# 30-20905A

## 10,000 LB CAPACITY
## 2-POST LIFT


***INSTALLATION AND SERVICE MANUAL***

# CONTENTS

# PRODUCT FEATURES AND SPECIFICATIONS

## CLEARFLOOR MODEL FEATURES

### MODEL 30-20905A (See Fig. 1)

- Direct-driving design, minimize the lift wear parts and breakdown ratio.
- Dual hydraulic direct-drive cylinders, designed and made on ANSI standard, utilizing oil seal for cylinder.
- Self-lubricating UHMW Polyethylene sliders and bronze bush.
- Single-point safety release, and dual safety design.
- Clearfloor design, provide unobstructed floor space.
- Overhead safety shut-off device.
- Supersymmetric (2 in 1) arms design, makes it easier to find the lift point of the car.
- Stackable adapters 1.5”, 3”, 6” as standard.

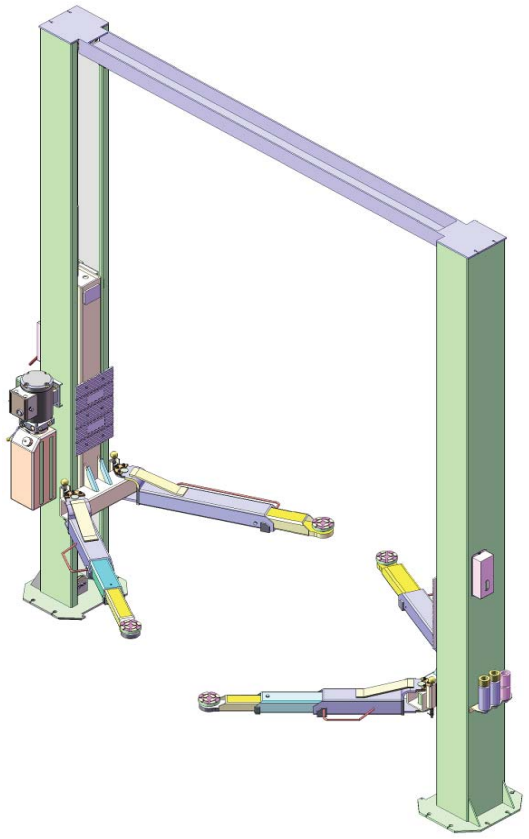


**Fig. 1**

## CLEARFLOOR MODEL SPECIFICATIONS

| Model | Style | Lifting Capacity | Lifting Time | Lifting Height | Overall Height | Overall Width | Width Between Posts | Minimum Pad Height | Motor |
|---|---|---|---|---|---|---|---|---|---|
| 30-20905A | Clear floor Direct-drive | 4.5T<br>10,000Lbs | 60S | 1950-2080 mm<br>76-4/5” ~ 81-7/8” | 3852 mm<br>151-2/3” | 3516 mm<br>138-3/7” | 2850 mm<br>112-1/5” | 86 mm<br>3-2/5” | 2.0/3.0 HP |

## Arm Swings View (For 30-20905A)

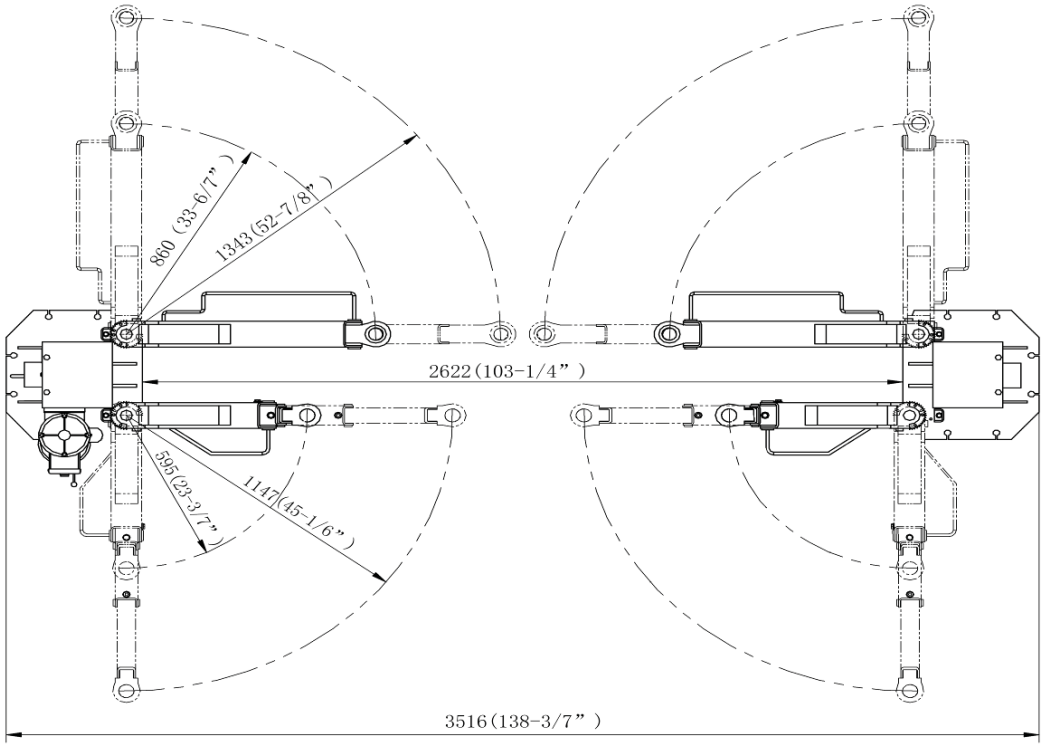



**Fig. 2**

## Ⅱ. INSTALLATION REQUIREMENT

### A. TOOLS REQUIRED

- ✓ Rotary Hammer Drill (Φ18)
- ✓ Hammer
- ✓ Foot Level
- ✓ English Spanner (12")
- ✓ Ratchet spanner with socket ($10^{\#}$, $13^{\#}$, $14^{\#}$, $15^{\#}$, $17^{\#}$, $24^{\#}$, $27^{\#}$)
- ✓ Hex-key/Allen Wrench Set ($5^{\#}$)
- ✓ Carpenter's Chalk
- ✓ Screw Sets
- ✓ Tape Measure(7.5m)
- ✓ Needle Nose Pliers
- ✓ Lock Wrench

### B. SPECIFICATIONS OF CONCRETE (See Fig. 3)

**SPECIFICATIONS OF CONCRETE MUST BE ADHERED TO AS FOLLOWS. FAILURE TO DO SO MAY RESULT IN LIFT AND/OR VEHICLE FALLING.**

1. Concrete must be thickness 150mm minimum and without reinforcing steel bars, and must be dried totally before the installation.
2. Concrete must be in good condition and must be of test strength 3,000psi (220kg/cm²) minimum.
3. Floors must be level and no cracks.

