



## Instruction Sheet

### Pow'r-Riser® Lifting Jacks JE and JEB Series Electric-Operated Models

L4227 Rev. A 01/18

#### 1.0 IMPORTANT RECEIVING INSTRUCTIONS

Visually inspect all components for shipping damage. Shipping damage is not covered by warranty. If shipping damage is found, notify carrier at once. The carrier is responsible for all repair and replacement costs resulting from damage in shipment.

#### 2.0 SAFETY ISSUES

Read all instructions carefully. Follow all recommended safety precautions to avoid personal injury as well as damage to the jack and/or damage to other property. Simplex cannot be responsible for any damage or injury from unsafe use, lack of maintenance or incorrect operation. Do not remove warning labels, tags, or decals. In the event any questions or concerns arise, contact Simplex or a local Simplex distributor for clarification.

If you have never been trained on high-pressure hydraulic safety, consult your distributor or service center for information about a Simplex Hydraulic Safety Course.

This manual follows a system of safety alert symbols, signal words and safety messages to warn the user of specific hazards. Failure to comply with these warnings could result in death or serious personal injury, as well as damage to the equipment or other property.



**The Safety Alert Symbol** appears throughout this manual. It is used to alert you to potential physical injury hazards. Pay close attention to Safety Alert Symbols and obey all safety messages that follow this symbol to avoid the possibility of death or serious personal injury.

Safety Alert Symbols are used in conjunction with certain Signal Words that call attention to safety messages or property damage messages and designate a degree or level of hazard seriousness. The Signal Words used in this manual are DANGER, WARNING, CAUTION and IMPORTANT.

**DANGER:** Indicates a hazardous situation that, if not avoided, will result in death or serious personal injury.

**WARNING:** Indicates a hazardous situation that, if not avoided, could result in death or serious personal injury.

**CAUTION:** Indicates a hazardous situation that, if not avoided, could result in minor or moderate personal injury.

**IMPORTANT:** Indicates information considered important, but not hazard related (e.g. messages relating to property damage). Please note that the Safety Alert Symbol will not be used with this signal word.



**The High Voltage Symbol** indicates that high voltage is present inside an enclosure or device, and that a risk of electric shock exists. To prevent death or serious personal injury resulting from an electric shock, always disconnect power cord from electrical outlet or other power source before performing any inspection, maintenance or repair procedures.

#### 2.1 Safety Precautions - Pow'r Riser Lifting Jacks



**WARNING:** Failure to observe and comply with the following precautions could result in death or serious personal injury. Property damage could also occur.

- Keep hands and feet away from hydraulic cylinder and related components during jack operation.
- Always wear proper personal protective equipment (PPE) when operating hydraulic equipment (such as gloves, eye protection, head protection, protective footwear, etc.).
- Do not handle pressurized lines. Escaping oil under pressure can penetrate the skin, causing serious personal injury. If oil is injected under the skin, see a doctor immediately.
- The jack is to be used only for lifting loads only. Never use the jack for pushing or separating objects, or for other non-lifting related purposes.
- The jack should not be used to hydraulically support the load for any period of time after the lift has been completed. Support the load with Simplex U-Rings (optional accessory) or appropriately rated load supports immediately after it has been lifted to the desired height.
- Never exceed the rated capacity of the jack. Allow for a margin of safety that accounts for possible shifting loads or side loading conditions. Failure to follow this warning could cause the jack to fail.
- Never tamper with overload protection devices. The jack's internal relief valve must not be repaired or adjusted except by an authorized service center. The maximum hydraulic pressure of the jack hydraulic system must never exceed the maximum allowed for your jack model (refer to Table 1). Higher settings may result in personal injury and/or equipment damage.
- Be sure lifting arrangement is stable before lifting load. Use jack only on a solid and level surface, capable of supporting the load and the base of the jack. Always center the load on the load cap of the jack. If the jack is not perpendicular to the load, slipping or loss of load is possible.

- Distribute the load evenly when performing lifts with multiple jacks. Failure to heed this warning may cause loss of load and/or failure of the jacks.
- Be aware of external events and acts of nature (wind, storms, flooding, earthquakes or other seismic activity, etc.) that could occur either while the jack is in active use, or while it is left loaded and unattended. Do not use the jack if it is likely that such conditions will occur.



**CAUTION:** Failure to observe and comply with the following precautions could result in minor or moderate personal injury. Property damage could also occur.

- When jack is not in use, fully retract the cylinder and protect the entire unit from external damage. Keep the jack clean, avoid weld splatter, and store in a clean dry area. Failure to observe these precautions may cause erratic operation, reduced performance, increased wear and/or damage to jack.
- Keep the jack away from flames and heat. For optimum performance, do not expose the jack to temperatures above 150 °F [65 °C]. Failure to observe these precautions may cause erratic operation, reduced performance, increased wear and/or damage to jack.
- Immediately replace worn or damaged parts with genuine Simplex parts. Simplex parts are designed to fit properly and to withstand high loads. Non-Simplex parts may break or cause the jack to malfunction.

**IMPORTANT:**

- Simplex U-Rings (optional accessory) can be installed on the jack to support lifted loads. However, the U-Rings are not intended to provide long term support. If the load must remain supported for more than 30 days, use appropriately rated load support devices to support the load.
- Hydraulic equipment must only be serviced by a qualified hydraulic technician. For repair service, contact the Simplex authorized service center in your area.
- To avoid damage to jack internal components, do not continue pressurizing the jack cylinder after it reaches maximum extension or retraction.

**2.2 Electrical Safety Instructions**



**DANGER:** Failure to observe the following instructions and precautions may result in serious personal injury or death!

**USE AND CARE**

- Store the jack indoors. Keep in a secured area to prevent use by unauthorized personnel.
- Do not clean the jack with a water spray or the like.
- Do not operate the jack with a damaged cord or plug, or after the jack malfunctions or is dropped or damaged in any manner. Return the jack to the nearest Simplex authorized service center for examination, repair, or electrical or mechanical adjustment.

**DISCONNECTING POWER**

- Be sure that jack motor is off before removing plug from electrical outlet.
- Do not unplug the jack by pulling on the cord. To unplug, grasp the plug, not the cord.
- Remove plug from electrical outlet when the jack is not in use and before servicing or cleaning the jack.



**DANGER:** High voltage is present inside the jack even when motor is off. Before removing the electrical enclosure cover or opening the electrical enclosure door, be sure that the jack power cord is disconnected from the electrical outlet or other electrical power source.

**GROUNDING INSTRUCTIONS**



**DANGER:** Risk of electric shock! Connect the jack only to a properly grounded outlet.

The jack must be grounded. In the event of malfunction or breakdown, grounding provides a path of least resistance for electric current to reduce the risk of electric shock. The jack is equipped with a cord having an equipment grounding conductor.

A grounding plug is included with the cord on single-phase models. On three phase models only, a grounding plug (customer supplied) of the proper type must be installed by a qualified electrician. The plug must be plugged into an appropriate outlet that is properly installed and grounded in accordance with all local codes and ordinances.



**DANGER:** Improper connection of the jack grounding conductor can result in electric shock. The conductor with insulation having an outer surface that is green with or without yellow stripes is the jack grounding conductor.

