



PLEASE READ THE ENTIRE CONTENTS OF THIS MANUAL PRIOR TO INSTALLATION AND OPERATION. BY PROCEEDING YOU AGREE THAT YOU FULLY UNDERSTAND AND COMPREHEND THE FULL CONTENTS OF THIS MANUAL. FORWARD THIS MANUAL TO ALL OPERATORS. FAILURE TO OPERATE THIS EQUIPMENT AS DIRECTED MAY CAUSE INJURY OR DEATH.

REV B 05-20-14

P/N 5900720

# INSTALLATION AND OPERATION MANUAL

## 1-TON TRANSMISSION JACK Model: RTJ-1

REV. A



Keep this operation manual near the machine at all times. Make sure that ALL USERS read this manual .

### SHIPPING DAMAGE CLAIMS

When this equipment is shipped, title passes to the purchaser upon receipt from the carrier. Consequently, claims for the material damaged in shipment must be made by the purchaser against the transportation company at the time shipment is received.

### BE SAFE

Ranger™ Transmission Jacks are designed and built with safety in mind. However, proper training and thoughtful operation on the part of the operator can increase your overall safety. DO NOT operate or repair this equipment without reading this manual and the important safety instructions shown inside.



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## WARRANTY POLICY

Ranger Products™ are backed by over 40 years of manufacturing experience. Every product bearing the Ranger™ name is sold with the following warranty.

- Each Ranger Product™ is warranted to be free from defects in workmanship and material for a period of one year from the date of shipment provided that a written claim for such defect is made within that time.
- This warranty does not cover damage or defects caused by carelessness of the operator, misuse, abuse or abnormal use which in any way impairs the proper functioning of the equipment or by the use or addition of parts not manufactured by Ranger Products™ or its suppliers.

THIS WARRANTY IS EXPRESSLY MADE IN LIEU OF ANY AND ALL OTHER WARRANTIES EXPRESSED OR IMPLIED INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.

If your Ranger Products™ is not functioning properly, call your Ranger Products™ dealer immediately.

If it is necessary to return equipment for repairs, your dealer will so advise you. When returning equipment for repairs, see that machines are properly crated and protected, and prepaid transportation.

Defective parts replaced at no charge must be returned to your dealer or Ranger Products™ within 60 days of the date that the replacement parts are shipped; otherwise, you must pay for the replacement parts at the current selling price.

## LIMITED RETURNS / EXCHANGE POLICY

BendPak / Ranger prides itself on a tradition of outstanding customer care and support. Our devoted team of account representatives understands that our customers are the hallmark of our enduring partnerships.

Our limited return and exchange policy allows you to return defective or incorrect merchandise for a full or partial credit of your order. All returned merchandise requires authorization. Contact our service representatives first for shipping instructions and to obtain a return authorization number. Credit will not be issued unless authorization to return merchandise has been received.

For all merchandise returned to BendPak / Ranger for reasons other than warranty, a 20% restocking fee and round-trip shipping costs will be deducted from the credit refund. All returned items must be in their original box or crating and must include all packing material, manuals and all accessories. At our discretion, a restocking fee may be charged if your product is opened or is not returned in its original condition, box, or is missing packing material, manuals, or any accessories.

## NO RETURNS, CREDITS OR EXCHANGES FOR:

- Returned items that failed due to an accident, purchaser's abuse, neglect or failure to operate in accordance with instructions provided in the owner's manual(s) supplied.
- Returned items that failed due to incorrect voltage or improper wiring.
- Returned items that failed due to rain, excessive humidity, corrosive environments or other contaminants.
- Any item damaged in shipment or any product failure caused by installing or operating product under conditions not in accordance with installation and operation guidelines or damaged by contact with tools or surroundings.
- Returned items with cosmetic defects that do not interfere with product functionality.
- Returned items with no accompanying RMA number and completed RMA form.
- Returned items that are incomplete or defaced.
- Any consumable or standard wear items.
- Returned items with a different serial number from what was authorized for return.
- Returned items that do not include your original receipt, invoice or sales order.
- Returned items that were special ordered or custom configured.
- Freight damaged items. If your shipment arrives damaged you must note the damage on the carrier's delivery record in accordance with the carrier's policy, save the merchandise in the original box and packing it arrived in, and arrange for a carrier inspection of damaged merchandise.

## HOW TO RETURN PRODUCTS

Please contact BendPak / Ranger within 14 days of your original shipment or warranty exchange for a Return Merchandise Authorization (RMA) number before returning your product to BendPak / Ranger.