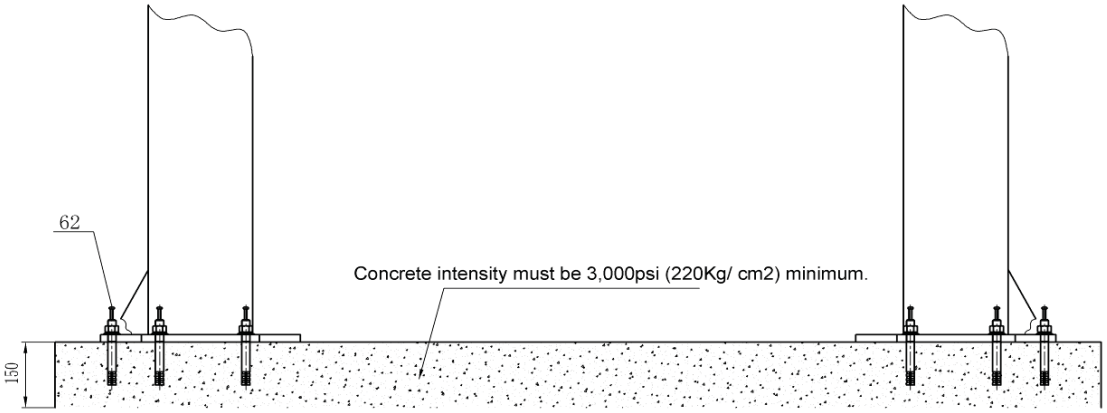



**Fig. 3**

### C. POWER SUPPLY

The capacity of power must be 3HP minimum. The line must be 2.5mm² minimum and in good condition of contacting with floor.

## Ⅲ. STEPS OF INSTALLATION

A. Location of Installation

Check and insure the installation location (concrete, layout, s pace size etc.) is suitable for lift installation.

B. Use a carpenter's chalk line to establish installation layout o f baseplate (See Fig. 4) .

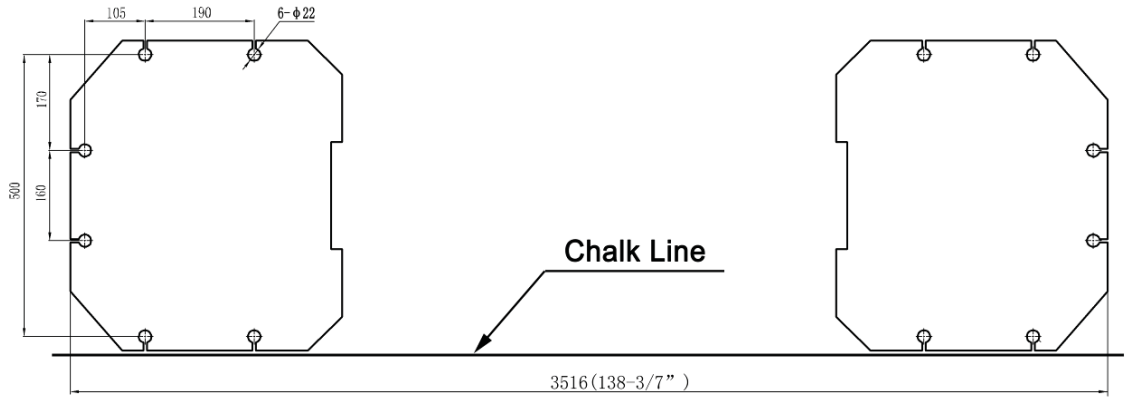



Fig. 4

C. Check the Parts Before Assembly

1. Move aside the lift with forklift or hoist, and open the outer packing carefully , and check the parts according to the shipment parts list (see picture 1)


picture 1

2. Open the carton of parts and check the parts according to parts box list ( see picture 2 )

3. Check the parts of the parts bag according to parts bag list **(see picture 3)**


**Picture 2**


**Picture 3**

**D. Position Powerside post**

Lay down two posts on the installation site parallel, position the Powerside Post according to the actual installation environment. Usually, it is suggested to install Powerside Post on the front-right side from which vehicles are driven to the lift.

**E. Assembly**

Install Overhead Beam (30-20905A), Oil Hose Assy.

**Note:** The direction of Hydraulic Cylinder Fitting and the connection of the Oil Hose Assy. should be in accordance with the sketch maps of Hydraulic System **(See Fig. 5).** Otherwise, the Oil Hose would be damaged by the Lifting Head.

