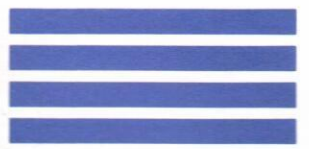


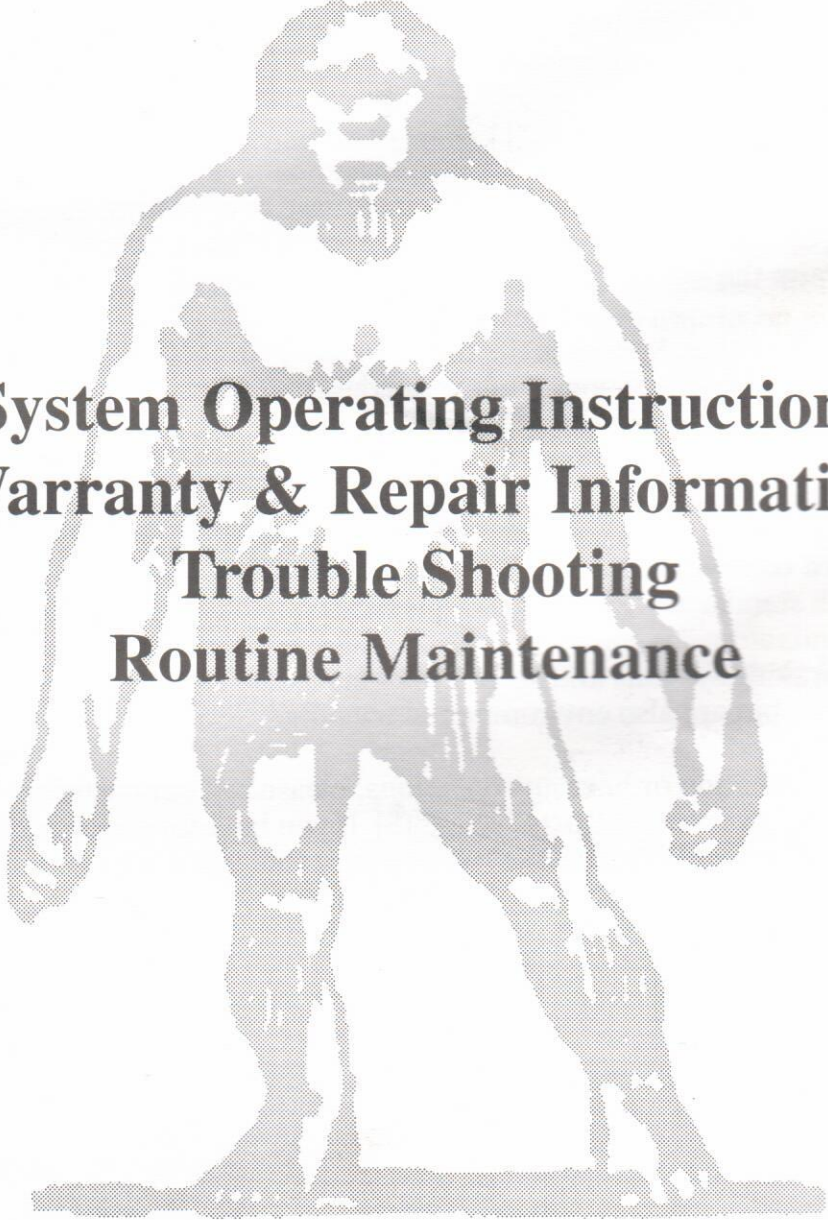
QUADRA MFG. INC.



BIG FOOT HYDRAULIC LEVELERS

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**System Operating Instructions
Warranty & Repair Information
Trouble Shooting
Routine Maintenance**

www.quadralever.com
www.bigfootleveler.com

305 U.S. 131 South
P.O. Box 536
White Pigeon, MI 49099

800-752-9815
Fax: 616.483.9636

CONGRATULATIONS...

...on becoming the owner of a "**BIG FOOT**" Hydraulic Leveling System. Quadra Manufacturing, Inc. backs your leveling system with an exclusive 5-Year Warranty. Please review the details of that warranty in the back of this owner's manual.

