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- *Parts List*



SPECIFICATIONS

Capacity	22 Ton @ 100 PSI
Low Height	8-1/2"
Ram Travel	4-3/4"
Ext. Screw Adj.....	4-1/4"
Max. Height with Adapter	21-1/8"
Chassis Length	23-1/4"
Overall Width	13-1/4"
Saddle Diameter.....	1-3/4"
Wheel Diameter	8"
Handle Length.....	41-1/4"
Shipping Weight	110 lbs.



CSETJ2200
22 Ton
Service Jack

WARNING INFORMATION



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



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



IMPORTANT: READ THESE INSTRUCTIONS BEFORE OPERATING

BEFORE USING THIS DEVICE, READ THIS MANUAL COMPLETELY AND THOROUGHLY, UNDERSTAND ITS OPERATING PROCEDURES, SAFETY WARNINGS AND MAINTENANCE REQUIREMENTS.

It is the responsibility of the owner to make sure all personnel read this manual prior to using the device. It is also the responsibility of the device owner to keep this manual intact and in a convenient location for all to see and read. If the manual or product labels are lost or not legible, contact Cornwell for replacements. If the operator is not fluent in English, the product and safety instructions 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.

THE NATURE OF HAZARDOUS SITUATIONS



The use of portable automotive lifting devices is subject to certain hazards that cannot be prevented by mechanical means, but only by the exercise of intelligence, care, and common sense. It is therefore essential to have owners and personnel involved in the use and operation of the equipment who are careful, competent, trained, and qualified in the safe operation of the equipment and its proper use. Examples of hazards are dropping, tipping or slipping of loads caused primarily by improperly securing loads, overloading, off-centered loads, use on other than hard level surfaces, and using equipment for a purpose for which it was not designed.

METHODS TO AVOID HAZARDOUS SITUATIONS



- Read, study, understand and follow all instructions before operating this device.
- Inspect the jack before each use. Do not use jack if damaged, altered, modified, in poor condition, leaking hydraulic fluid, or unstable due to loose or missing hardware or parts. Make corrections before using.
- Lift only on areas of the vehicle as specified by the vehicle manufacturer.
- Wear eye protection that meets ANSI Z87.1 and OSHA standards.
- Do not use jack beyond its rated capacity.
- This is a lifting device only. Immediately after lifting, support the vehicle with jack stands capable of sustaining the load before working on the vehicle.
- Use only on a hard level surface.
- Center load on saddle. Be sure setup is stable before working on vehicle.
- Do not use any adapters unless approved or supplied by Cornwell.
- Always lower the jack slowly and carefully.
- Failure to heed these warnings may result in serious or fatal personal injury and/or property damage.

CONSEQUENCES OF NOT AVOIDING HAZARDOUS SITUATIONS



Failure to read this manual completely and thoroughly, failure to understand its OPERATING INSTRUCTIONS, SAFETY WARNINGS, MAINTENANCE INSTRUCTIONS and comply with them, and failure to comply with the METHODS TO AVOID HAZARDOUS SITUATIONS could cause accidents resulting in serious or fatal personal injury and/or property damage.

SETUP

PLEASE REFER TO THE EXPLODED VIEW DRAWING IN THIS MANUAL IN ORDER TO IDENTIFY PARTS.

1. Remove the bolt from under the handle yoke. Insert the handle tube in the handle yoke while simultaneously inserting the locking rod in the handle yoke guide holes.
2. Raise the lock lever on the handle assembly up so the locking rod does not have to come in contact with the handle yoke bracket. Rotate the release knob at the top of the handle back and forth until you feel the bottom of the handle engage the release valve fitting inside and at the bottom of the handle yoke.
3. Align the handle yoke hole that accepts the bolt with the receiving hole in the bottom of the handle. Once the holes are lined up, secure the handle to the handle yoke with the bolt provided.
4. Move the handle assembly up and down while simultaneously pushing down on the lock lever until the locking rod engages one of the locating holes in the handle yoke bracket. There are three holes in the handle yoke bracket that are used to lock the handle in either a horizontal, angular or almost vertical position.
5. Install the quick disconnect of your choice in the back of the air valve. The air valve and hose are equipped with a loop that secures them to the "L" shaped hook on the upper portion of the handle.
6. Secure the air valve and hose to the handle and connect a shop air line to the air valve.
7. Sometimes air gets trapped in the hydraulic system during shipment. An air bound hydraulic system feels spongy when pumped.

