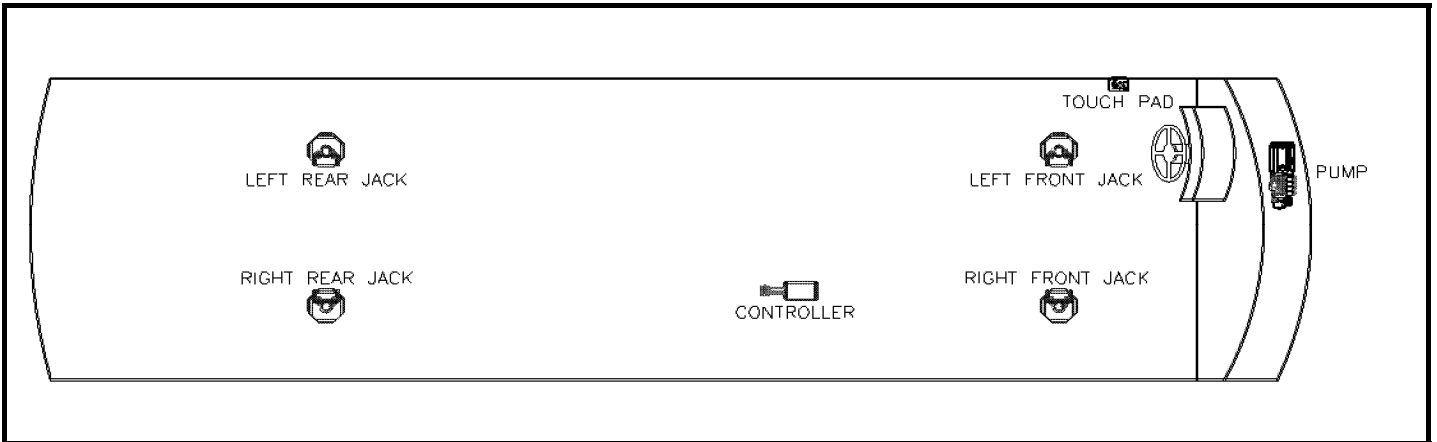


**MY2012 BAY STAR SPORT 2702, 2901, 3010, 3310
 MY2012 BAY STAR 2702, 2901, 3002, 3302, 3305, 3310
 OPTIONAL ON ALL FLOOR PLANS LISTED**



Notes:

Item, Length	Description / Location	Qty	Color	Equalizer Part No.
Kit	(Items listed below)	1		8582
Pump	4-Function, Jacks	1		7770
Jack	7,500 lbs, 15" Stroke	4		7636
Touch Pad	Located to the left of the drivers seat	1		3012
AL Controller	Attached to bottom of structure	1		3055
Harness	Connects Pump, Controller, & Touch Pad	1		6918
Hose Kit	Complete Set of Hoses	1		7762
Hose, 6'	Pump to Jack, Left Front Top	1	Brown Solid	2461
Hose, 8'	Pump to Jack, Left Front Bottom	1	Brown Stripe	2463
Hose, 8'	Pump to Jack, Right Front Top	1	White Solid	2463
Hose, 8'	LR Jack Bottom to RR Jack Bottom	1	Orange/Yellow Stripe	2463
Hose, 10'	LF Jack Bottom to RF Jack Bottom	1	Brown/White Stripe	2465
Hose, 30'	Pump to Jack, Left Rear Top	1	Orange Solid	2527
Hose, 30'	Pump to Jack, Right Rear Top	1	Yellow Solid	2527
Hose, 32'	Pump to Jack, Right Rear Bottom	1	Yellow Stripe	2482

Options				

Revisions				

MAIN HARNESS #6918

INPUT. PARK BRAKE GND WHEN BRAKE ON
 INPUT. IGNITION FROM COACH. 12V+ WHEN IGN ON.

GAGE	COLOR
18	BLK/YELLOW-BUTT SPLICE
18	PINK-BUTT SPLICE

KEY PAD #3103

INPUT. 12V
 INPUT. GROUND
 OUTPUT. DATA
 OUTPUT. DATA

PIN	GAGE	COLOR
1	18	RED
2	18	BLACK
3	18	BROWN/WHITE
4	18	GRN/WHITE

AUTO LEVEL CONTROLLER #3055

INPUT. DATA
 INPUT. DATA
 OUTPUT. POWER TO KEY PAD
 OUTPUT. GND TO KEY PAD
 INPUT. 12V+ WHEN IGN ON
 INPUT. PARK BRAKE GND. SEE NOTES

PIN	GAGE	COLOR
1	18	BROWN/WHITE
2	18	GREEN/WHITE
3	18	RED
4	18	BLACK
5	18	PINK
6	18	BLACK/YELLOW
7		
8		
9		

INPUT 12V+ FROM PUMP (MINIMUM 10.5V)
 INPUT GND FROM PUMP
 OUTPUT 12V+ TO PUMP VALVE LF
 OUTPUT 12V+ TO PUMP VALVE RF
 OUTPUT 12V+ TO PUMP VALVE RR
 OUTPUT 12V+ TO PUMP VALVE LR
 OUTPUT 12V+ TO PUMP RETRACT
 OUTPUT 12V+ TO PUMP EXTEND
 OUTPUT 12V+ TO PUMP PRESSURE SW

PIN	GAGE	COLOR
1	12	RED
2	12	BLACK
3	18	BROWN
4	18	WHITE
5	18	YELLOW
6	18	ORANGE
7	18	GREEN
8	18	BLUE
9	18	YELLOW/BLACK

BI-ROTATIONAL PUMP #7770

HARNESS 6910

PIN	GAGE	COLOR
1	18	ORANGE
2	18	WHITE
3	18	BLUE
4	18	YELLOW
5	18	BROWN
6	18	GREEN
7		
8		
9	18	YELLOW/BLACK

PIN	GAGE	COLOR
1	18	ORANGE
2	18	WHITE
3	16	DARK BLUE
4	18	YELLOW
5	18	BROWN
6	16	DARK GREEN
7		
8		
9	18	YELLOW/BLACK

INPUT. 12V+ TO LEFT REAR VALVE COIL
 INPUT. 12V+ TO RIGHT FRONT VALVE COIL
 INPUT. 12V+ TO MOTOR EXTEND SOLENOID
 INPUT. 12V+ TO RIGHT REAR VALVE COIL
 INPUT. 12V+ TO LEFT FRONT VALVE COIL
 INPUT. 12V+ TO MOTOR RETRACT SOLENOID

PRESSURE SW 12V+ OUTPUT

HARNESS 6572C

PIN	GAGE	COLOR
B	12	BLACK
A	12	RED

PIN	GAGE	COLOR
B	12	BLACK
A	12	RED

GROUND FROM CHASSIS
 12V+ YELLOW (20A FUSE)

EQUALIZER SYSTEMS
 MAIN 12V POWER
 INPUT. FROM PUMP
 MOTOR SOLENOID
 AND CHASSIS
 BATTERIES.

