



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. D 02-07-2017

P/N 5900720

INSTALLATION AND OPERATION MANUAL

1-TON TRANSMISSION JACK

Model: RTJ-1

Rev. D

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



READ FIRST



Do not operate this machine until you read and understand all the dangers, warnings and cautions in 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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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.

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 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 the work area.



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.

FOR YOUR SAFETY AND TO PREVENT INJURY:



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.

WARRANTY POLICY

Ranger Products™ are backed by over 40 years of manufacturing experience. Every product bearing the Ranger name is sold with the best warranty you can find in the market. For more information about our warranty, please read:
www.rangerproducts.com/Ranger-Warranty.pdf

FOR TECHNICAL SUPPORT, PLEASE CALL:
1-(800) 253-2363 Ext. 196

TO ORDER PARTS, PLEASE CALL:
1-(800) 253-2363 Ext. 191

ASSEMBLY INSTRUCTIONS

1. Locate the two "leg assemblies" and attach them together using the three 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 17 mm open end wrench.
3. Place the cylinder assembly onto the leg assembly and bolt in place using the three 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.



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 oil seal screw is tightened down to ensure the best sealing function. Before the first use, loosen the oil seal screw 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.

- Let go of the release pedal; the air in the oil system should be bled successfully. If not successful, repeat procedure but first check oil level, or see procedures under maintenance section, steps 2 through 5.

