



LIFT KING

Model 165915LK

Clear Floor Two-Post Lift

(6800 Kg / 15000lbs Capacity)

ASSEMBLY & OPERATION

INSTRUCTION



May. 2015.

IMPORTANT NOTES

- Do not install this lift on any surface other than concrete confirming to minimum specifications.
- Do not install this lift over expansion joints or cracks. Check with building architect.
- Do not install this lift on a second floor with a basement beneath without written authorization from building architect.
- Do not install this lift outdoors unless special consideration has been made to protect the power unit from inclemency weather conditions.
- A good level floor is recommended for proper installation and operation. Concrete should be a minimum of 5" thickness and 3,000 psi tensile strength with steel or fiber mesh reinforcement.
- The lift is intended to raise the entire body of the vehicle. Do not attempt to lift only part of the vehicle. Improper use of this equipment could result in damage to the lift, yourself or other property.
- The lift is intended to lift vehicles only. It is not designed to lift any person or equipment containing persons.
- All persons using this equipment should be qualified, responsible persons and should follow the operation and safety guidelines set forth in this manual.
- For specifications on concrete pads, please call for technical assistance.
- Improper installation can cause damage or injury. Manufacturer will assume liability for loss or damage of any kind, expressed or implied, resulting from improper installation to use of this product. Read the installation and operation manual in its entirety before attempting to install the lift.

DEFINITION

The lift is a Two-Column Hydraulic, Leaf chain driven one.

The name / model numbers is designated below:

Surface Mounted Two-Post Clear Floor Lift type, 15000lbs (6.8Ton) Lifting Capacity, Symmetric Swing Arm set up. *Model number 165915LK*

Basic Specification

Description	Capacity	Lifting Time	Overall Height	Overall Width	Lifting height
Clear Floor	15000lbs	(about)	180 15/16"	147 13/16"	69 3/16"
(symmetric)	6.8 ton	50 Sec	4596 mm	3755 mm	1758mm

PREPARATION

The installation of this lift is relatively simple and can be accomplished by two men in a few hours. The following tools and equipment are needed:

- AW 32,46 Non-Detergent Non-Foaming Anti-Wear Hydraulic Oil SAE-10 (12 quarts)
- Chalk line and 12' Tape Measure, Transit and a 4' Level
- Rotary Hammer Drill with 3/4" Masonry Drill Bit. Core Drill ReBar Cutter recommended
- Hammer and Hex-Key / Allen Wrench Set
- Sockets and Open Wrench set, 1/2" thru 1-1/2" (1-1/8" for 3/4" Anchors)
- Medium Crescent Wrench and Medium Pipe Wrench
- Crow Bar for Shim Installation and Medium Flat Screwdriver
- Vise Grips and Needle Nose Pliers

GENERAL INFORMATION

1. Carefully remove the crating and packing materials. CAUTION! Be careful when cutting steel banding material as items may become loose and fall causing personal harm or injury.
2. Identify the components and check for damage or shortages. If damage or shortages are discovered, contact distributor immediately. *Save the shipping bolts for use in the installation.*

Packing:

- *The lift packed into two columns in one rack.
- *Every column with its cylinder, carriage, cables & chains, upright, lifting arms, pad with holders, oil pipes, and cross beam. Accessory box is in one column.
- *There is the hydraulic motor pump in another carton separately.

INSTALLATION INSTRUCTION

STEP 1: (Selecting Site) Before installing your new lift, check the following:

1. **LIFT LOCATION:** Always use architects plans when available. Check layout dimension against floor plan requirements making sure that adequate space is available (Fig. 2 & 3).

