



777 Oakmont Lane, Ste. 800
 Westmont, IL 60559
 1.800.323.9114 • Outside U.S. 1.630.590.6990
 www.simplexmechanicals.com



RATCHET JACKS
Operational Manual
Reference # - 87091
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Date - 0611



IMPORTANT - READ CAREFULLY

This manual contains important information about the correct installation, operation and maintenance of this equipment. All persons involved in the installation, operation and maintenance of this equipment must be thoroughly familiar with the contents of this manual. To safeguard against the possibility of personal injury or property damage, follow the recommendations and instructions of this manual. Keep this manual for reference.

WARRANTY STATEMENT

SIMPLEX products are warranted to be free of defects in materials and workmanship under normal use for as long as the original purchaser owns them, subject to the guidelines and limitations listed. This warranty does not cover: normal wear & tear, cosmetic items, abuse, overload-ing, alterations, improper lubrication, or use in a manner for which they are not intended. If the customer believes a product is defective, the product must be delivered, or shipped freight prepaid, to the nearest SIMPLEX Authorized Service Center for evaluation and repair.

RECEIVING INSTRUCTIONS

Important! Make sure to inspect all of the components for shipping damage. If damage is found, notify carrier at once. Shipping damage will not be covered by warranty. The carrier is responsible for all loss associated with shipping damage.

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- Note -

This Operational Manual is intended as a technical guideline only. SIMPLEX accepts no liability for any use or reliance made of any information in this Operational Manual. All information, illustrations and specifications in this Operational Manual are based on the latest information available at the time of publication. SIMPLEX reserves the right to make changes at any time without notice. Equipment operators and installers shall be responsible for ensuring that a safe working environment and safe systems of work are in place before operating the equipment.



Ratchet Jacks

1.0 SAFE OPERATING PROCEDURES & SAFETY PRECAUTIONS



CAUTION: Prior to use, the operator should be instructed by a qualified person in the safe and proper use of the jack for the specific application.



IMPORTANT: Simplex makes no claim that the jacks covered by this document are suitable for any general or particular use and the user assumes all liability arising therefrom. In addition, to comply with the requirements set forth by ANSI B30.1 Chapters 1-1, 1-2 and 1-3, all jacks should be examined by a qualified person prior to each use for damage, proper lubrication, and wear.



WARNING: Consult decal on side of jack housing and verify that capacity and travel is suitable for the load. If unable to calculate the load exactly, select a jack with greater capacity than the estimated load, allowing for a large margin of safety.



IMPORTANT: The jack should be operated through one complete travel cycle prior to application of load to verify that all mechanisms properly function, and the jack is in good working condition.



CAUTION: Never use a jack that is damaged, dirty, improperly lubricated, or malfunctioning. Jacks that fail inspection must be removed from service until repaired by an authorized service center.



WARNING: Do not lift human cargo. Do not allow personnel on or under the load until lifting is complete and the load is secure with proper load supports installed in accordance with OSHA safety and health standards. Ensure that supports have been inspected and approved by a safety engineer or qualified person of authority.



CAUTION: Place the jack on a firm foundation, making sure the jack is evenly supported at the base and properly aligned perpendicular to the load. Also, be sure that the jack is properly aligned at the lifting point, supported in a manner that the jack cannot slip or the load cannot shift.



WARNING: Use the Simplex Lever Bar recommended for the specific jack model. The lever bar to be used should not exceed the length specified on the jack decal. Lever bar extenders are not to be used.



IMPORTANT: Prior to use, the operator should make sure that the area is clear of personnel and objects obstructing work space to safely activate the jack lever in both the up and down mode



WARNING: The operators head and body should be positioned to one side of the lever in a manner to prevent serious injury should a sudden movement in the load cause the lever to kick up.



WARNING: Do not exceed the jack travel shown on the decal on side of jack housing or continue to apply lever force to extend the jack after stop contact has occurred.



WARNING: Never apply lever force to extend the jack after contact with immovable objects has occurred. Never kick, jump on, stand on, or straddle the lever bar. Do not strike with a hammer or force the lever in a rocking motion. Such actions create a personal injury hazard, the jack could become dislodged, causing the load to drop and working parts could become damaged and fail.



