

WIRED / WIRELESS
REMOTE CONTROLLED

ELECTRIC
CAMPER JACKS

One button raises and lowers all jacks.

Heavy duty construction 2,500 lb capacity per jack.

Rugged precision drive system.

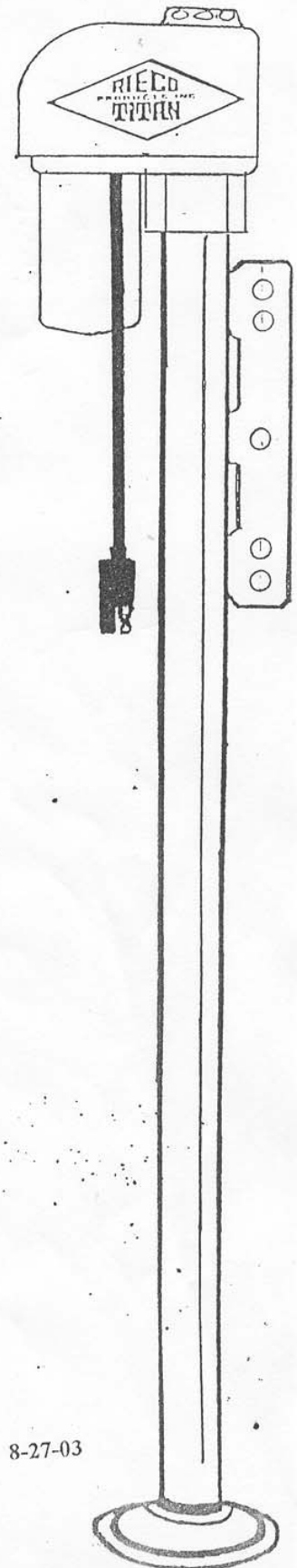
Self-braking for safe operation.

Large footpads for added stability.

Secure , safe mounting system.

Corrosion resistant powder coating.

Weatherproof sealed head.



8-27-03

ELECTRIC JACK INSTALLATION & OPERATION INSTRUCTIONS Effective

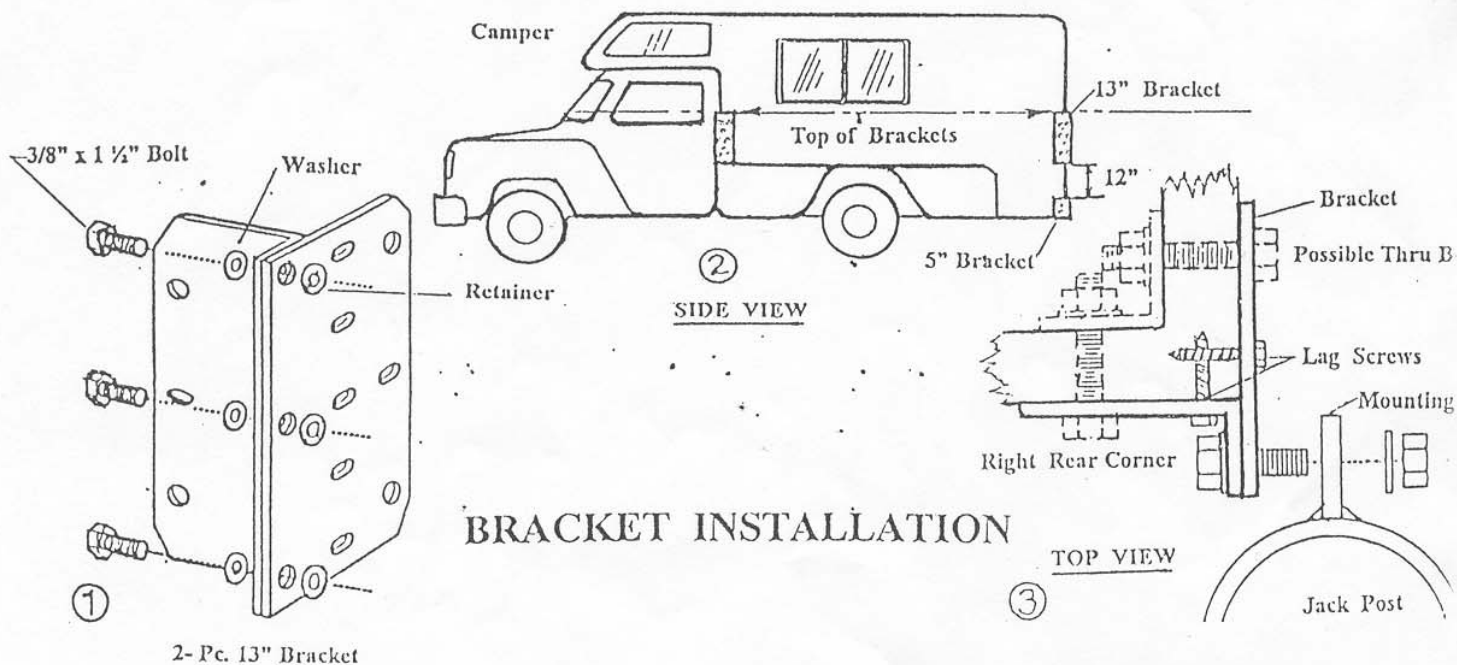
REL-2
2500 # Capacity
Camper Jack
4 Per Set

