



1/2 TON TELESCOPIC AIR AND HYDRAULIC TRANSMISSION JACK

TJA100



INTRODUCTION

The TJA100 1/2 Ton Telescopic Air and Hydraulic Transmission Jack provides the professional technician with maximum stability, universal saddle adjustment, and dependable service.

TECHNICAL SUPPORT AND SERVICE

US: 877-762-7664
CANADA: 866-824-0524

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SAFETY INFORMATION

MUST READ INSTRUCTIONS BEFORE USE

WARNING



- Failure to follow safe practices when using the Transmission Jack can result in the transmission falling, jack failure or other damage.

Read, study, understand and follow all instructions before using this jack.

Wear eye protection that meets ANSI Z87.1 and OSHA standards (users and bystanders).

Inspect the jack before using it; do not use it if it is modified, damaged or leaking hydraulic fluid.

A falling transmission or jack failure can cause property damage, serious injury or death.

- Using the jack improperly or under unsafe conditions can cause jack failure or a falling transmission.

Use only if supported on a hard level surface.

Do not use adapters that are not approved or supplied by Snap-on®.

Do not use the jack beyond its rated capacity.

Consult the vehicle manufacturer's information for the transmission's center of balance (center of gravity) and center the saddle under that location.

Do not extend the STOP limit line on the saddle horizontal arms past the edge of the saddle. Make sure arms are locked in position before using.

Secure the transmission to the saddle with the restraint system provided before raising or lowering the load.

Always lower or raise the jack slowly and carefully; do not shock load.

Support the engine with a stand before unbolting the transmission from the vehicle.

Adequately support the vehicle before making repairs.

Using the jack under unsafe conditions or not following safe procedures can result in a falling transmission or jack failure, causing serious injury.

- Unintended use of this jack can result in accidents.

Do not use this jack for anything other than removal, installation and transport of transmissions, transfer cases and transaxles.

Do not modify this Transmission Jack for use for any other purpose.

Falling load can cause property damage, serious injury or death.

WARNING: This product can expose you to chemicals including nickel, which are known to the State of California to cause cancer and/or birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.



SAVE THESE INSTRUCTIONS

SPECIFICATIONS

Specifications	TJA100
Capacity	1/2 Ton
Required Air Pressure For Rated Capacity	100 psig
Minimum Height To Saddle Plate (in.)	35
Maximum Lift Height To Saddle Plate (in.)	75
Number Of Pumps To Maximum Height	31
Saddle Finger Width Range (in.)	14.75 to 23.25
Saddle Finger Height Range (in.)	1 to 6.25
Saddle Finger Locked Angle Positions	50°/70°/90°
Side To Side Saddle Tilt	±10°
Fore/Aft Saddle Tilt	±10°
Base Size (in.)	35.5 X 35.5 sq.
Caster Wheel Diameter (in.)	4.75
Tie-down Strap (in.)	1 X 64.5
Hydraulic Fluid	Snap-on High-Performance
Net Weight (lbs.)	202
Shipping Weight (lbs.)	245

FEATURES

The Snap-on® TJA100 1/2 Ton Capacity Transmission Jack was designed specifically for the professional technician. The Model TJA100 is assembled in the USA and includes Patents and Patent Pending features that provide exceptional performance, ease of use and reliability.

CONSTRUCTION

The exclusive Snap-on® transmission jack base is made of formed steel plate and designed to minimize vertical flex throughout the jack's lift range. The saddle is equipped with patent pending arms that have multiple adjustments to accommodate different automotive transmission configurations. A cam lock nylon tie down strap is included for securing the transmission to the saddle. A conveniently located grab handle under the saddle helps to steer and maneuver the jack.