If the cord and/or plug are damaged, do not connect the jack to a live electrical outlet. Repair or replace the damaged items as required and be sure the grounding conductor is properly wired before reconnecting the jack to the outlet. Consult a qualified electrician if grounding conductor wiring procedures are not completely understood or if there is any doubt as to whether the jack is properly grounded.

**GROUNDING INSTRUCTIONS (CONTINUED)**

- All 120 and 230V Single Phase Models: Do not modify the plug provided with the jack. If the plug will not fit in the outlet, have a proper outlet installed by a qualified electrician.
- A qualified electrician should be consulted if there is any doubt as to whether an outlet box is properly grounded.
- All 230V Single Phase Models: The jack is for use on a single-phase circuit having a nominal rating of more than 120 volts and is factory equipped with a specific electric cord and plug. No adapter should be used with the plug.
- All 230V Three Phase Models: The jack is for use on a three phase circuit having a nominal rating of more than 120 volts. A qualified electrician must obtain, install and wire the proper plug for the jack's specified power requirements. No adapter should be used with the plug.
- If the jack must be reconnected for use on a different type of electric circuit, the reconnection should be made by a qualified electrician. After the reconnection, the jack should comply with all local codes and ordinances.

**USE OF EXTENSION CORDS**

It is important to use the proper size extension cord with the jack power cord when use of an extension cord is necessary. A qualified electrician should be consulted to help specify and select the proper size extension cord.



**DANGER:** Risk of electric shock! Connect the jack only to a properly grounded outlet.

If an extension cord is used:

- 1) The marked electrical rating of the extension cord should be at least as great as the electrical rating of the jack.
- 2) The extension cord should be a grounding-type 3-wire cord for single-phase power or a grounding type 4-wire cord for three phase power.
- 3) A long extension cord should be arranged so that it will not drape over any working area where it can be tripped over, snagged, or pulled on unintentionally.

If the jack is to be operated outdoors and an extension cord is needed, use only an outdoor-use extension cord. An outdoor-use extension cord will be clearly marked with the suffix letter “W” and the statement “Suitable for Use with Outdoor Appliances.”

#### ADDITIONAL PRECAUTIONS



**WARNING:** Do not use electric jacks in an explosive atmosphere. Sparks and electrical arcing could ignite combustible vapors or airborne dust.

**IMPORTANT:** To prevent damage to the jack electric motor, check power specifications on jack or motor data plate. Use of incorrect outlet will damage the motor.

### 3.0 PRODUCT DATA

Table 1 - General Specifications					
<b>Maximum Operating Pressure</b>	<b>Model Number Beginning With:</b>	<b>psi</b>	<b>bar</b>		
	JE60	6,000	414		
	JE100 or JEB100	9,700	669		
	JE150 or JEB150	10,200	703		
<b>Load Rating</b>	<b>Model Number Beginning With:</b>	<b>US Tons</b>	<b>Metric Tons</b>	<b>kN</b>	
	JE60	60	54	533	
	JE100 or JEB100	100	90	889	
	JE150 or JEB150	150	136	1333	
<b>Hydraulic Oil Type</b>	Simplex hydraulic oil (Refer to Table 8 for oil specifications chart)				
<b>Maximum Hydraulic Oil Temperature</b>	170 °F [76 °C]				
<b>Hydraulic Reservoir Oil Capacity (approximate - when filled to proper level)</b>	4.2 gallons [15,9 liters]				
<b>Power Requirements</b>	<b>Model Number:</b>	<b>Volts AC</b>	<b>Hz</b>	<b>Phase</b>	<b>Maximum Current Draw (Amperes)</b>
	JE6024, JE6037, JE10026, JE10037, JE15026, JE15037	115	50-60	1	17.0
	JE6024A, JE6037A, JE10026A, JE10037A, JE15026A, JE15037A (North American Plug)	230	50-60	1	9.0
	JEB10026, JEB10037, JEB15026, JEB15037	230	50-60	3	9.3

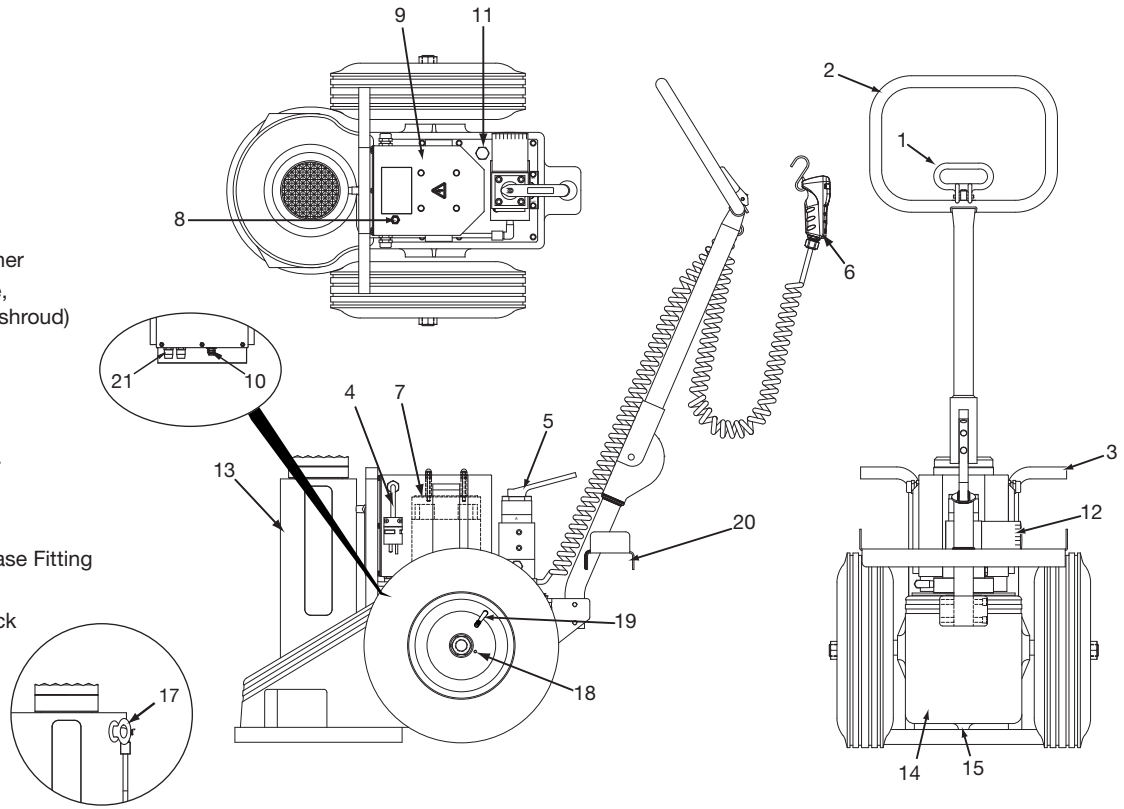
Table 2 - Stroke Lengths and Weights									
Model No. Ending In:	Stroke Length		Weight		Model No. Ending In:	Stroke Length		Weight	
	inches	mm	Pounds	Kg		inches	mm	Pounds	Kg
6024, 6024A	14	356	390	177	6037, 6037A	27	686	600	272
10026, 10026A	16	406	510	231	10037, 10037A	27	686	600	272
15026, 15026A	15.5	394	570	258	15037, 15037A	26.5	673	708	321

**Notes:** Weights shown above are approximate. Refer to Simplex catalog for product external dimensions.

**Key:**

1. Handle Lock Lever
2. Handle Assembly
3. Lifting Bar\*
4. Power Cord
5. Control Valve
6. Pendant
7. Electric Motor
8. Reservoir Air Breather
9. Electrical Enclosure, Single-Phase (with shroud)
10. Circuit Breaker
11. Oil Fill Plug
12. Oil Filter
13. Hydraulic Cylinder
14. Hydraulic Reservoir
15. Oil Drain Plug
17. Lifting Eyebolt\*
18. Wheel Bearing Grease Fitting
19. Tire Air Valve
20. U-Ring Storage Rack
21. Electrical Fuses

\*Not present on all models.



