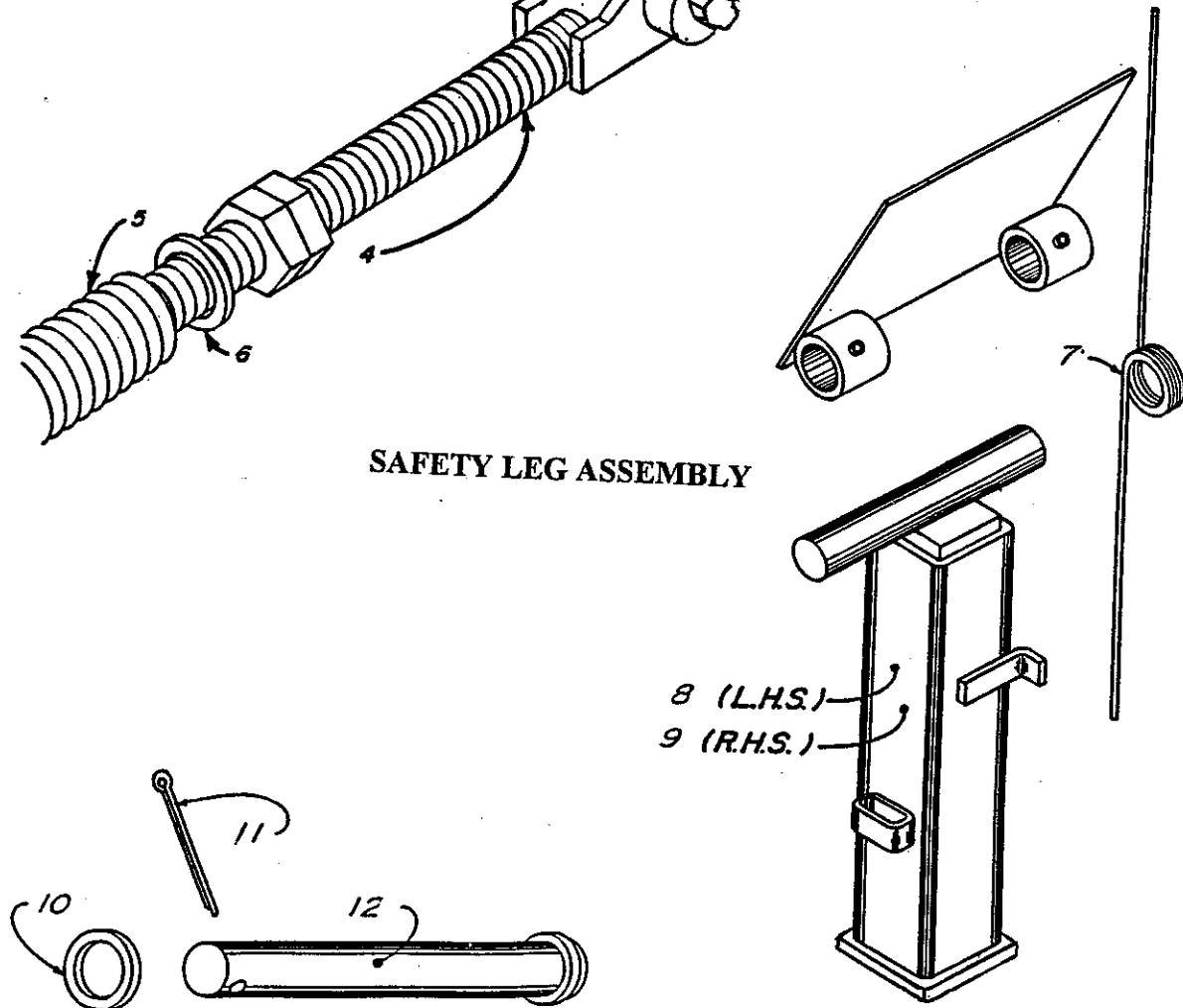
ITEM	DESCRIPTION	MODEL	PART NUMBERS
1	LIP PLATE ASSEMBLY		
		7ft x 16in	25K OTH-7170
			30K OTH-7086
			35K OTH-7089
			45K OTH-7092
			50K OTH-7175
		7ft x 18in	25K OTH-7171
			30K OTH-7087
			35K OTH-7090
			45K OTH-7093
			50K OTH-7176
		7ft x 20in	25K OTH-7172
			30K OTH-7172
			35K OTH-7091
			45K OTH-7094
	50K OTH-7095		
2	LIP ASSIST ASSEMBLY		SEE PAGE 17
3	LIP ASSIST PIVOT		SEE PAGE 17
4	SAFETY LEG ASSEMBLY		SEE PAGE 17
5	LIP HINGE PIN ASSEMBLY	6ft	OTH-6446
		6.5ft	OTH-6447
		7ft	OTH-7160
6	BDC/SAFETY LEG CONTROL ASSY	ALL	OTP-6234
7	SAFETY LEG PULL CHAIN ASSY	ALL	OTH-6233
8	LIP ASSIST LINKAGE ASSEMBLY	ALL	OTH-6408