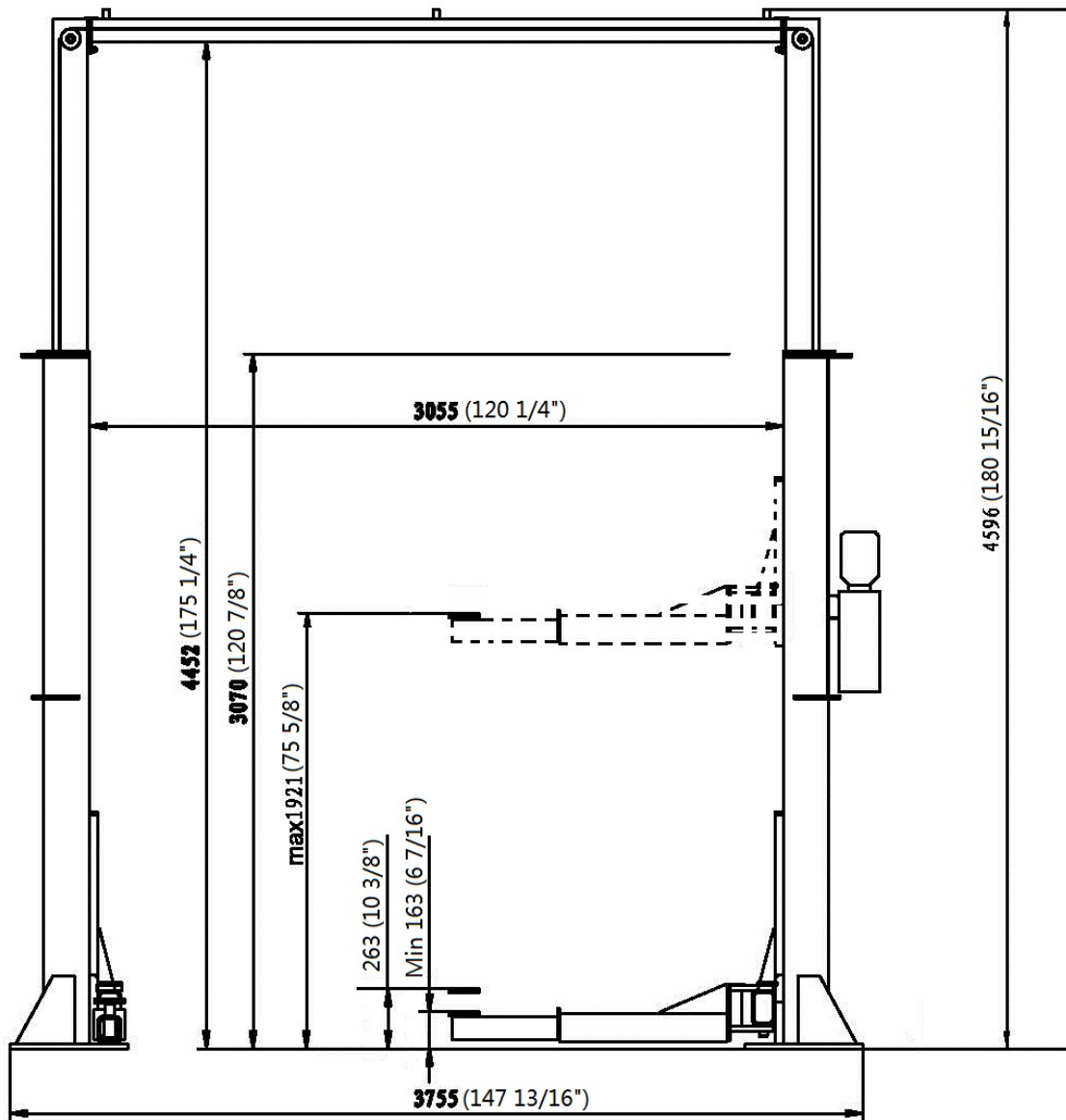


Fig. 2

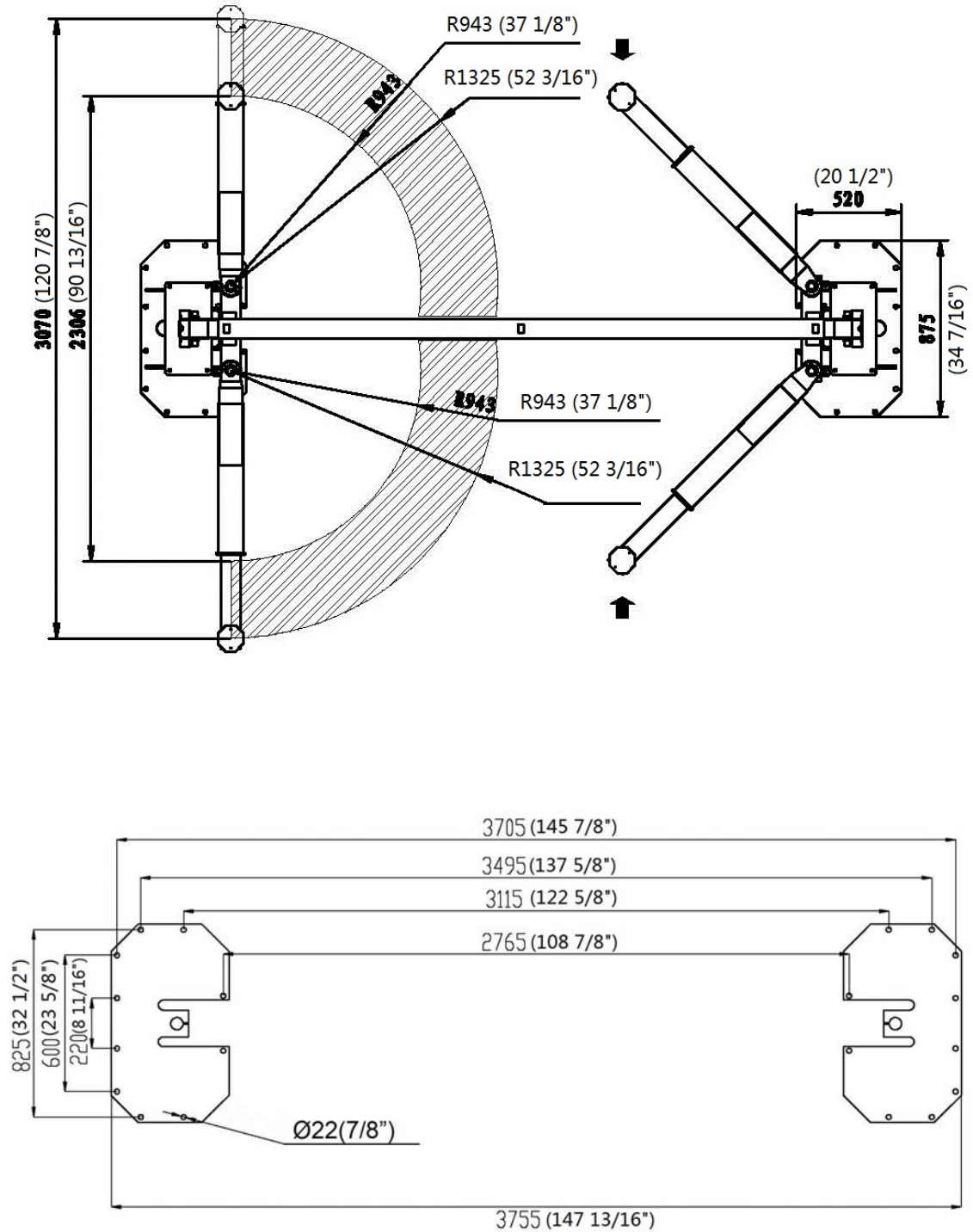


Fig. 3

2. OVERHEAD OBSTRUCTIONS: The area where the lift located should be free of overhead obstructions such as heaters, building supports, electrical lines etc.
3. DEFECTIVE CONCRETE: Visually inspect the site where the lifts will be installed and check for cracked or defective concrete.
4. FLOOR REQUIREMENTS: The lift should be installed on a 3000 PSI concrete with little gradients ($\cong 1/5"$ within area of two columns =150" * 35",).