**Figure 1, Major Features and Components - 115V and 230V Single Phase Models**

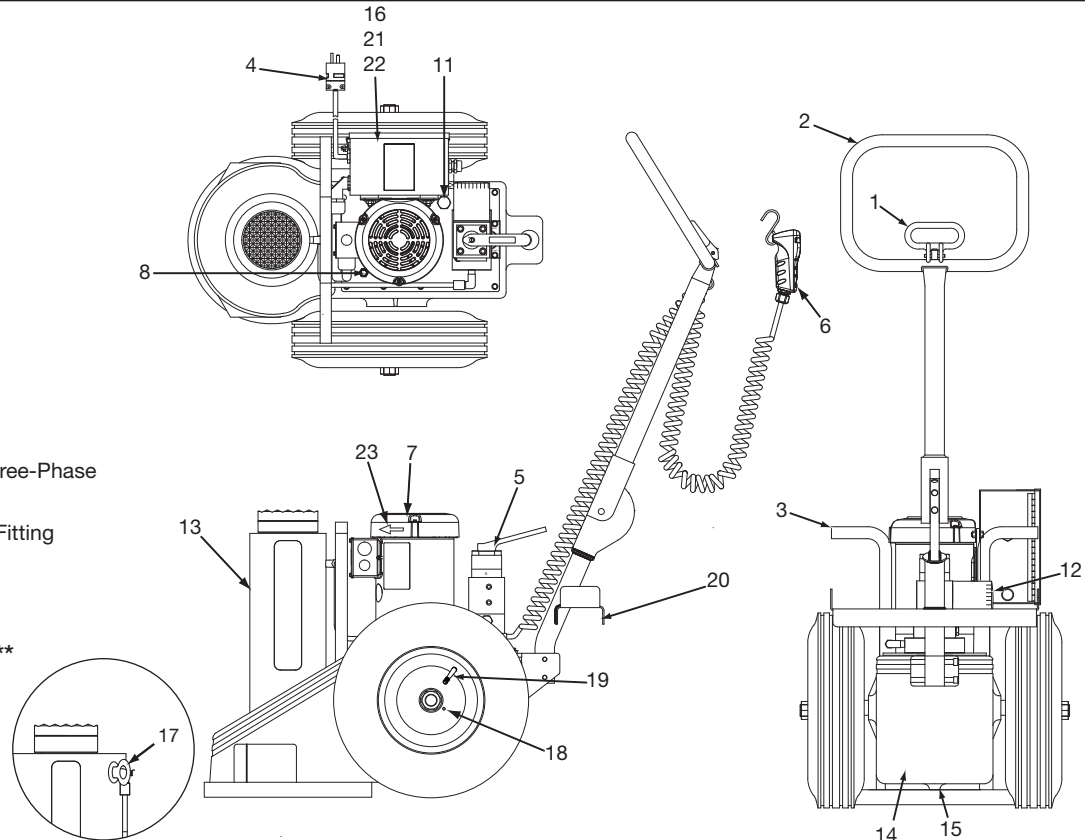
**Key:**

1. Handle Lock Lever
2. Handle Assembly
3. Lifting Bar\*
4. Power Cord\*\*
5. Control Valve
6. Pendant
7. Electric Motor
8. Reservoir Air Breather
11. Oil Fill Plug
12. Oil Filter
13. Hydraulic Cylinder
14. Hydraulic Reservoir
15. Oil Drain Plug
16. Electrical Enclosure, Three-Phase
17. Lifting Eyebolt\*
18. Wheel Bearing Grease Fitting
19. Tire Air Valve
20. U-Ring Storage Rack
21. Electrical Fuses\*\*\*
22. Motor Overload Relay\*\*\*
23. Motor Direction Arrow

\*Not present on all models.

\*\*Power plug not included (customer supplied).

\*\*\*Located inside item #16.



**Figure 2, Major Features and Components - 230V Three Phase Models**

## 4.0 INITIAL SETUP

### 4.1 Adding Oil

Before startup, remove the oil fill plug (see figures 1 and 2, item #11) and check oil level. Oil level should be about 1 inch [25 mm] below top of reservoir. Add Simplex hydraulic oil to reservoir if necessary. Refer to Section 6.1 for additional information.

### 4.2 Electrical Requirements

Be sure outlet is correct for your jack model. Refer to jack data plate for voltage and phase requirements.

The electrical disconnect and line circuit protection is to be provided by the customer. Line circuit protection is to be 115 percent of motor full load current rating.

On single-phase models, a power cord and plug of the proper type for the line voltage specified at time of order is included.



**WARNING:** Altering the plug type should only be done by a qualified electrician, adhering to all applicable local and national codes.

On three phase models, the power cord is provided *without* a plug. A qualified electrician must install and wire the proper type of plug that is compatible with the jack's specified power requirements. Plug installation and wiring must be in compliance with all applicable codes and ordinances.

### 4.3 Using the Jack for The First Time

**Note:** See figures 1 and 2 for items in parenthesis (. . .).

1. Be sure that lever on control valve (item #5) is in the center (neutral/hold) position.
2. Connect the jack power cord to an electrical outlet.
3. On three phase models only, press and release the pendant button while observing motor fan rotation. Check that fan rotates in same direction as arrow (item #23) on top of motor housing.

**Note:** Perform the following steps with no load on the cylinder. Refer to Section 5.0 for detailed jack operation instructions.

4. Check for proper operation by fully extending and retracting the cylinder (item #13). Use the lever on the control valve (item #5) and the button on the pendant (item #6) to control cylinder movement. To remove air from system, cycle the cylinder as needed until operation is smooth.

### 4.4 Using the Handle Assembly to Position the Jack

**Note:** See figures 1 and 2 for items in parenthesis (. . .).

1. Push handle lock lever (item #1) to release lock pin.
2. With lock pin released, position handle assembly (item #2) to desired location and release handle lock lever (item #1) to engage lock pin.
3. The jack can now be tilted back onto the wheels and pushed or pulled to the work area. Use caution when walking backwards.
4. If needed, the jack can be lifted using the lifting bar (item #3 - if equipped) or the lifting eyebolt (item #17 - if equipped).

**Note:** Lifting bars are installed on all short stroke jacks (models ending in "24", "24A", "26", and "26A").

All long stroke jacks (models ending in "37" and "37A") are equipped with one lifting eyebolt.