PURGING AIR FROM THE HYDRAULIC SYSTEM

- a. Open the release valve by turning the knob at the top of the handle in a counterclockwise direction two full turns from the closed position.
- b. Depress the air valve for about 30 seconds
- c. Close the release valve by turning the knob in a clockwise direction until tight.
- d. Depress the air valve until the ram raises to maximum height.
- e. If the condition remains, repeat steps "a" through "d" until all the air is purged from the system.

OPERATING INSTRUCTIONS



This is the safety alert symbol used for the OPERATING INSTRUCTIONS section of this manual to alert you to potential personal injury hazards. Obey all instructions to avoid possible injury or death.

IMPORTANT: Before attempting to raise any vehicle, check vehicle service manual for recommended lifting surfaces.

OPERATION:

1. Become familiar with the identification and function of the operating jack components.
 - a. The ram is the shaft that comes out of the jack when you depress the air valve and lifts the load.
 - b. The ram is equipped with an extension screw which can be unscrewed to extend from the ram if there is not enough hydraulic stroke to raise the load to the desired height. If additional height is required, extension adapters can be inserted in the hole on top of the extension screw.
 - c. Larger diameter saddles can be inserted in the extension screw when requiring a larger diameter saddle surface.
2. Chock the vehicle's tires that will not be lifted off the ground prior to lifting the vehicle and if available, apply the emergency brake or any other method of braking.
3. Position the jack at the designated lift point. Estimate the required ram travel to raise the vehicle to the desired height. If the desired vehicle height exceeds the entire ram travel, unscrew the extension screw to make up the difference and add an extension adapter if necessary.
4. Turn the knob at the top of the handle all the way in a clockwise direction until tight. Lock the handle in a position that will not interfere with the vehicle when raised or lowered. Keep the handle in that locked position until the work is completed and you are ready to remove the jack from use.
5. With the jack in the lowered position, push the jack under the vehicle. **IMPORTANT:** Use the vehicle manufacturer's recommended lifting procedures and lifting points before lifting loads.
6. In most cases 100 P.S.I. input air pressure (do not exceed 200 P.S.I.) will lift the maximum capacity load not to exceed 22 tons. Depress the air valve until the top of the ram comes close to the designated lift point. Make sure the designated lift point is flat, parallel to the ground and free from grease, any kind of lubricant, and debris. Proceed with pumping the jack in order to lift the vehicle to the desired height. During lifting, inspect the position of the jack in relation to the ground and the ram in relationship to the load to prevent any unstable conditions from developing. If conditions look like they are becoming unstable, slowly lower the load and make appropriate setup corrections after the load is fully lowered.
7. When the vehicle or load is lifted to its desired height, immediately place safety support stands (jack stands) in their designated locations and adjust the stands' support columns up as close to the designated vehicle support points as possible. Although jack stands are individually rated, they are to be used in a matched pair to support one end of the vehicle only. Stands are not to be used to simultaneously support both ends or one side of a vehicle. Slowly and carefully turn the release knob in a counterclockwise direction to gently lower the vehicle onto the safety support stands (jack stands). Make sure the vehicle is safely supported by the safety support stands' (jack stands) saddles and not the locating lugs of the saddles. Inspect the relationship of the safety support stands (jack stands) with the ground and the safety support stand (jack stand) columns and saddles with the vehicle to prevent any unstable conditions. If conditions look unstable, close the jack's release knob and depress the air valve to raise the vehicle off the safety support stands (jack stands). Make the appropriate setup changes and slowly and carefully lower the vehicle onto the safety support stand saddles.

OPERATING INSTRUCTIONS (Cont.)

CSETJ2200 - 22 TON SERVICE JACK

- After the work is done, close the release knob and depress the air valve until the jack is high enough to remove the vehicle or load from the safety support stand saddles. Be sure load is stable. If it is not, lower load back onto safety support stands. Make appropriate setup corrections and repeat the step again. Remove the safety support stands from under the vehicle, being very careful not to move the vehicle.
- Turn the release knob in a counterclockwise direction very slowly and carefully to lower the vehicle or load down to the ground.