AIR AND HYDRAULIC POWER UNIT

The two-stage ram provides a convenient low height to transfer the transmission from the jack onto a work table or stand and a maximum high height for taller technicians to stand at the the transmission work height. The first stage ram is pneumatically controlled by way of up and down foot pedals for raising and lowering the transmission. The second stage hydraulic ram is activated by way of a manually operated hand pump for precise positioning of the transmission. High performance seals and hydraulic fluid provide longer life. Load-limiting and bypass valves prevent use beyond working capacity and over-extension of the ram.

MANEUVERABILITY

One-Piece base with large 4.75" diameter, ball bearing mounted swivel caster wheels provide easy maneuverability. Caster wheels are vulcanized with Polyurethane tread to provide smooth rotation. Two wheels include locks that can be activated to prevent the jack from moving.

SMOOTH OPERATION

Fully factory lubricated casters and saddle tilt screws for smooth maneuvering and saddle adjustment. High performance pressure seals and wiper rings inhibit contaminants from entering the hydraulic system and guarantee smooth pumping operation. Heavy duty release valve assembly with built-in stop prevents accidental removal and provides easy rotation.

ADDITIONAL INFORMATION:

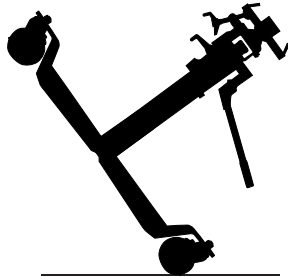
- Low height of 35" to transfer transmission from jack to work table or stand.
- High height of 75" so tall technicians can stand erect under the transmission.
- Heavy steel, patent pending base limits vertical flex and provides maximum stability.
- Patent pending saddle arms for adjustment to fit most automotive transmission configurations. Arms can be removed for special applications.
- Air and hydraulic activated pumps to extend and lower rams fast or slow for precise transmission positioning.
- Hydraulic stage pump handle rotates 360° for multiple position pumping.
- High performance seals and wiper rings for long life.
- Special Snap-on® high performance hydraulic oil and lubrication grease for extreme temperatures and reduced wear.

START-UP GUIDE

PURGING AIR FROM THE SECONDARY STAGE HYDRAULIC SYSTEM:

Sometimes air gets trapped in the second stage hydraulic system during shipping and/or handling. Evidence of an air bound system is a spongy feeling during the pump operation, or the ram will not rise to maximum extension, or the ram will not rise proportionate to a full incremental pump stroke.

- a. Turn the release valve knob in a clockwise rotation until it stops. Now turn the knob in a counterclockwise direction two full rotations.
- b. Tilt the entire jack on two caster wheels with the pump handle pointing down as shown in the accompanying silhouette. At the same time, operate the pump handle until the loose feel of the pump is met with some resistance.
- c. Turn the release valve knob in a clockwise rotation until it stops and at the same time continue pumping the handle while lifting the jack to its upright position.
- d. Pump the jack to maximum extension. Repeat steps "a" through "c" until all air is purged from the system.



connected air lines on dirty shop floor or dirty environment and then reconnect to the jack. Contaminants in the air system can cause the air valve to malfunction and the air cylinder to score. Contaminants and/or water found in the air cylinder voids the warranty.

The primary stage of the power unit is air activated. The air activated portion will also give the user many years of trouble free operation if the shop air system is properly maintained. The shop air system must have an air regulator adjusted to the proper pressure. The system must be free from dirt and moisture. Do not drop dis-

OPERATION

IMPORTANT

To lift load

Load can only be applied to the first stage air ram when the ram is all the way down or all the way extended in its locked position.

Depress the foot pedal on the right marked "UP" to raise the first stage air ram to its maximum locked position. The first stage air ram must be in its locked position before lifting or lowering the load with the second stage (hand pump) hydraulic ram.

In order to lift the load with the second stage hydraulic ram, turn the jack's release knob to the right until it stops and then proceed to activate the pump handle.

To lower the load all the way down

Lower the second stage hydraulic ram all the way down in the locked first stage air ram by slowly turning the jack's release knob to the left.