Because I am also a Recreational Vehicle owner, I personally understand the importance of dependability, safety and ease of operation when choosing a leveling system. This is why I not only have a "**BIG FOOT**" Leveling System installed on my RV, but I also manufacture the system to provide you with the same opportunity to experience the latest technology in hydraulic leveling!

Since coming to Quadra, which is a family owned company, in the late 1980's, we have continually strived to improve the dependability, performance, ease of operating and maintaining the "**BIG FOOT**" Leveling System. Today, we manufacture many of the system's components to control the quality, and raise the level of dependability to the "best" in the business.

The "**BIG FOOT**" Leveling System is the finest available in the industry today. Many of its features are not available on other systems. We take great pride in offering you a system which when operated and maintained properly, provides many years of trouble free use. The system is like anything mechanical. If you follow the basic operating procedures and keep the system properly maintained it will give you higher quality performance and consistent performance.

From our standard control panel to our "one touch" automatic control panel, we have implemented high standards for testing and performance. The electronic components of our automatic and semiautomatic control panels are subject to the same type of testing used in testing sensors for ABS braking systems and air bag systems used in automobiles. These systems are not only "user friendly", but are also environmental friendly.

If you need any information or have any questions, please call our customer service department during normal business hours at **800-752-9815**. If you have an **emergency** after normal business hours you may call **800-353-4796**. Be sure that you are at a telephone that will accept a call back. One of our technicians will call you back promptly.

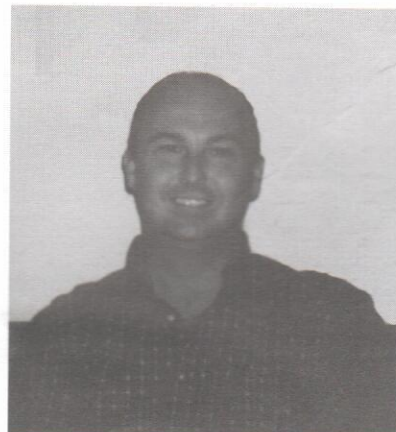
At any time, if you feel you have not been treated properly by any of our personnel, I invite you to call me personally at 800-752-9815.

We also invite your comments and suggestions for ways to improve our service to you and the performance of our products.

Sincerely,



Jeffrey O. Lehman
President



WARRANTY ACTIVATION

As The Owner Of A Big Foot Leveling System, You Must Call Quadra Mfg. Inc. Within Thirty Days Of Purchasing Your System To Activate The Warranty. Please Call: 800-752-9815.

This warranty is only valid under the following conditions:

- The original retail purchaser registered ownership of the Big Foot System with Quadra within (30) thirty days of the date of purchasing the Big Foot System.
- The original purchaser still owns the Big Foot System. The warranty is **not** transferable to subsequent owners of the system.
- Prior to the original owner transferring the Big Foot System to a different vehicle, the owner contacts Quadra to obtain authorization to do so and uses an **authorized**/approved Big Foot Dealer.

If a defect is discovered within the warranty period:

- **Prior to any work being performed** on the Big Foot Leveling System, the customer (owner), dealer, or service center must call Quadra Manufacturing, Inc. to **obtain an authorization number** to do warranty work.
- Failure to call and **obtain an authorization number** will result in the customer (owner), dealer, or service center being responsible for all charges incurred.

When calling for authorization, please have the following information available to insure your claim is handled properly and quickly:

- Customer Name (must be original purchaser for warranty to be valid)
- Manufacturer of Vehicle
- Model of Vehicle
- Purchase Date of Big Foot Leveling System (May be same as Vehicle Purchase Date)
- Serial # of Big Foot Leveling System

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Deluxe Touch Pad Panel

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SOME OF THE BENEFITS OF OWNING A...

BIG FOOT LEVELING SYSTEM!

YOU CAN LEVEL YOUR VEHICLE WITH EASE!

 **Using Your Automatic Control Panel**

YOU CAN LEVEL YOUR VEHICLE BY LIGHTS!

 **Using Your Semiautomatic Control Panel**

GUESSWORK IS ELIMINATED!

 **Vehicle Will Not Continue To Move Beyond The Level Plane**

THE SYSTEM IS ENVIRONMENTALLY SAFE!

 **It Contains No Mercury**

LEVELERS ARE STABLE WITH INCREASED LIFTING CAPACITY!

 **Have Solid Steel Rams**

ELIMINATES UP TO 200' OF HOSE!