SAFETY ALERT ! This symbol - !!! is used here to alert you to potential personal safety hazards and property damage. Obey all safety messages that follow this symbol to avoid possible property damage, injury or death.

NOTE: Camper manufacturers must insure that camper wall corners are adequately reinforced for mounting jacks.

BRACKET & JACK INSTALLATION

1. Bolt the flat and formed bracket pieces of each 13" corner bracket together using the 3/8" x 1 1/2" bolts and hardware in bracket kit. Assemble as shown in figure 1. Swing-out brackets can be purchased to allow front jacks to be mounted to clear dual wheels.
2. Position the brackets on the four corners of the camper, starting with the two front brackets. Next, place the top of the rear brackets at the same height as the top of the front brackets. See figure 2.
3. Mark, saw and remove bracket length of trim strip, which will be replaced by the brackets.
4. Tap down ribbed aluminum with mallet, so brackets will draw tight to camper corner.
5. Place a thin strip of sealer compound on each side of corner and across top of brackets.
6. Mount brackets so that the flat side (joined together in step 1), extends away from front and rear of camper. See figure 3.
7. Position brackets and drill 5/32" holes into camper corner. Insert lag screws alternately into each bracket side, and tighten screws. Holes are provided in the bracket for thru bolting on heavier campers. See figure 3, dotted outline.
8. These lag screws must be retightened later in the process, after the camper has been lifted a few times. Take caution not to shear off screw heads or strip threads in wood.



MECHANICAL INSTALLATION (continued)

9. Position the 5" lower bracket on the rear corners of the camper at least 12" below the main corner brackets. Fasten brackets as above. See figure 2.
10. Bolt each jack to the upper bracket thru the mounting holes in the mounting plate of The jack, using 3/8" x 1 1/2" bolts, washers, and nuts. Place a washer under the bolt head and under the nut. Tighten loosely.
11. Open the "C" clamp for each rear jack, and fit them over the jackpost for attaching to the lower 5" bracket. Place the clamp flanges on each side of the mounting bracket, inserting a bolt and washer into the "C" clamp & bracket holes, then add a washer and nut. Tighten loosely. Fig. 5.
12. Rotate jack power heads so that the motors face toward the center of the camper on all jacks, and check the height to assure all jacks are at the same level. Tighten all nuts on all brackets securely. Torque them to 15-20 foot-pounds.

