



Electric and
Hydraulic
Lifting
Systems

Hydraulic Trailer Jack Installation and Operation Guide

March 2008

Hydraulic Trailer Jack

Dual Leg

CJ 90 and CJ 140



General Description

- Dual leg trailer jack
- Lifting Capacity: CJ 90 = 9,000lbs CJ 140 = 14,000lbs
- Stroke: 24 inches

Installation

Tools Required for Installation

- Ratchet, sockets and wrench set
- Wire cutters/crimpers
- Electric drill and bits
- Screw gun bit
- Welding equipment (if welding leg in place)

Additional Parts Needed for Installation

- #10 gauge power wire (to connect battery +12V to the pump)
- #10 gauge ground wire (to connect battery ground to pump)
- #10 gauge ring terminals
- Wire loom and clips (to secure and protect harness and switch)
- Self tapping screws or pop rivets (to secure loom clips)
- Wire ties

Jack Mounting

The CJ style jack is available in “bolt on” or “weld on” configurations (depending on the mounting option ordered for the system). Mounting provisions must be designed with adequate strength to sustain trailer weight and jack lifting capacity. If bolting the jack in place, ensure the use of appropriate size for the application ($\frac{1}{2}$ ” or $\frac{3}{8}$ ”) and quantity of mounting hardware. The use of **Grade 8** bolts is recommended. Welding the jack in place requires sound welding practices.

The jack should be mounted so that when the trailer is level (while mounted to the tow vehicle) there is a **minimum** of 10 inches of ground clearance. This is usually achieved by mounting the jack so that the foot is slightly below the bottom edge of trailer. The bottom of the footpad should not be lower than any other item mounted on the trailer.

Pump Mounting

The pump is mounted with threaded studs that are fitted to the pump body. Flange nuts are provided. The pump can be mounted either vertically or horizontally.

Switch Harness and Hydraulic Lines

The jack system has been shipped with all necessary switchgear, harnesses and hydraulic lines. These items are specifically engineered to operate your system and should not be altered in any manner. **Modification of any factory-supplied item may result in the denial of all warranty claims.**

Switchgear

The unit may have been provided with a key switch in the switchgear box (depending on the option ordered). If unit is not supplied with a key switch, the +12v battery lead must be fed through a power disconnect switch to fully isolate the system during travel or inactivity. Minimum switch rating must be 60 ampere DC. Switchgear is plugged into the system harness through a weather resistant connector (shown in Fig.1)



Fig.1- Weather Resistant Connector

Battery Connections

Battery Lead (+12volts): Attach a #10-gauge (minimum) wire between the positive 12-volt terminal on the battery and the supplied butt connector (Fig.2) on the power unit "RED" lead.

If circuit protection is required, install a 60 amp (minimum) circuit breaker.



Fig.2- Red Lead= +12V Battery
Black Lead= -12V Battery (Ground)

Pump Ground (-12volts): Attach a #10 gauge (minimum) wire between the negative 12-volt terminal on the battery and the supplied butt connector (Fig.2) on the power unit "BLACK" lead.