For faster service, please have the following information on hand when calling for an RMA number: customer name, order or invoice number, item (SKU) number and serial number (if exists) and the reason for the return. In addition to the RMA number, a completed RMA form must accompany each shipment of returned merchandise.

No returns of any type will be accepted without an RMA number and completed RMA form.

Returned items must be shipped via ground service only.

Do not return items by air unless authorized in writing.

For warranty related exchanges and/or returns, a BendPak customer service representative will work with you to arrange to have the item(s) returned via a BendPak preferred carrier freight collect.

Products returned C.O.D. will be refused. Unauthorized freight collect charges will be denied.

Once an item arrives at BendPak / Ranger, we will issue a full or partial credit, exchange or refund within 15 days.

Additional time may be required depending on the nature of the return.

Returns must be made within 15 days of the Return Authorization being provided. Any incurred costs associated with damaged merchandise will be deducted from credits owed. BendPak / Ranger is not responsible for merchandise damaged in return shipment. We strongly recommend you package the items carefully to ensure safe passage. For non-warranty items, we suggest you fully insure your return shipment in case of loss or damage.

### IMPORTANT SAFETY TIPS



To help prevent personal injury and damage to equipment,

- Study, understand, and follow all safety precautions and operating instructions before operating this device.
- Wear eye protection that meets ANSI z87.1 and OSHA standards.
- A load must never exceed rated jack capacity.
- Do not lift or support the vehicle with this jack adequately support the vehicle before starting repairs.
- Use only on a hard, level surface.

- Center the load on the jack saddle. Off-center loads can damage the seals in the ram and cause jack failure.
- Use of this product is limited to the removal, installation, and transportation in the lowered position, of transmissions, transfer cases, and transaxles.
- Slowly and carefully move the jack around corners because the load could tip. Stay clear of a lifted load.
- Lower the jack slowly and carefully while watching the position of the load.
- Do not modify the jack or use adapters unless approved or supplied by Ranger.
- Use only anti-wear hydraulic jack oil with a 215 sus viscosity rating at 100° f. The use of alcohol, hydraulic brake fluid, or transmission oil could damage seals and result in jack failure.

This guide cannot cover every situation, so always do the job with safety first. Always maintain a clean work area. Keep visitors and especially Children away from work area.



**THIS OPERATING MANUAL CONTAINS IMPORTANT DETAILS CONCERNING THE SAFE OPERATION OF THIS EQUIPMENT. THE USER MUST READ AND UNDERSTAND THESE DETAILS BEFORE ANY USE OF THE EQUIPMENT. THIS MANUAL MUST BE RETAINED FOR FUTURE REFERENCE.**

### OWNER/OPERATOR RESPONSIBILITY:

The owner and/or operator shall study the product instructions and retain them for future reference.

The owner and/or operator shall have an understanding of the product operating instructions and warnings before operating the transmission jack.

Warning information shall be emphasized and understood. If the operator is not fluent in English, the product instructions and warnings shall be read to and discussed with the operator in the operator's native language by the purchaser/ owner or his designee making sure that the operator comprehends its contents.



## INSPECTION

Visual inspection should be made before each use of the transmission jack. This inspection should check for abnormal conditions such as cracked welds, leaks, and damaged, loose or missing parts.

Any product that appears to be damaged in any way, is found to be worn or operated abnormally, must be removed from service immediately.

Any product that operates abnormally shall be removed from service until repaired by a qualified repair service center.

If the product is accidentally subjected to an abnormal load or shock, it must be taken out of service immediately and be inspected by a qualified repair or service center.

It is recommended that an annual inspection is performed on the transmission jack and that any damaged or worn parts, decals or warning labels be replaced with manufacturer's specified parts.

## ALTERATIONS

Because of potential hazards associated with this type of equipment, no alterations shall be made to the product.



### WARNING!

**DO NOT EXCEED RATED CAPACITY. OVERLOADING CAN CAUSE DAMAGE TO OR FAILURE OF THE TRANSMISSION JACK.**

**KEEP HANDS AND BODY CLEAR OF ALL PINCH POINTS.**

**THIS TRANSMISSION JACK IS DESIGNED FOR USE ONLY ON HARD LEVEL SURFACES CAPABLE OF SUSTAINING THE LOAD. USE ON OTHER THAN HARD LEVEL SURFACES CAN RESULT IN THE INSTABILITY OF THE TRANSMISSION JACK AND POSSIBLE LOSS OF LOAD.**