**Model: 30-20905A**

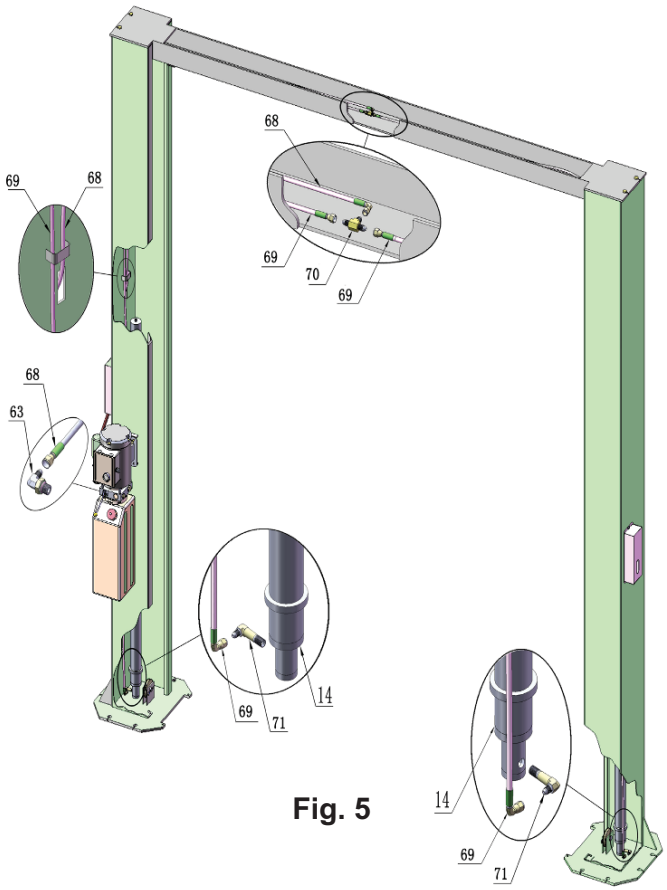



**Fig. 5**

**F. Install Cable (see Fig. 6)**

**Model: 30-20905A**

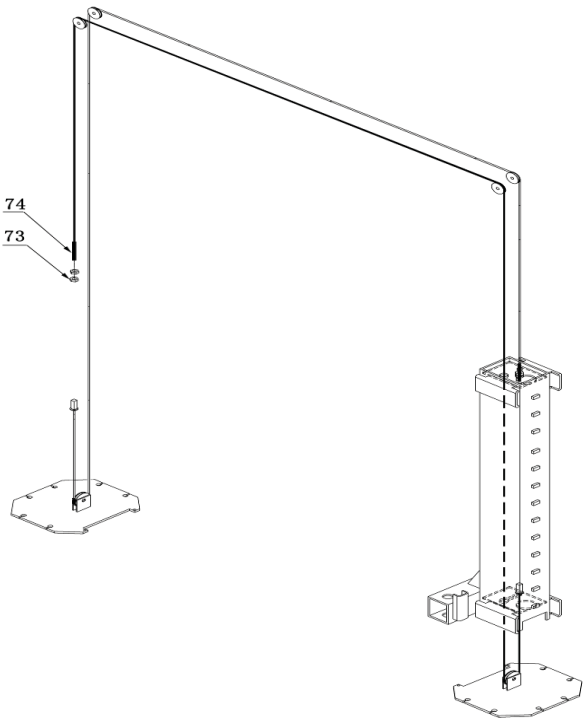



**Fig. 6**

**G. Install Safety Device and Safety cable**

**(See Fig. 7)**

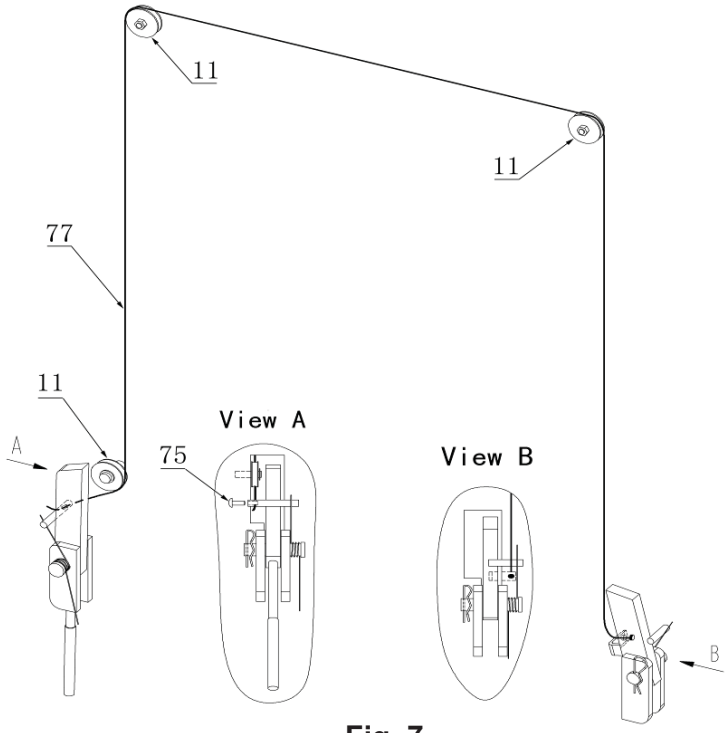



**Fig. 7**

**H. Fix the two Posts**

Position posts, making sure their positions are conformed to the chalkline. Using the prescribed rotary hammer drill, drill all the anchor holes and install the anchor bolts. Make sure the posts level and plumbness with each other using the shims, and tighten the Anchor Bolts **(See Fig. 8)**.

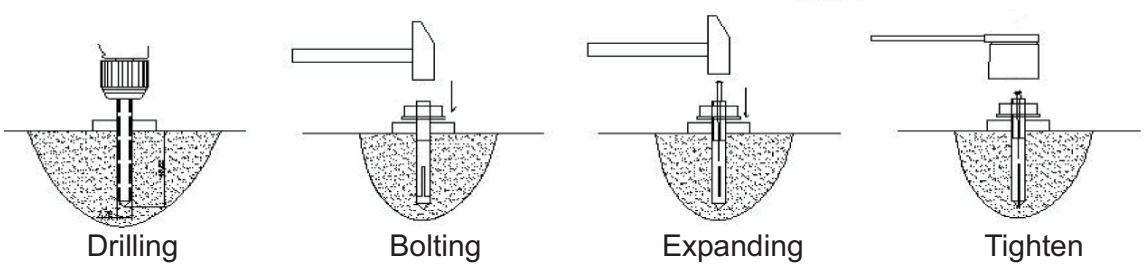


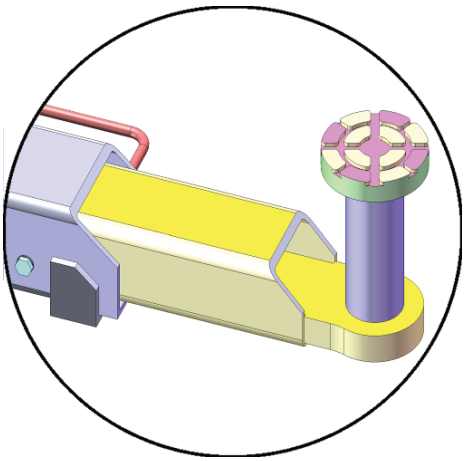

**Fig. 8**

**I. Install Lifting Arms and Pads**

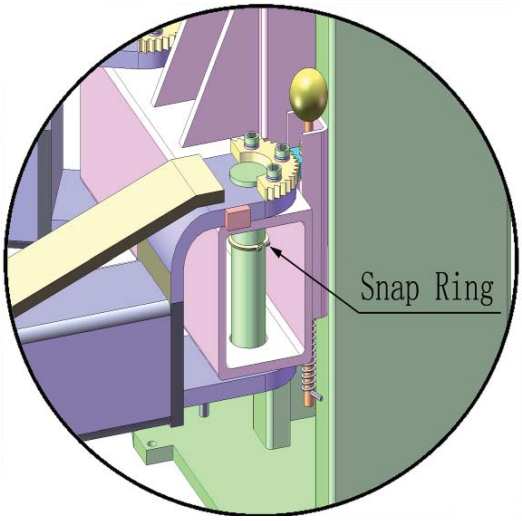
Install the Lifting Arms, Lift Pads and and Snap Rings (**See picture 4, 5**); Attach the

Power Unit to the Powerside Post, connect the Oil hoses and tighten all the hydraulic fittings, and fill the tank with Hydraulic oil.

**(Note: In consideration of Power Unit's durability and keep the equipment running in the perfect condition, please use Hydraulic Oil #46)**



**Picture 4**




**Picture 5**

**J. Install Electrical System (See Fig. 9)**

Connect the power source as per the data plate of the Power Unit. **For 30-20905A:** make

sure the installation of the limit switch is correct **(See Picture 6)**

**(Note: For the safety of operators, the power wiring must contact the floor well. Pay attention to the direction of rotations when using 380V, three phase motors).**

**Model 30-20905A**

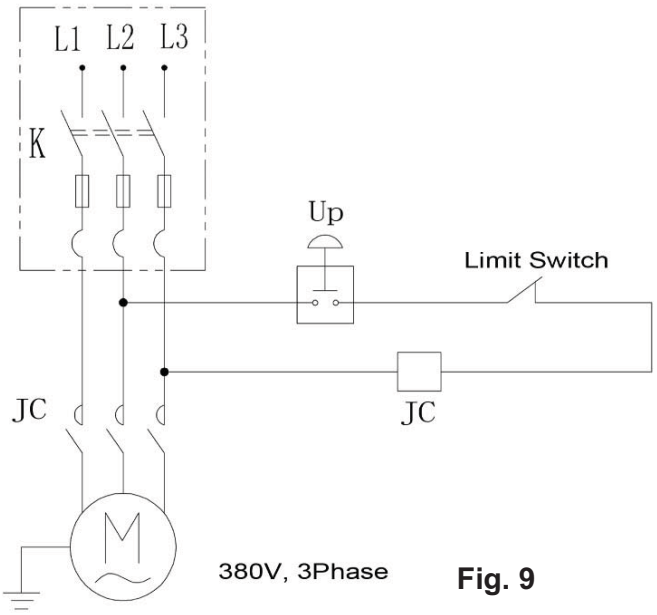
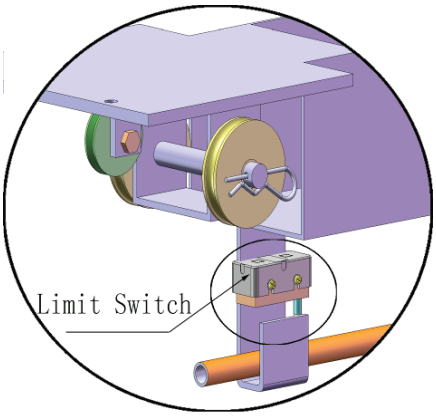



**Fig. 9**




**Picture 6**

| **Motor Wiring Diagram of Power Unit** |
| --- |
| |

For Clearfloor two post lifts 30-20904A and 30-20905A:

1. Connect two external power supply lines (Firewire L and the zero line N) to terminal blocks which are labeled L1, L2 on AC contactor respectively .