After the second stage hydraulic ram is retracted all the way, depress the foot pedal on the right marked "UP" for 1-2 seconds and then depress the pedal on the left marked "DOWN" to lower the first stage air ram.

Operating Procedure

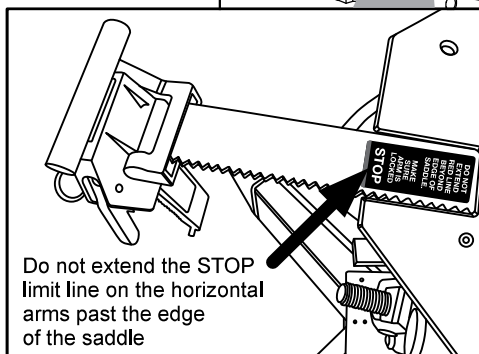
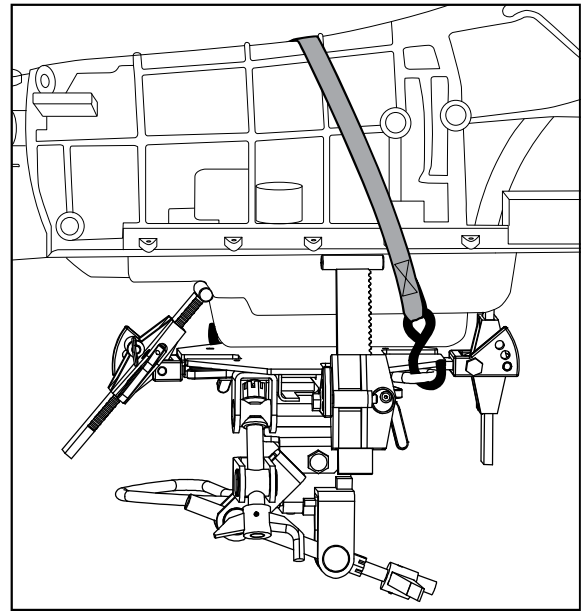
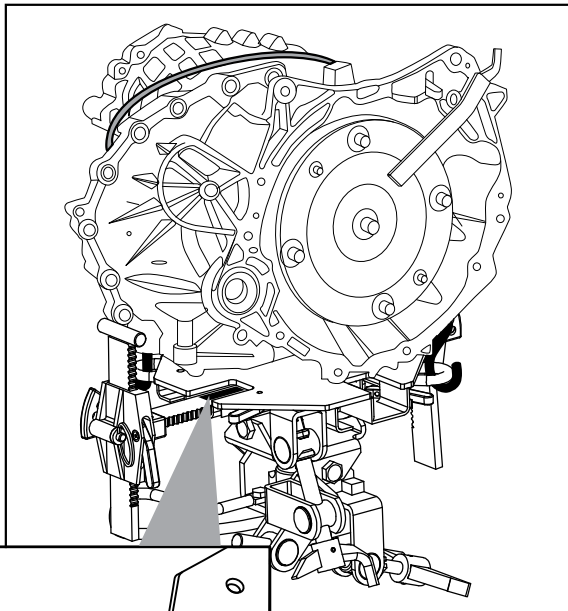
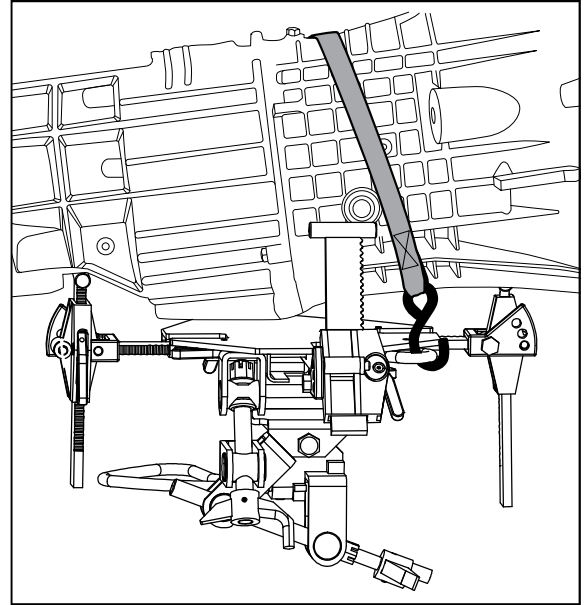
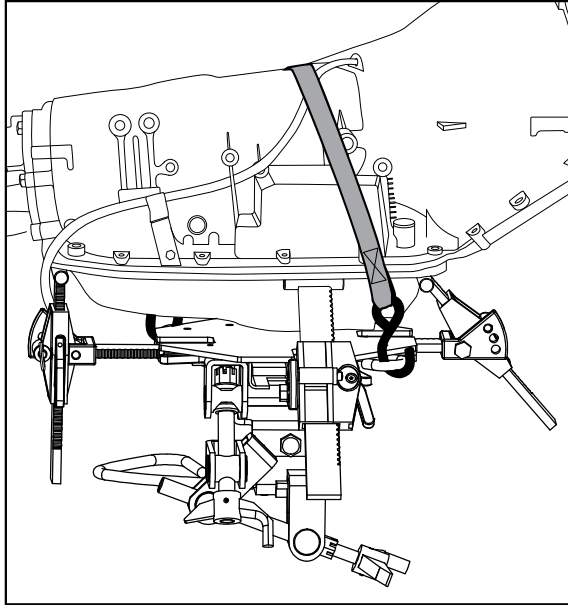
1. Lift the vehicle to the desired work height and support the vehicle in accordance with the lift manufacturer's recommended support procedure and all the instructions and warnings in this manual.
2. Use an under hoist stand rated greater than the weight of the engine to support the engine before unbolting the transmission from the