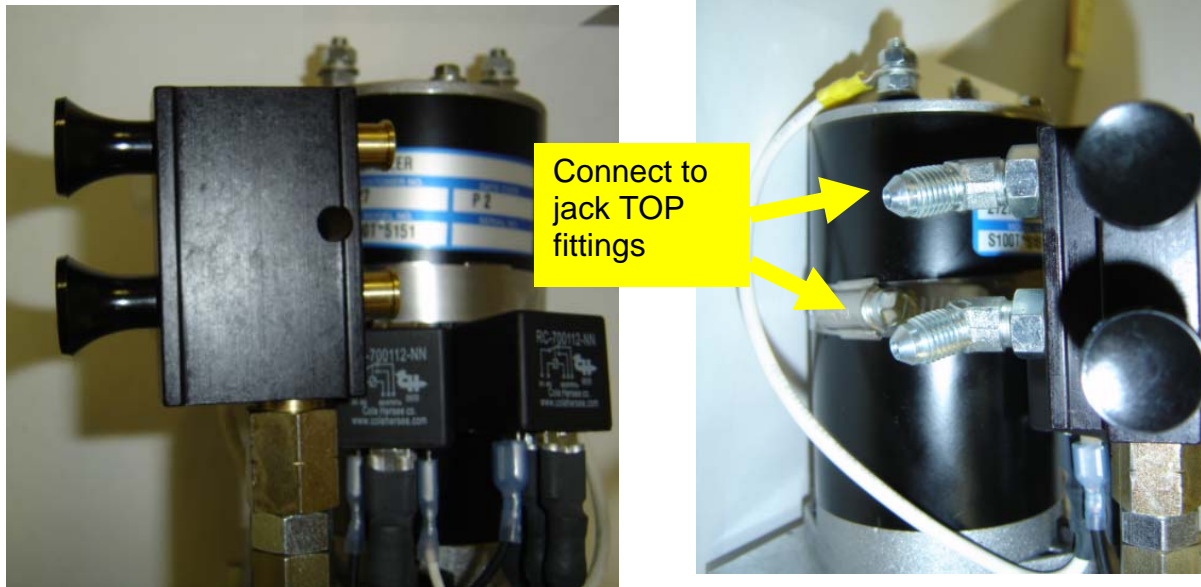
It is not acceptable to allow the jack mounting bolts or the weld to be the sole grounding connection.

Hydraulic Hose Connections

Connections to Top/ Extend Jack Port:

If equipped with a manual selector valve:

The extend port on the pump is fitted with a manual selector valve extending from the manifold block. The selector valve has 2 push/pull handles to select jack operation. The hose are to be connected from the selector valve to the top fitting (cap or closed end) of each jack leg.

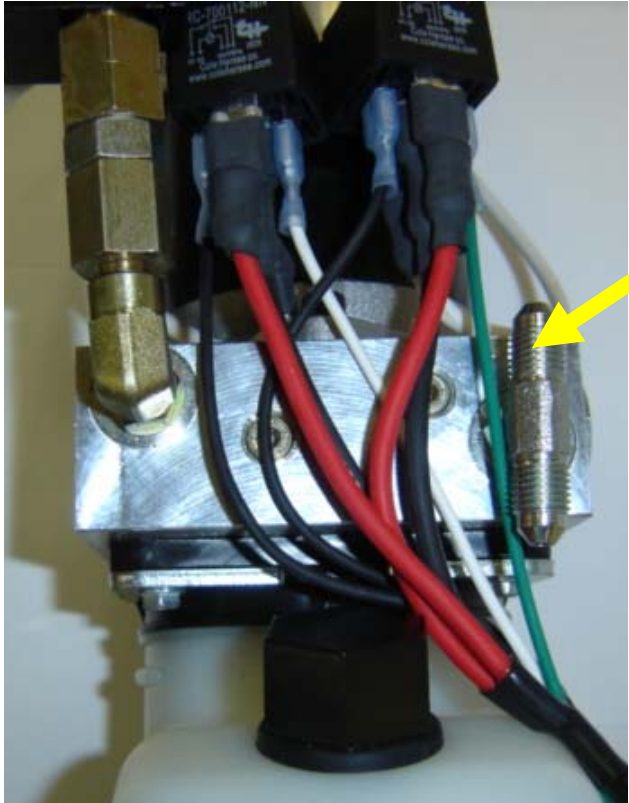


*If **not** equipped with manual selector valve:*

The extend port on the pump is fitted dual connection assembly (see below). Hoses are routed from this assembly to the top fitting (cap or closed end) of each jackleg. The port is marked with a "T" near the reservoir.



Hose Connections Bottom/ Retract Jack Port: The pump retract port is equipped with a TEE fitting. The port is marked with a “B” near the reservoir. This fitting is connected to the bottom fitting of each jack (rod end). It does not matter which one is left or right.