GROUND INPUT
 FROM CHASSIS
 CONNECTED TO STUD
 ON SIDE OF PUMP

NOTES:

THE 12V POWER SOURCE MUST NOT DROP BELOW 10.5 VOLTS MEASURED AT THE YELLOW FUSE WIRE ON THE PUMP OR THE PUMP VALVE COIL BEING ENERGIZED WITH THE METER GROUND ON THE PUMP CASE GROUND.

THE PARK BRAKE INPUT TO THE LEVEL CONTROLLER ARE GROUND INPUTS. IT IS PULLED HIGH TO 12V INTERNALLY THROUGH A RESISTOR. IT IS LOOKING FOR AN ACTIVE LOW INPUT SIGNAL. WHEN THE PARK BRAKE IS ON, IT'S SENDING A GROUND TO THE PARK BRAKE INPUT OF THE LEVEL CONTROLLER.

Equalizer

55169 COUNTY ROAD 3
 ELKHART, IN 46515

#

REVISIONS

BY:

DATE:

UNLESS OTHERWISE SPECIFIED:
 TOLERANCES:
 .XXX ± 0.010
 .XX ± 0.010
 .X ± 0.030
 ANG. ± 1/2"

REMOVE ALL BURRS AND SHARP EDGES .015 MAX

TITLE
 AUTO LEVEL SCHEMATIC

USED ON:
 NEWMAR-BAY STAR & CANYON STAR

SIZE SCALE SYSTEMS
 A 1: 1 8582-8582A-8612

DRW BY: SJ
 DATE: 2/6/13

PART NAME:
 AUTO LEVEL WIRING SCHEMATIC

APP'D BY: -
 DATE: -

PAGE: 1 OF 1
 DWG NO.: P8582
 REV: -

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Purge Instructions for Newmar Systems

This procedure must be performed with the initial installation & running of the hydraulic system, and following installation of the pump assembly and jacks. This procedure applies only to the MH-4 systems that are equipped with the Bi-rotational pump. All electrical and hose connections must be completed before the purging process. **You Must Follow this Procedure Strictly. Any Deviation from the Process will cause the purging process to become difficult and time consuming.**

- 1) Fill the reservoir with Dexron ATF.
- 2) Attach a hose with coupler to the quick disconnect fitting on the end of the manifold. Place the end of the hose into a clean container. During the initial run of the pump this hose will have air coming out of it with the possibility of a little residual fluid from the retract side of the system.
- 3) Run the pump to extend the jacks. Maintain the fluid level in the reservoir $\frac{1}{4}$ to $\frac{1}{2}$ full. Do not allow the reservoir to run empty. If jack(s) will not fully extend, crack loose the upper hose(s) at the jack(s) and run the pump to extend until air is expelled. **Use Caution-hydraulic fluid will be under high pressure.** Retighten the hoses and complete the extensions of the jacks. Maintain the fluid level as described above.
- 4) Remove the hose and coupler from the quick disconnect fitting attached to the manifold.
- 5) Run the pump to retract the jacks. Maintain the fluid level as above. Do not fill the reservoir to full until after the legs are fully retracted.
- 6) **IMPORTANT**-If fluid in reservoir appears to be aerated (foaming), allow unit to rest until foam dissipates (approx. 5-10 minutes).
- 7) Fully extend and retract jacks a minimum of 3 times. Allow any foam in the reservoir to dissipate before each run. Keep the fluid level above $\frac{1}{4}$ to $\frac{1}{2}$ at all times.
- 8) After final runs, with jacks fully retracted, add fluid up to the fill line.


Additional Notes Regarding Purging

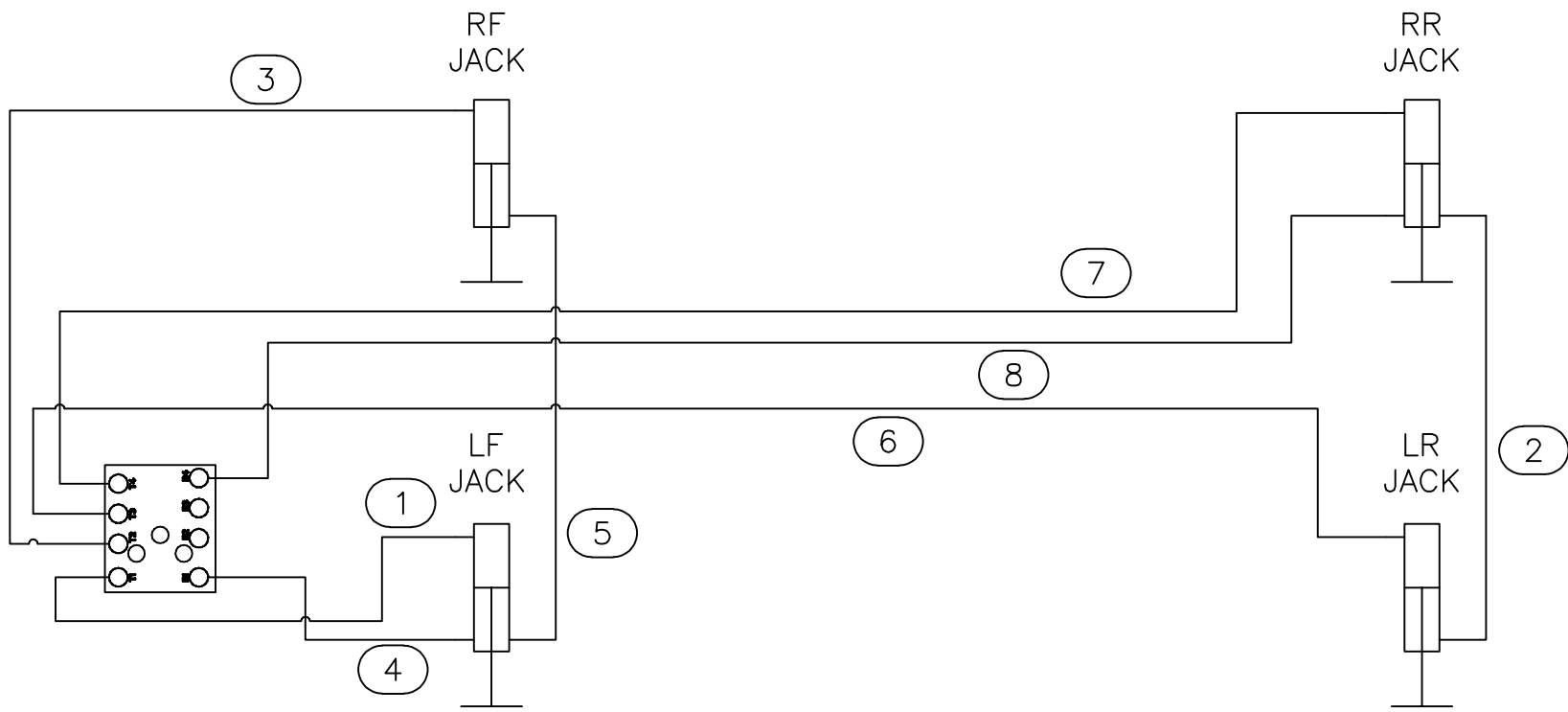
- The reservoir fluid level will be the greatest when all jacks are fully retracted: the fluid level will be lowest when all jacks are fully extended.
- Never allow the reservoir to go empty. Maintain the fluid level at least $\frac{3}{4}$ full when the jacks are retracted.
- Being patient helps. IT does no good to run the pump and try to move the jacks when the reservoir is full of foam. Pumping foam will only reintroduce air into the system and will prolong the process unnecessarily.
- We want the air out. Allowing the air to dissipate through the reservoir and maintaining the reservoir fluid level will get things working faster.