engine or bolting the transmission to the engine.

3. Position the transmission jack directly under the transmission. Depress the foot pedal marked "UP" to raise the jack to maximum first stage height. Pump the handle on the hydraulic second stage in order to raise the jack's saddle to a height very close to the center of balance point of the transmission oil pan but do not touch the transmission.
4. Adjust the ratchet arms on the saddle so that the vertical portion of the arms will fit in the mounting flange around the perimeter of the transmission oil pan. Slowly and gently pump the jack so the connection is made and then secure the transmission to the jack's saddle with the tie down strap provided. Sometimes it is necessary to turn the fore and aft and also the side to side tilt knobs so the saddle is in the proper alignment with the transmission pan before securing the load to the jack's saddle.
5. Make sure the tie down strap is very tight when securing the transmission to the jack's saddle and before raising or lowering the transmission.
6. Remove the transmission from the engine according to instructions in the vehicle service manual.
7. Once the transmission has been disconnected from the engine, very slowly turn the release valve knob on the second stage hydraulic block in a counterclockwise direction. Make sure the jack's saddle and transmission do not hang up on any under car components, wiring, fuel lines, etc. **IMPORTANT:** Continue to lower the load until the second stage bottoms out and then depress the first stage "UP" pedal for 1-2 seconds to increase air pressure before depressing the "DOWN" pedal to lower the transmission all the way down.

GENERAL APPLICATION

The images below show the versatility of the saddle fingers which have horizontal, vertical, and two angle adjustments. The arm assemblies can be adjusted to support the mounting flange around the transmission's pan, cradle different parts of the transmission or any combination of adjustments. It is important to note the use of the tie down strap to secure the transmission to the saddle in addition to the arm adjustments.



Do not extend the STOP limit line on the horizontal arms past the edge of the saddle

MAINTENANCE

To ensure this transmission jack maintains its operating efficiency, the following maintenance schedule and procedures are required. These schedules and procedures are the responsibility of the jack owner.

REGULARLY - Usage and shop conditions determine frequency.