 **Each Cylinder Is Self Contained**

USES POWER-EXTEND & POWER-RETRACT!

 **No Springs Or Hinges To Rust Or Break**

YOUR VEHICLE WON'T SINK INTO MOST SURFACES!

 **Each Cylinder Has A 100 Square-Inch Foot Pad**

5-YEAR WARRANTY

 **Unsurpassed In The Industry!**

24 HOUR CUSTOMER SERVICE!

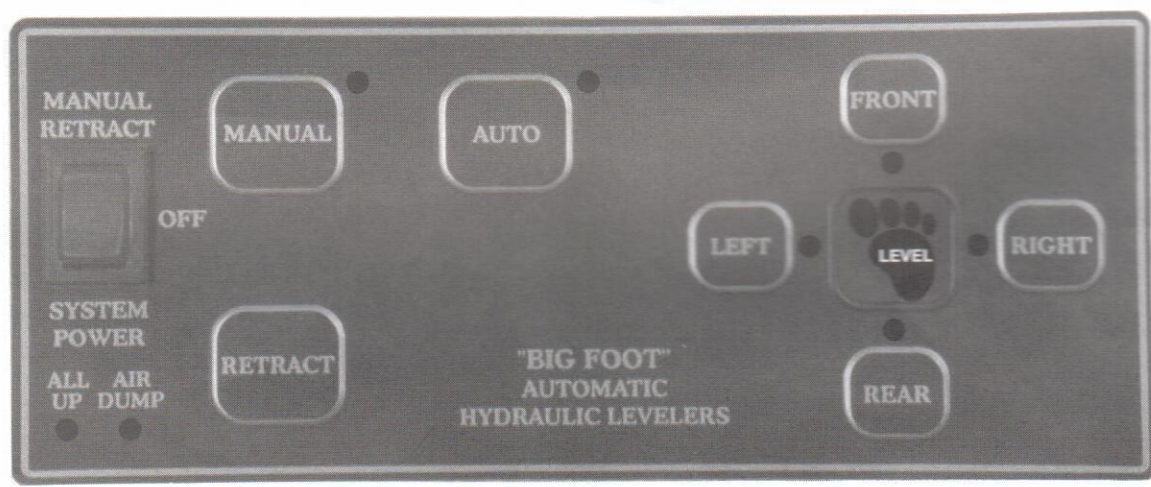
 **CALL: 800-752-9815**



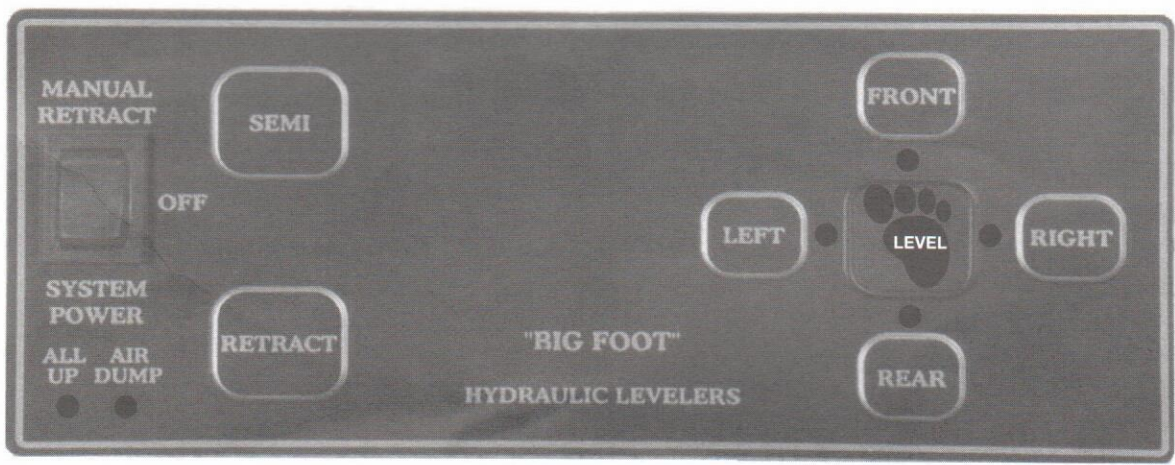
Fully Automatic Control Panel with Sensor...