ELECTRICAL INSTALLATION

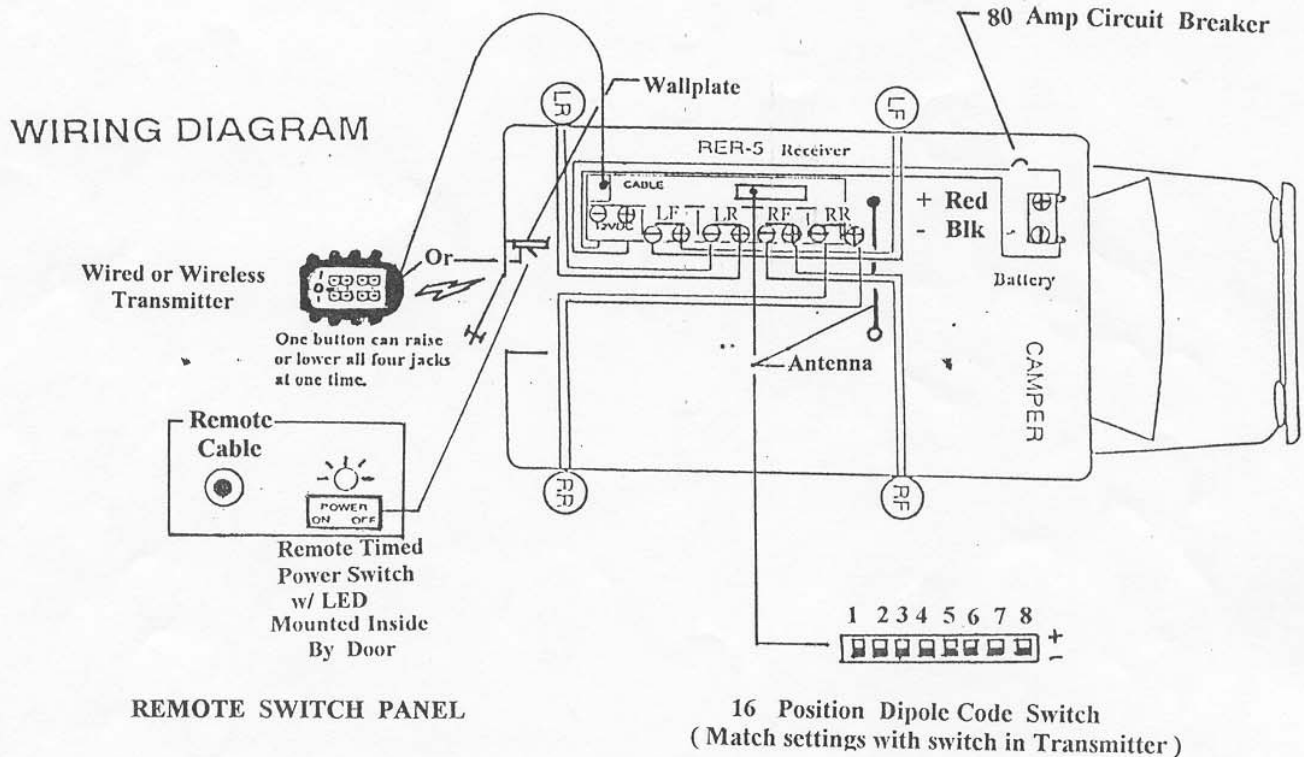
1. The elect. jack kit comes equipped with (4) female receptacles and cords. Each jack has a cord with a male plug that accesses power through the receptacle. The receptacle must be mounted in close proximity to the jack near each corner of the camper.
2. Wire the receptacles as shown on the diagram in figure 3. The receptacle is a flange design which fits snugly into a 1 1/8" dia. hole which must be drilled into the exterior wall of the camper. Fasten to camper wall with two screws. (5" from corner)
3. Interior wires connecting the receptacles to the control relay box should be # 10 AWG copper stranded 600 V , UL wire, using locking spade connectors, #10 studs.
4. The interior wiring from these receptacles can be routed up to the top of the camper, and run above the ceiling line to avoid the tedious routing through the various lower compartment walls. Alternately they can be brought out and routed externally to a point where they re-enter the camper for connection to the control relay box terminals.
5. For complete concealment, the wires can be routed along the inside of the camper, but this method is tedious.
6. Connect the two wires from each jack to the receiver. The left front jack should be connected to the receiver terminals marked LF. The right front to the RF terminals, and so on for the rear jacks. Each set of terminals has a (+) and a (-) side. Connect according to the wiring diagram shown in figure 3. Red wire is positive, Black wire is negative.
7. Mount the control relay box near an outside compartment door to maximize cable length. Also locate it as close to the battery compartment as feasible. Use #8 AWG wire to connect the battery terminals to the power input terminals in the control relay box. Use spade conn.
8. Install a 80 amp circuit breaker in the wiring to protect the control relay box electronics.
9. Make sure that the on-off switch to the control relay box is in the "off" position prior to connection to the battery. !!! The negative lead from the battery must be connected to the negative terminal, and the positive lead from the battery must connect to the positive terminal in the control relay box. !!!
10. Two types of transmitter are available: (1) Wired, with a cable & plug connection to the control relay box. And (2) Wireless, which is operated with a 12volt battery, sending radio frequency signals to an antennae in the control relay box.
11. A remote "on-off" switch is provided to control power to the system. This switch should be mounted inside the camper, near the door. The switch is equipped with an LED light which is lit when the power is on. The power stays on for 15 minutes, and automatically shuts off along with the LED light, stopping any possible operation of the jack system. (This safety feature eliminates the need to remember to switch the system "off") A cable with plugs is provided to connect the timed "on-off" switch to the control relay box. Whenever the LED light is off, it will be necessary to press the "on" switch to restore power to the system to operate the jacks.
12. The wireless transmitter needs no wired connection from the transmitter to the control relay box, but instead, an antennae wire is provided to pick up the RF commands.