2. Connect two motor lines to terminal blocks which are labeled T1,T2 on AC contactors respectively.

3. Connect line A2 to L2 on AC contactor.

4. When connecting to the limit switch of Clearfloor two post lift, remove the terminal blocks 4 # on the control switch and A1 which marked on AC contactor first, and then connect two lines on limit switch to the terminal blocks 4# and A1. separately (See Fig.1 and Fig.2)

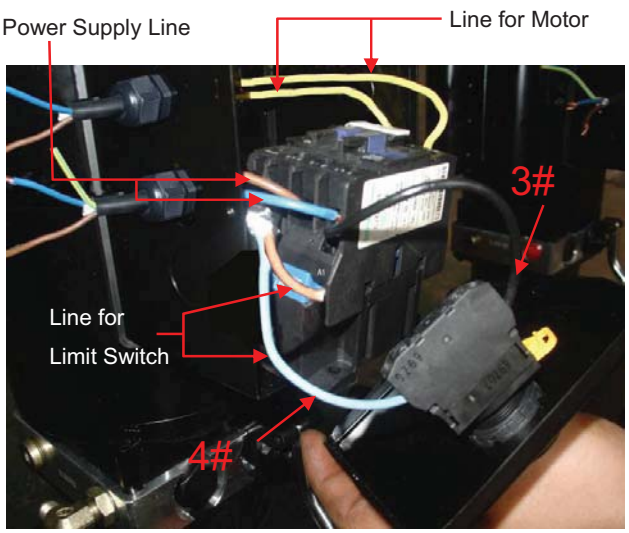
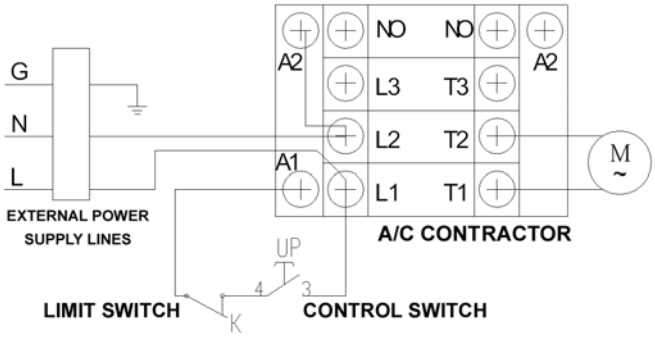



**Fig. 3**

**30-20905A-10**
**Motor Wiring Diagram of Power Unit**




**30-20905A-10**
**Circuit Diagram**

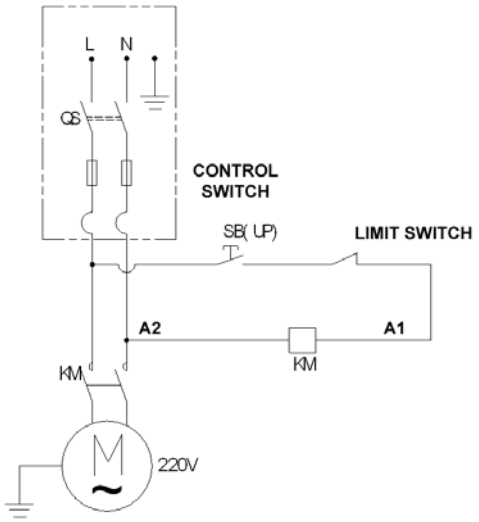



**Fig. 4**

**Motor Wiring Diagram of Single Phase Power Unit (See Fig.6)**

Clearfloor Model

1. Connect external power supply line (Firewire line L) to limit switch line 1#
2. Connect limit switch line #2 to motor line #5
3. Connect motor line #6 to control switch line #3
4. Connect control switch line #4 to external power supply line ( Zero line N).

Floorplate Model

1. Connect external power supply line (Zero line L) to control switch line #4
2. Connect control line #3 to motor line #6
3. Connect motor line #5 to external power supply line (Firewire line L).

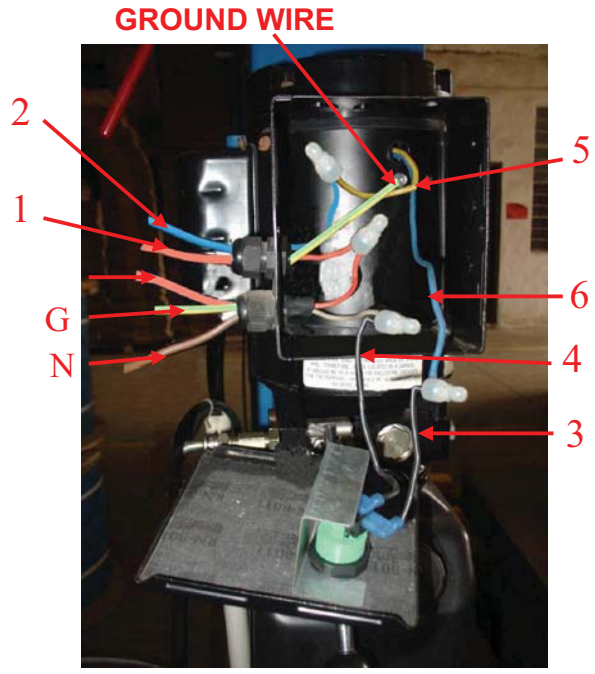
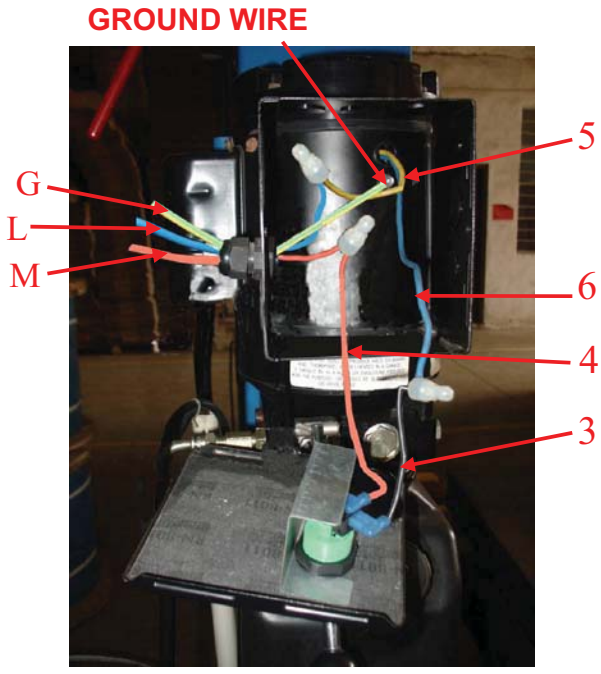
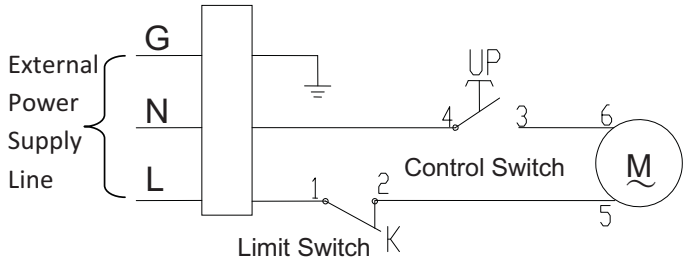
| **Clearfloor Model – Motor Wiring Diagram** | **Floorplate Model – Motor Wiring Diagram** |
|---|---|
|  |  |