1. Always store the jack in a well protected area where it will not be exposed to inclement weather, corrosive vapors, abrasive dust, or any harmful elements. The jack must be cleaned of water, snow, sand, grit, oil, grease or other foreign matter immediately after exposure.
2. Every jack owner is responsible for keeping jack labels clean and readable. Cleaning can be accomplished by using a mild soap solution to wash external surfaces but not any moving hydraulic components. Immediately after cleaning dry the jack completely.
3. Inspect the jack before each work day. Do not use the jack if any component is cracked, broken, bent, shows sign of damage or leaks hydraulic fluid. Remove from service until properly serviced or repaired.
4. Inspect the jack before each day for loose or missing hardware or components. Take corrective action before using. Premature wearing or damage to any jack components resulting from loose or missing hardware are not eligible for warranty consideration.

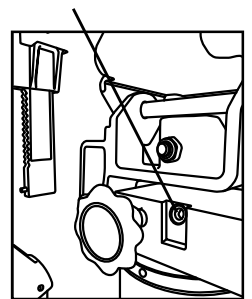
WEEKLY

1. The jack must be lubricated with white lithium spray grease (only) in order to prevent premature wearing of parts and guarantee smooth operation.
2. Areas of lubrication include the bearings and axle of the swivel caster wheels and the acme tilt screws and their corresponding trunnions on the saddle base assembly.
3. Worn parts resulting from the use of improper grease, inadequate or no lubrication are not eligible for warranty consideration.
4. Check tightening of all hardware.
5. Check swivel of bearings and rotation of wheels on all casters.
6. Used compressed air to remove any dust or dirt from the jack.
7. Any jack not functioning properly due to contamination with water, rust and/or foreign materials from the air supply or other outside source is not eligible for warranty consideration.

TYPE OF OIL AND CORRECT OIL LEVEL

It should not be necessary to refill or top off the hydraulic reservoir with hydraulic oil unless there is an external leak. An external leak requires immediate repair. Maintaining an older jack may require a fluid change.