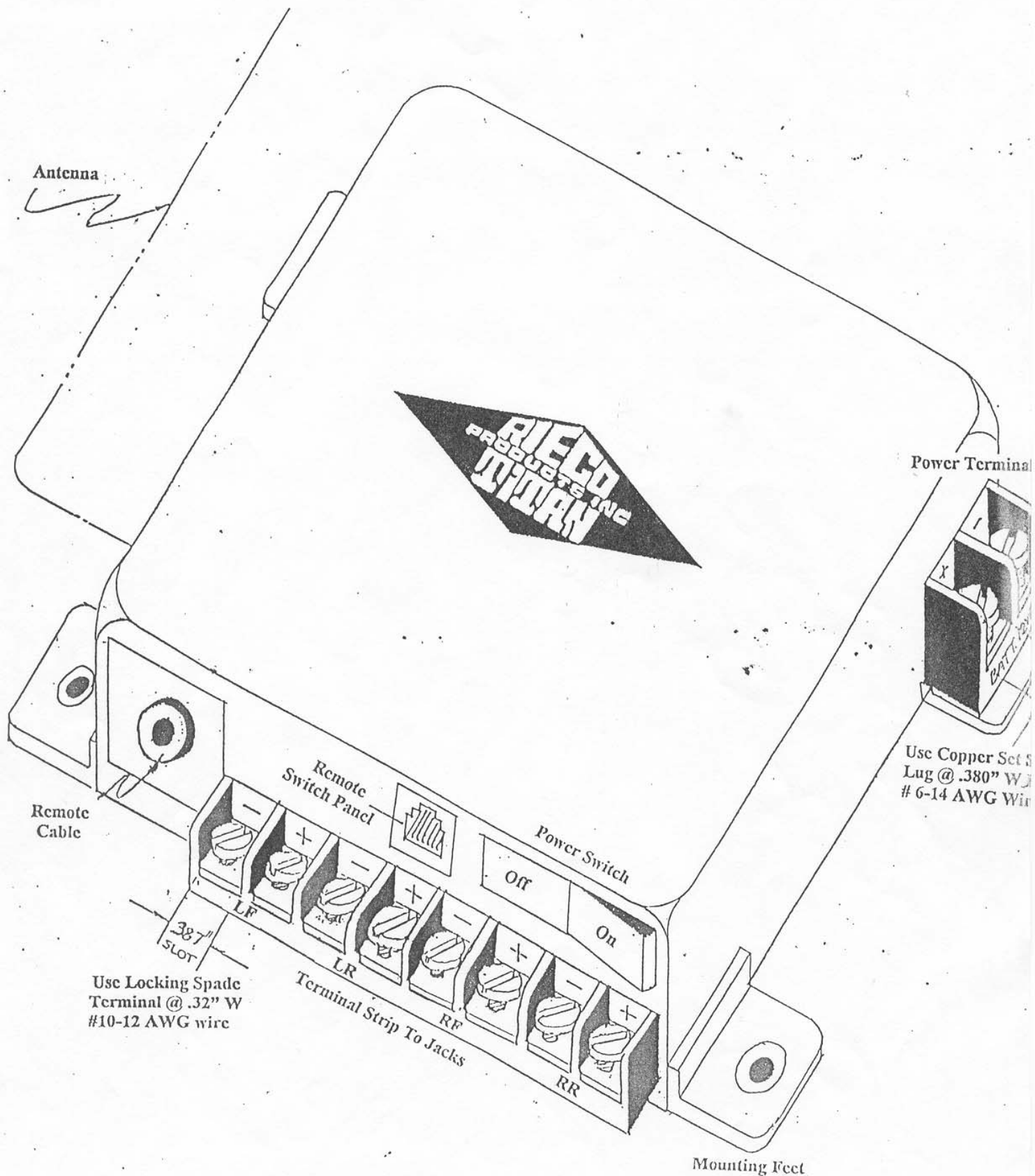
ELECTRICAL INSTALLATION (continued)