...with Semi-Automatic Option



...with Manual Option



Semi-Automatic Control Panel with Sensor

AUTOMATIC and SEMI-AUTOMATIC CONTROL PANEL FEATURES

For your own benefit and understanding, please read all of the features and operating instructions before attempting to operate the system.

FEATURES:

IMPORTANT WARNING: All individuals inside the vehicle must remain still during the leveling process. The BIG FOOT Leveling System is equipped with a motion sensor that will sense movement, causing the system to enter the next mode of the leveling process prematurely.

SAFETY FEATURE: When the vehicle's ignition switch is on, the Control Panel is designed not to operate the system's Extend Mode. This prevents the extension of levelers while the vehicle is moving. Retract Mode is operable with the ignition switch on.

POWER ON: If the power to the Control Panel is left on after completing the leveling process, the following two benefits will be operational: (1) If the vehicle settles due to the type of surface under the levelers, and remains out of level for 15 minutes, the sensor will automatically cause the system to re-level the vehicle. (2) Unless you have entered Manual Extension, one-touch retract will be operative. Simply press the Retract Touch Pad and release. The system will retract all levelers and the All-Up LED being lit indicates completion.

ALARM: If the vehicle ignition switch is on and any legs are not fully retracted, a warning alarm will sound. The All-Up LED will not be on.

TIME OUT INDICATOR: Each mode has a specified amount of time to be completed within. If that time runs out, the Right and Left LEDs and the Level Indicator simultaneously flashing will indicate it. Most often, this will indicate at least one of the legs has reached full stroke but cannot extend far enough to level the vehicle. You may correct this situation by moving the vehicle to a more level area or by placing a block(s) under the leveler(s) that has reached full stroke.

MANUAL RETRACT: Manual Retract bypasses all Control Panel electronics to retract the levelers.

OPERATING INSTRUCTIONS for AUTOMATIC CONTROL PANEL with SEMI-AUTO or MANUAL OPTION:

STEP 1: TURN POWER SWITCH ON

Note: Immediately upon power initialization the system will enter a 30-second self-diagnostic mode, indicated by the Directional LEDs and the Level Indicator flashing. Upon completion of this mode, one or two Directional LEDs will be lit with one flashing. A lit LED indicates the end and/or side of the vehicle that is low. If the vehicle is in a level position, only the Level Light will flash. Proceed to Step 2.

STEP 2: SELECT AUTO, SEMI-AUTO, OR MANUAL MODE BY PRESSING THE CORRESPONDING TOUCH PAD

Air Dump Note: In either mode, if Air Dump is applicable to your vehicle, the system will automatically enter a 45 second Air Dump Mode, indicated by a lit Air Dump LED. Completion of this mode is indicated by the Low Axis Directional LED being lit or flashing. If the vehicle is level, only the Level Indicator will flash.

- If Auto Mode was selected, proceed to “AUTOMATIC MODE” Step 3.
- If Semi-Auto Mode was selected, turn to “SEMI-AUTOMATIC CONTROL PANEL OPERATING INSTRUCTIONS” Step 3.
- If Manual Mode was selected, turn to “EXTENDING LEVELERS INDIVIDUALLY” following the Semi-Automatic Control Panel instructions.

AUTOMATIC MODE:

STEP 3: WAIT WHILE WATCHING THE PANEL

The system will lower both legs at the lowest end of the vehicle. When the first leg reaches the ground it will cause the system to sense motion and stop. Next, each leg will be lowered individually confirming ground contact by causing the system to sense motion. If the directional LED for that end of the vehicle is flashing, press the indicated touch pad until the LED turns off, indicating completion of this step. The system will then repeat the process for the other end of the vehicle. Proceed to Step 4.

STEP 4: WAIT WHILE WATCHING THE PANEL

The system will repeat Step 3 for the other end of the vehicle then level the vehicle in all other directions. Completion of this process is indicated by illumination of the Level Light.

RETRACTING LEVELERS WHILE IN AUTOMATIC MODE:

VERY IMPORTANT! AFTER THE LEVELERS ARE RETRACTED MAKE A VISUAL CHECK TO BE SURE ALL LEGS ARE RETRACTED BEFORE MOVING THE UNIT!

Determine if the power to the Control Panel was left on or turned off, and proceed as follows:

If the Control Panel Power Was Left On: Press the Retract Pad and release. All legs will automatically retract and cause the All-Up LED to light.