Oil Fill Screw



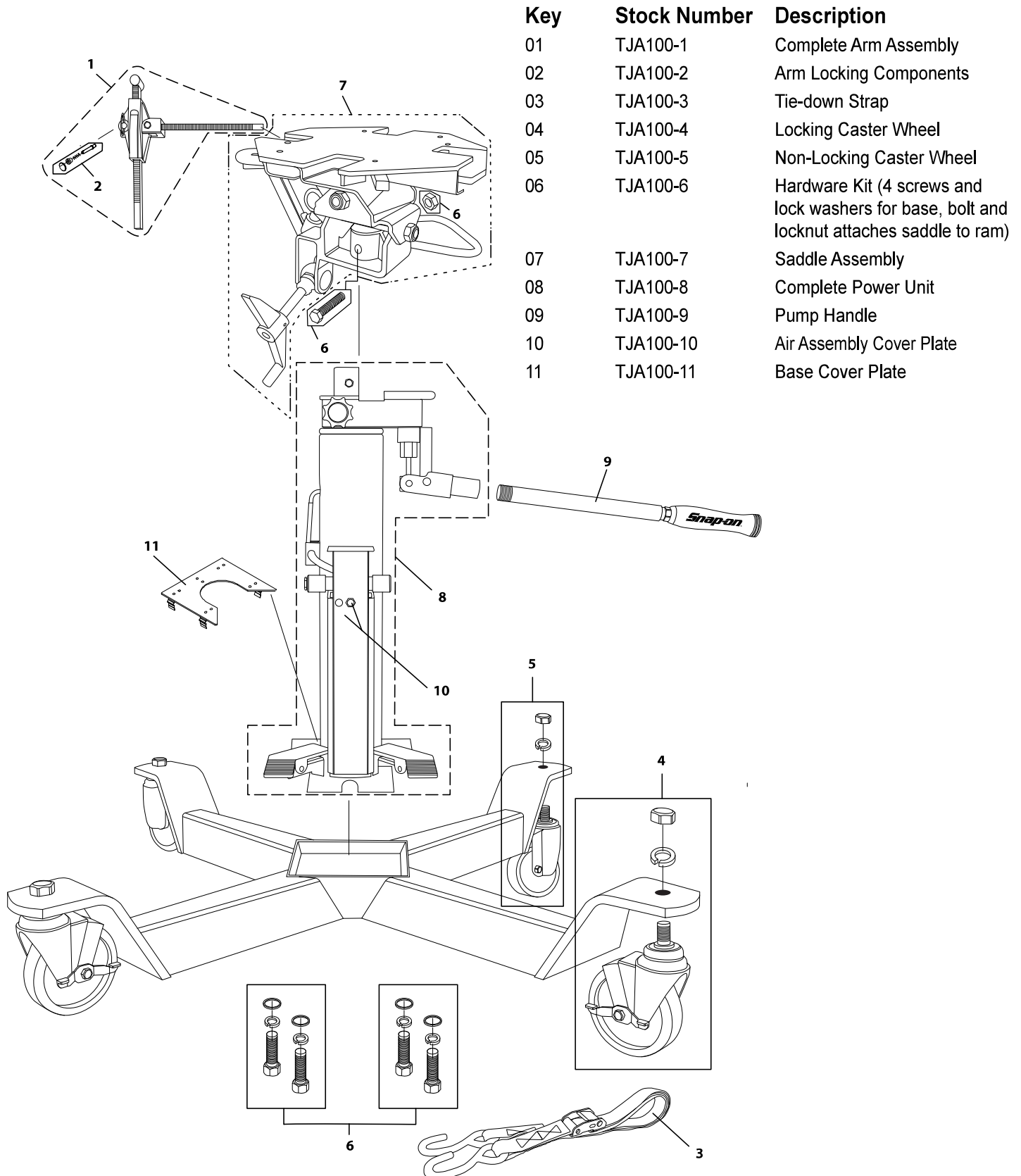
When filling or topping of the jack's reservoir use only a non-detergent hydraulic oil with 22 viscosity rating. Using any other fluid will cause damage to the seals and void the warranty.

TROUBLESHOOTING

FOR TECH SERVICE, CALL USA: 877-762-7664, CANADA: 866-824-0524

PROBLEM	POSSIBLE CAUSE	REMEDY
1. Second stage hydraulic ram will not lift load	<ul style="list-style-type: none"> a. Air in hydraulic system. b. Release valve not tightened down. c. Load exceeds rated capacity 	<ul style="list-style-type: none"> a. Purge air from hydraulic system by following procedure under START-UP GUIDE (page 6). b. Turn release knob all the way to the right until it stops. c. Use proper rated capacity jack.
2. Second stage hydraulic ram will not sustain rated load or feels "spongy" under rated load.	<ul style="list-style-type: none"> a. Air in hydraulic system. 	<ul style="list-style-type: none"> a. Purge air from hydraulic system by following procedure under START-UP GUIDE (page 6).
3. Second stage hydraulic ram will not raise to maximum height.	<ul style="list-style-type: none"> a. Air in hydraulic system b. Not enough hydraulic oil in jack. 	<ul style="list-style-type: none"> a. Purge air from hydraulic system by following procedure under START-UP GUIDE (page 6). b. Fill jack with oil according to the procedure TYPE OF OIL AND CORRECT OIL LEVEL (page 9).
4. First stage air ram and/or second stage hydraulic ram will not lower all the way down without a load.	<ul style="list-style-type: none"> a. Pressure seal restriction somewhere within the ram/cylinder assemblies. b. Mechanical restriction somewhere within the cylinder/ram components. c. Ram(s) bent or damaged. 	<ul style="list-style-type: none"> a. Continue to use jack until new seals wear in. b. Call Tech Service. c. Call Tech Service.
5. First stage air ram will not lift load.	<ul style="list-style-type: none"> a. Not enough air pressure. b. Air flow restricted. 	<ul style="list-style-type: none"> a. Make sure system air pressure is at least 100 psi. and load does not exceed 1000 pounds. b. Clean filter behind jacks air disconnect nipple or check system supplied air source.