STEP 2: (Unloading and Unpacking)

1. After unloading the lift, place it near the intended installation location.
2. Remove the shipping bands and packing materials from the unit.
3. Remove the packing brackets and bolts holding the two columns together. (Do not discard bolts, they may be used in the assembling of the lift)
4. Take out the up-rights, lifting arms, pads, accessory box, oil pipes, etc, from the column. Check the quantity of every item with the parts list. If any missing, please contact with your dealer at once.

STEP 3: (Site Layout)

1. Determine which side will be the approach side.
2. Now determine which side you prefer the power unit to be located on. The main column has the power-unit mounting bracket attached to the side (Fig. 5). Note the main column can be located on either side. It is helpful to try and locate the power side with the driver side of the vehicle when loaded on the lift to save steps during operation.
3. Once a location is determined, use a carpenter's chalk line to layout a grid for the post locations.



Fig. 5

4. After the post locations are marked, use a chalk or crayon to make an outline of the posts on the floor at each location using the post base plates as a template.
5. Double check all dimensions and make sure that the layout is perfectly square.

STEP 4: (Installing the Main Column)

1. Before proceeding, double check measurements and make certain that the bases of each column are square and aligned with the chalk line.
2. Assemble the uprights to the columns. Raise the columns to a vertical position (See Fig.6 & 7)



Fig. 6



Fig. 7

3. Using the base plate on the main column as a guide, drill each anchor hole in the concrete approximately 5¹/₂" deep using a rotary hammer drill and 3/4" concrete drill-bit. To assure full holding power, do not ream the hole or allow the drill to wobble. (See Fig.8)

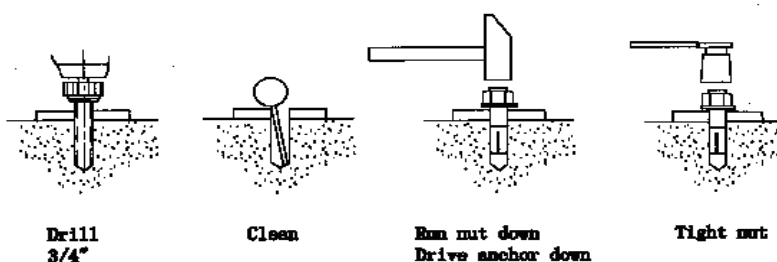


Fig. 8

4. After drilling, remove dust thoroughly from each hole using compressed air and/or wire brush. Make certain that the column remains aligned with the chalk line during this process.
5. Assemble the washers and nuts on the anchors then tap into each hole with a block of wood or rubber hammer until the washer rests against the base plate. Be sure that if shimming is required that enough threads are left exposed.
6. Using a level, check column plumb for every side (Fig. 9). If shimming is required, use $\frac{3}{4}$ " washers or shim stock, placing shims as close as possible to the hole locations. This will prevent bending the column base plates.
7. With the shims and anchor bolts in place, tighten by securing the nut to the base then turning 2-3 full turns clockwise. Or tighten anchor bolts to 150 ft-lbs. of torque. DO NOT use an impact wrench for this procedure.



Fig. 9

STEP 5: (Mounting the OFFSIDE Column and the OVERHEAD BEAM)

1. Position the OFFSIDE column at the designated chalk locations.
2. Using a lift machine, raise the CROSS BEAM in position on top of the columns. Bolt it to the columns using the bolts, nuts and washers (Fig. 11).
3. Using a tape measure to measure the distance between the opposite corners of the base plate on the columns. Equal values will insure the lifting arms will be in square.



Fig. 11

4. Secure OFFSIDE column to the floor following the same procedures as outlined in STEP 4.

STEP 6: (Mounting the POWER UNIT)

1. Attach the power unit to the MAIN COLUMN using bolts, nuts and washers supplied (Fig. 12).
2. Remove the vent plug and fill the reservoir with hydraulic oil. Make sure the funnel used to fill the power unit is clean.
Suggestion: Use AW 32, or 46 Non-Detergent Non-Foaming Anti-Wear Hydraulic Oil. SAE-10 (Texaco HD46 or equal). The unit will hold approximately ten Liters of fluid.



Fig. 12

STEP 7: (Routing the EQUALIZER CABLES)

1. Raise and lock each carriage on the first safety latch engagement. It is approximately 30" high.
2. Make sure that the safety locks on each column are fully engaged before attempting to route equalizer cables.
3. Be sure each carriage is at the same height by measuring from the top of the base to the bottom of the carriage. This difference should be within $\frac{1}{4}$ " .
4. Rout the first cable. (See Fig 13-16) Screw the nut on the cable stud so that half thread pass through the nut. Pull the other end of the cable and screw the nut on it also. Then tighten both nuts.
5. Repeat above for the second cable.
6. Adjust each equalizer cable to approximately $\frac{1}{2}$ " side-to-side play. So that they are equal tension.

Check the latch releases to insure the carriage is still sitting on the appropriate latch.



Fig. 13



Fig. 14



Fig. 16

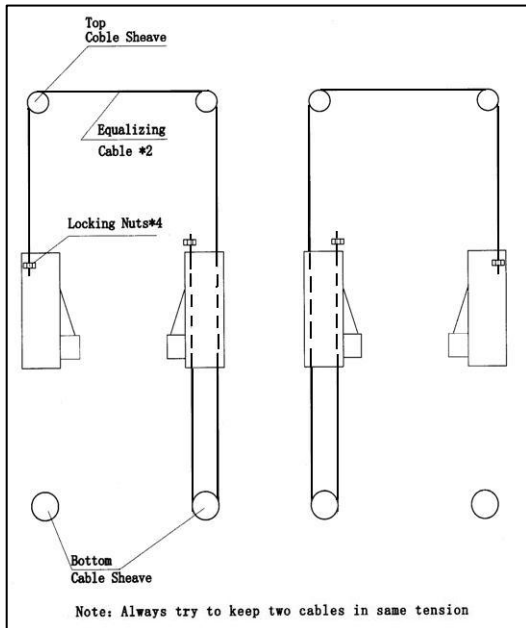


Fig. 15

STEP 8: (Connecting the hydraulic hoses)

As shown on Fig. 17-19, connect the hydraulic hoses. When routing the hydraulic hose, make sure that the hose is clear of any moving parts. It is necessary to route hose through the retaining rings or tie hose clear by using nylon tie straps or wire.