Connect to jack
BOTTOM fittings

System Purging

Following component installation, this procedure must be performed with the initial running of hydraulic system. All electrical and hose connections must be completed before the purging process.

- 1) Fill the reservoir 3/4 full with Dexron III Automatic Transmission Fluid.
- 2) Make sure the manual selector valves (black trumpet valves), if equipped, are fully pushed in to the IN/OPEN position to allow proper fluid flow.
- 3) Remove the Bottom (Retract) hoses from the TEE fitting at the pump and place them into a clean container. Cap the ends of the TEE fitting on the pump to ensure that no air or debris can enter.
- 4) With the Bottom hoses placed in a container, run the pump to fully **EXTEND** the jack(s). Maintain the fluid level in the reservoir approx 1/2 full. Do not allow reservoir to run empty. If jack(s) will not fully extend, crack loose the upper hose(s) at the jack(s) and run pump to extend until all the air is expelled. Retighten the hoses and complete the extension of the jack(s). Continue to maintain the fluid level in reservoir at 1/2 full. Note: normally only air will be expelled from the disconnected bottom hoses, however, it is possible some residual oil will be expelled.
- 5) Reconnect the Bottom (Retract) hoses to the Tee fitting at the pump.
- 6) Run the pump to **RETRACT** the jack(s). Maintain the fluid level in reservoir at 3/4 full. Do not fill to full until after the legs are fully retracted.
- 7) If fluid in reservoir appears to be aerated (foaming), allow unit to sit until foam dissipates (approx 5- 10 minutes).
- 8) Fully extend and retract jack leg(s) a minimum of 3 times. Allow the air in the foamed oil to dissipate as needed. Maintain the fluid level in the reservoir as needed.

Reservoir Breather Cap

Once the system is purged, install the 1-1/16 inch 6-sided breather cap. Failure to do so will cause the jack to operate erratically. Make sure the reservoir has adequate fluid.

Fluid Level: When the jack is fully retracted, the fluid level in the reservoir should be approximately one inch below the fill cap. If fluid needs to be added, use Dexron III automatic transmission fluid (the same as used for a GM automobile).

Operation

To raise and lower the jacks:

Activate the keyed switch (if equipped), then push and hold the rocker switch in the up or down position.

If the system is equipped with a manual selector valve:

1. Push the knob in to open the valve for the desired jack operation. By pushing in both knobs, the jacks will operate in tandem.
2. Operate the switch in the desired direction. Trailer up to extend jacks or trailer down to retract jacks.
3. Return the jack control knobs to the OUT (closed) position for storage or travel.

When finished, remove the key or operate the manual disconnect to prepare the system for travel.

The jack will “hold” a position by releasing the switch at any time. There is no need to take the “weight” off the jack when storing the trailer. Positive check valves in the system will not allow the jack to “bleed down”.



CAUTION

Warning: With any hydraulic application, holding any position on a cylinder must be done with safety in mind. Failure in the system may cause the leg to retract or extend on its own. When working under or near the trailer, always use jack stands of appropriate rating to support the weight of the trailer.



The keyed switch must be in the off position and the key must be removed when the jack is not in use and/or when the trailer is in transit. If unit is not supplied with a keyed switch, the +12v battery lead must be fed through a power disconnect switch to fully isolate the system during inactivity or travel. The minimum switch rating must be 60 ampere DC.

Manual Override

The CJ series pump has provisions for manual override.

Before you begin this procedure, please read and understand these instructions.

Required Items:

- Reversible Drill-capable of producing a minimum of 2000 r.p.m.
- 6mm(1/4") Hex Key (Allen Wrench) bit or driver.

To override the jack:

Open Manual selector valves (if equipped).

Remove the foil seal from the top of the motor. Use a small flat head screwdriver if necessary.