PREVENTATIVE MAINTENANCE



This is the safety alert symbol used for the PREVENTATIVE MAINTENANCE section of this manual to alert you to potential personal injury hazards. Obey all instructions to avoid possible injury or death.

IMPORTANT: Any jack found to be defective as a result of worn parts due to lack of lubrication or air/hydraulic system contaminated with water, rust and/or foreign materials from the air supply or other outside source is not eligible for warranty consideration.

- Always store the jack in a well protected area where it will not be exposed to inclement weather, corrosive vapors, abrasive dust, or any other harmful elements. The jack must be cleaned of water, snow, sand or grit before using.
- The jack must be lubricated periodically in order to prevent premature wearing of parts. A general purpose grease must be applied to the threads on the extension screw. Do not lubricate any portion of the lift saddle and make sure the saddle is free from grease, any kind of lubricant, or debris before using the jack. Jacks found to be defective due to worn parts resulting from inadequate or no lubrication are not eligible for warranty consideration.
- It should not be necessary to refill or top off the reservoir with hydraulic fluid unless there is an external leak. An external leak requires immediate repair which must be performed in a dirt-free environment by qualified hydraulic repair personnel who are familiar with this equipment. Authorized Hydraulic Service Centers are required for repairs.
IMPORTANT: In order to prevent seal damage and jack failure, never use alcohol, hydraulic brake fluid, or transmission oil in the jack. Use Chevron Hydraulic Oil AW ISO 32 or its equivalent Unocal Unax AW 150.
- Every jack owner is responsible for keeping the jack label clean and readable. Use a mild soap solution to wash external surfaces of the jack but not any moving hydraulic components.
- Do not attempt to make any hydraulic repairs unless you are a qualified hydraulic repair person that is familiar with this equipment.

TROUBLESHOOTING

PROBLEM	ACTION
1. Unit will not lift load.	Purge air from hydraulic system by following procedure under SETUP.
2. Unit will not sustain load or feels "spongy" under load.	Purge air from hydraulic system as above.
3. Unit will not lift to full height.	Purge air from hydraulic system as above or check oil level in reservoir.
5. Unit still does not operate.	Contact an authorized hydraulic service center from enclosed list.

WARRANTY COVERAGE

Cornwell Quality Tools Company ("Cornwell") warrants against defects the hydraulic pump and air pump on this product for a period of TWO (2) YEARS from the date of original retail purchase. Cornwell Quality Tools Company ("Cornwell") warrants against defects the balance of components on this product for a period of 90 days from the date of original retail purchase. Subject to the conditions and limitations set forth below, Cornwell will, at its option, either repair or replace any part of the product(s) that proves defective by reason of improper workmanship or materials.

This warranty does not cover any damage to this product that results from accident, abuse, misuse, natural or personal disaster, or any unauthorized disassembly, repair, or modification. Repairs, disassembly and modification are only authorized to be made by Cornwell or a warranty service center approved by Cornwell.

WARRANTY SERVICE

In order to have your service jack repaired, return the service jack to any Cornwell Authorized Hydraulic Warranty Center, freight prepaid. Please include a copy of your proof of purchase and a brief description of the problem. The service jack will be inspected and if any part or parts are found to be defective in material or workmanship, they will be repaired free of charge and the repaired service jack will be returned to you freight prepaid.