13. The wired transmitter is provided with a cable which plugs into the transmitter and an inside mounted wallplate located on a wall just inside the camper door. The wall plate is further connected to the control relay box with another cable. The transmitter cable can also be plugged directly into the control receiver relay box.
14. To ensure that communication to the control relay box is secure, both the transmitter, and the control relay box have identical 8 actuator, 16 position di-pole code switches. The actuators must be set to match each other in both the transmitter and the control relay box. It is recommended that the factory settings be changed before actuating your system.

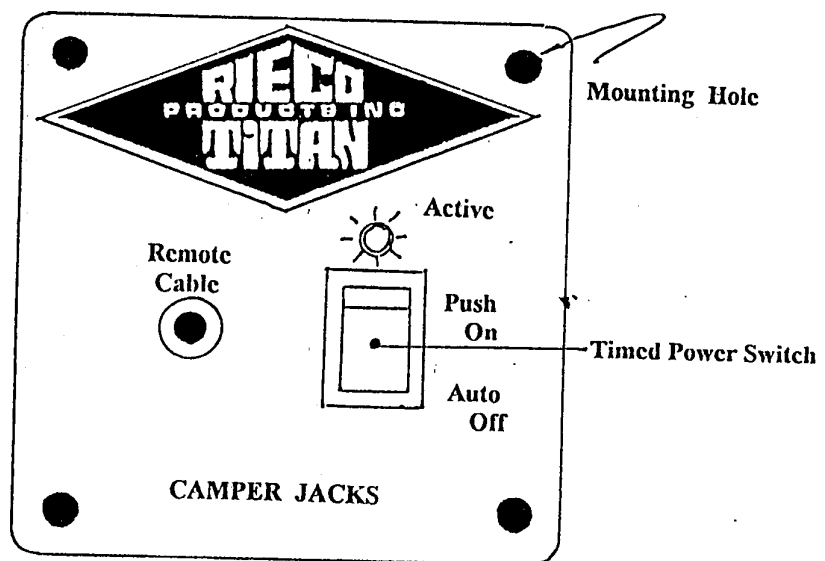
Fig. 3

(Over for Fig. 2)





WIRED-WIRELESS
CONTROL RELAY BOX



REMOTE SWITCH PANEL

Fig. 4

The "C" clamp and the 5" bracket are intended to be used when the camper manufacturer recommends their use. When they are called for, use two (2) bolts on the 13"/14" bracket, and one (1) on the 5" bracket. The 5" bracket is used on the left and right rear of the camper beneath the 13"/14" bracket.

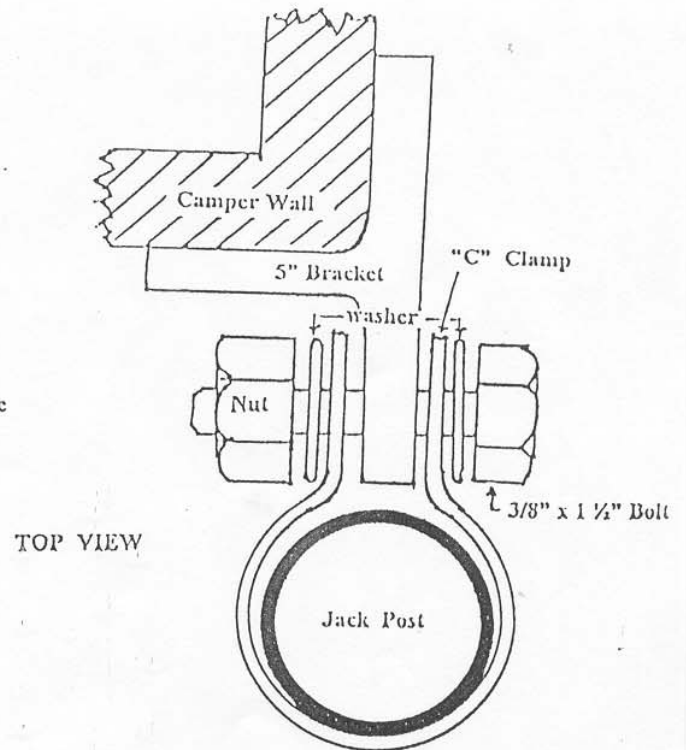
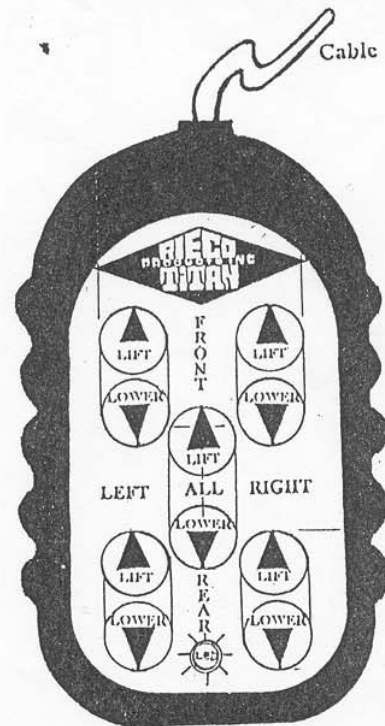