PARTS DRAWING AND PARTS LIST



Key	Stock Number	Description
01	TJA100-1	Complete Arm Assembly
02	TJA100-2	Arm Locking Components
03	TJA100-3	Tie-down Strap
04	TJA100-4	Locking Caster Wheel
05	TJA100-5	Non-Locking Caster Wheel
06	TJA100-6	Hardware Kit (4 screws and lock washers for base, bolt and locknut attaches saddle to ram)
07	TJA100-7	Saddle Assembly
08	TJA100-8	Complete Power Unit
09	TJA100-9	Pump Handle
10	TJA100-10	Air Assembly Cover Plate
11	TJA100-11	Base Cover Plate

WARRANTY/SERVICE AND REPAIR

Snap-on® Tools Limited Three (3) Year Warranty

Snap-on® Tools Company (the "Seller") warrants only to original purchasers who use the Equipment in their business that under normal use, care and service, the Equipment (except as otherwise provided herein) shall be free from defects in material and workmanship for 3 years from the date of original invoice. Seller does not provide any warranty for accessories used with the Equipment that are not manufactured by Seller.

SELLER'S OBLIGATIONS UNDER THIS WARRANTY ARE LIMITED SOLELY TO THE REPAIR OR, AT SELLER'S OPTION, REPLACEMENT OF EQUIPMENT OR PARTS WHICH TO SELLER'S SATISFACTION ARE DETERMINED TO BE DEFECTIVE AND WHICH ARE NECESSARY, IN SELLER'S JUDGMENT, TO RETURN THIS EQUIPMENT TO GOOD OPERATING CONDITION. NO OTHER WARRANTIES, EXPRESS OR IMPLIED OR STATUTORY, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, SHALL APPLY AND ALL SUCH WARRANTIES ARE HEREBY EXPRESSLY DISCLAIMED.

SELLER SHALL NOT BE LIABLE FOR ANY INCIDENTAL, SPECIAL OR CONSEQUENTIAL COSTS OR DAMAGES INCURRED BY PURCHASERS OR OTHERS (including, without limitations, lost profits, revenues, and anticipated sales, business opportunities or goodwill, or interruption of business and any other injury or damage).

This warranty does not cover (and separate charges for parts, labor and related expenses shall apply to) any damage to, malfunctioning, in operability or improper operation of the Equipment caused by, resulting from or attributable to (A) abuse, misuse or tampering; (B) alteration, modification or adjustment of the Equipment by other than Seller's authorized representatives; (C) installation, repair or maintenance (other than specified other than Seller's authorized representatives; (D) improper or negligent use, application, operation, care, cleaning, storage or handling; (E) fire, water, wind, lightning or other natural causes; (F) adverse environmental conditions, including, without limitation, excessive heat, moisture, corrosive elements, dust or other air contaminants, radio frequency interference, electric power failure, power line voltages beyond those specified for the Equipment, unusual physical, electrical or electromagnetic stress and/or any other condition outside of Seller's environmental specifications; (G) use of the Equipment in combination or connection with other equipment, attachments, supplies or consumables not manufactured or supplied by Seller; or (H) failure to comply with any applicable federal, state or local regulation, requirement or specification governing lifting equipment and related supplies.

Repairs or replacements qualifying under this Warranty will be performed on regular business days during Seller's normal working hours within a reasonable time following purchaser's request. All requests for Warranty service must be made during the stated Warranty period. Proof of purchase date is required to make a Warranty request. This Warranty is nontransferable.

Snap-on Tools, Kenosha, Wisconsin 53141-1410
Technical Support and Service US: 877-762-7664
Canada: 866-824-0524

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