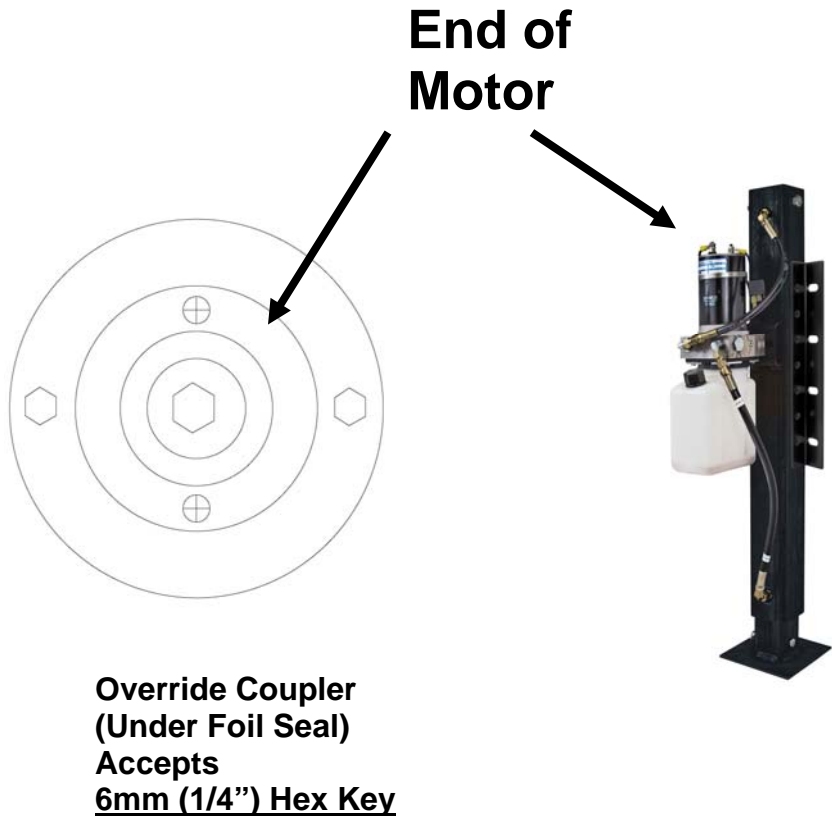
Insert the 6mm (1/4") hex key (Allen) bit on the manual override shaft located at the top of the motor.

To Retract:

Run drill in the **clockwise** direction at 2000 r.p.m. (minimum). The jack will retract.

To Extend:

Run drill in the **counterclockwise** direction at 2000 r.p.m. (minimum). The jack will extend.



Problem Solving

“The jack runs for a few seconds, then stops” The battery is weak or battery capacity is diminished. Charge the battery fully. It may be necessary to “load test” the battery.

“The jack only runs in one direction” Verify appropriate battery voltage. Verify that all wires are attached appropriately. Verify proper function of the switchgear.

“I push the switch and nothing happens” Ensure both positive and negative 12V have adequate connection. Ensure full charge on your battery. The vast majority of calls to the Equalizer Systems Help Desk are related to low battery voltage. Ensure that the unit is properly grounded to the battery with a minimum #10-gauge wire. Check all associated wiring.

“The jack is jerky when retracting” This may be caused by air in the system, low fluid level, or incorrect hose installation. To purge leg, add fluid as necessary and run the leg to full extension and retraction at least twice. If problem persists, call Equalizer Systems for assistance.

Fluid Level: When the jack is fully retracted, the fluid level in the reservoir should be approximately one inch below the fill cap. If fluid needs to be added, use Dexron III automatic transmission fluid (the same as used for a GM automobile).

Avoid the most common issue! Always ensure & verify proper charge on the batteries!

Proper and adequate grounding of the pump is essential!

90% of the phone calls to the Equalizer Systems Help Desk are found to be a weak / discharged battery or poor ground!

If your problem is not listed or persists, call Equalizer Systems at

(800) 846-9659

Please gain prior authorization for warranty service or repair.