IMPORTANT: Prior to operating the jack to lower the load, read operating instructions. Operator should perform the lowering process and follow the procedure above, taking precautions that all personnel and parts of the human body are clear of the load before lowering.



CAUTION: As a safety precaution, remove the lever bar from the socket after lifting is complete and when jacks are not in operation. Accidentally striking an unattended lever bar projecting from the socket could dislocate or dislodge the jack causing the load to drop. Unattended lever bars can present a trip hazard.



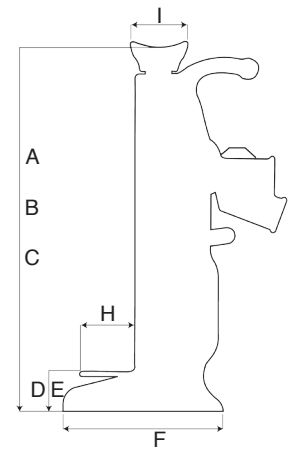
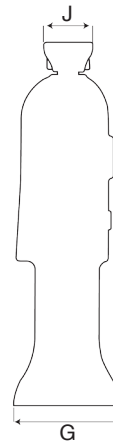
CAUTION: Never abruptly release downward force on the lever bar, unless you are sure that the retaining pawl is engaged and the lever bar is free from load.



IMPORTANT: Inspect jack frequently and before each use. Immediately remove jack from service if any parts appear worn, bent, rusted or otherwise damaged. Repairs must be made by an Authorized Service Center (contact Simplex at 1(800) 323-9114 for referral) or visit www.tksimplex.com for a list of Authorized Service Centers.

2.0 TECHNICAL SPECIFICATIONS

Model	Jack Housing Material	Support Capacity (tonnes)	Lifting Capacity (tonnes)	Handle Effort per Tonnes
RJ84A	Steel	4,5	4,5	44
RJ85A				44
RJ86A				44
RJ1017		9,1	9,1	54
RJ22B				30
RJ24A		18,1	13,6	44
RJ2029				36
RJA1022	Aluminium	9,1	9,1	40
RJA1538		13,6	7,3	57



Model	Dimensions (mm)										Weight (kg)
	A	B	C	D	E	F	G	H	I	J	
	Minimum Height	Maximum Height	Stroke	Toe Minimum Height	Toe Maximum Height	Base Length	Base Width	Toe Length	Cap Length	Cap Width	
RJ84A	356	533	178	45	223	187	127	64	67	59	13
RJ85A	432	685	254	45	299	187	127	64	67	59	14
RJ86A	508	838	330	45	375	187	127	64	67	59	16
RJ1017	439	679	241	42	283	222	152	61	73	67	18
RJ22B	550	854	305	51	356	260	165	61	76	64	32
RJ24A	591	914	324	58	381	260	203	67	89	73	42
RJ2029	712	1168	457	58	514	279	203	67	89	73	47
RJA1022	550	854	305	51	356	260	165	61	76	64	19
RJA1538	956	1502	540	---	546	207	210	---	---	---	28

3.0 JACK OPERATING INSTRUCTIONS



IMPORTANT: Refer to the decal on the side of the jack housing to locate the model number, capacity and recommended lever bar length for each model.



WARNING: Do not exceed the jack travel shown on the decal or continue to apply lever force to extend the jack after stop contact has occurred.



CAUTION: Be sure that the jack's rack bar and mechanisms are free from foreign objects, otherwise it may affect the jack performance. Refer to Section 4.0 for proper maintenance procedure.

Place the jack: On a firm foundation, be certain the jack is evenly supported at the base (10) and properly aligned perpendicular to the load. The jack must be properly aligned at the lifting point (7 & 8), and supported in a manner that the jack cannot slip or the load cannot shift.

To Raise: Move reversing lever to the "up" position (1). Select the appropriate socket position (2) and insert lever bar (3). Make sure that the lever bar engages the full depth of the socket. Grip the lever bar (3) and exert "up" and "down" strokes, gripping firmly and completing a controlled downward force, assuring each pawl (4 & 5) engages properly prior to each stroke completion.