If the Control Panel Power Was Turned Off: Turn the power on and wait for the system to go through a 30-second self-diagnostic mode, indicated by the Directional LEDs and the Level Indicator flashing. Press the Retract Pad and hold in until all levelers are completely retracted as indicated by the All-Up LED being lit.

MANUAL MODE OR EXTENDING LEVELERS INDIVIDUALLY:

Refer to “EXTENDING LEVELERS INDIVIDUALLY” following the Semi-Automatic Control Panel instructions.

SEMI-AUTOMATIC CONTROL PANEL OPERATING INSTRUCTIONS

OPERATING INSTRUCTIONS:

STEP 1: TURN POWER SWITCH ON

Note: Immediately upon power initialization the system will enter a 30 second self-diagnostic mode, indicated by the Directional LEDS and the Level Indicator flashing. Upon completion of this mode, one or two directional LEDS will be lit with one flashing. A lit LED indicates the end and/or side of the vehicle that is low. If the vehicle is in a level position, only the level light will flash. Proceed to Step 2.

STEP 2: PRESS THE SEMI-AUTO TOUCH PAD.

Note: If air dump is applicable to your vehicle, the system will automatically enter a 45-second Air Dump Mode, indicated by a lit Air Dump LED. Completion of this mode will be indicated by the air dump LED turning off. If the vehicle is level only the Level Indicator will flash. Proceed to Step 3.

STEP 3: LEVEL WHILE WATCHING THE PANEL

The system will lower both legs at the lowest end of the vehicle. When the first leg reaches the ground it will cause the system to sense motion and stop. Next, each leg will be lowered individually confirming ground contact by causing the system to sense motion. If the directional LED for that end of the vehicle is flashing, push indicated touch pad until the LED turns off indicating completion of this step. The system will then repeat the process for the other end of the vehicle. Proceed to Step 4.

STEP 4: LEVEL WHILE WATCHING THE PANEL

After the system has confirmed all four legs are on the ground, if a side or end is lowest from level plane it will be indicated by a flashing LED. Press the indicated touch pad until the LED stops flashing. Then if you see another flashing LED, press the indicated touch pad until the LED turns off. When all directions are level the Level Light will illuminate, indicating that the leveling process is complete.

RETRACTING LEVELERS:

VERY IMPORTANT! AFTER THE LEVELERS ARE RETRACTED MAKE A VISUAL CHECK TO BE SURE ALL LEGS ARE RETRACTED BEFORE MOVING THE UNIT!

Determine if the power to the Control Panel was left on or turned off, and proceed as follows:

If the Control Panel Power Was Left On: Press the Retract Pad, and release. All legs will automatically retract. Completion of retract mode will be indicated by a lit All Up LED.

If the Control Panel Power Was Turned Off: Turn the power on and wait for the system to go through a 30-second self-diagnostic mode, indicated by the directional LEDS and the

Level Indicator flashing. Press Retract Pad and hold in until all levelers are completely retracted, which will be indicated by a lit All Up LED.

EXTENDING LEVELERS INDIVIDUALLY:

The following instructions for entering "Zero Mode" apply to (1) the Automatic Control Panel with the Semiautomatic Option and (2) the Semiautomatic Control Panel.

If your control panel has an Automatic Touch Pad and a Manual Touch Pad, simply press the Manual Touch Pad until the LED is lit and proceed to step 3.

IMPORTANT: After turning the panel on and entering "ZERO MODE," **DO NOT USE THE RETRACT TOUCH PAD!!!** Use only manual retract to avoid resetting the "level plane" in the sensor.

STEP 1. RETRACT ALL LEVELERS.

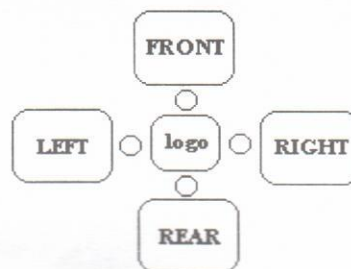
STEP 2. ENTERING A ZERO MODE.

- Turn the panel off. Wait 5 seconds.
- Turn the panel on. Wait 30 seconds for the self-diagnostic mode to complete.
- Press the FRONT touch pad five times. Within 10 seconds, press REAR touch pad five times.
- All of the LED lights, except the All-Up LED will flash indicating a zero mode.