**WARNING:** Lift the jack using only lifting eyebolt or lifting bar. Never attempt to lift the jack by using the handle assembly. The handle assembly is to be used only for rolling the jack on its wheels and for positioning the jack under the jacking point.

5. Using the handle assembly, adjust the jack position so that the cylinder load cap is centered under the jacking point of the load.



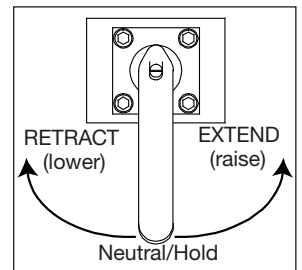
**WARNING:** Be sure that the jack is positioned on a solid and level support surface, with the lifting cylinder perpendicular to the ground. Jacking at an angle can allow the jack to slip out of position, resulting in loss of load. As required, use a swivel load cap to properly engage angled lifting points. Refer to Section 5.7 for additional information.

## 5.0 OPERATION

### 5.1 Control Valve (See Figure 3)

Hydraulic flow to the lifting cylinder is controlled by a manual 4-way, 3-position valve.

- Move lever to the extend position to raise the load.
- Move lever to the retract position to lower the load.
- Move lever to the center neutral/hold position immediately after raising or lowering is completed.



**Figure 3, Control Valve**

**Note:** The neutral/hold position is also referred to as the "idle" position.

### 5.2 Pendant (See Figure 4)

The pump motor is controlled by a single pendant mounted push button.

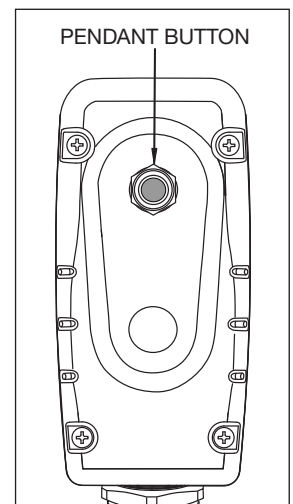
#### Button pressed:

Motor starts. System pressure builds and cylinder moves for as long as button is held down or until cylinder reaches end of stroke.

#### Button released:

Motor stops. Cylinder stop moving and check valve holds load.

**Note:** if cylinder does not begin moving when motor is started, check that control valve lever is in either the retract or extend position.



**Figure 4, Pendant**

### 5.3 Circuit Breaker

A resettable circuit breaker is used on all jack models equipped with a single-phase electrical system. The circuit breaker reset button is mounted on the lower surface of the jack electrical enclosure. See Figure 1, item 10 for location.

In the event of excessive current draw, the circuit breaker will trip. After determining and correcting the source of the overload, push the circuit breaker button to reset.

**Note:** Jacks equipped with a three-phase electrical system have no circuit breaker button. These units use a resettable motor overload relay that is mounted inside the jack electrical enclosure. Refer to Section 6.5 for additional information.

## 5.4 Jacking Safely

You must know the weight of what you intend to lift and choose a jack with **at least 20 percent** additional capacity.

All persons operating the jack should obtain and be familiar with the *American National Standards Institute* rules that apply to hydraulic rams and jacks (ASME ANSI B30.1) or the equivalent standards used in your country or region.



**WARNING:** Never place any part of your body under the load at any time while it is being lifted, lowered or hydraulically supported by the Pow'r-Riser jack.



**WARNING:** The Pow'r-Riser jack should not be used to hydraulically support the load for any period of time after the lift has been completed. Support the load with Simplex U-Rings (optional accessory) or appropriately rated load supports immediately after it has been lifted to the desired height.



**WARNING:** Never leave the Pow'r-Riser jack unattended during operation, even for a brief period of time. Closely monitor jack operation at all times and be prepared to stop lifting or lowering immediately.



**WARNING:** Do not use the Pow'r-Riser jack outdoors in windy conditions. Changes in wind direction or velocity could cause the load to become unstable or fail.

## 5.5 Operating Instructions (See Figures 3, 4 and 5)

### TO RAISE THE LOAD:

1. Be certain that the jack is positioned on a solid and level surface, capable of supporting the load and the base of the jack. Be sure that the lifting cylinder is perpendicular to the ground. Refer to Section 4.4 for additional jack positioning instructions.
2. If a high jacking point requires a taller jack, install extensions and spacers (optional accessories) on the cylinder as required. Refer to Section 5.6 for installation instructions and additional information about extensions and spacers.
3. Place a piece of good quality plywood or other compression material (approximately 1/4" [6,3 mm] thick with high friction characteristics) between the cylinder load cap and the jacking point. This will provide a small amount of cushioning and will also help prevent damage to the jacking point.
4. To raise the load, move the control valve lever to the advance position. Then, depress the pendant button to start motor and advance cylinder.



**CAUTION:** When lifting with more than one jack, be especially careful to keep the load level. Leveling is best accomplished by alternately starting and stopping the jacks to keep the load level enough so it remains stable.

5. When load has reached the desired height, release the pendant button and move the control valve lever to the center (neutral/hold) position.
6. Be sure that the proper Simplex U-Rings are installed on the cylinder (refer to Section 5.8 for U-Ring installation and stacking instructions). If U-Rings are not used, be sure that other load supports of appropriate load rating are in place.
7. Move the control valve lever to the retract position. Depress the pendant button and allow the load to lower until it is supported by the U-Rings or load supports. Then, return the lever to the center (neutral/hold) position.



**WARNING:** After lifting is completed, always support the load using the proper Simplex U-Rings or appropriately rated load supports. Never rely on the cylinder's hydraulic pressure to support the lifted load.



**WARNING:** Wait an appropriate amount of time before working under the load after it is supported by U-Rings or load supports. Any settling of jack base or load supports into the ground below must not exceed 1/4 inch [6.4 mm]. If additional settling occurs, reposition jack or load supports on solid ground.

### TO LOWER THE LOAD:

1. Move the control valve lever to the advance position.
2. Depress the pendant button and allow the cylinder to advance a small amount, so that the load is lifted off of U-Rings or clears the load supports. Then place the control valve lever in the center (neutral/hold) position.
3. After the U-Rings or load supports are removed, move the control valve lever to the retract position. Depress the pendant button to retract the cylinder.



**CAUTION:** Be careful while lowering to ensure that the load is lowered evenly, so that load shifting does not occur.

4. When load has been fully lowered, place the control valve lever in the center (neutral/hold) position.

### AFTER COMPLETING THE JOB:

Fully retract the cylinder. Disconnect power cord from electrical outlet. Remove any extensions or spacers from the cylinder. Place U-Rings (if used) on the storage racks provided on the jack. Always store the jack and its accessories in a clean and dry area, free of moisture and direct sunlight.

## 5.6 Stacking Instructions - Extensions and Spacers (See Figure 5)

Extensions and spacers are available as optional accessories from your Simplex authorized distributor. They may be ordered individually or in sets. Refer to tables 3 and 4 for additional information.

*JE Series extensions* allow the jack's useful lifting height to be increased in increments of 5, 7, 9 or 11 inches [127, 178, 229 or 279 mm]. On short stroke Pow'r-Riser models only, larger extensions can also be used, allowing the useful lifting height to be increased in increments of 14 or 18 inches [356 or 457 mm].