CAUTION: After each downward stroke, gradually release the downward force on the lever bar (3) making sure that the holding pawl (4) has engaged and the lever bar is free of the load prior to completing the upward stroke. Should the lever be released while under the load, it will suddenly "kick up", presenting a personal injury hazard.

To Lower: Move the reversing lever to the "down" position (6). Select the appropriate socket position (2) and insert lever bar (3). Make sure that the lever bar engages the full depth of the socket. Grip the lever bar (3) and exert "up" and "down" strokes, gripping firmly and completing a controlled downward force, assuring each pawl (4 & 5) engages properly prior to each stroke completion.



CAUTION: Before lowering the load, be sure that all obstructions are removed (refer to all operating, safety procedures and precautions in Section 1.0). Assure that securely affixed rigging lines, guides and other safety constraints are properly installed and follow the load during operation to prevent the load from becoming unstable or shifting.



IMPORTANT: If more than one jack is used to move, raise or lower a load, ensure that all jacks are of identical type and properly positioned so that the load will remain evenly distributed during jacking. Assure that all jacks have reversing levers positioned for the same direction of travel. Follow operating instructions in Section 1.0. Position all lever bars in unison with slow, precision coordinated strokes to move the load evenly. Uneven load distribution can cause a sudden shift of load, resulting in the inability to hold or control the load or lever bar.

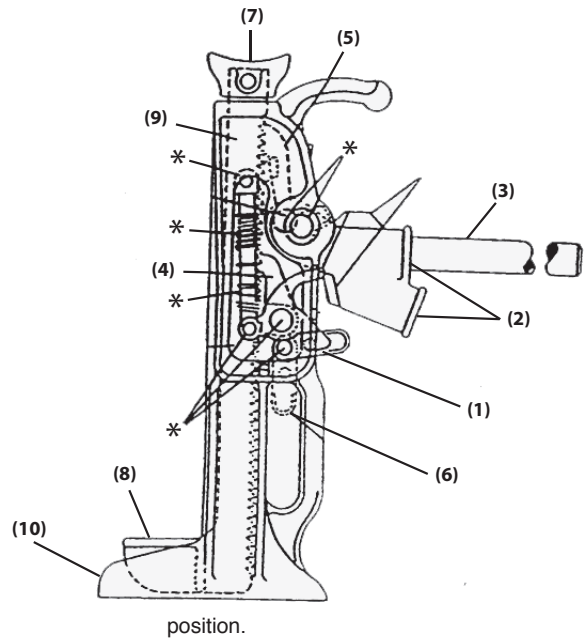


WARNING: Do not operate speed trip function to lower load. This feature is to be used for quickly retracting the rack bar under no load condition only.

Before Using Speed Trip Function: Be certain that the load is properly blocked. Move reversing lever to down position (6). Operate the lever bar (3) per instruction "To Lower" and lower the load onto load supports. Continue to lower until load point (7 & 8) of jack clears the load.



CAUTION: Be certain your hands are clear of the rack bar (9) or load point (7 & 8) during the speed trip operation. When jack is no longer under load, then: release the rack bar (9), move the lever bar (3) to the down position; hold the reversing lever down (6) to engage the speed trip function. Gradually push the socket (2) upward, at the point of pawl disengagement, the rack bar (9) will suddenly drop into the retracted



4.0 MAINTENANCE & LUBRICATION INSTRUCTIONS

1. Comply with the inspection, testing and maintenance requirements of ANSI B30.1 as determined from use, experience or as specified by a qualified person of authority. • ANSI B30.1 Safety Standards - Please visit www.ansi.org and type "jacks" in the search window.
2. Keep jack clean, free of grit, and in good working condition.
3. Do not lubricate the tooth side of the rack bar and retaining pawl. Lubricate the back side with #2 graphite grease.
4. Lubricate periodically other working parts with a good grade of SAE 20 wt. Oil - avoid lubrication of base and cap load surface.
5. Periodically lubricate parts marked with an *(asterisk).