**READ, STUDY AND UNDERSTAND THE OPERATING MANUAL PACKED WITH THIS TRANSMISSION JACK BEFORE OPERATING.**

**FAILURE TO HEED THESE WARNINGS MAY RESULT IN LOSS OF LOAD, DAMAGE TO THE TRANSMISSION JACK, AND/OR FAILURE RESULTING IN PROPERTY DAMAGE, PERSONAL OR FATAL INJURY.**

## ASSEMBLY INSTRUCTIONS

1. Locate the two, "leg assemblies", and attach them together using the 3 bolts, washers and nuts provided. Leave finger tight for now.
2. Attach the casters to the ends of each leg, one at a time making sure to snugly tighten them using a 17mm open end wrench and the provided thin wrench.
3. Place the cylinder assembly onto the leg assembly and bolt in place using the 3 bolts and washers provided. Make sure to snugly tighten these bolts.
4. Tighten the bolts and nuts attached to the leg assembly in step 1.
5. Attach the Tow Handle and the Steering Handle.
6. Attach the angle plate brackets onto the saddle, and fasten with the hex bolts and nuts.
7. Assemble the stationary plate bracket on the angle plate bracket and secure with the hook and screw caps. Assemble chains and chain hardware to the corner of the stationary plate bracket. The chains and chain hardware are provided to secure the transmission, transfer box, or differential to the saddle assembly by the different shape of their housing. When using, both ends of the chain should be anchored to the bracket.



### WARNING!

**DO NOT RAISE, LOWER, OR TRANSPORT A TRANSMISSION UNLESS IT IS SECURED BY THE RESTRAINT SYSTEM. IT IS YOUR RESPONSIBILITY TO ADJUST THE RESTRAINT SYSTEM TO A SUITABLE POSITION. BENDPAK / RANGER IS NOT SUBJECT TO ANY RESPONSIBILITY FOR INCORRECT SETUPS OF THE RESTRAINT SYSTEM THAT MAY CAUSE PERSONAL INJURY AND / OR PROPERTY DAMAGE.**

## SETUP INSTRUCTIONS

1. To prevent oil leak during shipment, the breather plug is tightened down to ensure the best sealing function. Before the first use, loosen the breather plug 1 full turn.
2. The reservoir tube is shipped filled with hydraulic oil. Before using the jack for the first time, press the release pedal to open the release valve, and operate the foot pump eight full strokes to distribute the oil.

## **BLEEDING AIR FROM THE HYDRAULIC SYSTEM**

Air can accumulate within a hydraulic system during shipment or after prolonged use. This entrapped air causes the jack to respond slowly or feel “spongy.” Use the steps below to bleed the system.

1. Pump the jack to the highest point where the first and the second piston rams are both at maximum height.
2. Get the help of another person to keep the release pedal depressed, and activate the foot pedal about 20 times.
3. Let go of the release pedal; the air in the oil system should be bled successfully

## **OPERATING INSTRUCTIONS**

1. Follow the vehicle’s recommended service procedure for removal of the component.
2. Position the jack under the vehicle.
3. Raise the jack by operating the foot pump until the saddle touches the component.
4. Adjust the support brackets to fit the component.
5. Use the tilt crank to align the saddle with the component.
6. Finish raising the jack to the component. Secure the chain assembly around the component.

## **MAINTENANCE**

1. Regularly lubricate all moving parts of the jack. Pay special attention to the lift screw and related linkages. A medium weight lubricating grease should be used on all external moving parts, such as the bearing surface, pivot points, tilt screws, etc.
2. Regularly check the oil level. With the saddle fully lowered, remove the breather screw, and check the oil level. The oil level should be at the bottom of the filler screw holes. Add oil if necessary.
3. Use only hydraulic jack oil. Do not use hydraulic brake fluid.
4. If the jack fails to operate, check the oil level and/or bleed unit before seeking service.
5. Do not use this jack as a wash rack when washing or steam cleaning transmissions.