**Table 3 - JE Series Extensions (optional accessories)**

Extension Model	Thickness (each)	
	inches	mm
JE5	5	127
JE7	7	178
JE9	9	229
JE11	11	279
JE14*	14	356
JE18*	18	457

ES6024 Extension Set Includes JE5, JE7, JE11 and JE18 (1 each).

\* For use on short stroke jacks only (models ending in "24", "24A", "26" and "26A")

JS Series spacers allow additional fine adjustment of the extension stack height. They may be used alone or in conjunction with JE Series extensions.

Spacer Model	Thickness (each)	
	inches	mm
JS1	1	25
JS2	2	51
JS3	3	76
JS Spacer Set	Set includes JS1, JS2 and JS3 (1 each).	

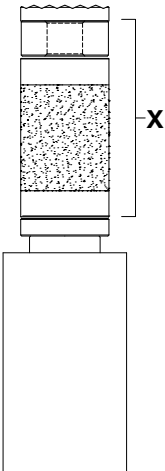
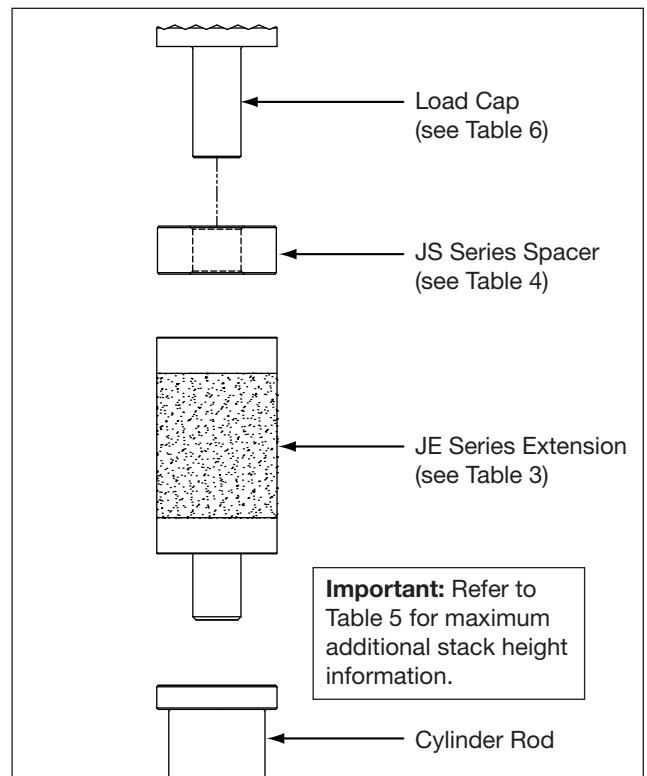
**WARNING:** Never exceed the maximum additional stack height for your jack model. Refer to Table 5 for additional information.

**WARNING:** Failure to observe the following instructions could allow load to shift or drop. Serious personal injury and/or property damage may result.

When using JE Series extensions and/or JS Series spacers, always obey the following rules:

- For loads up to 60 tons [54 metric tons]: Any *two* JE Series extensions may be included in the stacking arrangement, provided that the maximum stack height (See Table 5) is not exceeded and the following exceptions are observed:
  - Models JE6024 and JE6024A:** Only *one* JE18 extension can be included in the stacking arrangement.
  - All jack models ending in “26” and “26A”:** Only *one* JE11, JE14 or JE18 extension can be included in the stacking arrangement.
  - All jack models ending in “37” and “37A”:** Extensions JE14 and JE18 cannot be included in the stacking arrangement. These extensions are designed for short stroke jacks only (models ending in “24”, “24A”, “26” and “26A”).
- For loads over 60 tons [54 metric tons], or strokes over 14 inches [356 mm]: Only *one* JE Series extension and *one* JS Series spacer can be included in the stacking arrangement.
- Never exceed 3 inches [76 mm] in total spacer height.
- Never exceed the maximum additional stack height for your jack model. Refer to Table 5, dimension “X”.

Jack Model Ending In:	Maximum Additional Stack Height (dimension “X”)	
	inches	mm
6024, 6024A	32	813
6037, 6037A	11	279
10026, 10026A	21	533
10037, 10037A	11	279
15026, 15026A	21	533
15037, 15037A	11	279

**Figure 5, Extension and Spacer Installation (typical)**

### 5.7 Load Caps

A non-swivel load cap is included with the jack as standard equipment. A swivel load cap is available as an optional accessory. Refer to Table 6 for a list of load cap model numbers.

**IMPORTANT:** Use a swivel load cap to properly engage angled lifting points. A swivel load cap should always be used when the amount of misalignment between the standard load cap and the lifting point is too large to be compensated for by use of plywood or other suitable high-friction compression material alone.

Jack Model Ending In:	Load Cap Model Numbers	
	Non-Swivel Load Cap (standard)	Swivel Load Cap (optional accessory)
6024, 6024A	S42208	JTS60
6037, 6037A		
10026, 10026A	S42208	JTS60
10037, 10037A		
15026, 15026A	S42208	JTS150
15037, 15037A		

Table 7 - U-Ring Information										
Jack Model Ending In:	U-Ring Size and Model Number					U-Ring Set Model Number	Items Included in Each U-Ring Set			
	1 inch [25 mm]	3 inch [76 mm]	4-1/2 inch [114 mm]	5-1/2 inch [140 mm]	10 inch [254 mm]		2x	1x	2x	1x
6024, 6024A	JU11	JU13	JU14	-	-	JUS126	JU11	JU13	JU14	-
6037, 6037A	JU11	JU13	JU14	-	JU110	JUS137	JU11	JU13	JU14	JU110
10026, 10026A	JU11	JU13	JU14	-	-	JUS126	JU11	JU13	JU14	-
10037, 10037A	JU11	JU13	JU14	-	JU110	JUS137	JU11	JU13	JU14	JU110
15026, 15026A	JU151	JU153	-	JU155	-	JUS1526	JU151	JU153	JU155	-
15037, 15037A	JU151	JU153	-	JU155	JU1510	JUS1537	JU151	JU153	JU155	JU1510

### 5.8 U-Ring Stacking Instructions (See Figure 6)

Pow'r-Riser U-Rings (optional accessories) allow positive mechanical load holding of a lifted load. The U-Rings are placed on top of the cylinder housing and around the extended cylinder rod. They are available in five different lengths for each Pow'r-Riser model.

To help ensure proper alignment and installation, the top surface of the cylinder housing and the top surface of each U-Ring contains a raised locator. The bottom surface of each U-Ring contains a mating recess.

The U-Rings are made of steel and aluminum. A steel U-Ring must always be positioned at the top and bottom ends of the U-Ring stack. The aluminum U-Rings must always be located in the middle of the stack, between the two steel U-Rings. This stacking arrangement helps prevent damage to the aluminum U-Rings.



**CAUTION:** Never position an aluminum U-Ring at the top or bottom end of the U-Ring stack.

Install U-Rings as described in the following steps:

1. Using the jack, raise the load to the desired lifting height. Refer to the instructions in Section 5.5 of this manual.
2. Place one steel U-Ring on top of the cylinder housing, around the extended cylinder rod.
3. As required, place one or more aluminum U-Rings on top of the steel U-Ring, around the extended cylinder rod. The quantity of aluminum U-Rings to be installed will vary, depending on jack model, lifting height and the U-Ring set being used. Refer to Table 7 for additional information.
4. Place a second steel U-Ring at the top of the U-Ring stack.