7762 PARTS LIST

ITEM	PART#	DESCRIPTION	QUAN	COLOR CODE	LOCATION
1	2461	HOSE-6'	1	BROWN SOLID	PUMP PORT T1 TO TOP OF LF JACK
2	2463	HOSE-8'	1	ORANGE STRIPE/YELLOW STRIPE	BOTTOM OF LR JACK TO BOTTOM OF RR JACK
3	2463	HOSE-8'	1	WHITE SOLID	PUMP PORT T2 TO TOP OF RF JACK
4	2463	HOSE-8'	1	BROWN STRIPE	PUMP PORT B1 TO BOTTOM OF LF JACK
5	2465	HOSE-10'	1	BROWN STRIPE/WHITE STRIPE	BOTTOM OF LF JACK TO BOTTOM OF RF JACK
6	2484	HOSE-34'	1	ORANGE SOLID	PUMP PORT T3 TO TOP OF LR JACK
7	2482	HOSE-32'	1	YELLOW SOLID	PUMP PORT T4 TO TOP OF RR JACK
8	2484	HOSE-34'	1	YELLOW STRIPE	PUMP PORT B4 TO BOTTOM OF RR JACK

Warranty authorization must come directly from Equalizer Systems. (800) 846-9659.

 55169 COUNTY ROAD 3 ELKHART, IN 46515	#	REVISIONS	BY:	DATE:	UNLESS OTHERWISE SPECIFIED: TOLERANCES: .XXX ± 0.010 .XX ± 0.010 .X ± 0.030 ANG. ± 1/2" REMOVE ALL BURRS AND SHARP EDGES .015 MAX	TITLE	USED ON:	
	A	Updated hose lengths after initial install	SJ	5/24/11		NEWMAR HOSE CHART	18K & 20.5K CHASSIS	
	B	ORANGE SOLID HOSE CHANGED FROM 30' TO 32'	SJ	11/30/16		SIZE SCALE MATERIAL	A 1:1 AS	NOTED
	C	#6 WAS 32', #7 WAS 30', #8 WAS 32'	SJ	6/14/18		DRW BY: DATE:	SJ 5/2/11	PART NAME: HOSE KIT-NEWMAR 8582
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						1 OF 2	P7762	C



Warranty authorization must come directly from Equalizer Systems. (800) 846-9659.

Equalizer 55169 COUNTY ROAD 3
ELKHART, IN 46515

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#	REVISIONS	BY:	DATE:
A	Updated hose lengths after initial install	SJ	5/24/11
B	ORANGE SOLID HOSE CHANGED FROM 30' TO 32'	SJ	11/30/16
C	#6 WAS 32', #7 WAS 30', #8 WAS 32'	SJ	6/14/18

UNLESS OTHERWISE SPECIFIED:
TOLERANCES:
.XXX ± 0.010
.XX ± 0.010
.X ± 0.030
ANG. ± 1/2"
REMOVE ALL BURRS AND SHARP EDGES .015 MAX

TITLE NEWMAR HOSE CHART		USED ON: 18K & 20.5K CHASSIS	
SIZE A	SCALE 1:1	MATERIAL AS NOTED	
DRW BY: SJ	DATE: 5/2/11	PART NAME: HOSE KIT-NEWMAR 8582	
APP'D BY -	DATE: -	PAGE: 2 OF 2	DWG NO.: P7762
			REV: C

8582
MH 4 SL 15 BR MOS (NEWMAR 117800)

Item #	Item Description	Qty	U Of M
3103	KEYPAD-NEW STYLE-AL-12V/24V	1	Each
3055	CONTROLLER -AUTOLEVEL - FR GAS	1	Each
6918	HARNESS, AUTOLEVEL NEWMAR 9 PIN	1	Each
7636	MH 15-8K SL LEG	4	Each
1683	Foot pad	1 per jack	
1383	Foot bolt	1 per jack	
7761B	LEG BOLT PLATES (NEWMAR TBD)	1	Each
7770	PUMP & MAN 4 FUNC BIROT 3 IN-NEWMAR	1	Each
7762	HOSE KIT - NEWMAR 8582	1	Each
2461	Hose -6'	1 per system	
2463	Hose -8'	3 per system	
2465	Hose -10'	1 per system	
2482	Hose -32'	1 per system	
2527	Hose -30'	2 per system	



1-800-846-9659

www.equalizersystems.com

AUTO-LEVEL™

NEWMAR

Operation and Warranty Guide



Prepared Specifically For NEWMAR Owners
Effective 2011

Note: This Manual pertains to Systems using Pump # 3043 & Controller # 3055

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Hose Connection Guides and Wiring Diagrams.....	9
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Equalizer Systems Warranty	13