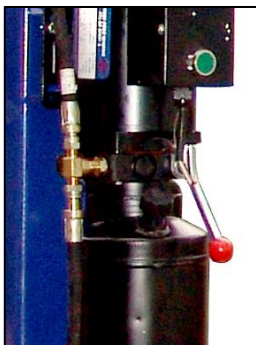


Fig. 17

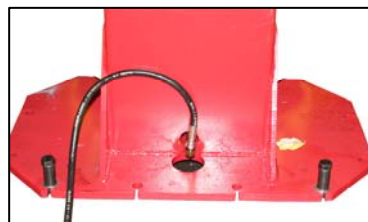


Fig. 18

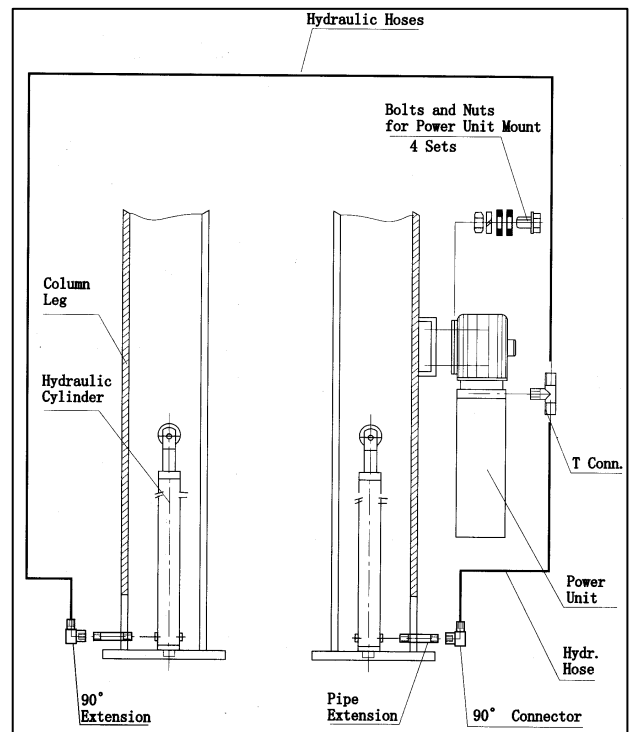


Fig. 19

STEP 9: (Install the lifting arms and locks)
Install the swing arms on the carriages using the included arm pins. Check for proper engagement of the arm lock. The rack on the lock should fully engage the gear on the arm. (Fig. 20)

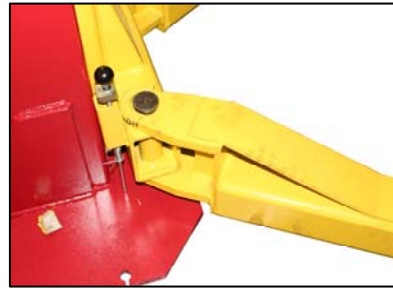


Fig. 20

STEP 10: (Power connection)
Make the Electrical hookup to the power unit (, 220V Single Phase). It is recommended that a 220 Volt, 50Amp twist lock plug be installed in the power line just ahead of the power unit. Size wire for 30 - amp circuit.

Warning: the wiring must comply with local code. Have a certified electrician make the electrical hook-up to the power unit. Protect each circuit with time delay fuse or circuit breaker 208V-230V single Phrase.60 Hz 50 Amp.

STEP 11: (Ceiling limit device)
To install this ceiling limit device, first is to use the rope grip, fix one end of the steel rope on the washer on the offside column (Fig 21). Line the rope through another washer on main column, down to the switch on the motor pump (Fig. 22).



Fig. 21

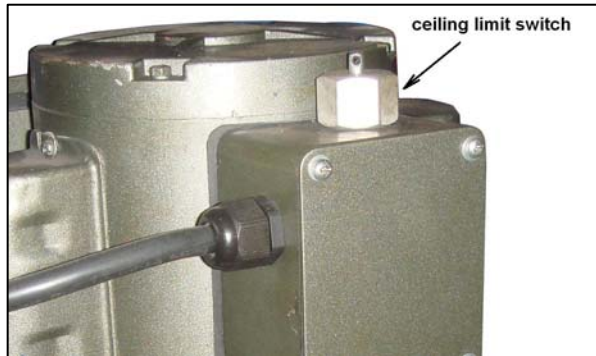


Fig. 22

Also fix this end with another rope grip with the tension of rope just enough not to lift up / open the switch. The ceiling limit device is ready.

STEP 12: (Checking running)
Do not place any vehicle on the lift at this moment. Cycle the lift up and down several times to insure latch click together and all air is removed from the cylinder system. To lower the lift, both latch releases must be manually released (Fig.23). Latches will automatically reset once the lift ascends approximately 17 " from base. If latches click out of sync, tighten the cable on the one that clicks first.



Fig.23

NOW THE LIFT IS READY FOR USE.

PERFORMANCE

RAISE LIFT

1. Read operating and safety manuals before using lift.
2. Always lift a vehicle according to the manufacturers recommended lifting points
3. Position vehicle between columns.
4. Adjust swing arms so that the vehicle is positioned with the center of gravity midway between pads.
5. Use truck adapters as needed but never exceed 9" of pad height.
6. Raise the lift by pressing button on power unit until support contacts underside of the vehicle. Recheck to make sure vehicle is secure.
7. Raise vehicle to desired working height. The latch mechanism will 'trip over' when the lift raises and drop into each latch stop. But, to lock the lift you must press the Lower level to relieve the hydraulic pressure and let the latch set tight in a safety position.