**IMPORTANT:** Be sure the arrow on each U-Ring is pointing up. Be sure all locators are fully engaged in the mating recesses of the U-Rings.



**WARNING: Pinch point hazard:** In the following step, keep hands and fingers clear of area between load support ring and top of U-Ring stack.

5. Slowly lower the cylinder rod until the weight of the load is supported by the U-Rings. Refer to the information in Section 5.5 for jack operating instructions.

**IMPORTANT:** Follow all applicable work rules and regulations in effect at your facility or worksite. The use of auxiliary stands, blocking or other additional load supports may be required even when U-Rings are installed.

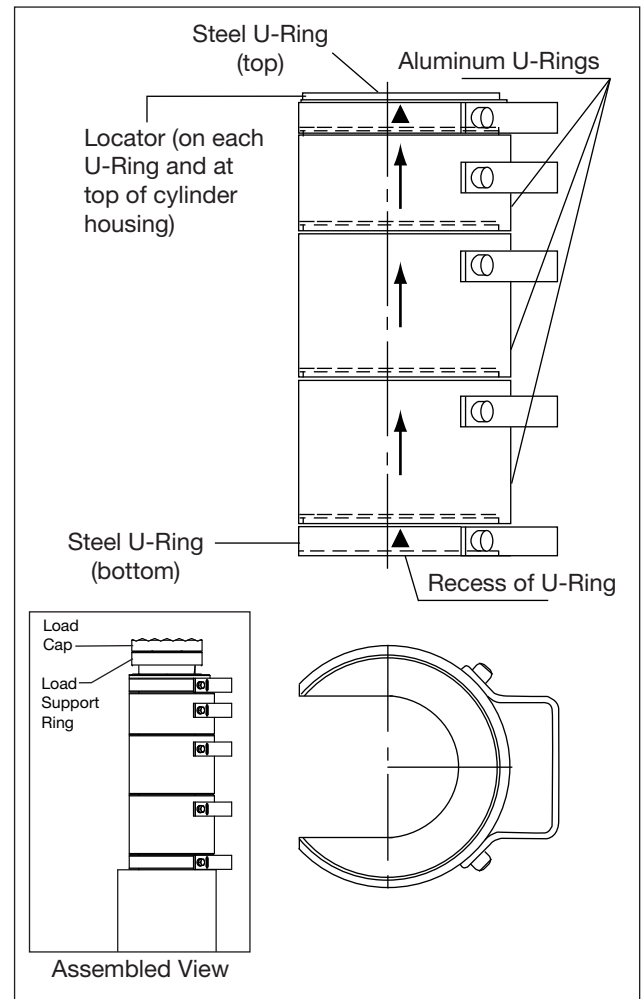


Figure 6, U-Ring Stacking Arrangement (typical)



## 6.0 MAINTENANCE

### 6.1 Maintain Oil Level in Hydraulic Reservoir

Check the hydraulic oil level every 30 days. Oil level should be approximately 1 inch [25 mm] below top of reservoir, with cylinder fully retracted and motor off.

If oil level is low, add Simplex hydraulic oil as required. If Simplex hydraulic oil is not available at the work site, use an equivalent hydraulic oil that meets the specifications shown in Table 8.

ISO Grade	32
Viscosity Index	100 minimum
Viscosity at 210 °F	42 S.U.S.
Viscosity at 100 °F	165 S.U.S.
Viscosity at 0 °F	<12000 S.U.S.
Spec Gravity	0.86
Flash, C.O.C. °F	400
Pour Point, °F	-35
ASTM D-943	2600 hours
Additives	Oxidation inhibitor, foam inhibitor, anti-wear inhibitor

**IMPORTANT:** Failure to use the proper oil may result in damage to jack hydraulic components and will void the product warranty. Use of Simplex hydraulic oil is strongly recommended.

**IMPORTANT:** Be sure that the oil is clean. If the oil has a milky, cloudy or dark appearance, it should be changed immediately as described in Section 6.2.

### 6.2 Changing the Oil (See Figure 7)

Change the oil at least every 12 months.

**Note:** The following conditions will require more frequent oil changes:

- Rigorous duty, where oil temperature may reach 150 °F [60 °C].
- A high humidity environment and/or extreme changes in temperature that can result in condensation inside the reservoir.
- Dirty or dusty environments that may contaminate the oil.

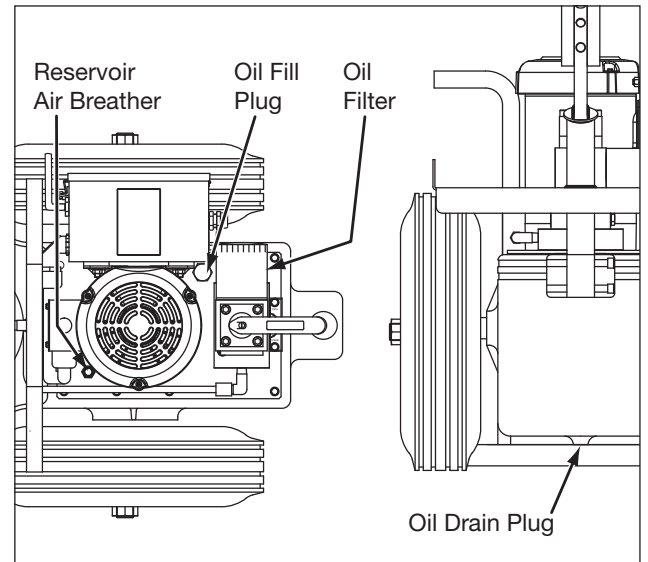
Change the oil as described in the following steps:

1. Be sure that cylinder is fully retracted and that power cord is disconnected from electrical outlet.

**IMPORTANT:** The 5 gallon [18,9 liter] hydraulic reservoir holds approximately 4.2 gallons [15,9 liters] of oil when filled to the proper level with cylinder fully retracted and motor off. Dispose of used oil in accordance with all applicable laws and regulations.

2. Loosen and remove oil drain plug at bottom of reservoir. Allow used oil to drain into a suitable container.
3. Clean and reinstall oil drain plug.
4. Remove, clean and reinstall the reservoir air breather. It is mounted on the reservoir top cover plate. See Figure 7 for location.

5. Loosen oil fill plug at top of reservoir. Using a clean funnel, slowly fill the reservoir until the oil level is about 1 inch [25 mm] below top of reservoir. Use Simplex hydraulic oil or a suitable equivalent that meets the specifications shown in Table 8.
6. Reinstall oil fill plug.
7. Remove the old oil filter and replace it with a new one of the proper specifications. Catch any spilled oil in a suitable container.
8. Raise and lower the cylinder several times to check for proper operation before placing the jack back into service.