STEP 3. ESTABLISH GROUND CONTACT.

Individually extend each leveler until they touch the ground. The system is still in a zero mode, this is the only time the panel will allow you to extend the levelers individually. The four touch pads of the level indicator will operate each leveler individually. Consult the following diagram to determine which touch pad controls which leveler.

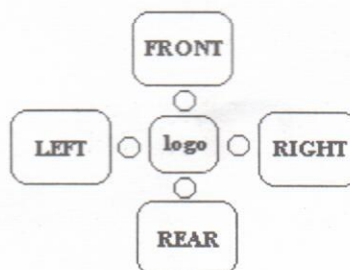
- FRONT _____ RIGHT FRONT LEVELER
- RIGHT _____ RIGHT REAR LEVELER
- REAR _____ LEFT REAR LEVELER
- LEFT _____ LEFT FRONT LEVELER



STEP 4. LEVEL THE UNIT.

After you have established ground contact with each individual leveler, operate the levelers in pairs by pressing two touch pads at a time to level the unit. Repeat as necessary until reference levels read level in both front to rear and right to left. Consult the following diagram to determine which touch pads will control which pairs.

- FRONT LEVELERS _____ FRONT & LEFT
- REAR LEVELERS _____ RIGHT & REAR
- RIGHT SIDE LEVELERS _____ FRONT & RIGHT
- LEFT SIDE LEVELERS _____ REAR & LEFT



DELUXE TOUCH-PAD PANEL OPERATING INSTRUCTIONS

CAUTION! BEFORE THE VEHICLE IS MOVED: A visual check of the control panel should be made to confirm the *All-Up* Indicator is lit. Also, a visual check of the actual levelers outside the vehicle is recommended to insure all the levelers are fully retracted.

TO INITIATE SYSTEM LEVELING PROCEED AS FOLLOWS:

STEP 1. ACTIVATE THE SYSTEM BY PRESSING THE *POWER-ON* TOUCH PAD.

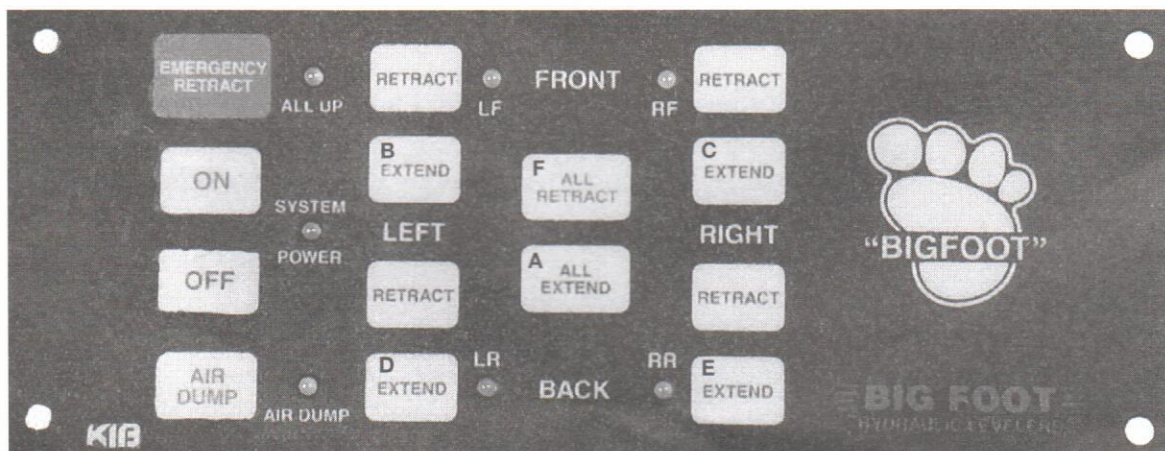
Note: If you have air suspension, you should dump the air before you start the leveling process. Push the *Air-Dump* Touch Pad to activate the 30-second air-dump cycle. If the air pressure is still high repeat this step.

STEP 2. PUSH *ALL-EXTEND* TOUCH PAD (A) UNTIL YOU FEEL VEHICLE MOVEMENT.
(This indicates one or more of the levelers has reached the ground.)