Important Warnings and Precautions WARNING

READ ENTIRE INSTRUCTIONS AND ALL PRECAUTIONS PRIOR TO INSTALLING, USING, OR TROUBLESHOOTING THIS EQUIPMENT



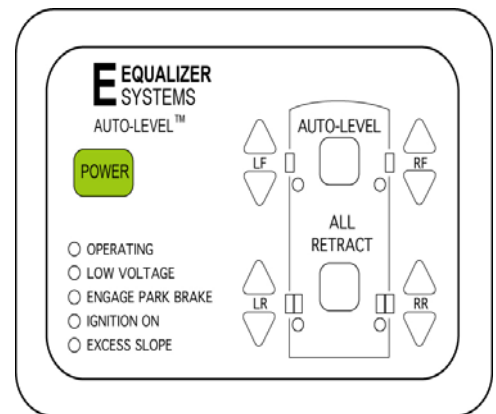
- The system operates using hydraulic fluid under high pressure. Extreme fluid pressure can be present even if the system is not operating. System forces and pressures can cause severe injury or death if used improperly or modified. Service work should only be performed by trained technicians.
- Do not attempt to operate any portion of the hydraulic systems when the vehicle is in motion.
- Visually confirm that all leveling jacks are retracted prior to travel.
- Make sure there are no obstructions in the extend or retract paths of the jacks.
- Do not use the leveling jacks to lift the unit to perform any kind of service work or to change tires. The system is designed as a leveling and stabilizing system and is not meant to lift the coach off the ground.
- Do not go under vehicle when leveling jacks are extended.
- Do not operate any system functions while anyone is under the coach.
- Do not allow excessive motion in the coach during the AUTO-LEVEL™ operation. This could cause the system to level improperly.
- Modification of any factory-supplied item may result in the denial of all warranty claims. Call Equalizer Systems Technical Support prior to any modifications.
- Do not attempt any technical repairs without first consulting the troubleshooting guide in this manual and/or calling Equalizer Systems Technical Support at 1-800-845-9659. Failure to do so may result in denial of warranty claims.

AUTO-LEVEL™ Operation Guide

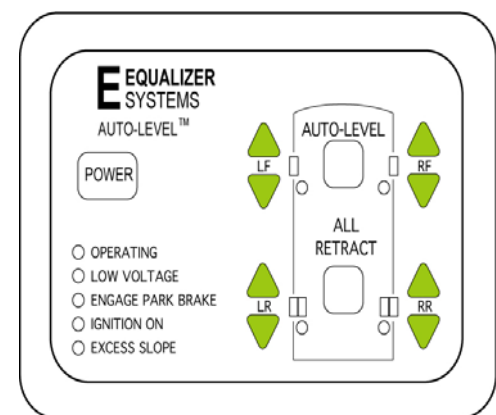
Controller # 3055 and Keypad # 3012

Manual Operation

- **Ignition Key On / Engine Run Position and Power On, Park Brake Applied:** Press and release the POWER keypad button to engage power. The LED in the POWER button should be lit RED when power is on. You need to have the ignition key in the On / Engine On Position to extend the jacks.
Park Brake Must Be Applied. It is Recommended to have the Engine Running to Insure proper Battery Voltage.

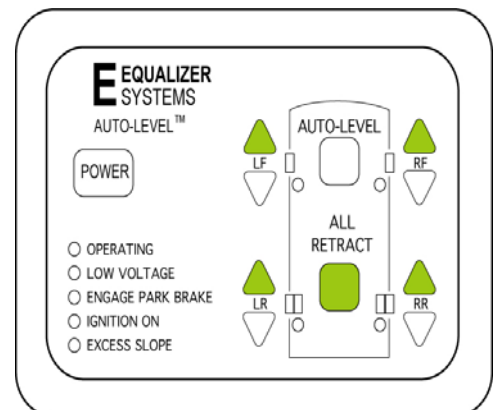


- **Planting the Jacks:** Using the DOWN ▼ Keypad Button, Extend each Jack until they contact the ground (this is referred to as “Planting” the Jacks). As you extend the first jack, All (4) of the Jacks Down LED Lights will come On and Flash. This is Normal, it only Indicates that the Jack (s) are not in Their Stowed Position. Jacks may be operated individually or in pairs. **Do not Manually Over Extend Individual Jacks. This may cause unwanted stress on the Coach or the Jacks.**
- **Leveling the Coach:** Use a bubble level on a flat surface in the center of the coach as a reference. Level the vehicle by using DOWN ▼ or UP ▲ keypad buttons until the vehicle is level. Jacks may be operated individually or in pairs as long as they are operated in the same direction. Do not attempt to lift the vehicle off the tires. Once level, Press and release the POWER button. Note: The keypad may be left on once level has been achieved. The keypad will enter “sleep mode” after five minutes of inactivity.



Power OFF: Turn Ignition Key Off, The Panel can now be Turned Off

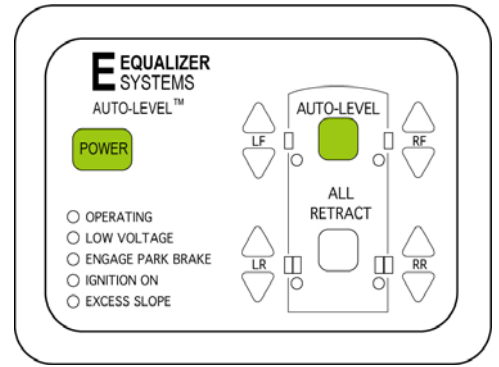
- **Retracting the Jacks:** To retract Jacks, Press and Release the ALL RETRACT button. All jacks will automatically retract and return to stowed position. The pump will run in retract mode until all of the jacks are fully stowed (plus an additional 5 seconds) up to a maximum of 60 seconds. You may stop the ALL RETRACT by pressing any button on the keypad. An individual jack can be retracted by using the UP ▲ button for each individual jack. The Jack (s) Down LED Light Can Not be turned Off by using the Manual Up Buttons, The All Retract Button Must be used to Fully Stow the Jacks and Turn Off the Jack (s) Down Led Lights. **It is Recommended to have the Engine Running to Insure proper Battery Voltage.**



Visually confirm All Jacks are Retracted prior to Travel.
When the Key is turned On / Engine Running, Park Brake Released, An Auto Retract Mode will Start, If the Controller Believes the Jacks are Not Stowed. This is An Added Safety.
It is Not to be “Relied On” for Proper Retraction, Before Traveling.