**Figure 7, Oil Change**

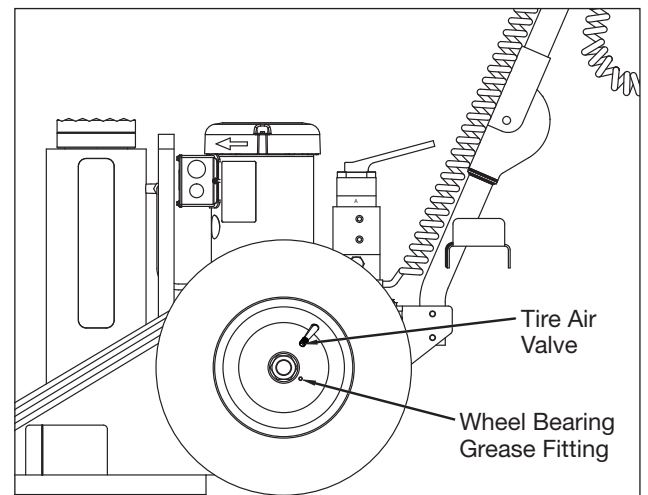
### 6.3 Wheels and Tires (See Figure 8)

Every 30 hours of operation:

- Check the tires for wear or damage. Replace as required.
- Check the tire inflation pressure. Each tire should be inflated to 90 psi [6,2 bar].

Every 12 months:

- Lubricate both wheel bearings with a high quality wheel bearing grease. Each wheel hub contains a grease fitting.



**Figure 8, Wheel and Tire Maintenance**

## 6.4 Fuse Replacement (See Figures 9 and 10)



**WARNING:** Electric Shock Hazard! High voltage is present inside the jack even when motor is off. Be sure that jack power cord is disconnected from the electrical outlet (or other electrical power source) before removing or installing fuses, or before opening the electrical enclosure door (if equipped). Failure to observe this precaution could result in death or serious personal injury.

A step-down transformer mounted inside the jack electrical enclosure supplies low voltage power to the remote control pendant and various other electrical components. Fuses help protect the transformer and components from damage.

All jack models contain two fuses: a transformer primary fuse (power input) and a transformer secondary fuse (power output).

Refer to Table 9 for replacement fuse information. Always use fuses only of the specified ratings and sizes.



**WARNING:** Failure to install fuses of the proper specifications may cause fire, erratic operation and/or damage to jack. Death, serious personal injury or property damage could result.

On jacks equipped with a single-phase electrical system, the fuses are located on the lower portion of the jack electrical enclosure. The fuse holders are mounted on the outside of the enclosure and can be accessed without removing the enclosure cover. See Figure 9.

On jacks equipped with a three-phase electrical system, the fuses are located inside the jack electrical enclosure. The enclosure door must be opened to gain access to the fuses. See Figure 10.

If a fuse blows, it may indicate an excessive line voltage condition. Always verify that the line voltage is correct before replacing any blown fuses. A fuse may also blow if the jack power cord or pendant cable becomes worn or damaged.

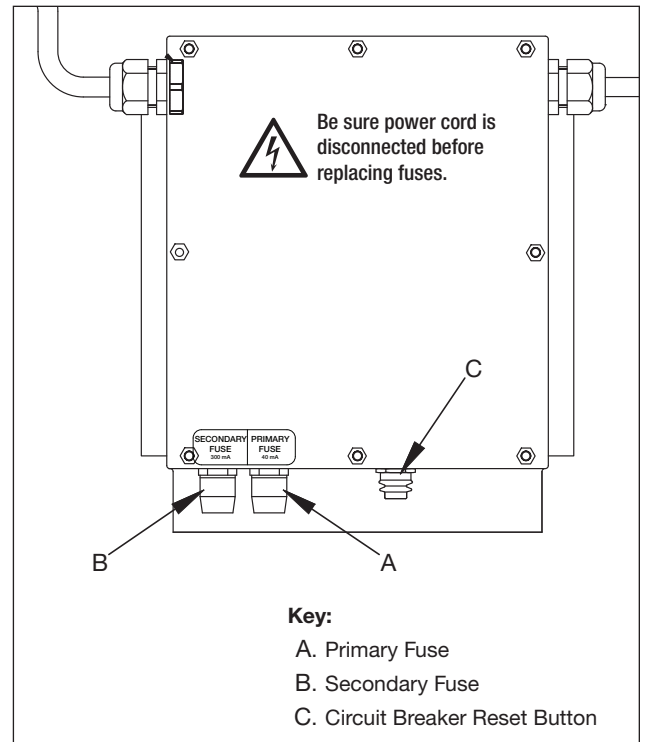


**WARNING:** Immediately replace a worn or damaged power cord or pendant cable. Do not resume jack operation until repairs are completed. Electric shock may occur if contact is made with broken or exposed wiring. Death or serious personal injury may result.

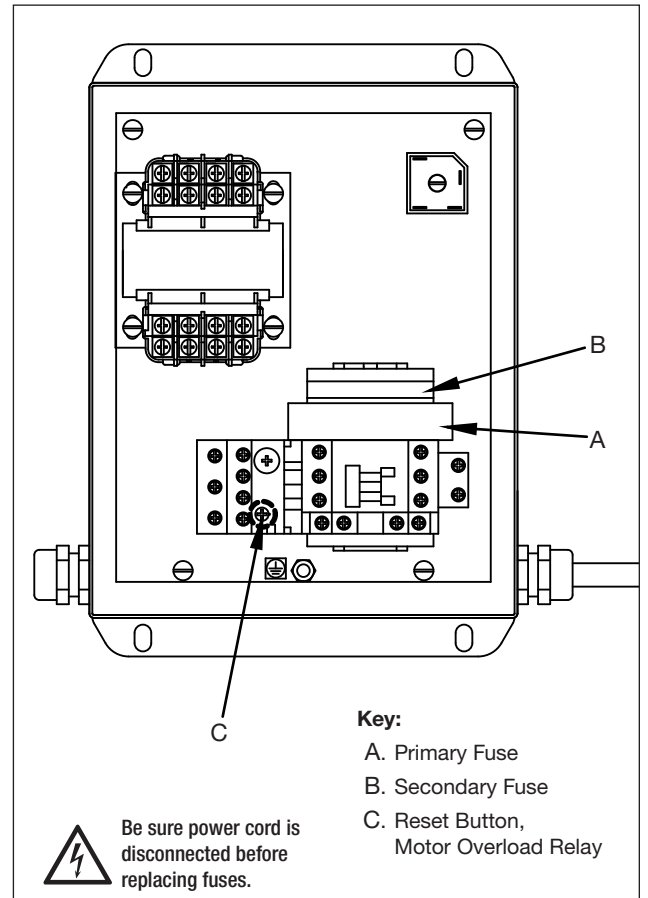
If one or both fuses continue to blow after being replaced and the problem cannot be determined, have the jack electrical system inspected and repaired by a Simplex authorized service center.