- Starting with *Extend* Touch Pad (B) and going clockwise, push **each individual** *Extend* Touch Pad (C, E, D) one at a time until each leveler touches the ground.
- All four levelers having made positive contact, you are ready to level the vehicle.

STEP 3. LEVEL YOUR VEHICLE USING THE BUBBLE LEVEL INDICATORS.

- Determine which end of the vehicle needs to be raised to level the vehicle.
- Begin the leveling process with the lowest end. For example: If the front is lower than the rear, push *Extend* Touch Pads (B) and (C) together causing the front of the vehicle to rise.
- Continue to raise the front until the bubble indicator is inside the lines.
- Follow the same procedure for side-to-side leveling, using two touch pads at a time. Either (B and D) or (C and E).



TO RETRACT LEVELERS:

- Push the *All Retract* Touch Pad (F) momentarily. This will reverse the pump motors.
- Push *All Retract* Touch Pad (F) a second time and hold the touch pad in until the *All-Up* Indicator is lit.

TO RETRACT WITH AIR-RIDE:

- Apply the brakes while pushing the *All Retract* Touch Pad (F) momentarily. This will reverse the pump motors.
- Push *All Retract* Touch Pad (F) a second time and hold the pad in until the *All Up* Indicator is lit. As soon as the levelers clear the ground you may release the brake.
- Before moving the vehicle, visually check to make sure the levelers are fully retracted.

MAINTENANCE GUIDE

One advantage of owning a Big Foot Leveling System from Quadra Mfg. is that your system takes very little in the way of maintenance. Here is a guide to follow for years of carefree service.

Note: Maintenance related problems and maintenance service are not covered by warranty.

Check fluid level at least once a year:

- Remove the red fill cap at each leveler and use a wire-tie as a dipstick (not provided) to check the fluid level. The correct level is $\frac{3}{4}$ " from top of reservoir.
- If needed, fill with Dexron II or III transmission fluid (ATF will also work). The standard reservoir holds 54 oz. and the deep reservoir holds 141 oz.

Under mild to normal weather conditions:

- Extend levelers and spray the rams of the hydraulic cylinders with silicone* spray twice a year. Let the spray dry and retract the levelers. (*Use ONLY silicone spray, DO NOT use W-D 40).

If you leave your levelers extended over a period of time:

- When camping or storing your vehicle for the winter, be sure to spray the rams of the hydraulic cylinders with silicone spray before retracting your levelers to avoid tearing the cylinder's seal.

Under severe weather conditions:

- The above procedure should be followed on a monthly basis if conditions exist that result in your levelers being exposed to high amounts of salt, dirt and wind.

Limit pins:

- Clean with brake cleaner and then spray with white lithium grease twice a year.

Routinely check your footpads:

- The bolt should be tightened with a 15/16 socket on an impact wrench and a 1-1/8" narrow head wrench.
- Torque footpad bolt to 120 ft. lbs. Over time, vibration may work footpads loose.

TROUBLE SHOOTING

PANEL:

A: Power On button is pushed but no indicators are lit on the panel -

- Fuse on the back of the panel is blown
- White wire on four-wire pigtail is not getting constant power from the ignition
- Ground wire may not be getting a good ground
- White or black wire on pigtail may be pushed back in the plug

B: Vehicle is started and levelers are down but the warning alarm does not sound-

- Yellow wire is not getting power when the key is turned forward
- Yellow wire may be pushed back in the plug

C: Cylinders will not retract and the red indicator light is not lit-

- Limit pin on the cylinder may be stuck
- Limit pin wire on the main wire harness may be pushed back in the plug
- Limit switch ground wire on the tank assembly may not be ground

D: Cylinders will not extend or retract-

- The 120 amp breaker has been tripped
- Wires on the tank solenoids have a break or are not making a good connection

E: Air dump is pressed but air does not dump from one or more of the bags. (For systems equipped with air dumps supplied by Quadra Mfg Inc. only)-

- The blue wire on the pigtail is not making a good connection with the blue wire on the main wire harness
- One of the black wires on the air dump has not been connected to the blue wire on the main harness
- The air dumps are not getting good ground to the vehicle chassis

CYLINDERS:

A: Cylinders will not fully extend or retract-

- Air trapped in the cylinder
- Hydraulic lines are plumbed backwards
- There is no fluid or low fluid in the tank reservoir