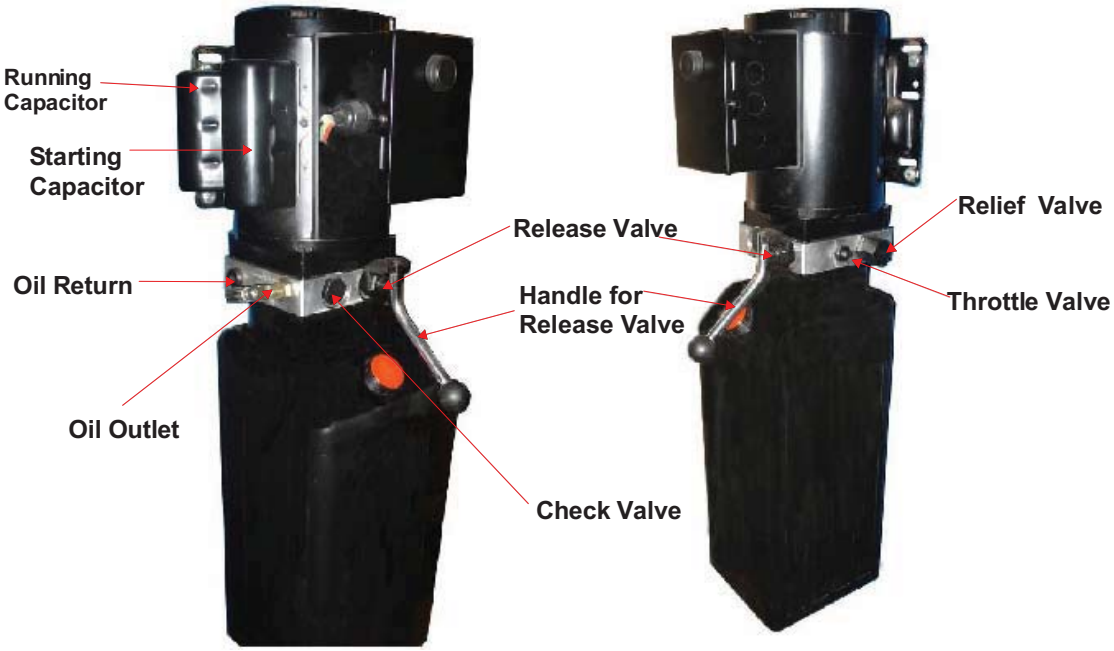
**Fig. 6**

**30-20905A-10**
**Motor Wiring Diagram of Power Unit**
**Fig. 8**

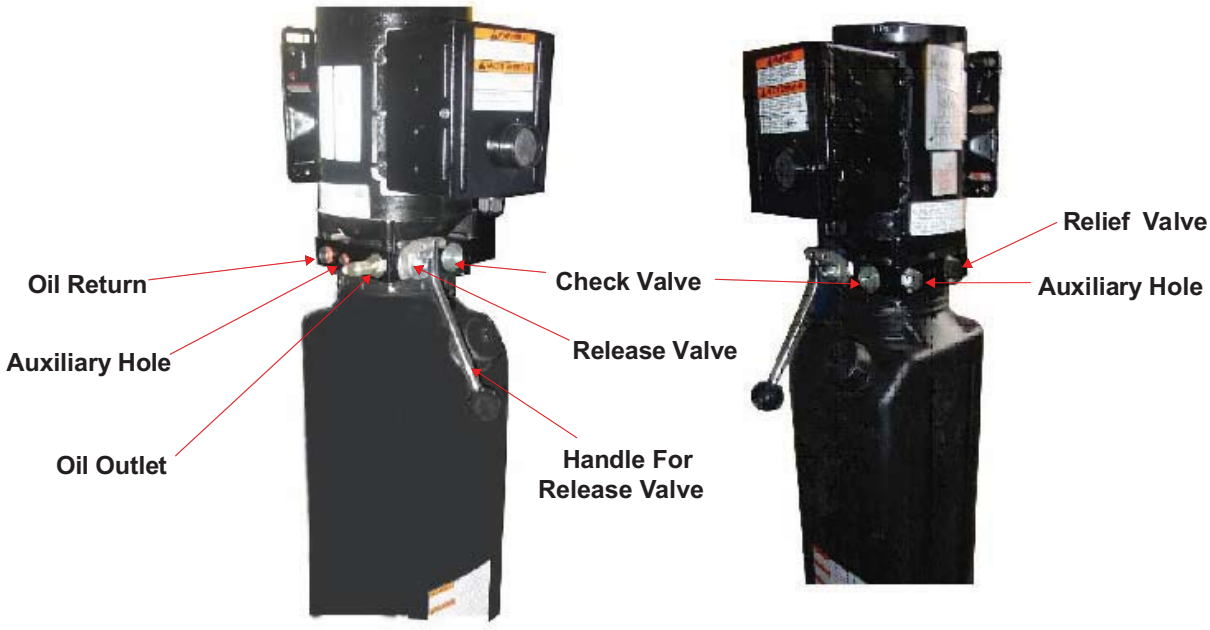


## Valve Illustration of pump style ‘A’ and ‘B’ - SPX

Style “A”