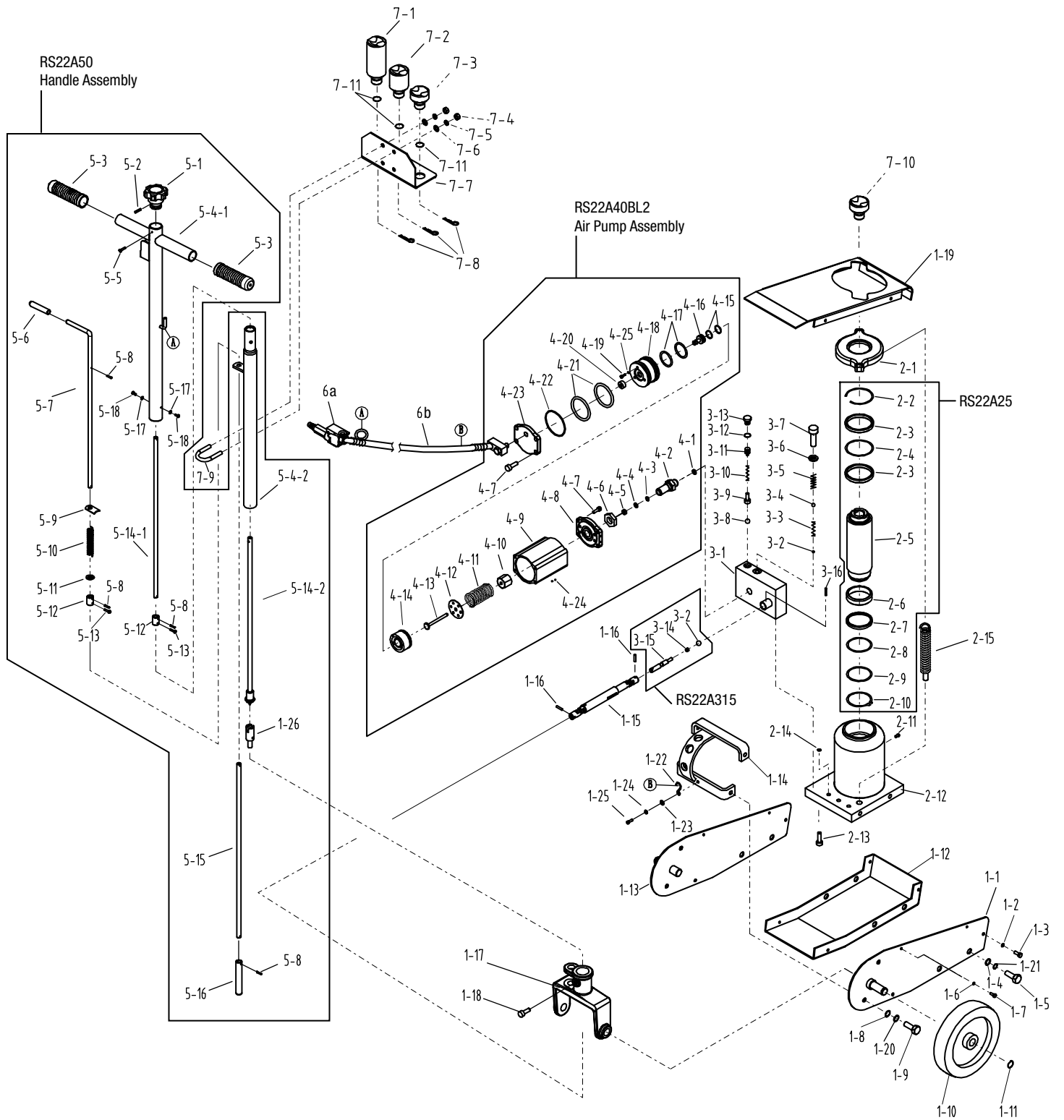
EXCLUSIONS AND LIMITATIONS

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Some states do not allow the exclusion or limitation of incidental or consequential damages or exclusions or limitation on the duration of implied warranties or conditions, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights that vary by state. Repair kits and replacement parts are available for many Cornwell products, regardless of whether or not the product is still covered by a warranty plan.