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LIP ASSIST



SAFETY LEG ASSEMBLY



REAR HINGE PIN ASSEMBLY

LIP ASSIST

ITEM	DESCRIPTION	MODEL	PART NUMBERS
1	LIP CLEVIS		OTH-6682 OTH-6683 OTH-6687
2	LOCK NUT	ALL	OTH-2131
3	SHOULDER BOLT	ALL	OTH-2061
4	LIP ASSIST ROD ASSEMBLY 1in CR x 44in 1in CR x 34in 1 1/8 in x 34in		OTH-6402 OTH-6403 OTH-6407
5	LIP ASSIST SPRING FOR OTH-6403 ROD FOR OTH-6402 ROD FOR OTH-6407 ROD		OTH-2550 OTH-2552 OTH-2553
6	WASHER FOR 1 in ROD FOR 1 1/8 in ROD		OTH-2222 OTH-2218

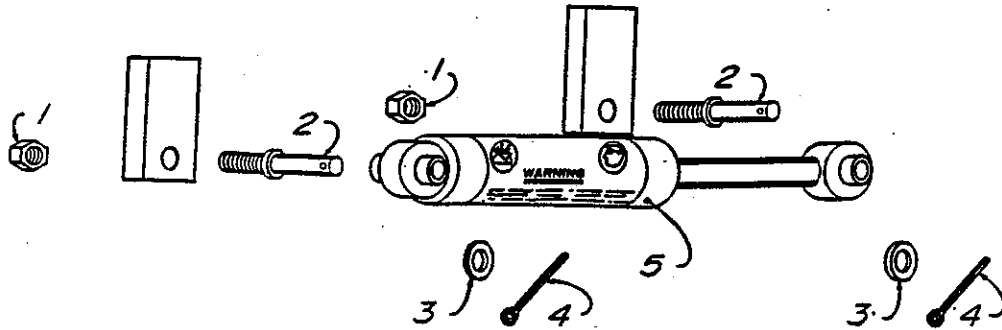
SAFETY LEG ASSEMBLY

ITEM	DESCRIPTION	MODEL	PART NUMBERS
7	SAFETY LEG SPRING	ALL	OTH-2557
8	LEFT SIDE SAFETY LEG ASSY TALL LEFT SIDE SAFETY LEG ASSY	5-8ft 10ft	OTH-6227 OTH-6229
9	RIGHT SIDE SAFETY LEG ASSY TALL RIGHT SIDE SAFETY LEG ASSY	5-8ft 10ft	OTH-6228 OTH-6230