Always lock the lift before going under the vehicle. Never allow anyone to go under the lift when raising or lowering. Read the safety procedures in the manual.

Note: It is normal for an empty lift to lower slowly-it may be necessary to add weight.

LOWER LIFT

1. Be sure tool trays , stands or personal are removed from under vehicle.
2. First to raise the lift until the latch clears.
3. Pull latch release cables on both sides
WARNING: ALWAYS RELEASE BOTH SIDES
4. Press the lever at the power unit to lower the lift.
5. Before removing vehicle from lift area, position lift arms and supports to provide an unobstructed exit.
WARNING: Never drive over lift arms.



SAFETY PROCEDURES

- Never allow unauthorized persons to operate lift. Thoroughly train new employees in the operation and care of lift.
- Caution: the power unit operates at high pressure.
- Remove passengers before raising vehicle.
- Prohibit unauthorized persons from being in shop area while lift is in use.
- Total lift capacity is 6800Kg / 15000lbs. With 1700 Kg / 3750lbs per lifting arm / pad. Never exceed the capacity.
- When approaching the lift with a vehicle, center the vehicle between the columns so that the tires will clear the swing arms easily. Slowly drive the vehicle up between the posts. Have some one outside the vehicle guide the driver.
- Always lift vehicle using all four arms. Never use lift to raise one end or one side of vehicle.
- Prior to lifting vehicle, walk around the lift and check for any objects that might interfere with the operation of lift and safety latches; tools, air hoses, shop equipment.
- Raise vehicles up about 75 mm / 3 “ then check stability by rocking.
- Prior to lowering vehicle, walk around the lift and check for any objects that might interfere with the operation of lift and safety latches; tools, air hoses, shop equipment. Swing the arms out of the path and slowly drive the vehicle out. Have some one outside the vehicle guide the driver.

**ALWAYS LOCK THE LIFT BEFORE GOING UNDER THE VEHICLE.
NEVER ALLOW ANYONE TO GO UNDER THE LIFT WHEN RAISING OR LOWERING.**

MAINTENANCE SCHEDULE

The following periodic maintenance is the suggested minimum requirements and minimum intervals; accumulated hours or monthly period, whichever ever comes sooner. If you hear a noise or see any indication of impending failure - **cease operation immediately** – inspect, correct and / or replace parts as required.

WARNING OSHA AND ANSI REQUIRE USERS TO INSPECT LIFTING EQUIPMENT AT THE START OF EVERY SHIFT. THESE AND OTHER PERIODIC INSPECTIONS ARE THE RESPONSIBILITY OF THE USER.

DAILY PRE-OPERATION CHECK (8 HOURS)

The user should perform daily check. ATTENTION! LOOK OUT! Daily check of safety latch system is very important-the discovery of device failure before needed could save you from expensive property damage, lost production time, serious personal injury and even death.

- Check safety lock audibly and visually while in operation
- Check safety latches for free movement and **full engagement with rack.**
- Check hydraulic connections, and hoses for leakage.
- Check cables connections- bends, cracks-and looseness
- Check for frayed cables in both raised and lowered position.
- Check snap rings at all rollers and sheaves.
- Check anchors, bolts, nut, and screws and tighten them.
- Check wiring & switches for damage.
- Keep base plate free of dirt, grease or any other corrosive substances.
- Check floor for stress cracks near anchor bolts.
- Check swing arm restraints.

WEEKLY MAINTENANCE (40 HOURS)

- Check anchor bolts torque to 150 ft-lbs for the 19mm (3/4") anchor bolts. Do not use impact wrench.
- Check floor for stress cracks near anchor bolts.
- Check hydraulic oil level.
- Check and tighten bolts and nuts, and screws.
- Check cylinder for free movement.
- Check cable pulley for free movement and excessive wear.

YEARLY MAINTENANCE

- Grease rub blocks and column surface contacting rub blocks
- Change the hydraulic fluid. Good maintenance procedure makes it mandatory to keep hydraulic fluid clean. No hard fast rules can be established; -operating temperature, type of service, contamination levels, filtration, and chemical composition of fluid should be considered. If operating in dusty environment shorter interval may be required.

Only a trained maintenance expert should perform the following items.

- Replace hydraulic hoses
- Replace chains and rollers.
- Replace cables and sheaves.
- Replace or rebuild air and hydraulic cylinders as required.
- Replace or rebuild pumps / motors as required.
- Check hydraulic and air cylinder rod and rod end (threads) for deformation or damage.
- Check cylinder mount for looseness and damage.

Relocating or changing components may cause problems. Each component in the system must be compatible; an undersized or restricted line will cause a drop in pressure. All valve, pump, and hose connections should be sealed and / or capped until just prior to use. Air hoses can be used to clean fittings and other components. However, the air supply must be filtered and dry to prevent contamination. Contamination is the most frequent cause of malfunction or hydraulic equipment.

TROUBLE SHOOTING

1. Motor dose not run:
 - A. Breaker or fuse blown
 - B. Faulty wiring connections. Call electrician.
 - C. Motor thermal overload tripped. Wait for overload to cool.
 - D. Defective up button. Call electrician for checking.
 - E. Defective Capacitor. Call electrician for checking.

2. Motor runs but will not raise:
 - A. Oil level to low. Oil level should be just under the vent cap port when the lift is down!!!
 - B. Check the clearance in the plunger valve of the lowering handle.
 - C. Remove the check valve cover and clean ball and seat.
 - D. A piece of trash is under check valve. Push handle down and push the up button at the same time. Hold for 10-15 seconds. This should flush the system.

3. Oil blows out breather of power unit:
 - A. Oil reservoir overfilled.
 - B. Lift lowered too quickly while under a heavy load.