### **For Parts Or Service Contact:**

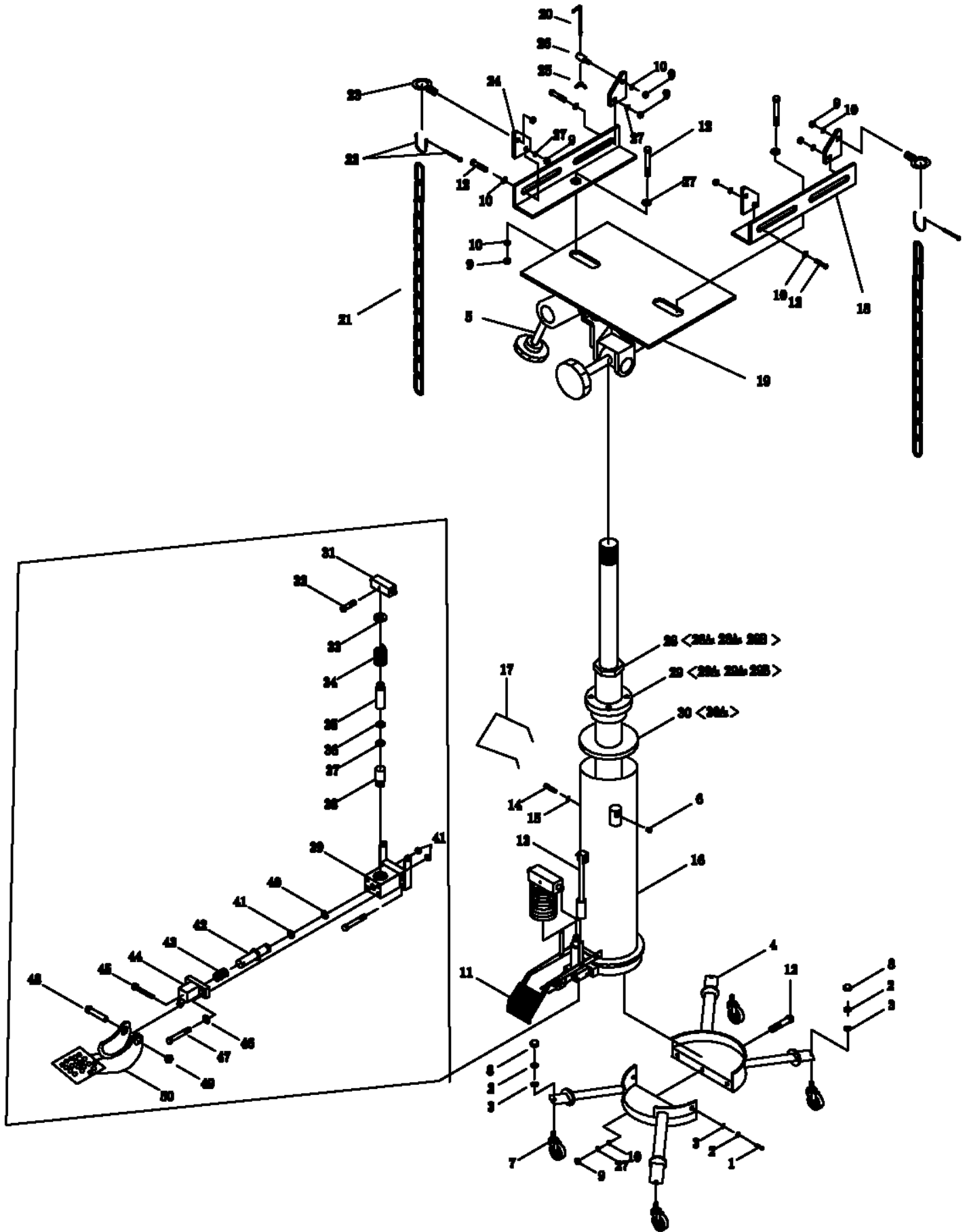
**Ranger Products**  
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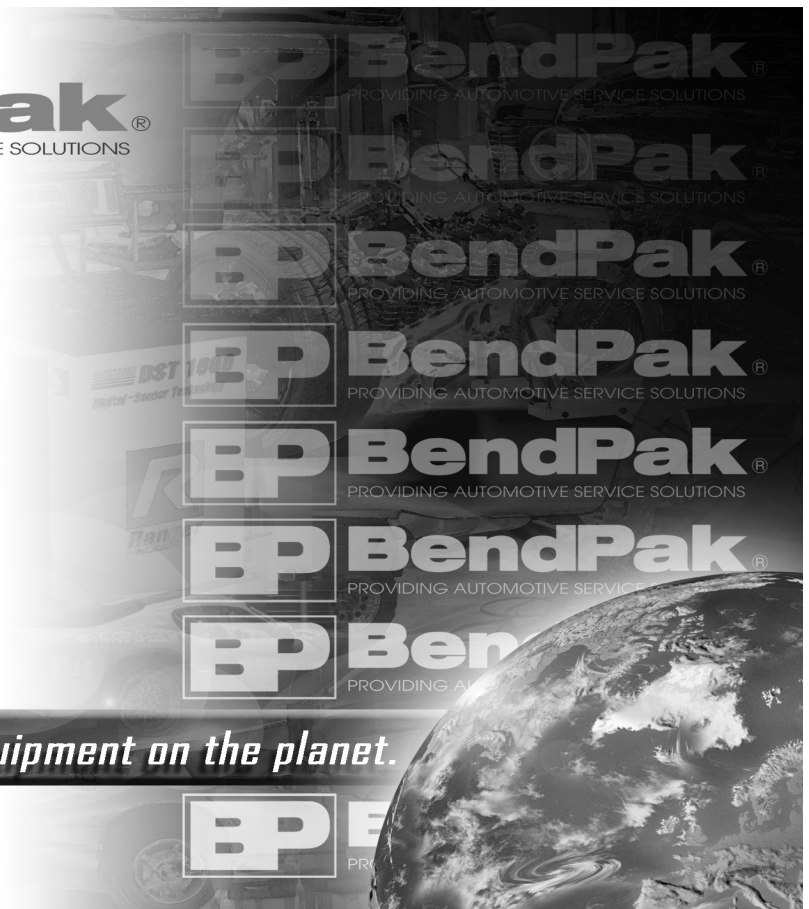
## TROUBLESHOOTING GUIDE