B: Cylinder continues to run after the panel button has been released-

- Tank solenoids may be sticking
- Panel switch may be sticking

C: Cylinder will not lift or hold the weight of the coach-

- Lines may be plumbed backwards
- Damaged ball valve on tank motor
- Damaged cylinder seal

LEAKS:

A: Cylinder leaks fluid-

- Damaged seal
- Loose or bad 90 degree fitting
- Loose plug on top cylinder port
- Pin hole in cylinder
- Hydraulic line not pushed completely into 90 degree fitting
- Broken hydraulic line

B: Tank leaks fluid-

- Tank is over filled with fluid
- Hydraulic line not pushed completely into 90 degree fitting
- Hydraulic line is broken
- Pin hole in tank
- Pump motor not making a good seal against tank body

QUADRA MFG. INC.
BIG FOOT HYDRAULIC LEVELERS

5-YEAR LIMITED WARRANTY

Quadra Manufacturing, Inc. warrants against manufacturer's defect in the "Big Foot" Hydraulic Leveling System, serial number _____, for a period of five (5) years on parts, and one (1) year on service labor expense from the date of original purchase, subject to the terms and conditions contained herein. If the product is defective due to faulty workmanship and/or materials used by Quadra Manufacturing, Inc., Quadra Manufacturing, Inc. will repair or replace the product, or any part or parts thereof at the sole discretion of Quadra Manufacturing, Inc., without charge to the original purchaser.

THIS WARRANTY EXCLUDES ANY AND ALL DAMAGES, AND QUADRA SHALL HAVE NO LIABILITY FOR PAYING, INCIDENTAL OR CONSEQUENTIAL DAMAGES. The damages excluded by this disclaimer include, but are not limited to: transportation to and from the Authorized Dealer, OEM Manufacturer, Service Center, or Quadra, to get warranty service, loss of time, loss of use, loss of revenues, salaries or commissions, lodging, towing charges, bus fares, car rentals, gasoline expense, telephone charges, inconvenience, and the cost of repairing or replacing other property which is damaged because of a defect in the product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation may not apply to you.

THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. If applicable state law does not permit disclaimer of the implied warranty that the product is fit for ordinary use, then, to the extent consistent with state law, that implied warranty is limited to One (1) year. No dealer, distributor, OEM Manufacturer, agent, or representative of Quadra or other person is authorized to make any representation or a promise of warranty concerning Quadra products on behalf of the company except to refer the customer to this Warranty.

THIS WARRANTY IS ONLY AVAILABLE IF THE ORIGINAL RETAIL PURCHASER REGISTERS OWNERSHIP WITH QUADRA MANUFACTURING, INC. WITHIN (30) THIRTY DAYS FROM THE DATE OF PURCHASE. THIS WARRANTY IS NOT TRANSFERABLE AND IS ONLY AVAILABLE TO ORIGINAL PURCHASER.

If a defect is discovered within the warranty period, the owner or service center must call or write to Quadra Manufacturing, Inc. to obtain warranty authorization prior to any work being performed.

The purchaser must present the defective part to an Authorized Dealer, OEM Manufacturer, Service Center, or directly to Quadra Manufacturing, Inc. The part must be accompanied by the purchaser's warranty authorization.

Quadra Manufacturing, Inc. or its' authorized representative will repair or replace the part and return the same to the purchaser, freight prepaid, for approved warranty returns. Inbound or returned freight will be reimbursed with approved warranty claims.

Quadra Manufacturing, Inc. or its' authorized representative will reimburse service labor expense based on a flat rate schedule as determined by Quadra Manufacturing, Inc. for authorized work performed.

Provisions of this warranty shall not apply to a Quadra Manufacturing, Inc. product used for a purpose for which it is not designed or that has been altered in any way that would be detrimental to the performance or life of the product. Further, this warranty shall not apply to any damage or defect to the product resulting from: improper installation or use, misapplication, negligence, accident, Act of God or unauthorized repair of the product.

Proper use, installation, and maintenance shall be limited to the information and guidelines for operation contained in the Quadra Manufacturing, Inc. Installation and/or Operating Instructions Owner's Manual. Information contained in these manuals is hereby incorporated in this Warranty by reference.

PLEASE NOTE

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

This is a "LIMITED WARRANTY" as defined by the Magnuson-Moss Warranty Act of 1975.

END OF WARRANTY