4. Motor hums and will not run:
 - A. Lift overloaded--- remove excessive weight from lift
 - B. Bad capacitor-----call electrician
 - C. Low voltage-----call electrician
 - D. Faulty wiring-----call electrician

5. Lift jerks going up and down:
 - A. Air in hydraulic system-----Raise lift all the way to top and return to floor. Repeat 4-6 times with interval at least 2 min. Not let this overheat power unit.

6. Oil leaks
 - A. Power unit-----If the power unit leaks hydraulic oil around the tank-mounting flange, check the oil level in the tank. The level should be two inches below the flange of the tank. Check with a screwdriver.
 - B. Rod end of cylinder-----The rod seal of the cylinder is out. Rebuild or replace the cylinder.
 - C. Breather end of the cylinder-----the piston seal of the cylinder is out. Rebuild or replace the cylinder.

7. Lift makes excessive noise.
 - A. Carriage of the lift is dry and requires grease.
 - B. Cylinder pulley assembly or cable pulley assembly is not moving freely. Check and grease it.
 - C. May have excessive wear on pins or cylinder yoke. Check and replace them.

OWNER / EMPLOYER RESPONSIBILITIES

The owner/Employer:

Shall establish procedures to periodically maintain, inspect and care for the lift in accordance with the manufactures recommended procedures to ensure its' continued safe operations.

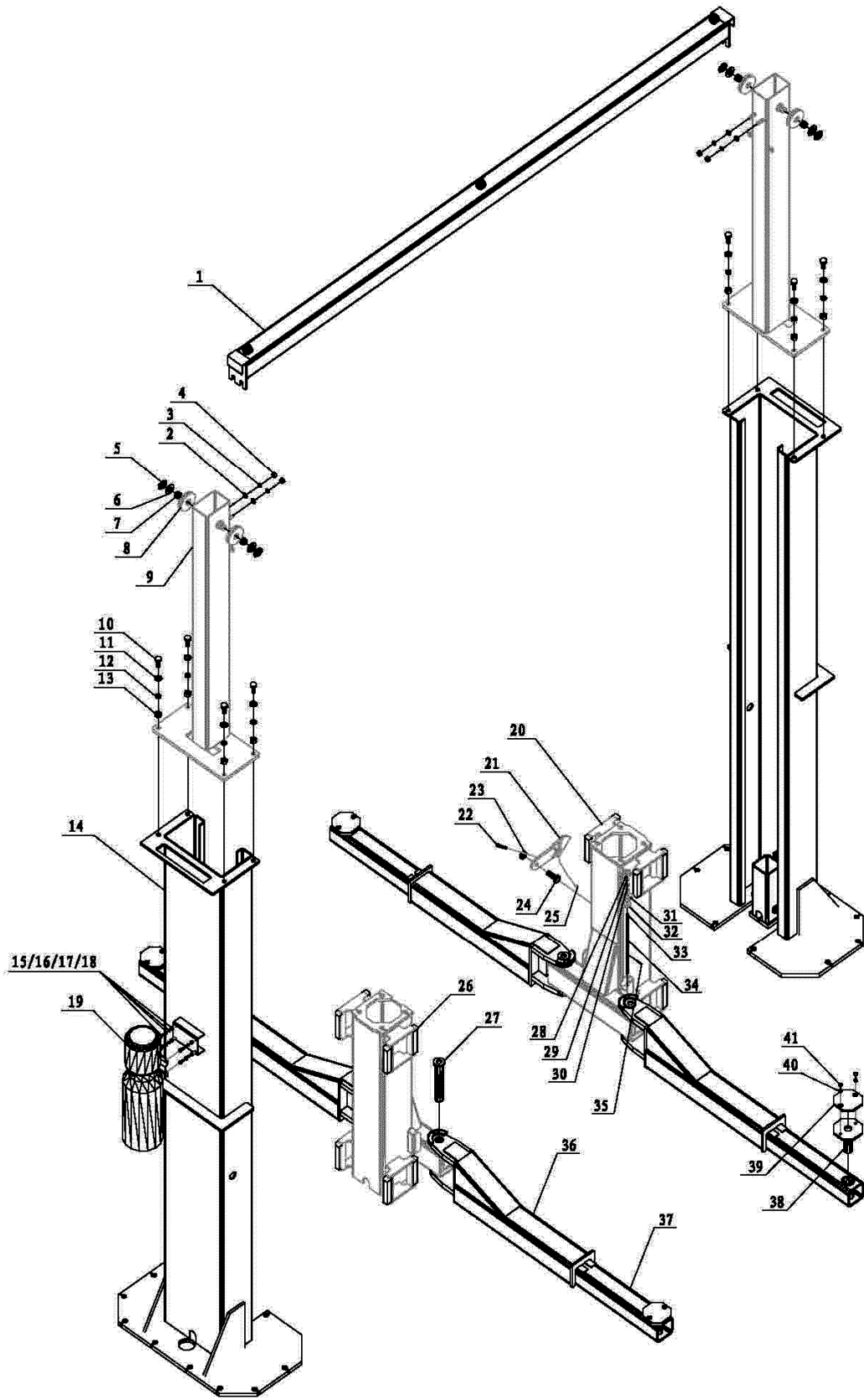
Shall provide necessary lookout of energy sources per ANSIZ244.1 –1982 before beginning any lift repairs.

Shall not modify the lift in any manner without prior written consent of the manufacture.