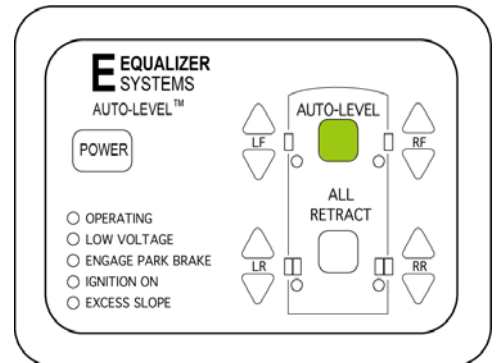
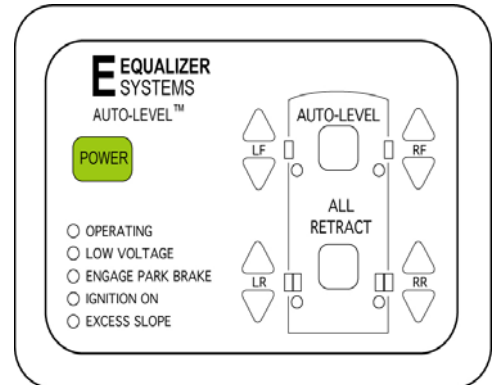
- **Note:** There are Specific Instances when Manual Extension of one (or more) jacks is inhibited (Deny Tone when down is depressed). This Situation is caused by the “anti-twist” protocol in the software in the control box. Simply stated, the ‘anti-twist’ protocol denies jack extension if the system senses that a specific corner of the coach is approximately 3 degrees higher than the rest. You will be able to extend other jacks to over come the slope. If the system incorrectly senses excessive slope, this can be over come by resetting the Null. This will allow manual extension of all jacks. **Remember to re-set the Null after Manually Leveling the Coach.**

- **Setting the Null:** The Null or “Level Position” has been preset from the Factory. However, if the coach is not level following an attempt to AUTO-LEVEL™, the Null is easy to reprogram. To set the Null, Apply Park Brake, Turn the Ignition Key On, push and release the Keypad POWER Button to engage power. The POWER Button and Ignition On (LED’s), should be lit RED when power is on. Level the coach by deploying jacks manually (using the DOWN ▼ keypad buttons, extend each jack until the coach is level), or by simply parking the coach on a Level Site. You do not need to have jacks deployed to set the Null. Use a bubble level on a flat surface in the center of the coach as a reference. Once the coach is leveled, turn the Ignition Key Off and the Panel can now be turned Off. Now Depress and hold the AUTO-LEVEL™ Button, Continue to hold the AUTO-LEVEL™ Button and then press and release the POWER button, Listen for a Series of Beeps. After the panel has beeped 5 to 6 seconds, release the AUTO-LEVEL™ button (the keypad will continue to beep as long as the AUTO-LEVEL™ Button is held). The New Null Setting has been set and the panel will maintain this setting. Press and release the ALL RETRACT Button to retract the jacks to the Stowed / Travel position.



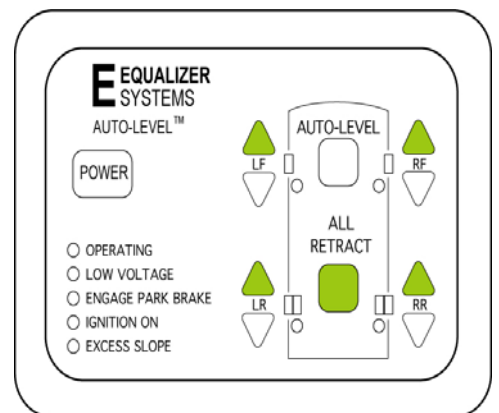
Automatic AUTO-LEVEL™ Operation

- **Ignition Key On / Engine Run Position, Park Brake Applied, Power On:** Push and release the POWER button to engage power. The LED light in the POWER button and Ignition On should be lit, when power is on. You will need to have the ignition key in the On / Engine Run position to extend the jacks. **It is Recommended to have the Engine Running to Insure Proper Battery Voltage.**
- **AUTO-LEVEL™:** Press the AUTO-LEVEL™ button and release. The system will send out a continuous series of beeps, the ‘OPERATING’ LED will flash RED to let you know AUTO-LEVEL™ is operating and will Automatically Level the Coach, the Jacks Down LED Lights will come on. When completed, the keypad will signal a successful level with a dual-level tone. Press and release the POWER button. Note: The keypad may be left on once level has been achieved. The keypad will enter “sleep mode” after five minutes of inactivity. **Ignition On light should be lit when the Key is Turned On.**



Power OFF: Turn Ignition Key Off, The Panel can now be Turned Off

- **Retracting the Jacks: Turn Ignition Key On / Engine Run Position:** The Equalizer System provides the ability to retract the jacks using the ALL RETRACT button or the UP/ Down button for each individual jack. All jacks will automatically retract and return to stowed position when the ALL RETRACT button is pressed and released. The pump will run in retract mode until all of the jacks are fully stowed (plus an additional 5 seconds) up to a maximum of 60 seconds. You may stop the ALL RETRACT by pressing any button on the keypad. The Jack (s) Down LED Light Can Not be turned Off by using the Manual Up Buttons, The All Retract Button Must be used to Fully Stow the Jacks and Turn Off the Jack (s) Down Led Lights. **It is Recommended to have the Engine Running to Insure proper Battery Voltage.**



Visually confirm all jacks are retracted prior to travel.

When the Ignition Key is turned On / Engine Running, Park Brake Released, An Auto Retract Mode will Start, If the Controller Believes the Jacks are Not Stowed. This is An Added Safety. It is Not to be “Relied On” for Proper Retraction, Before Traveling.

Keypad Indicator LED's

There are ten (10) LED indicators on the AUTO-LEVEL™ Keypad. The functions of these LED's are detailed below.

During Typical Operation, the LED Lights that should be lit are the 'OPERATING' LED, and "Ignition On" LED

- 'POWER' LEDON Red when power is ON
OFF when power is OFF
FLASH every 5 sec. In Sleep Mode
- 'JACK' LED (4 each) ON Red when jack(s) are deployed
OFF when jack(s) are stowed
- 'OPERATING' LEDFLASHING Red w/ Auto Level or All Retract
OFF when keypad is idle or 'sleeping'
- 'LOW VOLTAGE' LED ON Red when Voltage is below 10.5 volts DC
OFF when Voltage is above 10.5 volts DC
- 'ENGAGE PARK BRAKE' LED ON Red when Park Brake is Not Applied
OFF when Park Brake is Applied
- 'IGNITION ON' LEDON Red when Ignition is in the ON position
OFF when Ignition is OFF
- 'EXCESS SLOPE' LED ON Red following an Auto Level attempted, if
System cannot overcome slope
OFF when slope is not excessive

If the LOW VOLTAGE, ENGAGE PARK BRAKE, EXCESS SLOPE LED's are illuminated, an 'error' condition is present and must be corrected prior to operating the jacks.