Fig. 5.

The wired remote transmitter is shown here. It is the electrical control device that operates the electric jacks. The operation buttons are arranged by jack location. The left side is the drivers side, and the right side is the passenger side of the camper. The top section buttons control the front jacks, middle section, all jacks, and the bottom section, the rear jacks. The "UP" arrow signifies lift the camper, while the "DOWN" arrow means lower the camper. The cable on the wired transmitter is plugged into the wall plate mounted inside the outside accessible camper compartment.* The wireless transmitter is identical in appearance but contains a 12-volt battery to power the radio frequency signal commands it sends to the antenna coming out of the control receiver relay box.

* The transmitter cable can also be plugged directly into the control receiver relay box.



**!!! FOLLOW THE SAFETY RECOMMENDATIONS LISTED BELOW TO AVOID
POSSIBLE INJURY AND / OR PROPERTY DAMAGE**

1. This jack system is designed and intended for loading, unloading, and stabilizing your truck camper while in storage. Do not allow any people in your camper while the jacks are in use.
2. Never exceed the rated capacity of your camper and jack system. This jack system is rated at 2,500# per jack, 4,000# net camper weight.
3. Do not store your camper in a windy area, or on spongy soil. Do not place blocks under your jacks for additional lift or clearance. These jacks lift a full 36".
4. Maintain a fully charged battery.
5. When using jacks, always remain in full view of jacks being moved.
6. Never raise the rear of the camper higher than the front of the camper.
7. Always keep the receiver- power unit switch in the "OFF" position when system is not in use. (remotely located)
8. Never over- extend or over- retract jacks past their full travel limits. Jacks have a slip clutch that prevents damage. However, when a clicking noise is heard, release the transmitter button immediately. The wiring is equipped with circuit breakers that automatically reset in 20 sec if motors become over heated.
9. Store transmitter in a secure location inaccessible to children.

OPERATING INSTRUCTIONS

UNLOADING THE CAMPER

1. !!! Disconnect all camper tie downs and electric devices from truck. Always keep front of camper higher or level with rear of the camper.
2. Push the receiver-power unit rocker switch "ON". This powers the jack system so that one, two or four jacks may be actuated simultaneously. (remotely located)
3. Press the "UP" buttons on the transmitter for the two front jacks until the jacks make contact with the ground.
4. Repeat step 3 for the two rear jacks.
5. Press the "UP" buttons for the two front jacks, raising the front of the camper 3-4" only.
6. Press the "UP" buttons for the two rear jacks until the rear of the camper is level with the front.
7. Continue the above lifting procedure until the camper is approximately 6" above the truck bed or until it clears the highest point on the truck bed.
8. !!! Carefully drive the truck forward taking care not to hit or rub the camper jacks or truck wheels or fenders.

LOWERING THE CAMPER

Always lower the rear of the camper first. 3-4" at a time. Lower the rear jacks then the front jacks until they are level with the rear. Then lower the rear jacks again. Continue this procedure until the desired height is reached. Shut "OFF" power to the receiver unit. (remotely located)

LOADING THE CAMPER

1. Push the rocker switch "ON" in the receiver unit. (remotely located w/ LED lit)
2. Press the "UP" buttons on the transmitter until the two front jacks have raised the camper 2".
3. Raise the two rear jacks 2" until level with front.
4. Repeat steps 2 & 3 until camper is approximately 6" above truck bed or highest point on truck bed.
5. !!! Back truck carefully under the camper, making sure to not hit or rub the camper jacks, truck wheel wells or fenders.
6. Lower the camper onto the truck by following the instructions in the "LOWERING THE CAMPER" section.