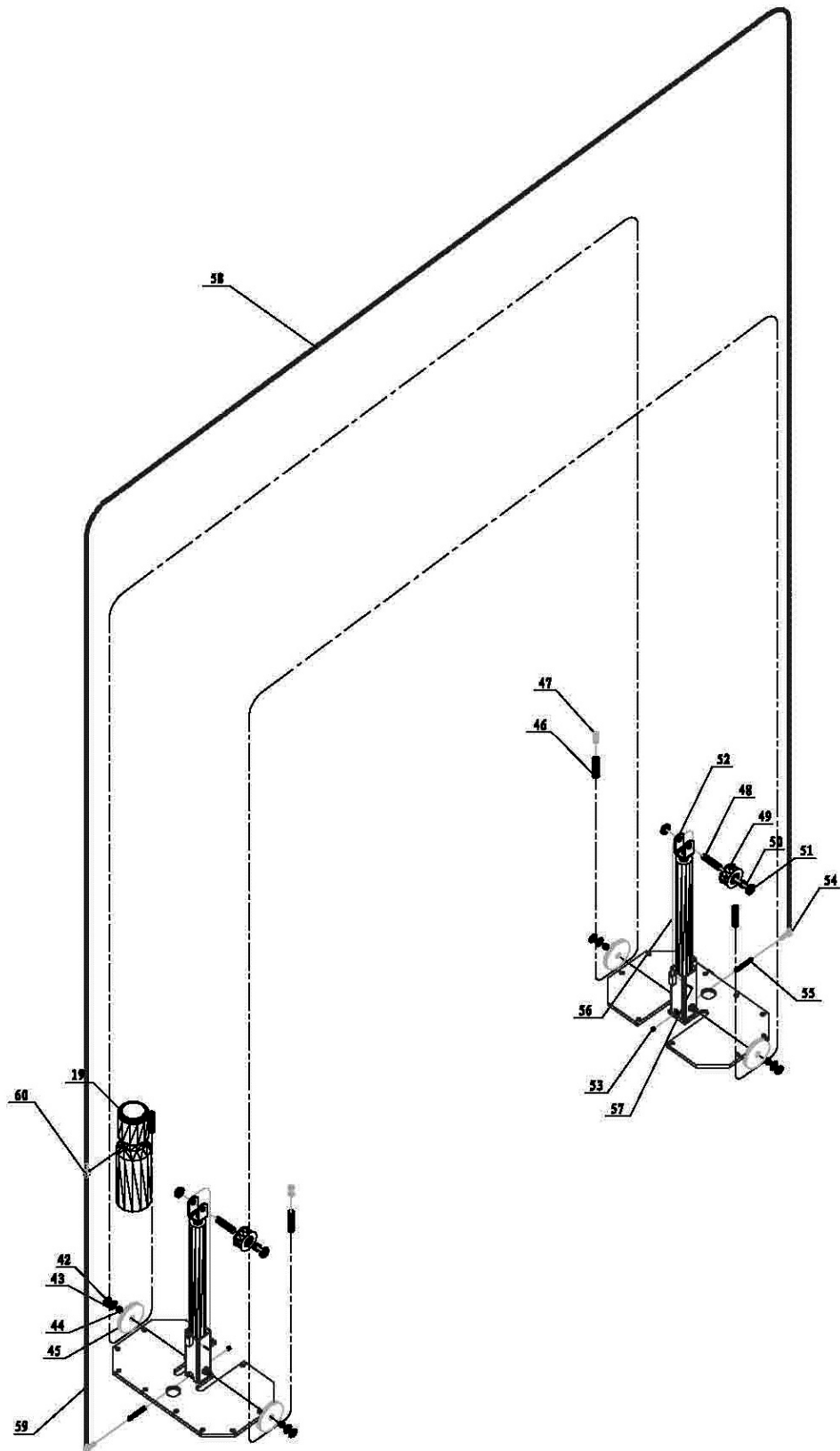
Shall display the operating instructions and 'Lifting It Right' and 'Safety Tips' supplied with the lift in a conspicuous location in the lift area convenient to the operator.

Shall insure that lift operators are instructed in the proper and safe use and operation of the lift using the manufacturer's instructions and "Lift It Right: and "safety Tips" supplied with the lift.