Note: To Extend Jacks Down in Auto Level or Manual Mode, the following needs to be Present, Ignition Key On / Engine Run Position, "Ignition On" LED Lit. Park Brake MUST Be Applied, "Park Brake" LED Off.

It is Recommended to have the Engine Running to Insure Proper Battery Voltage

Note: If the Jacks are Not Fully Retracted (Jack Down LED Light On) The Keypad Can Not be Turned Off, if the Ignition Key is in the On / Engine Run Position.

Helpful Hints

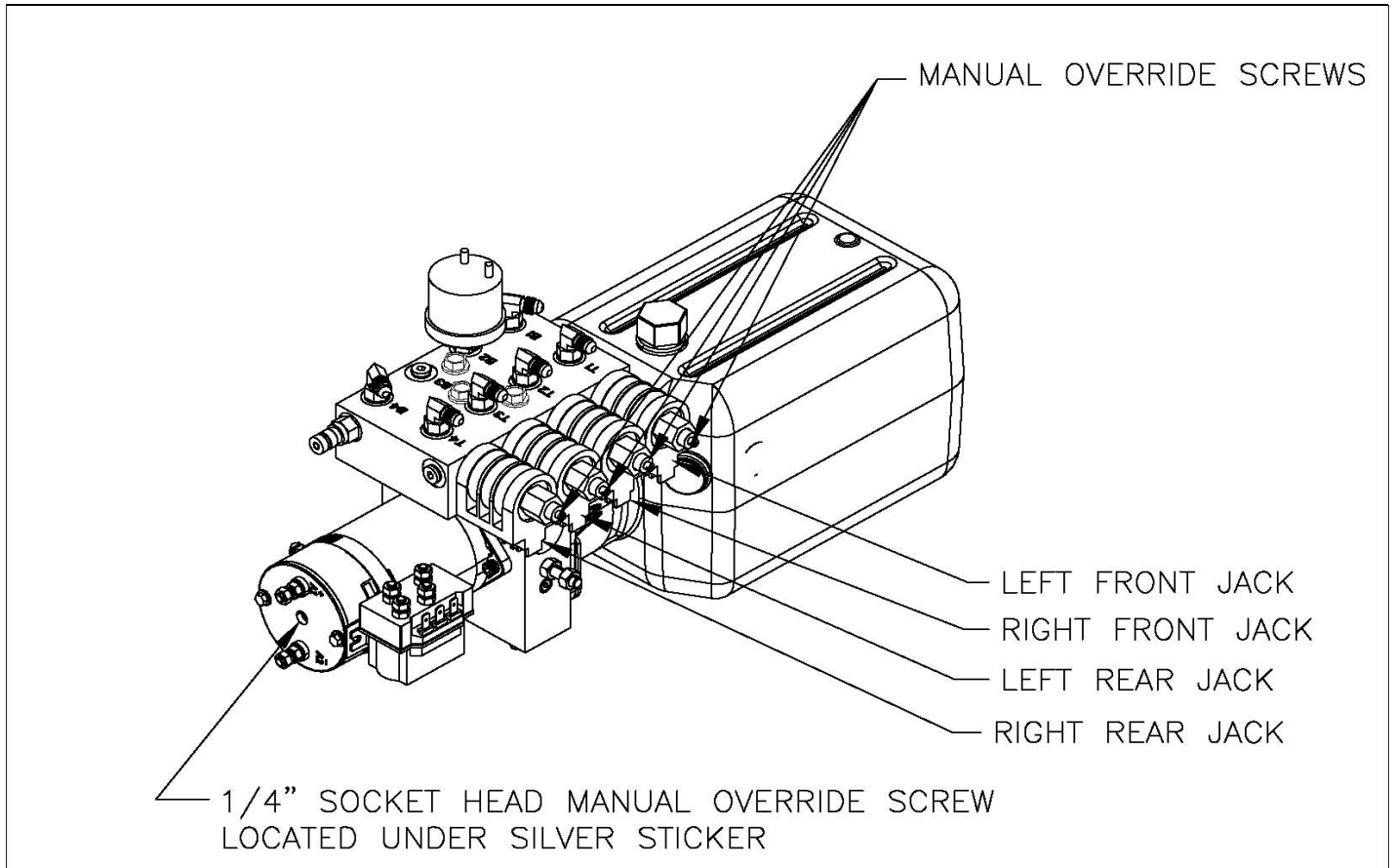
- If your coach is equipped with air suspension, it is recommended that the coach be started / running and chassis air pressure allowed to build before pressing ALL RETRACT. This will ensure adequate air supply to the chassis air valves.
- Your system may be equipped with a manual override option (consult vehicle manufacturer). Refer to the Manual Override section of this manual for the proper procedure. It is usually better to review this procedure prior to its actual use, rather than having to learn a new procedure in difficult environments.
- You may allow any automatic function to run for the entire programmed time (and stop automatically), or you may stop the action by pressing any button on the keypad.
- To ensure proper leveling, do not move around in the coach during the AUTO-LEVEL™ process. Leveling may be unsuccessful if motion is present.
- AUTO-LEVEL™ is a microprocessor-controlled system. Proper and adequate battery voltage and permanent chassis ground are essential.
- After 24hrs of non-use, it may be necessary to press the All Retract button before Traveling, to re-pressurize the system.

Maintenance

- Maintain the reservoir level to a minimum of 3/4 full with Dexron III Transmission fluid, with Jacks Retracted
- Change fluid if the reservoir shows signs of contamination: debris or water.
- If the vehicle is parked in an extremely hot and/or humid environment with jacks extended for long periods (over 30 days), spray the cylinder rods with WD40 to prevent corrosion.
- Proper maintenance of the vehicles electrical system is important for proper system operation. Proper voltage and grounding is critical. Follow the battery manufacturer's guidelines regarding battery care and maintenance.