OPERATING INSTRUCTIONS

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

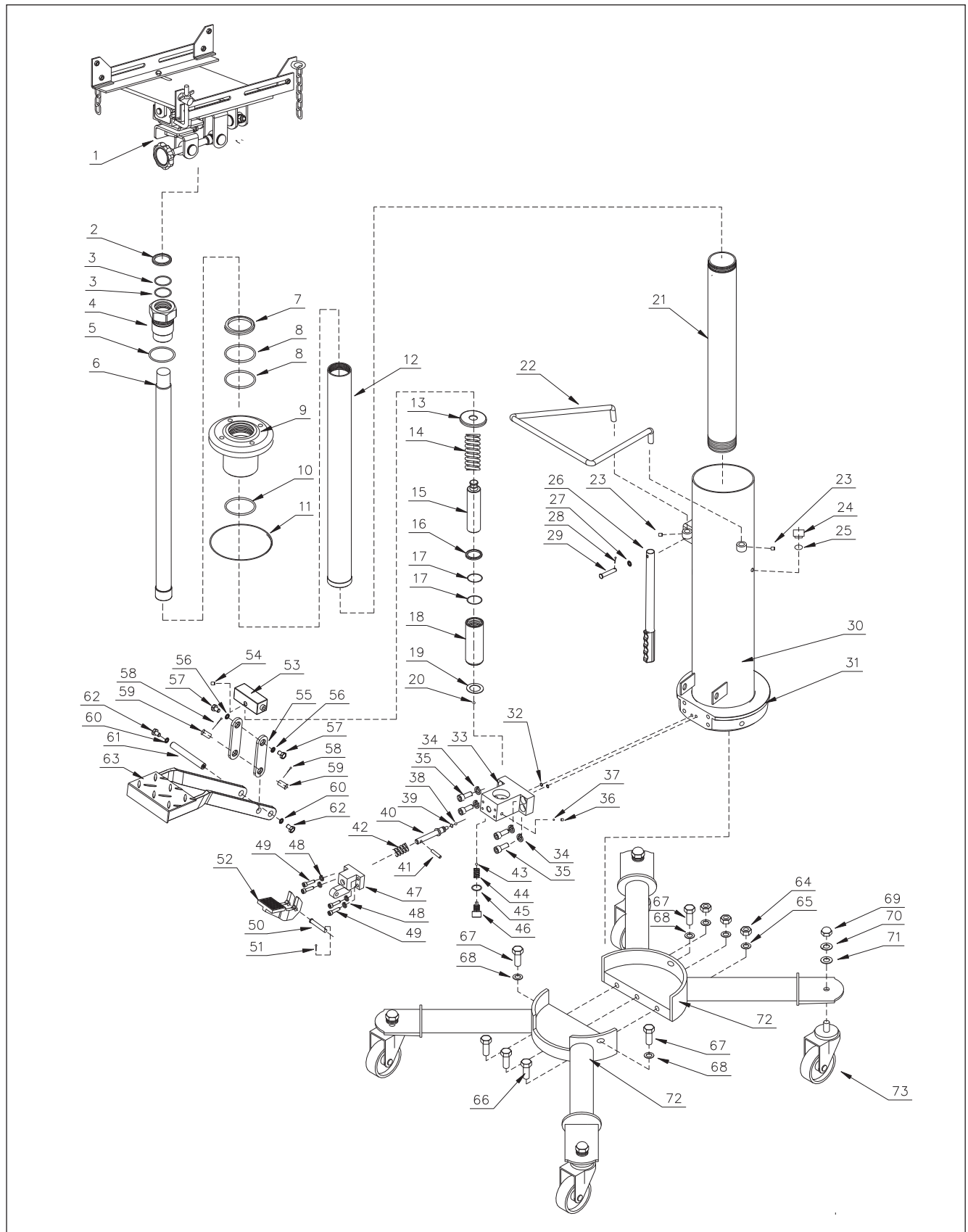
MAINTENANCE

- 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.
- Regularly check the oil level. With the saddle fully lowered, remove the oil seal screw, and check the oil level. The oil level should be at the bottom of the screw hole. Add oil if necessary.
- Use only hydraulic jack oil. Do not use hydraulic brake fluid.
- If the jack fails to operate, check the oil level and/or bleed unit before seeking service.
- Do not use this jack as a wash rack when washing or steam cleaning transmissions.

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.