Style “B” - SPX




## IV. EXPLODED VIEW

# Model 30-20905A

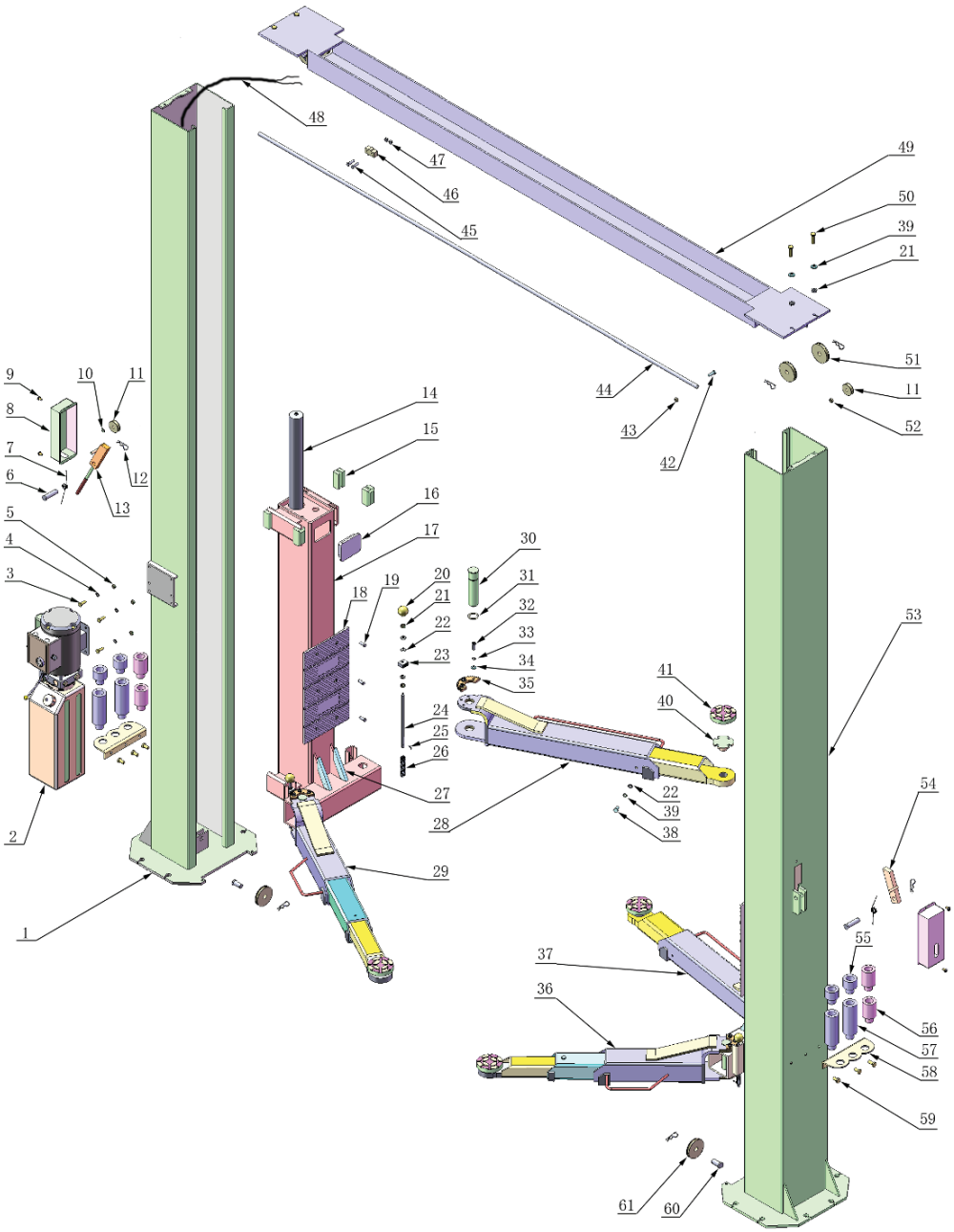



**Fig. 10 (see page 22)**

## Cylinders

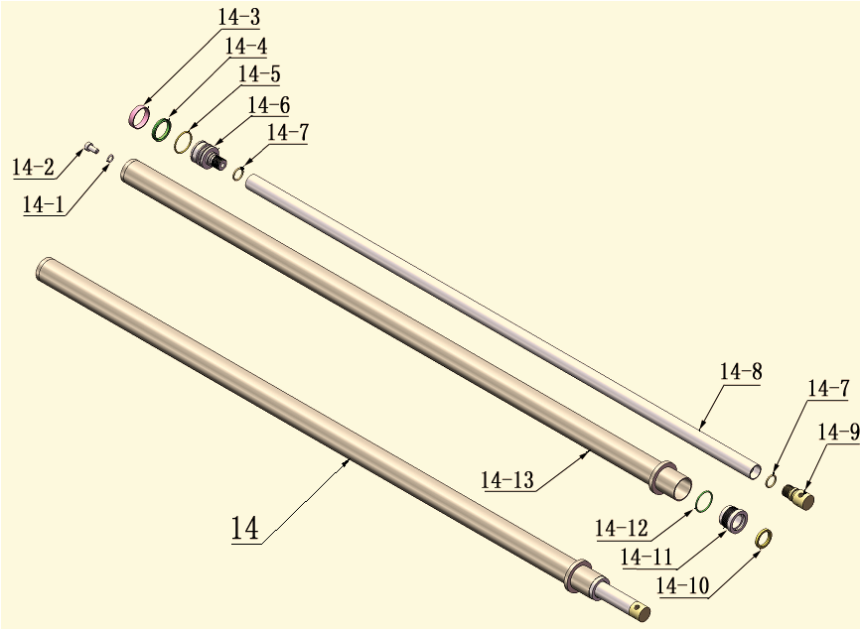



**Fig. 11**

## Hydraulic Power Unit

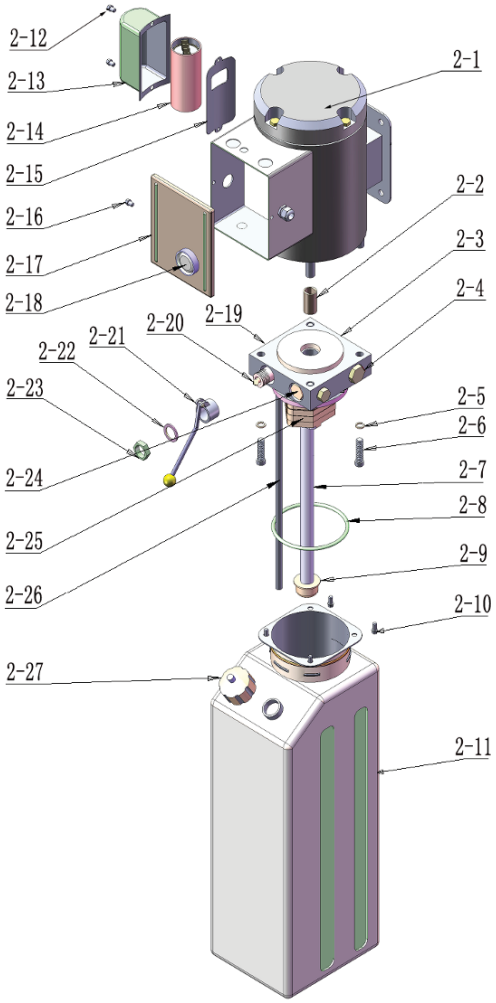



**Fig. 12**

## V. TEST RUN

**1. Adjust Synchronous Cable (See Picture 7)**

Use 14# Ratchet Spanner to hold the cable fitting, meanwhile use 24# Ratchet spanner to tighten the cable nut. Make sure two Cables are in the same tension so that two Lifting Heads can work synchronously. Fit the Plastic Hole Cover on the Lifting Head.

**2. Adjust Safety Cable**

Lift the carriage and lock at the same height, strain the safety cable and then release a little, and then tighten the cable screw. Make sure the safety device can always work properly.

**3. Bleeding Air (See Picture 8)**

This Hydraulic System is designed to bleed air by loosening the bleeding plug. Lifting the carriage to about 1 meter in height, and loosen the bleeding plug, the air will be exhausted automatically. Don't forget to tighten the plug after bleeding.


**Picture 7**


**Picture 8**

**4. Adjust the lower speed**

You can adjust the lower speed of the lift as required: loosen the Fixing Nut of the Throttle Valve, and then turn the Throttle Valve clockwise to decrease the lower speed, or counterclockwise to increase the lower speed. Do not forget to tighten the Fixing Nut after the lower speed adjustment has been done.

**Note: For some power unit, the lower speed is fixed at factory and can't be adjustable.**

**5. Test with load**

After finishing the above adjustment, test run the lift with a load. Run the lift in low position for several times first, make sure the lift can rise and lower synchronously, the Safety Device can lock and release synchronously. And then test run the lift to the top completely. If there is anything improper, repeat the above adjustment.