Manual Override Procedures

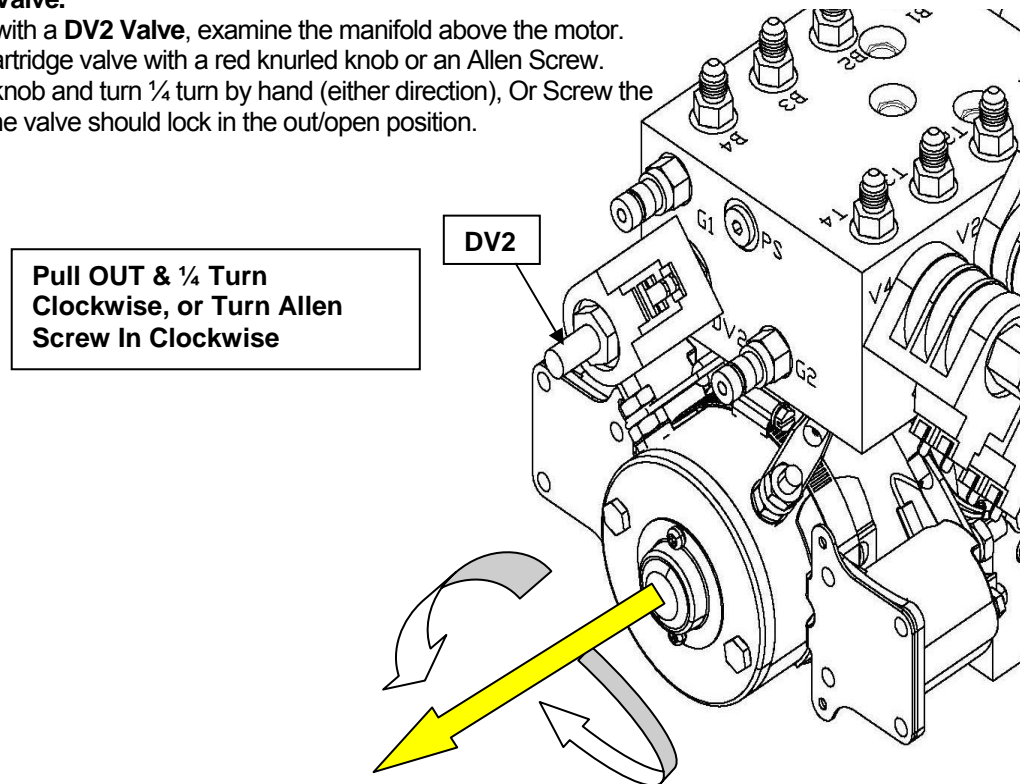
If Electrical Power is lost to the Leveling, your system has been equipped with a Manual override Option.



To Manually Override (bi-rotational pump assembly): Pump #'s 2532, 2542, 3043

The individual cartridge valves are clustered together on the side of the pump manifold. Valves for leveling jacks are labeled 1 thru 4. Locate the screws on the appropriate cartridge valve(s). Using a small flat blade screwdriver, or an Allen wrench, turn the screw (s) clockwise, all the way in and lightly seated (approx 2.5 turns). A leveling jack can be manually overridden by only opening the valve associated with that function.

- 1) Access the manual override coupler: Remove the Black Plastic Cap or Silver (Foil) Seal, from the end of the motor (use a small flat head screwdriver). Place a drill (2000 rpm minimum) equipped with a 1/4 " (6mm) Allen Drive Socket or 7/16" (11mm) Hex Socket on the manual override coupler. Care Must be taken to ensure that the drill and socket don't contact any wires or hoses.
- 2) **If Equipped, Open the DV2 Valve.**
To identify a pump equipped with a **DV2 Valve**, examine the manifold above the motor. **DV2** is a solenoid operated cartridge valve with a red knurled knob or an Allen Screw.
To Open: Pull out on the red knob and turn 1/4 turn by hand (either direction), Or Screw the Allen Screw In (clockwise). The valve should lock in the out/open position.



- 3) To **Retract** your jack(s) run the drill in the **counter-clockwise** direction.
- 4) To **Extend** your jack(s), run the drill in the **clockwise** direction.
- 5) When Manual Override is complete, return the cartridge valve (s) And DV2 (if equipped) to the Normal Positions.
Reinstall Black Plastic Cap / Silver (Foil) Seal on motor.

***** **Caution** *****

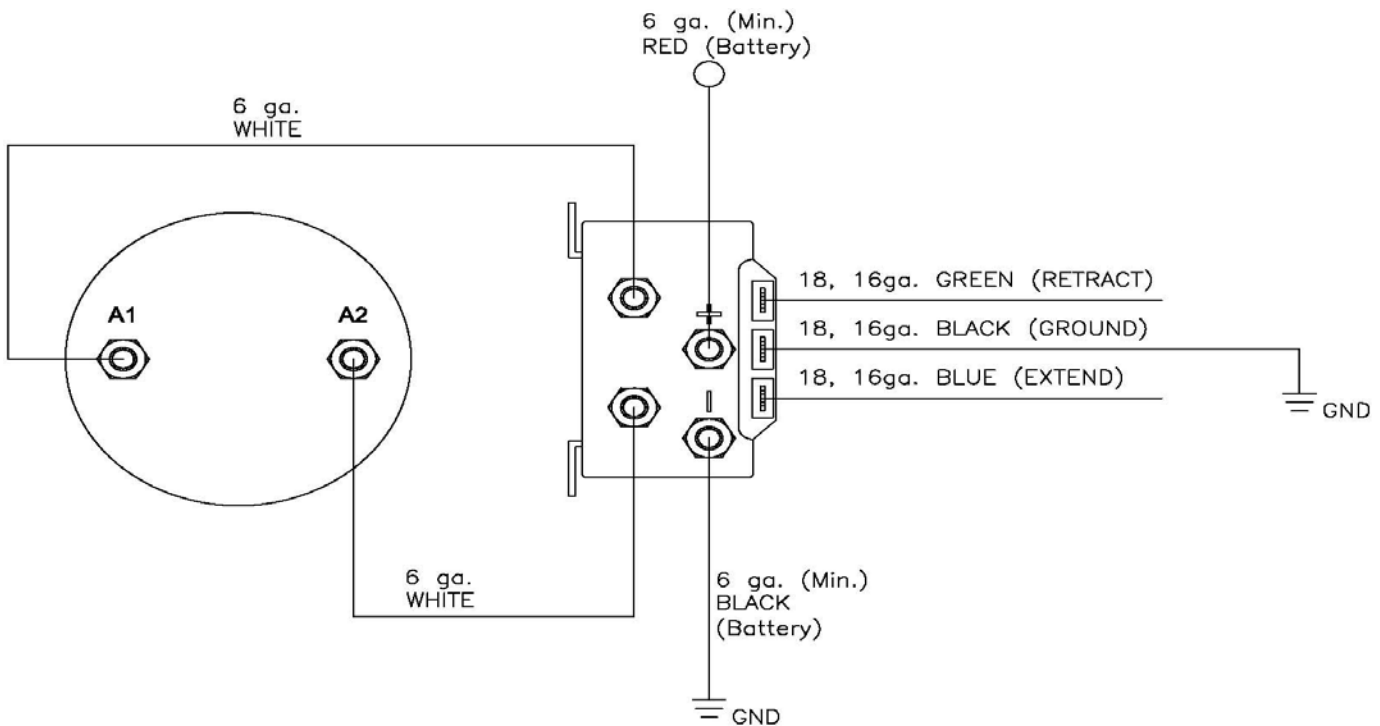
Following manual override operation, return all valves to normal operational position. Failure to do so may result in drifting from the retracted (stowed) leveling jacks. Cartridge valves: Rotate the center screw fully counter-clockwise until lightly seated. DV2: Turn the red knob and allow the valve handle to snap IN or Closed. Operate DV2 by hand only- NO TOOLS!