**Table 9 - Replacement Fuse Information**

Jack Model:	(See figures 9 and 10 for fuse locations)	
	A Primary Fuse (power input)	B Secondary Fuse (power output)
JE6024, JE6037, JE10026, JE10037, JE15026, JE15037 (115V, 1 Phase)	40mA 250V 1/4" x 1-1/4" Time Delay	300mA 250V 1/4" x 1-1/4" Time Delay
JE6024A, JE6037A, JE10026A, JE10037A JE15026A, JE15037A (230V, 1 Phase)	40mA 250V 1/4" x 1-1/4" Time Delay	300mA 250V 1/4" x 1-1/4" Time Delay
JEB10026, JEB10037, JEB15026, JEB15037 (230V, 3 Phase)	1A 600V 13/32" x 1-1/2" Time Delay	4A 125V 5mm x 20mm Time Delay



**Figure 9, Fuse and Reset Button Locations, Single-Phase Models**



**Figure 10, Fuse and Reset Button Locations, Three-Phase Models**

## 6.5 Motor Overload Relay (Three-phase models only)



**DANGER: Electric Shock Hazard!** High voltage is present inside the jack even when motor is off. Be sure that jack power cord is disconnected from the electrical outlet (or other electrical power source) before removing or installing fuses or before opening the electrical enclosure door. Failure to observe this precaution could result in death or serious personal injury.

Jack models equipped with a three-phase electrical system contain a resettable motor overload relay. The relay reset button is located inside the jack electrical enclosure. See Figure 10, Item C.

If the motor overload relay trips, the jack motor will not start when the pendant buttons are depressed. The trip indicator flag (located on the front of the relay) will also be visible.

To reset the motor overload relay, depress and release the reset button and verify that the trip indicator flag disappears. This indicates that the relay has been reset.

If the motor overload relay will not reset, wait a few minutes for the relay to cool and then try resetting it again.

If the motor overload relay continues to trip during normal operation, have the jack electrical system inspected and repaired by a Simplex authorized service center.

## 7.0 TROUBLESHOOTING

The information in the Troubleshooting Guide (refer to Table 10) is intended as an aid to help diagnose and correct various possible problems that may occur.

For repair service, contact your local Simplex authorized service center. Only a Simplex authorized service center should service the jack and its components.



**DANGER:** High voltage is present in the jack electrical system even when motor is off. Before removing the electrical enclosure cover or opening the electrical enclosure door, be sure that the jack power cord is disconnected from the electrical outlet or other electrical power source.



**WARNING:** Always unplug jack power cord from electrical outlet before replacing any fuses.



**WARNING:** All electrical troubleshooting procedures must be performed by a trained and qualified electrician.



**WARNING:** Never tighten or loosen hydraulic fittings while jack hydraulic system is pressurized.

**Table 10 - Troubleshooting Guide**

Symptom	Possible Cause	Solution
1. Sporadic cylinder action.	Air trapped in hydraulic system.	Cycle cylinder up and down several times to bleed trapped air.
	Low oil level in hydraulic reservoir.	Add Simplex hydraulic oil as required.
	Seal wear and/or other internal damage.	Have hydraulic system inspected by a Simplex authorized service center. Repair or replace components as required.
2. Noisy operation.	Air trapped in hydraulic system.	Cycle cylinder up and down several times to bleed trapped air.
	Low oil level in hydraulic reservoir.	Add Simplex hydraulic oil as required.
	Air leaks in hydraulic system.	Check all points where air might leak into system.
	Clogged or blocked pump intake screen.	Have hydraulic reservoir and intake screen flushed and cleaned by a Simplex authorized service center.
3. Unusually slow operation.	Low voltage.	Check AC line voltage.
	Extension cord too long.	Use a shorter extension cord.
	Extension cord wire gauge not thick enough.	Use an extension cord with a thicker wire gauge.
4. Oil is overheating.	Low oil level in hydraulic reservoir.	Add Simplex hydraulic oil as required.
	Oil viscosity too high or too low.	Drain reservoir and refill with Simplex hydraulic oil.
	High pressure leakage at the pump.	Have hydraulic system inspected by a Simplex authorized service center. Repair or replace components as required.
5. Pump runs but will not pump oil.  OR  Cylinder moves but will not lift load.	Seal wear and/or other internal damage.	Have hydraulic system inspected by a Simplex authorized service center. Repair or replace components as required.
	Control valve needs repair.	Have hydraulic system inspected by a Simplex authorized service center. Repair or replace components as required.

(continued on next page)

**Table 10 - Troubleshooting Guide (Continued)**

Symptom	Possible Cause	Solution
6. Cylinder extends but will not retract.	Internal pressure leaks, or leaking retract hoses.	Have hydraulic system inspected by a Simplex authorized service center. Repair or replace components as required.
	Internal relief valve setting or retract side relief valve setting too low.	Have hydraulic system inspected by a Simplex authorized service center. Repair or replace components as required.
	Defective over-center valve, secondary lock valve or control valve.	Have hydraulic system inspected by a Simplex authorized service center. Repair or replace components as required.
	Pump not developing enough pressure.	Have hydraulic system inspected by a Simplex authorized service center. Repair or replace components as required.
7. Pump does not run.	No power or incorrect power.	Check AC line power.
	Jack circuit breaker tripped. (single-phase models only)	Depress circuit breaker reset button (on jack electrical enclosure).
	Jack motor overload relay tripped. (three-phase models only)	Depress reset button on motor overload relay (inside jack electrical enclosure).
	Transformer primary or secondary fuse blown.	Remove both fuses and check them for continuity.  If one or both fuses are blown, check line voltage to be sure it is correct for your jack model. Verify that the fuses installed are of the correct type and rating. Refer to Table 9.  <b>Note:</b> A damaged pendant cable can cause the secondary fuse to blow.  If one or both fuses continue to blow after being replaced and the problem cannot be determined, have the jack electrical system inspected and repaired by a Simplex authorized service center.
	Motor brushes worn. (single-phase models only)	Have motor brushes replaced by a Simplex authorized service center.
	Loose connections or incorrect wiring.	Have electrical system inspected by a Simplex authorized service center.
	Motor and/or electrical components worn or damaged.	Have electrical system inspected by a Simplex authorized service center. Repair or replace components as required.
8. Pump motor turns in wrong direction. (three-phase models only)	Wiring incorrect.	Reverse electrical leads.
9. Pump motor runs hot or trips circuit breaker. (single-phase models)  Pump motor runs hot or trips motor overload relay. (three-phase models)	Motor worn or damaged.	Have motor inspected by a Simplex authorized service center. Repair or replace as required.
	Motor is "single phasing". (three-phase models only)	Correct electrical wiring.
	Pump element damaged, worn or seized.	Have pump element inspected by a Simplex authorized service center. Repair or replace as required.
10. Pump motor tries to start but will not run.	Low voltage.	Check AC line voltage.
	Pump element jammed.	Have pump element inspected by a Simplex authorized service center. Repair or replace components as required.
	Motor and/or electrical components worn or damaged.	Have electrical system inspected by a Simplex authorized service center. Repair or replace components as required.
11. Jack is difficult to roll on wheels.	Low tire inflation pressure.	Check tire inflation pressure. Add air if low. Pressure should be 90 psi [6,2 bar].
	Wheel bearings need lubrication.	Apply grease to wheel bearings.
	Wheel locknut out of adjustment.	Loosen locknut until wheel rotates freely.









N86 W12500 Westbrook Crossing  
Menomonee Falls, WI 53051  
Phone - USA Only: 1 (800) 323-9114  
Phone - Inside/Outside USA: 1 (262) 293-1575  
Fax: 1 (262) 597-1127  
[www.tksimplex.com](http://www.tksimplex.com)