Cornwell Quality Tools Company
667 Seville Road • Wadsworth, OH 44281-1094

PARTS DRAWING



PARTS LIST

No.	Part No.	Description	Qty.	No.	Part No.	Description	Qty.
1-1		Right Frame Assy.	1	4-10		Nut	1
1-2		Washer	4	4-11		Spring	1
1-3		Screw	4	4-12		Washer	1
1-4		Washer	4	4-13		Cylinder Pump Plunger	1
1-5		Bolt	4	4-14		Piston Body "A"	1
1-6		Washer	4	4-15	**	O-ring	2
1-7		Screw	4	4-16		Air Release Rod	1
1-8		Washer	4	4-17	**	O-ring	2
1-9		Bolt	4	4-18		Piston Body "B"	1
1-10	RS22A110	Wheel	2	4-19		Screw	3
1-11	RS22A111	Washer	2	4-20	**	Air Seal	1
1-12		Bracket	1	4-21	**	O-ring	2
1-13		Left Frame Assy.	1	4-22	**	O-ring	1
1-14		Bracket	1	4-23		Rear Cover	1
1-15	RS22A115	Universal Joint Assy.	1	4-24		Steel Ball	4
1-16		Pin	2	4-25		O-ring	3
1-17	RS22A117BL2	Handle Socket	1				
1-18	RS22A118	Screw	1	5-0	RS22A50	Handle Assy.	1
1-19	RS22A119BL2	Cover	1	5-1	RS22A51	Knob (incl. 5-1, 5-2)	1
1-20		Washer	4	5-2		Pin	1
1-21		Washer	4	5-3		Sleeve	2
1-22		Washer	1	5-4-1		Front Handle	1
1-23		Washer	1	5-4-2		Rear Handle	1
1-24		Washer	1	5-5		Screw	1
1-25		Screw	1	5-6		Bushing	1
1-26		Rod Joint	1	5-7		Control Rod A	1
				5-8		Pin	4
2-1	RS22A21BL2	Spring Hanger	1	5-9		Strap	1
2-2		Washer	1	5-10		Spring	1
2-3		Washer	2	5-11		Washer	1
2-4	*	O-ring	1	5-12		Bushing	2
2-5	RS22A25	Piston Rod Assy. (incl. 2-2 to 2-10)	1	5-13		Screw	2
2-6	*	Piston Ring	1	5-14-1		Convey Rod A	1
2-7	*	Sealing Washer	1	5-14-2		Convey Rod B	1
2-8	*	O-ring	1	5-15	RS22A515	Control Rod B (incl. 5-8,5-15, 5-16)	1
2-9	*	Washer	1	5-16		Pin	1
2-10	*	Washer	1	5-17		Washer	2
2-11	*	Oil Filler Plug	1	5-18		Screw	2
2-12		Body	1				
2-13		Screw	3	6a	RS22A6A	Air Valve Assembly	1
2-14		O-ring	3	6b	RS22A6B	Hose	1
2-15	RS22A215	Spring	2				
				7-1	RS22A71	Adapter D (48 x 100)	1
3-1		Valve Block Assy.	1	7-2	RS22A72	Adapter C (48 x 50)	1
3-2	*	Steel Ball	2	7-3	RS22A73	Adapter B (48 x 20)	1
3-3	*	Spring	1	7-4		Nut	4
3-4	*	Steel Ball	1	7-5		Washer	4
3-5	*	Spring	1	7-6		Washer	4
3-6	*	Copper Washer	1	7-7	RS22A77BL2	Bracket Assy. (incl. 4ea. 7-4, 7-5, 7-6, 3ea. 7-8, 7-11 2ea. 7-9 1ea. 7-7)	1
3-7		Screw	1				
3-8	*	Steel Ball	1	7-8		Pin	3
3-9	*	Ball Seat	1	7-9		Bolt	2
3-10		Spring	1	7-10	RS22A710	Adapter A (68 x 20)	1
3-11		Screw	1	7-11		Ring	3
3-12	*	Sealing Gasket	1				
3-13		Screw	1				
3-14		Sealing Washer	1				
3-15	RS22A315	Release Valve Rod (incl. 3-2, 314, 3-15)	1				
3-16		Pin	1				
4-0	RS22A40BL2	Air Pump Assy.	1				
4-1	**	Copper Washer	1				
4-2		Pump Cylinder	1				
4-3	**	Oil Seal	1				
4-4	**	Nylon Gasket	1				
4-5	**	Copper Bushing	1				
4-6		Nut	1				
4-7		Screw	8				
4-8		Front Cover	1				
4-9		Air Pump Housing	1				

* Available in RS22AHRK - Hydraulic Repair Kit

** Available in RS22APRK - Air Pump Repair Kit

Only numbers identified by Part No. are available separately.