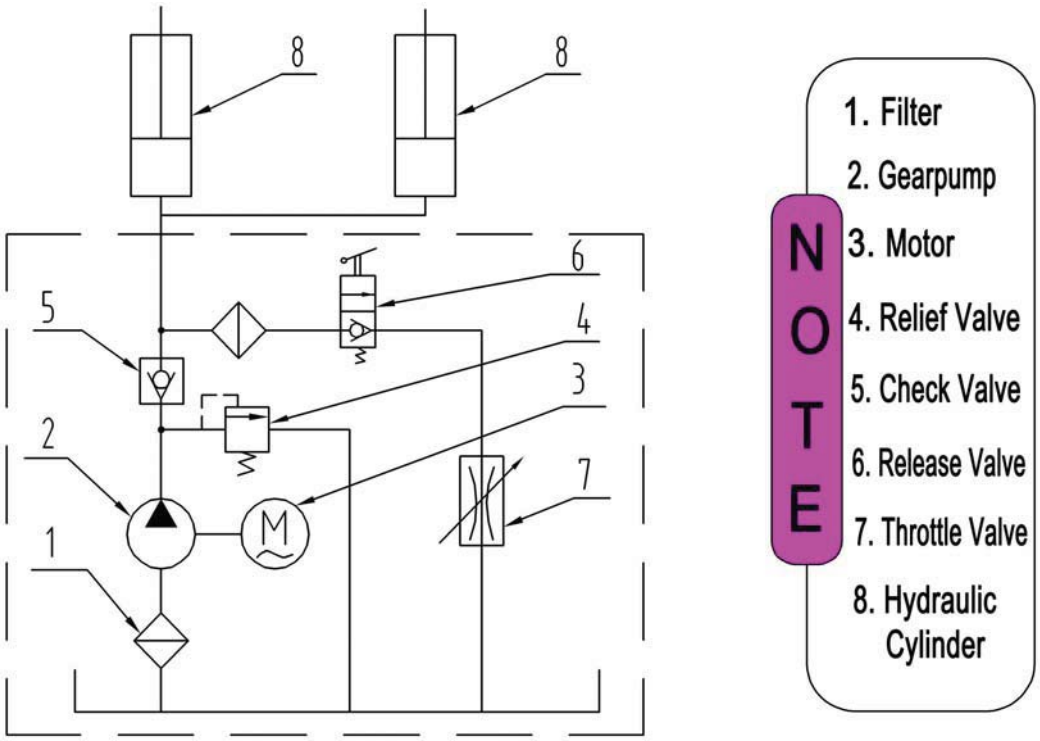



**Fig. 13 Hydraulic System**

## Ⅵ. OPERATION INSTRUCTIONS

**To lift vehicle**

1. Keep the environment near the lift clean;
2. Position lift arms to the lowest position;
3. To shortest lift arms;
4. Open lift arms;
5. Position vehicle between columns;
6. Move arms to the vehicle's lifting point;

**Note: The four lift arms must at the same time contact the vehicle's lifting point where manufacturers recommended**

7. Press the **UP** button until the lift pads contact underside of vehicle totally. Recheck to make sure vehicle is secure;
8. Continue to raise the lift slowly to the desired working height, ensuring the balance of vehicle;
9. Push lowering handle to lower lift onto the nearest safety. The vehicle is ready to repair.

**To lower vehicle**

1. Be sure area is clear around and under the lift, only leaving operator in lift area;
2. Press the **UP** button to raise the vehicle slightly, and then release the safety device, lower vehicle by pushing lowering handle.
3. Open the arms and position them to the shortest length;
4. Drive away the vehicle.
5. Turn off the power.

## VII. MAINTENANCE SCHEDULE

**Monthly:**

1. Re-torque the anchor bolts to 80-117 Nm;
2. Check all connectors, bolts and pins to insure proper mounting;
3. Lubricate cable with lubricant;
4. Make a visual inspection of all hydraulic hoses/lines for possible wear or leakage;
5. Check Safety device and make sure proper condition;
6. Lubricate all Rollers and Pins with 90wt. Gear oil or equivalent;

**Note: All anchor bolts should take full torque. If any of the bolts does not function for any reason, DO NOT use the lift until the bolt has been replaced.**

**Every six months:**

1. Make a visual inspection of all moving parts for possible wear, interference or damage.
2. Check and adjust as necessary, equalize tension of the cables to insure level lifting.
3. Check columns for plumbness.
4. Check Rubber Pads and replace as necessary.
5. Check Safety device and make sure in proper working condition.

## Ⅷ. TROUBLE SHOOTING

| TROUBLE | CAUSE | REMEDY |
|---|---|---|
| Motor does not run | 1. Button does not work<br>2. Wiring connections are not in good condition<br>3. Motor burned out<br>4. Height Limit Switch is damaged<br>5. AC Contactor burned out | 1. Replace button<br>2.Repair all wiring connections<br>3. Repair or replace motor<br>4.Replace the Limit Switch<br>5. Replace AC Contactor |
| Motor runs but the lift does not raise | 1. Motor runs in reverse rotation<br>2. Gear Pump out of operation<br>3. Release Valve is damaged<br>4. Relief Valve or Check Valve in damage<br>5. Low oil level | 1.Reverse two power wire<br>2.Repair or replace<br>3. Repair or replace<br>4.Repair or replace<br>5.Fill tank |
| Lift does not stay up | 1. Release Valve not working<br>2. Relief Valve or Check Valve leakage<br>3. Cylinder or Fittings leak | Repair or replace |
| Lift raises slowly | 1. Oil line is jammed<br>2. Motor running on low voltage<br>3. Oil mixed with Air<br>4. Gear Pump leaks<br>5. Overloaded lift | 1. Clean the oil line<br>2. Check electrical system<br>3. Fill tank<br>4. Replace Pump<br>5. Check load |
| Lift will not lower | 1. Safety devices are activated<br>2. Release Valve is damaged<br>3. Safety cable broken<br>4. Oil system is jammed | 1. Release the safeties<br>2. Repair or replace<br>3. Replace<br>4. Clean the oil system |

| Clear floor Model 30-20905A (See Fig.10) | | | | |
|---|---|---|---|---|
| Item | Part No. | Description | Qty. | Note |
| | | | 30-20905A | |
| 1 | 211001 | Powerside Post | 1 | |
| 2 | 209002 | Power Unit | 1 | |
| 3 | 209003 | Hex Bolt | 4 | |
| 4 | 209004 | Rubber Ring | 4 | |
| 5 | 209005 | Nylok Nut | 4 | |
| 6 | 209006 | Safety Pin | 2 | |
| 7 | 209007 | Safety Spring | 2 | |
| 8 | 209008 | Safety Cover | 2 | |
| 9 | 209009 | Cup Head Bolt | 4 | |
| 10 | 209010 | Snap Ring | 1 | |
| 11 | 209049 | Plastic Pulley | 3 | |
| 12 | 209012 | Hair Pin | 8 | |
| Item | Part No. | Description | Qty. | Note |
| | | | 30-20905A | |
| 13 | 209013 | Powerside Safety Assy. | 1 | |
| 14 | 209014 | Cylinder | 2 | |
| 15 | 209015 | Slider | 16 | |
| 16 | 209016 | Carriage Plastic Cover | 2 | |
| 17 | 211002 | Lifting Head | 2 | |
| 18 | 209018 | Protective Rubber | 2 | |
| 19 | 209019 | Bolt | 12 | |
| 20 | 209020 | Plastic Ball | 4 | |
| 21 | 209021 | Hex Nut | 12 | |
| 22 | 209022 | Washer | 14 | |
| 23 | 209023 | Teeth/Spring Washer | 4 | |
| 24 | 209024 | Arm Lock Bar | 4 | |
| 25 | 209025 | Hair Pin | 4 | |
| 26 | 209026 | Spring | 4 | |
| 27 | 209027 | Protective Rubber Sets | 4 | |
| 28 | 209028 | Lifting Arm – Rear Right (2-Stage) | 1 | |
| | 213001 | Lifting Arm – Rear Right (3-Stage) | 0 | |
| 29 | 209029 | Lifting Arm – Front Right (3-Stage) | 1 | |
| | 213002 | Lifting Arm – Front Right (2-Stage) | 0 | |
| 30 | 209030 | Lifting Arm Pin | 4 | |
| 31 | 209031 | Snap Ring | 4 | |
| 32 | 209032 | Socket Bolt | 12 | |
| 33 | 209033 | Washer | 18 | |
| 34 | 209034 | Lock Washer | 12 | |