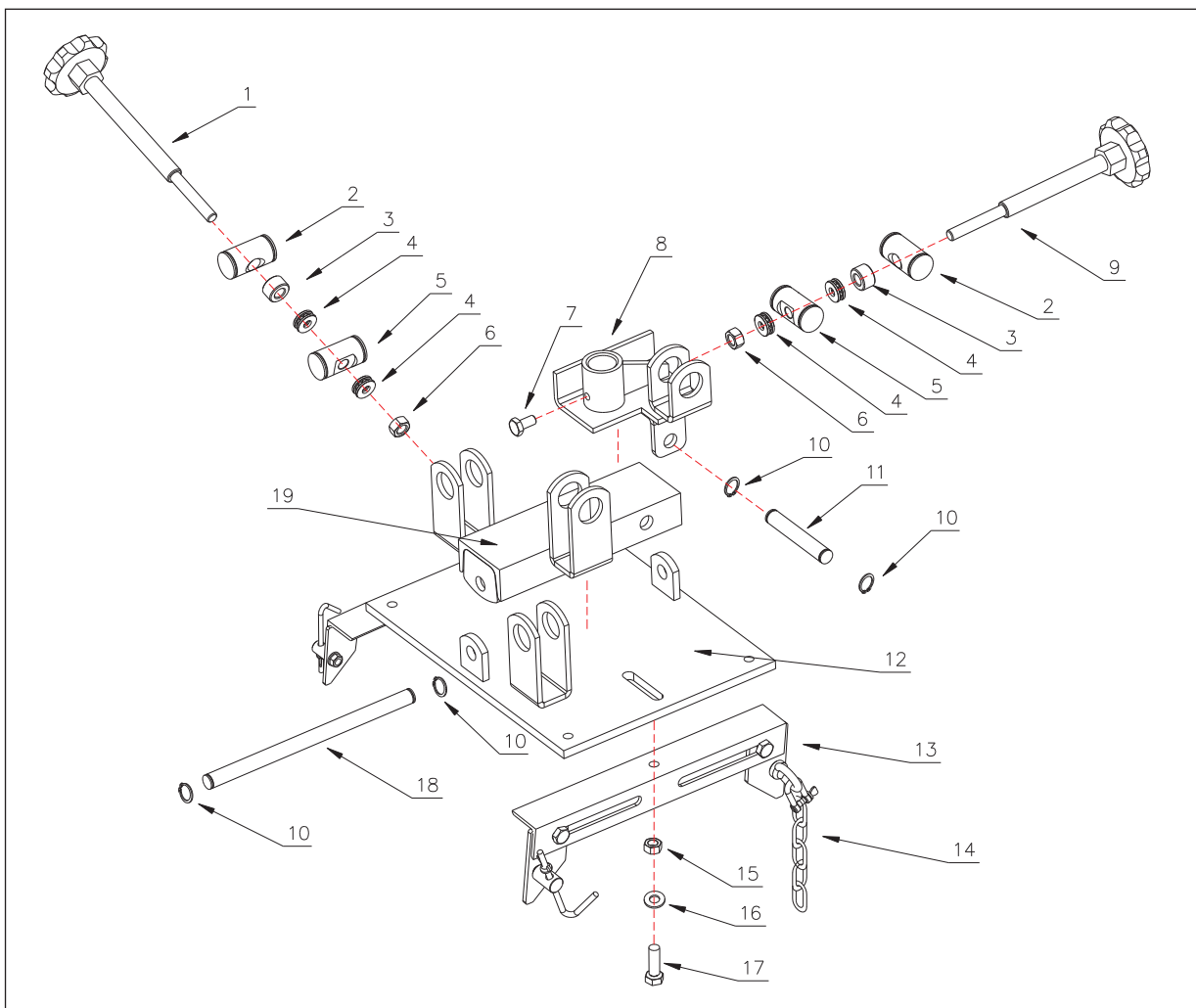
PARTS BREAKDOWN



PARTS BREAKDOWN

Item #	Description	Qty.	Item #	Description	Qty.
1	Head	1	38	Steel Ball	1
2	Dust Seal	1	39	O Ring	1
3	O Ring	2	40	Release Valve Lever	1
4	Small Top Cap	1	41	Release Valve Lever Pin	1
5	O Ring	1	42	Spring	1
6	Piston Rod	1	43	Steel Ball	1
7	Dust Seal	1	44	Spring	1
8	O Ring	2	45	Copper Washer	1
9	Big Top Cap	1	46	Inner Hexagon Screw	1
10	O Ring	1	47	Foot Pedal Base	1
11	Rectangle Ring	1	48	Spring Washer	4
12	Middle Cylinder	1	49	Inner Hexagon Bolt	4
13	Spring Plate	1	50	Shaft Pin	1
14	Spring	1	51	R Pin	1
15	Pump Core	1	52	Pump Release Foot Pedal	1
16	Dust Seal	1	53	Locking Block	1
17	O Ring	2	54	Inner Hexagon Screw	1
18	Pump Body	1	55	Connect Rod	2
19	Pump Washer	1	56	Washer	2
20	Steel Ball	1	57	Hexagon Bolt	2
21	Cylinder	1	58	Cotter Pin	2
22	U Style Handle	1	59	Shaft Pin	2
23	Inner Hexagon Screw	2	60	Washer	2
24	Oil Seal Screw	1	61	Foot Pedal Long Pin	1
25	O Ring	1	62	Hexagon Bolt	2
26	Handle	1	63	Foot Pedal	1
27	Washer	1	64	Nut	3
28	R Pin	1	65	Washer	3
29	Shaft Pin	1	66	Hexagon Bolt	3
30	Cylinder Body	1	67	Hexagon Bolt	3
31	Base	1	68	Washer	3
32	O Ring	2	69	Round Nut	4
33	Valve Seat	1	70	Spring Washer	4
34	Spring Washer	4	71	Washer	4
35	Inner Hexagon Bolt	4	72	Foot	2
36	Inner Hexagon Screw	1	73	Caster Wheel	4
37	Steel Ball	1			

PARTS BREAKDOWN



Item #	Description	Qty.	Item #	Description	Qty.
1	Adjustable Rod - Long	1	11	Pin 16 x 108	1
2	Adjustable Shaft	2	12	Plate	1
3	Ring Gasket	2	13	Headstock Accessories	2
4	Bearing	4	14	Chain	2
5	Adjustable Pin	2	15	Nut M10	2
6	Lock Nut	2	16	Washer ϕ 10	2
7	Screw M8 x 16	1	17	Screw M10 x 25	2
8	Connect Unit	1	18	Shaft 16 x 265	1
9	Adjustable Rod - Short	1	19	Adjustment Assembly	1
10	Circlips for Shaft	4	20		



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