Trouble	Cause	Solution
Unit fails to extend or extends partially	1. Low fluid level	1. Refer to Maintenance section and fill to correct fluid level.
Incomplete or spongy cylinder response when foot pedal is pumped	1. Low fluid level 2. Air in system	1. Fill to correct fluid level. 2. Refer to Bleeding Air from the Hydraulic System.
Abnormal leakage through unit breather	1. Low fluid level	1. Refer to Maintenance section and fill to correct fluid level.
Unit fails to extend when foot pedal is pumped	1. Release valve malfunction 2. Contamination 3. Cylinder packing failure	1. Pump foot pedal with release valve open. 2. Disassemble and clean unit. 3. Install the necessary items from the seal kit.
Cylinder creeps	1. Load exceeds maximum lifting capacity 2. Release valve is leaking	1. Reduce load or use jack with sufficient lifting capacity. 2. Flush release valve by pumping foot pedal with release valve open.
Cylinder doesn't retract when release pedal is activated	1. Light load 2. Cylinder is binding	1. Unit requires 35 lbs. to return. 2. Disassemble unit; replace defective parts.
Cylinder doesn't extend	1. Contamination 2. Bad packing	1. Disassemble and clean unit. 2. Install new seal kit.
Cylinder extends when foot pedal is pressed, and retracts as foot pedal retracts	1. Release valve malfunction 2. Contamination	1. Flush release valve by pumping foot pedal with release valve open. 2. Disassemble and clean unit.

NO	DESCRIPTION	Q'TY	NO	DESCRIPTION	Q'TY
1	Bolt M12*25	3	28A	O-Ring $\phi$ 41*3.5	1
2	Lock washer $\phi$ 12	7	28B	Seal	1
3	washer $\phi$ 12	11	29	Flange	1
4	Leg assy	2	29A	O-Ring $\phi$ 65*3.1	1
5	Adjustable screw	2	29B	O-Ring $\phi$ 65*5.7	1
6	Bolt M8*10	2	29C	O-Ring $\phi$ 60*3.1	1
7	Caster assy	4	29D	Seal	1
8	Nut M12	4	30	TOP Nut	1
9	Nut M10	13	30A	O-Ring $\phi$ 140*5.7	1
10	Washer $\phi$ 10	13	31	Connecting Rod	1
11	Lift foot pedal assy	1	32	Set Screw	1
12	Bolt M10*25	9	33	Spring Retainer	1
13	Handle	1	34	Spring	1
14	Screw	1	35	Pump Piston	1
15	Ring	1	36	Seal	1
16	Main body	1	37	O-Ring $\phi$ 35*3.1	1
17	Handle	1	38	Pump Cylinder	1
18	Angle	2	39	Pump Base	1
19	Saddle Kit	1	40	Steel Ball	1
20	Screw	2	41	O-Ring $\phi$ 12*1.9	3
21	Chain	2	42	Release Valve	1
22	Shackle	2	43	Spring	1
23	Screw	2	44	Base Release valve	1
24	Plate	4	45	Pin	1
25	Fly nut	2	46	Lock washer $\phi$ 6	4
26	Bar	2	47	Hex socket cap screw	4
27	Lock washer	9	48	Pin	1
28	Top Nut	1	49	E-ping	1
28A	O-Ring $\phi$ 48*3.5	1	50	release valve pedal	1

# PARTS BREAKDOWN





*The best automotive service equipment on the planet.*

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