Valve Identification/Hose Connections

Valve # Function		Hose Label Color- Extend	Hose Label Color- Retract	Cartridge Valve Coil Wire Color
V1= Left Front Leveling Jack		Brown	Brown w/ stripes	Brown
V2= Right Front Leveling Jack		White	White w/ stripes	White
V3= Left Rear Leveling Jack		Orange	Orange w/ stripes	Orange
V4= Right Rear Leveling Jack		Yellow	Yellow w/ stripes	Yellow

Assembly Wiring

Wiring for Pump # 3043



Troubleshooting Guide

Symptom

Possible Cause

Corrective Action

Keypad will not turn on	Blown fuse at pump harness or in fuse panel	Replace fuse
	Faulty ground or power wire	Trace and repair
	Low Battery Voltage	Charge chassis and/or coach batteries
	Defective Keypad or Controller	Call Equalizer Tech Support
	Defective Keypad harness	Trace and repair
Keypad turns on – Jacks will not operate	Low Battery Voltage to Pump	Charge chassis and/or coach batteries
	Faulty electrical connection	Trace and repair
	Defective Keypad or Controller	Call Equalizer Tech Support
	Defective pump motor or solenoid	Replace
	Other system defect	Call Equalizer Tech Support
Jacks will retract but will not extend	Low Battery Voltage to Pump	Charge chassis and/or coach batteries
	Park Brake not set	Set park brake
	System Null not set	Set Null
	Anti-Twist Software Protocol has been Initiated	Lower opposite side of coach and/or Re-set Null and Level Coach
	Ignition Switch in wrong position	Check and change as needed
	Defective Keypad or Controller	Call Equalizer Tech Support
	Faulty electrical connection	Trace and repair
	System Defect	Call Equalizer Tech Support

Troubleshooting Guide

Symptom	Possible Cause	Corrective Action
Jacks will extend but will not retract	Low battery voltage	Charge chassis and/or coach batteries
	Incorrect hose connection at pump or jack	Trace and repair
	DV1 --faulty wire or valve	Check and repair
	Defective Keypad or Controller	Call Equalizer Tech Support
AUTO-LEVEL™ will not level	System Null not set	Set Null
	Controller installed improperly or has moved	Check controller orientation
	Ignition Switch in wrong position	Check and change as needed
	Damaged or defective Keypad harness	Call Equalizer Tech Support
	Defective Keypad	Call Equalizer Tech Support
	Other System Defect	Call Equalizer Tech Support
AUTO-LEVEL™ stops mid-cycle	Low battery voltage	Charge chassis and/or coach batteries
	Excessive vehicle motion during leveling sequence	Reset Control Panel and re-try
	System Null not set	Set Null
	Damaged or defective Controller	Check and replace
	Damaged or defective Keypad harness	Call Equalizer Tech Support
	Other System Defect	Call Equalizer Tech Support
Jack LED's on panel stay on	Defective Pressure Switch or wiring	Trace and repair or replace
	Defective Keypad Harness	Trace and repair or replace
	Defective Keypad	Call Equalizer Tech Support

Troubleshooting Guide

Symptom	Possible Cause	Corrective Action
Hydraulic pump inoperative	Low battery voltage	Charge chassis and/or coach batteries
	Blown fuse or breaker in fuse panel	Replace fuse or reset breaker
	Faulty electrical connection	Trace and repair
	Defective pump motor or solenoid	Replace
Jack(s) bleed down from leveled position or stowed position	Air in hydraulic system	Purge air
	External fluid leak	Trace and repair
	Defective valve in pump	Clean or replace valve
	Defective jack	Replace jack
Jack(s) are jerky when retracting	Air in the system	Purge air
	Fluid level low	Check fluid level and add as necessary
Jack(s) will not retract from full extension	Low Battery Voltage at Pump	Charge chassis and/or coach batteries
	Low battery voltage or poor ground to Keypad	Charge chassis and/or coach batteries and ensure proper grounding
	Damaged or defective harness from Keypad to pump	Trace and repair
	Fluid level low	Check fluid level and add as necessary

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

Proper and adequate grounding of the pump is essential!

90% of the phone calls we receive are found to be a discharged battery or poor ground!

**If your problem is not listed or persists, call
Equalizer Systems at 1-800-846-9659. EXT: 339
Please gain prior Authorization for Warranty Service or Repair.**



Equalizer Systems Limited Warranty Policy

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 leveling system components for a period of **One Year** 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. Consideration should be taken regarding the location and protection of Equalizer Systems' components prior to installation. Please reference our installation manuals for recommended locations and maintenance, or visit www.equalizersystems.com for more information. The failure of any Equalizer Systems' component due to extreme environmental conditions, improper installation, or lack of maintenance will not be covered under warranty.
10. Warranty coverage for parts or systems sold by non-authorized resellers (such as live or internet auctions) will be at the discretion of Equalizer Systems.
11. 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 two year parts warranty is applicable. Warranty labor and freight are only applicable to original owner of the vehicle.
12. 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.
13. Excessive warranty labor resulting from inadequate access to the Equalizer Systems product will not be reimbursed.
14. Equalizer Systems will not pay a markup on warranty parts unless required by law.
15. 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

Effective: January 1, 2010

800/846-9659

www.equalizersystems.com