| | | | | |
|---|---|---|---|---|
| 35 | 209035 | Gear | 4 | |
| 36 | 209036 | Lifting Arm – Front Left (3-Stage) | 1 | |
| | 213003 | Lifting Arm – Front Left (2-Stage) | 0 | |
| 37 | 209037 | Lifting Arm – Rear Left (2-Stage) | 1 | |
| | 213004 | Lifting Arm – Rear Left (3-Stage) | 0 | |
| 38 | 209038 | Hex Bolt | 6 | |
| 39 | 209039 | Lock Washer | 14 | |
| 40 | 209040 | Lift Pad Weldment | 4 | |
| 41 | 209041 | Rubber Pad | 4 | |
| 42 | 211004 | Hex Bolt | 1 | |
| 43 | 211005 | Nylok Nut | 1 | |
| 44 | 211006 | Control Bar | 1 | |
| 45 | 211007 | Cup Head Bolt | 2 | |
| 46 | 211008 | Limit Switch | 1 | |
| 47 | 211009 | Hex Nut | 2 | |
| 48 | 211010 | Wire Cable | 1 | |
| 49 | 211011 | Top Beam W/Bracket | 1 | |
| **Item** | **Part No.** | **Description** | **Qty.** | **Note** |
| | | | **30-20905A** | |
| 50 | 209046 | Hex Bolt | 4 | |
| 51 | 209057 | Small Pulley | 4 | |
| 52 | 209056 | Nylok Nut | 2 | |
| 53 | 211012 | Offside Post | 1 | |
| 54 | 211013 | Offside Safety Assy. | 1 | |
| 55 | 209051 | Stackable Adapter (1.5”) | 4 | |
| 56 | 209052 | Stackable Adapter (3”) | 4 | |
| 57 | 209053 | Stackable Adapter (6”) | 4 | |
| 58 | 209054 | Stackable Adapters Bracket | 2 | |
| 59 | 209055 | Hex Bolt | 6 | |
| 60 | 209044 | Pin For Pulley | 2 | |
| 61 | 209045 | Big Pulley | 2 | |

## For Floorplate & Clear floor Model 30-20905A

| **Oil Hose, Fitting & Cable (See Fig.5 , Fig.6 & Fig.7 )** | | | | |
|---|---|---|---|---|
| **Item.** | **Part No.** | **Description** | **Qty.** | **Note** |
| | | | **30-20905A** | |
| 62 | 209059 | Anchor Bolts | 12 | |
| 63 | 209060 | 90°Fitting for Hydraulic Power Unit | 1 | |
| 64 | 209061 | Oil Hose | 0 | |

| | | | | |
|---|---|---|---|---|
| 65 | 209062 | T - Fitting | 0 | |
| 66 | 209063 | Oil Hose | 0 | |
| 67 | 209064 | Straight Fitting | 0 | |
| 68 | 211014 | Oil Hose | 1 | |
| 69 | 211015 | Oil Hose | 2 | |
| 70 | 211016 | T - Fitting | 1 | |
| 71 | 211017 | $90^0$ Fitting (Extended) | 2 | |
| 72 | 209065 | Cable | 0 | |
| 73 | 209066 | Cable Nut | 4 | |
| 74 | 211018 | Cable | 2 | |
| 75 | 209067 | Cup Head Bolt | 1 | |
| 76 | 209068 | Safety Cable | 0 | |
| 77 | 211019 | Safety Cable | 1 | |

| **Parts For Hydraulic Cylinder (See Fig. 11)** | | | | |
|---|---|---|---|---|
| | | | **30-20905A** | |
| 14-1 | 209069 | O-Ring | 2 | |
| 14-2 | 209070 | Bleeding Plug | 2 | |
| 14-3 | 209071 | Support Ring | 2 | |
| 14-4 | 209072 | ϒ-Ring | 2 | |
| 14-5 | 209073 | O-Ring | 2 | |
| 14-6 | 209074 | Piston | 2 | |
| 14-7 | 209075 | O-Ring | 4 | |
| 14-8 | 209076 | Piston Rod | 2 | |
| 14-9 | 209077 | Piston Rod Fitting | 2 | |
| 14-10 | 209078 | Dust Seal | 2 | |
| 14-11 | 209079 | Head Cap | 2 | |
| 14-12 | 209080 | O-Ring | 2 | |
| 14-13 | 209081 | Bore Weldment | 2 | |
| **Parts For Hydraulic Power Unit (See Fig. 12 )** | | | | |
| 2-1 | 209082 | Motor | 1 | |
| 2-2 | 209083 | Motor Connecting Shaft | 1 | |
| 2-3 | 209084 | Valve Body | 1 | |
| 2-4 | 209085 | Relief Valve | 1 | |
| 2-5 | 209086 | Lock Washer | 4 | |
| 2-6 | 209087 | Socket Bolt | 4 | |
| 2-7 | 209088 | Inlet Pipe | 1 | |
| 2-8 | 209089 | O-Ring | 1 | |
| 2-9 | 209090 | Filter | 1 | |
| 2-10 | 209091 | Hex Bolt | 4 | |

| | | | | |
|---|---|---|---|---|
| 2-11 | 209092 | Tank | 1 | |
| 2-12 | 209093 | Bolt | 2 | |
| 2-13 | 209094 | Cover of Capacitor | 1 | |
| 2-14 | 209095 | Capacitor | 1 | |
| 2-15 | 209096 | Rubber Gasket | 1 | |
| 2-16 | 209097 | Hex Bolt | 1 | |
| 2-17 | 209098 | Cover of Motor Terminal Box | 1 | |
| 2-18 | 209099 | Push Button | 1 | |
| 2-19 | 209100 | Oil Outlet | 1 | |
| 2-20 | 209101 | Release Valve | 1 | |
| 2-21 | 209102 | Handle For Release Valve | 1 | |
| 2-22 | 209103 | Washer | 1 | |
| 2-23 | 209104 | Hex Nut | 1 | |
| 2-24 | 209105 | Check Valve | 1 | |
| 2-25 | 209106 | Gear Pump | 1 | |
| 2-26 | 209107 | Oil Return Pipe | 1 | |
| 2-27 | 209108 | Filler Cap | 1 | |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