REAR HINGE PIN ASSEMBLY

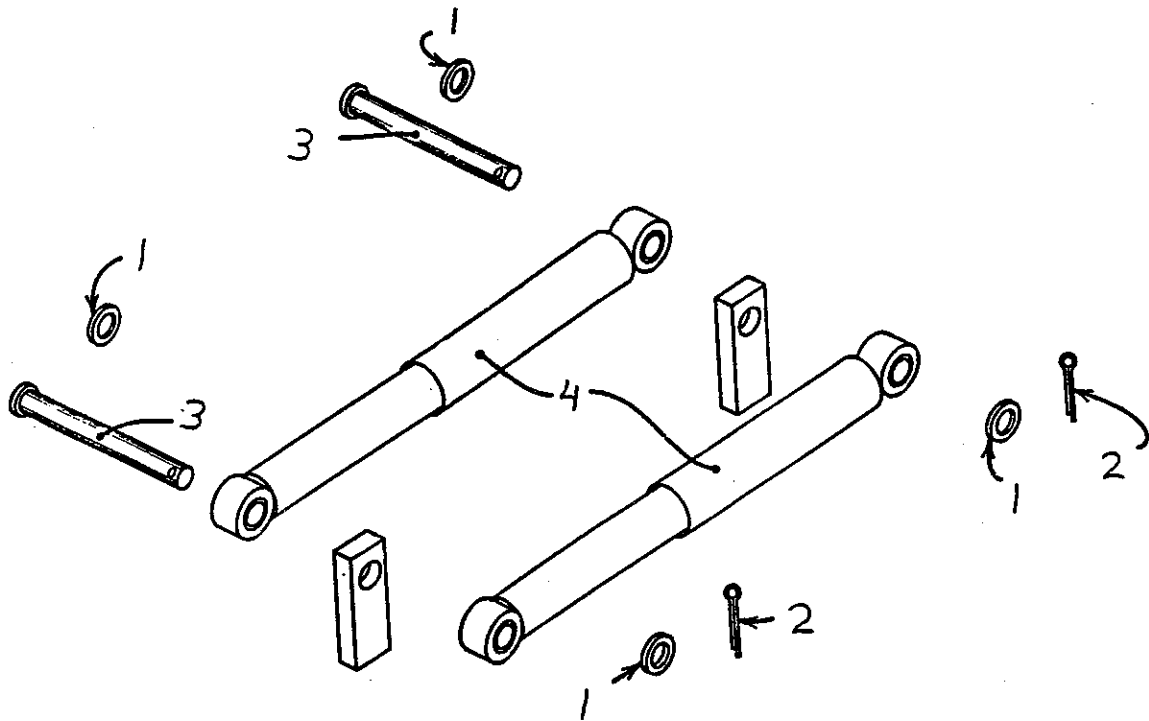
OTH-6441

SINGLE SHOCK ASSEMBLY
 OTH-6465



ITEM	DESCRIPTION	MODEL	PART NUMBERS
1	LOCK NUT		OTH-2163
2	CLEVIS BOLT		OTH-2351
3	FLAT WASHER		OTH-2210
4	COTTER PIN		OTH-2374
5	GAS SHOCK ABSORBER		OTH-2582

DUAL SHOCK ASSEMBLY
OTH-6433



ITEM	DESCRIPTION	MODEL	PART NUMBERS
1	FLAT WASHER		OTH-2210
2	COTTER PIN		OTH-2374
3	CLEVIS PIN		OTH-2369
4	SHOCK ABSORBER		OTH-2580

TROUBLE SHOOTING

PROBLEM	CAUSE	SOLUTION
Deck does not rise or rises slowly	<ol style="list-style-type: none"> 1. Detached or broken release cable. 2. Deck or weatherseal binding against wall. 3. Insufficient main spring tension. 4. Damaged or worn hold down assembly. 	<ol style="list-style-type: none"> 1. Replace or reconnect cable. 2. Trim seal or chip concrete away. 3. Increase tension on main springs. 4. Clean and inspect hold down.
Lip does not extend.	<ol style="list-style-type: none"> 1. Lip assist chain detached or broken. 2. Insufficient lip counterbalance force. 3. Insufficient main spring tension. 	<ol style="list-style-type: none"> 1. Replace or reconnect chain. 2. Increase lip counterbalance force. 3. Increase tension on main springs.
Not able to walk down deck.	<ol style="list-style-type: none"> 1. Excessive main spring tension. 2. Damaged or worn hold down assembly. 	<ol style="list-style-type: none"> 1. Reduce tension on main springs. 2. Clean and inspect hold down assembly.
Lip falls too fast for normal walk down.	<ol style="list-style-type: none"> 1. Insufficient lip counterbalance force. 2. Detached, worn or broken shock. 	<ol style="list-style-type: none"> 1. Increase lip counterbalance force. 2. Inspect shock, reconnect or replace as necessary.
Deck does not stay down.	<ol style="list-style-type: none"> 1. Release chain fouled. 2. Dirt fouling teeth on ratchet bar. 3. Detached or broken hold don pivot pins. 4. Damaged or worn hold down assembly. 	<ol style="list-style-type: none"> 1. Unfoul chain 2. Clean teeth, <u>DO NOT LUBRICATE RATCHET BAR.</u> 3. Replace pivot pins. 4. Clean and inspect hold down assembly.
Lip does not descend after truck departs.	<ol style="list-style-type: none"> 1. Excessive lip counterbalance force. 2. Unlubricated lip hinge. 	<ol style="list-style-type: none"> 1. Decrease lip counterbalance force. 2. Grease hinge spools.

DLM, Inc. prides itself in offering a truly superior dock leveler at an affordable price. Our dedication to quality is represented in carefully engineered and efficient designs, superior welding and attention to details that ensure years of rugged service. For continued reliability use only genuine DLM replacement parts, this will insure the structural integrity of the leveler. Please lubricate your DLM dock levelers, exercise common sense in the use and operation of the levelers and observe safe work habits.

DLM, Inc. warrants that its products will be free from defects in design, materials and workmanship for a period of one year from date of shipment. All claims for breach of this warranty must be made within thirty days after the defect is or can, with reasonable care, be detected, and in no event more than 395 days after shipment. To be entitled to the benefits of this warranty, the product must have been properly installed, maintained, operated within its rated capacity and not otherwise abused. This warranty is DLM, Inc.'s exclusive express warranty.

In the event of any defects covered by this warranty, DLM, Inc. will remedy such defects by repairing or replacing any parts found to be defective. This warranty is limited to parts only and does not include labor to remove, replace, install or adjust the product. This shall be the exclusive remedy for all claims whether based on contract, negligence, or strict liability. DLM, Inc. shall not in any event be liable for any loss of the use of any equipment or incidental or consequential damages of any kind.

DLM, Inc. expressly disclaims all implied warranties including the implied warranties of merchantability and fitness.



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