MANUAL OPERATION

If the battery power is low, switch the power "OFF" to the receiver. This will eliminate the dynamic braking effect of the motor. Remove the access cap on the top of the plastic powerhead cover. The crank shaft of the gearbox will be accessible to turn with a 3/8" socket on a 4" extension attached to a ratchet wrench. Rotate the ratchet wrench counter-clockwise to raise the jack and clockwise to lower the jack. Do not activate the motor with the wrench still on the crank shaft.

CAMPER STORAGE

Jacks can be used for permanent storage. However, for best stability, set the camper on blocks, and use the jacks for stabilizing only.

LIFTING AND LOWERING - ALL JACKS MODE

The front jacks lift the heaviest load, and consequently will raise slower than the rear jacks. Conversely, the front jacks will lower faster than the rear jacks. This phenomenon will be most noticeable when using the "ALL" jacks button on the transmitter. It is necessary that the camper level condition be closely watched so as to prevent the rear of the camper from being at a higher level than the front. It will be necessary to stop the "ALL" jacks operation to keep the level condition of the camper even front to back and side to side.

MAINTENANCE

The internal parts of the jack system are permanently lubricated and should not require further lubrication. Once each year, run each jack out to its full extent, and clean the outer surface of the inner tube. Spray this surface with silicone spray lubricant. Clean outer surface of housing and spray the manual crank shaft with silicone lubricant. Apply a good auto wax to the outer surfaces of the jack system to maintain an attractive appearance.

The electronic components of the jack system also require very little maintenance. The remote transmitter can be cleaned periodically with a soft damp cloth. Solvents or cleaners are to be avoided since they can leak inside causing electrical damage. Wipe battery contacts with a dry lint-free cloth. If the transmitter or receiver get wet, open their respective covers, and dry thoroughly before re-using.

TROUBLE SHOOTING

For any control or electrical malfunction, check the following things to find the cause:

- Make sure that the receiver power switch is "ON".
- Make sure all cables are firmly plugged into the receptacles. Re-plug if jack not responding.
- Check camper batteries for charge status. Check transmitter for wetness or damage.
- Check transmitter battery (and code switches to make sure they match those in control box.)

After checking the above, If a jack in the system will not operate, replace it, or have it repaired.
Call for assistance at Ricco- Titan Products 815-464-7400

Notice : The changes or modifications not expressly approved by the party responsible
for compliance could void the user's authority to operate the equipment.

***** LIMITED WARRANTY *****

The REL-2 is warranted against manufacturing defects and workmanship for two (2) years from the date of purchase. Within this period, RIECO-TITAN PRODUCTS, INC. will at its option, repair or replace the product or any part thereof without charge for parts and labor. To exercise the warranty, the original consumer-owner must return the original invoice, and the product freight prepaid, and insured to RIECO-TITAN PRODUCTS, INC.

This warranty does not apply in the following cases; Improper installation, misuse, failure to follow installation and operating instructions, alterations, abuse, tampering or accident.

All statements, technical information and recommendations contained herein are based on tests we believe to be reliable, but the accuracy or completeness thereof is not guaranteed and the following is made in lieu of all warranties, expressed or implied. Seller's and manufacturer's only obligation shall be to replace such quantity of the product proved to be defective in accordance with published Warranty Policy. Neither seller nor manufacturer shall be liable for any injury, loss or damage, direct or consequential arising out of the use of or the inability to use the product. Before using, user shall determine the stability of the product for his intended use and user assumes all risk and liability whatsoever in connection therewith.

Except as provided herein, RIECO-TITAN PRODUCTS, INC. makes no express warranties and any implied warrant of merchantability or fitness for a particular purpose is limited to the duration of the written limited warranties set forth herein.

There will be charges rendered on repairs to the product made after the expiration of the aforesaid two year Warranty Period.

This warranty gives you specific legal rights and you may have other rights which may vary from state to state.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference.
2. This device must accept any interference received, including interference that may cause undesired operation.