Limited Warranty Policy

RV or Vehicle Manufacturer Installed Systems or Components:

1. Only warranty claims with prior written or verbal authorization from Equalizer Systems will be recognized, all other claims will be denied.
2. Equalizer Systems warrants slide out and leveling system components for a period of three years from the date of original sale of the vehicle. This warranty covers defects in material and workmanship only. Equalizer Systems is not liable for any damage due to abuse, neglect, misuse, negligence, misapplication, error of operation, accidental or purposeful damage or damage due to an "act of God" such as, wind or rain damage, flood, lightning or other natural occurrence of the like. Equalizer Systems limited warranty is applicable to the Equalizer Systems components only and does not apply to the vehicle, apparatus or property to which it is attached. Warranty parts will be shipped at no charge if the repair is authorized by an Equalizer Systems representative. Purchased components used in authorized warranty repairs will be reimbursed at the original purchase price.
3. Labor and freight expenses due to warrantable parts defects or workmanship will be reimbursed for a period of one year from the date of original sale of the vehicle. Freight expenses will either be prepaid by Equalizer Systems or reimbursed at the UPS Ground rate only. Any additional shipping charges or requirements are the obligation of the vehicle owner or service center performing the warranty repair. The owner or service center's obligation may include overseas shipping charges, border fees, brokerage fees and any other additional fee of the like.
4. Warranty labor will be reimbursed only for claims that have prior written or verbal authorization from an Equalizer Systems representative. Warranty labor compensation is required to correspond with the "Warranty Parts Replacement Time Guideline" published by Equalizer Systems. Any warranty repair not listed on this guideline will require prior authorization from an Equalizer Systems representative. A reasonable time allowance will be determined by the Equalizer Systems representative. Any warranty repair that is not listed on this guideline that is performed without prior authorization will be denied without exception. Time associated with learning about the repair or excessive diagnostic and installation time will not be reimbursed. Warranty labor will be reimbursed at the authorized service center's published shop rate if the rate is reasonable for that region. Overtime labor will not be reimbursed without exception.
5. Labor, parts and freight credit (if applicable) will be sent after the parts are tested and the warranty claim is validated. Returned parts that are found to be in normal operating condition are not warrantable and will be charged to the owner or service center. Equalizer Systems reserves the right to charge back the service center for labor claim payments previously submitted if the installation of the warranted part is found to be inadequate at a later date.
6. Claims will be denied if the date submitted is greater than 30 days from the repair date.
7. Prior authorization is required before parts may be sent back to Equalizer Systems. A Return Authorization Number is required for items to be accepted.

8. Complete systems are not warranted unless authorized by an Equalizer Systems representative. There are absolutely no exceptions to this clause.

9. This warranty begins upon the original sale date of the vehicle and is transferable, with limitation, to subsequent owners upon furnishing the original sale date of the vehicle and proof of purchase. Only the remainder of the three year parts warranty is applicable. Warranty labor and freight are only applicable to original owner of the vehicle.

10. Equalizer Systems is not liable for loss of time, manufacturing costs, labor material, loss of profits, direct or indirect damages incurred by the vehicle manufacturer.

11. Excessive warranty labor resulting from inadequate access to the Equalizer Systems product will not be reimbursed.

12. Equalizer Systems will not pay a markup on warranty parts unless required by law.

13. Travel expenses, hotel, telephone, fuel or any other expenses of the like are not covered under warranty.

Replacement Parts:

1. Replacement parts are warranted under the same guidelines listed above for the remainder of the original warranty or 90 days, whichever is longer. Proof of warranty repair date and original vehicle purchase date are required.

No additional warranties, expressed or implied, are authorized by Equalizer Systems

This warranty voids all previous issues. Questions concerning this warranty should be directed to:

Equalizer Systems
P.O. Box 668
Elkhart, IN 46515
(800) 846-9659
(574) 266-6083 fax

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