PARTS DRAWING Fig. A-1



Cable routing Fig. A-2

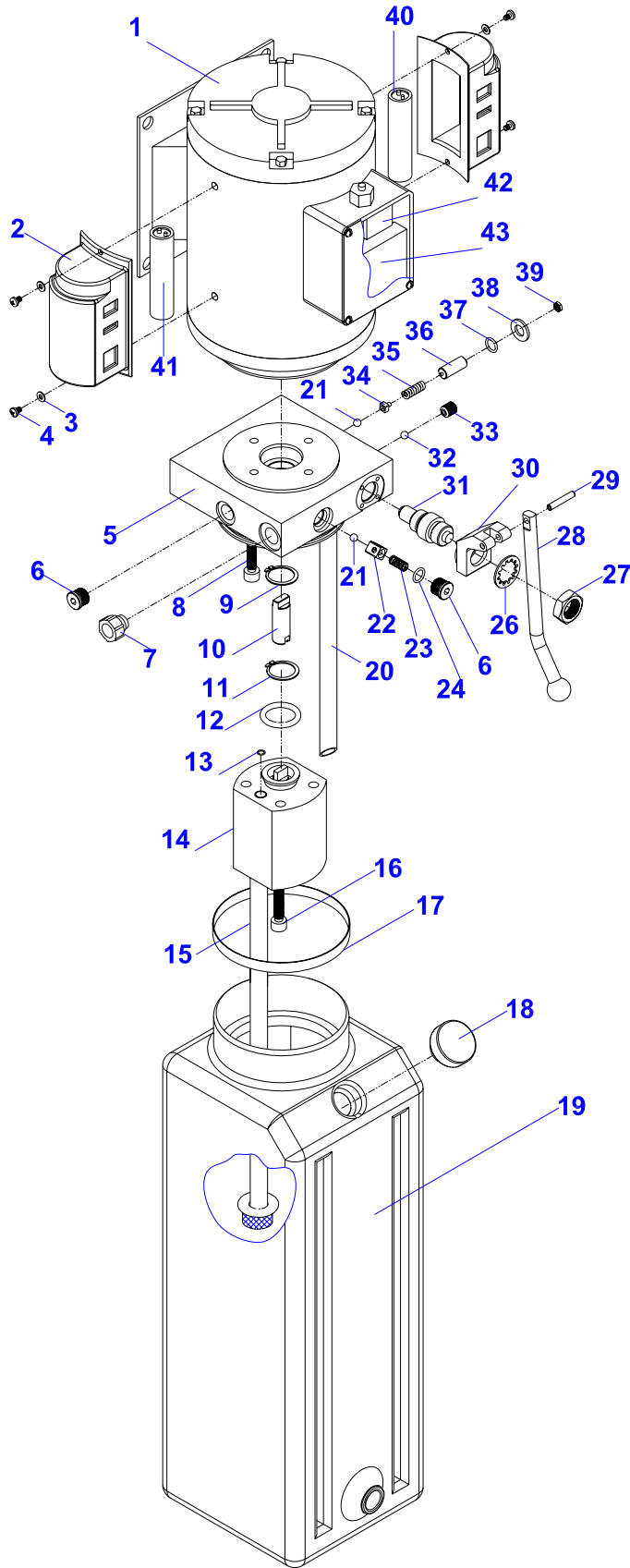


PARTS CODE LIST

ITEM	CODE	DESCRIPTION	QTY
1	165915*01-001	Cross Beam Parts	1
2	165915*01-002	Bushing	4
3	165915*01-003	Spring Washer	4
4	165915*01-004	Nut	4
5	165915*01-005	Spindle Washer	4
6	165915*01-006	Bushing	4
7	165915*01-007	Oil less Bush	4
8	165915*01-008	idler wheel	4
9	165915*01-009	Up-rights	2
10	165915*01-010	Bolt	8
11	165915*01-011	Flat Washer	8
12	165915*01-012	Spring Washer	8
13	165915*01-013	Nut	8
14	165915*01-014	Column(main and offside)	1 each
15	165915*01-015	Bolt	4
16	165915*01-016	Bushing	4
17	165915*01-017	Spring Washer	4
18	165915*01-018	Nut	4
19	165915*01-019	Hydraulic Pump	1
20	165915*01-020	Carriage	2
21	165915*01-021	Safety Jointing	2
22	165915*01-022	Pull Spring	2
23	165915*01-023	Self-lock Nut	2
24	165915*01-024	Hexangular Bolt	2
25	165915*01-025	Pull Rope	2
26	165915*01-026	Rubber Block	16
27	165915*01-027	Pin	4
28	165915*01-028	Handle Ball	4
29	165915*01-029	Nut	4
30	165915*01-030	Flat Washer	4
31	165915*01-031	Rack	4
32	165915*01-032	Bushing	4
33	165915*01-033	Pull Pin	4
34	165915*01-034	Spring	4
35	165915*01-035	Snap Ring	4
36	165915*01-036	Swing Arm	4
37	165915*01-037	Active Arm	4

ITEM	CODE	DESCRIPTION	QTY
38	165915*01-038	Salver Jointing	4
39	165915*01-039	Rubber Insert	4
40	165915*01-040	Nut	8
41	165915*01-041	Bolt	8
42	165915*01-042	Spindle Washer	4
43	165915*01-043	Bushing	4
44	165915*01-044	oil less bush	4
45	165915*01-045	Idler Wheel	4
46	165915*01-046	Steel Cable	2
47	165915*01-047	Self-lock Nut	4
48	165915*01-048	Spindle	2
49	165915*01-049	Idler Wheel	2
50	165915*01-050	Multiple Bush	2
51	165915*01-051	Self-lock Nut	4
52	165915*01-052	hydraulic cylinder	2
53	165915*01-053	Hexangular Bolt	2
54	165915*01-054	elbow fitting	2
55	165915*01-055	Cross Beam Fitting	2
56	165915*01-056	Chain	2
57	165915*01-057	Chain Bolt	4
58	165915*01-058	Hydraulic Pose I	1
59	165915*01-059	Hydraulic Pose II	1
60	165915*01-060	T fitting	1

Fig. A-8 **DURO** MOTOR PUMP DRAWING



MOTOR PUMP PARTS LIST

ITEM	CODE	DISCRIBTION	QUANTITY
1	165915*02-001	Motor	1
2	165915*02-002	Capacitor case	2
3	165915*02-003	Flat washer	4
4	165915*02-004	Screw	4
5	165915*02-005	Valve block	1
6	165915*02-006	Cap nut	2
7	165915*02-007	Plastic cap nut	1
8	165915*02-008	Hex socket bolt	4
9	165915*02-009	Circlip	1
10	165915*02-010	Joint	1
11	165915*02-011	Circlip	1
12	165915*02-012	O-ring	1
13	165915*02-013	O-ring	1
14	165915*02-014	Gear pump	1
15	165915*02-015	Suck-pipe assembly	1
16	165915*02-016	Hex socket bolt	2
17	165915*02-017	Hose clamp	1
18	165915*02-018	Tank cover	1
19	165915*02-019	Plastic tank	1
20	165915*02-020	Return pipe	1
21	165915*02-021	Ball	2
22	165915*02-022	Ball seat	1
23	165915*02-023	Spring	1
24	165915*02-024	O-ring	1
26	165915*02-025	Teeth washer	1

ITEM	CODE	DISCRIBTION	QUANTITY
27	165915*02-026	Nut	1
28	165915*02-027	Release valve lever	1
29	165915*02-028	lever pin	1
30	165915*02-029	release valve seat	1
31	165915*02-030	Pressure release valve	1
32	165915*02-031	Ball	1
33	165915*02-032	Hex socket threaded pin	1
34	165915*02-033	Ball seat	1
35	165915*02-034	Spring	1
36	165915*02-035	Threaded pin	1
37	165915*02-036	O-ring	1
38	165915*02-037	Washer	1
39	165915*02-038	Locking nut	1
40	165915*02-039	Running capacitor	1
41	165915*02-040	Start capacitor	1
42	165915*02-041	Micro-switch	1
43	165915*02-042	Snap switch	1