



## Operator's Manual Electric Jack with Automatic Leveling Touchpad #140-1226 Control Box #140-1224

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### ! WARNING

Your coach should be supported at both front and rear axles with jack stands before working underneath, failure to do so may result in personal injury or death.

To prevent movement, use wheel chocks.

Do not use the Power Gear Leveling system (or air suspension) to support the vehicle while changing tires or under the coach for any reason. The leveling system is designed as a "leveling" system only. Tire repairs should only be done by trained professionals. Attempts to change tires while supporting the vehicle with the leveling system could result in damage to your motor home and/or cause serious injury or even death.

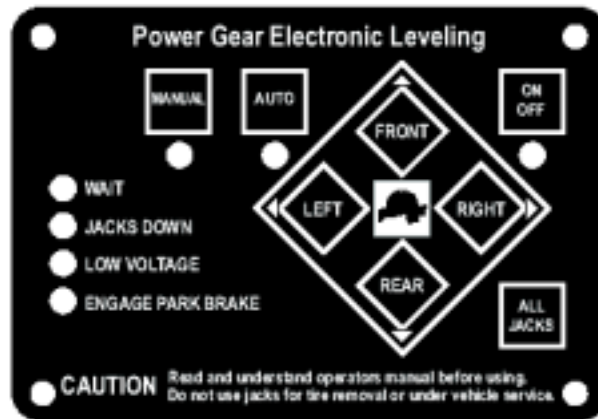
Keep people clear of coach while leveling system is in use.

Never lift the wheels off the ground to level the coach. Doing so may create an unstable condition.



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## Operator's Manual Automatic Electric Jack Leveling



### Before You Operate The System

The leveling system shall only be operated under the following conditions:

1. The coach is parked on a reasonably level surface.
2. The coach "PARKING BRAKE" is engaged.
3. The coach transmission should be in the NEUTRAL or PARK position.
4. The ignition is on, and engine is running.
5. Do not extend the slideouts until coach is leveled.

### ! CAUTION

- Park the coach on a reasonably solid surface or the jacks may sink into the ground.
- Check that potential jack contact locations are clear of obstructions or depressions before operation.
- Read and understand the entire operator's manual before using or servicing your leveling system.

## CAUTION

Park the coach on a reasonably solid surface or the jacks may sink into ground. On soft surfaces, use load distribution pads under each jack.

Check that potential jack contact locations are clear of obstructions or depressions before operation.

Note: The system will automatically shut down after 5 minutes of inactivity.

Low voltage will prevent the control from operating.

## Leveling System Operating Instructions

### Buttons and Operation

**ON/OFF:** Turns the Touch Pad ON/OFF.

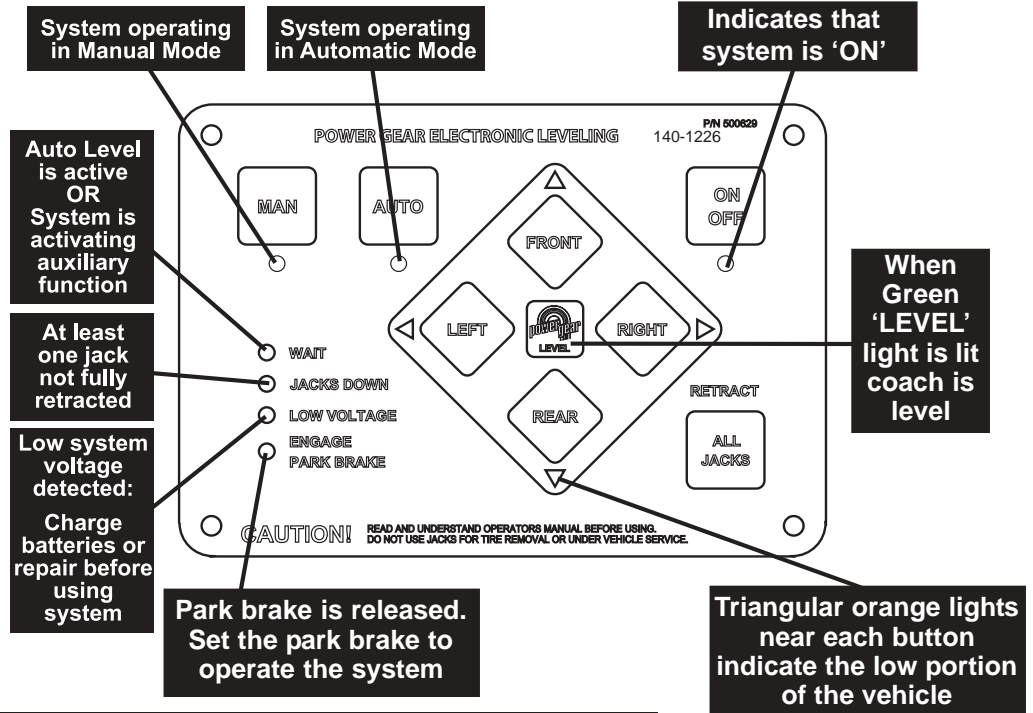
**AUTO:** Initiates an automatic leveling cycle.

**MAN:** Initiates a manual leveling cycle.

**RETRACT ALL JACKS:** In any mode except Manual mode, pressing and releasing "Retract All Jacks" button retracts all the jacks completely. In Manual mode, the jacks will retract only while the "Retract All Jacks" button is held down.

**FRONT/REAR/LEFT/RIGHT:** Extends that pair of jacks while in manual mode.

### LIGHTS AND FUNCTION INDICATORS



## Selecting A Site

When the coach is parked on an excessive slope, the leveling requirements may exceed the jack lift stroke capability. When this occurs, the 4 orange jack lights and the green "Power Gear Level" light in the center will blink together. The coach must be moved to a more level surface before the leveling jacks are deployed. On the contrary, if the green "Power Gear level" light in the center is on and/or blinking by itself, it means the coach is already level. You may, if you wish, operate the jacks anyway to act as a stabilizer.

## Automatic Leveling

1. Park the coach in a reasonably level area.
2. Put the transmission in "Park" if in a gasoline coach or "Neutral" if in a diesel coach.
3. Set the parking brake.
4. With the engine running, turn the control on by pressing the touchpad ON/OFF button. Verify that all jacks are fully retracted, "Jacks Down" light is not illuminated. (Auto leveling cannot start if the jacks are not fully retracted)
5. Press the AUTO button (Auto light turns on) NOTE: Movements in the vehicle while the system is auto leveling can cause false readings and improper operation. Passengers should remain seated.
6. Jacks will automatically extend to the ground after you press the AUTO button. After the jacks are on the ground, auto leveling begins.
7. The Front/Left/Right/Rear jacks will automatically extend as necessary until the control reaches the pre-programmed level position.
8. The Front/Left/Right/Rear lights show the side or end of the coach being leveled.
9. The Auto light will turn off when the system has been leveled and the center green "Power Gear Level" light will turn on.

### Manual Air Dump Feature

Some diesel models are equipped with a manual air bag dump switch. The air bags should be dumped before attempting to level the coach.

### Jack Retraction While In Auto Mode

To properly do a full retract, press the "Retract All Jacks" button anytime the control is ON.

The jacks will retract to their fully retracted position. The "Jacks Down" light will turn off when all jacks are properly retracted.

## CAUTION

## PRODUCT DAMAGE

- Do not move vehicle until levelers are fully retracted ("Jacks Down" light not illuminated).
- Damage can occur to levelers, coach, surrounding property if the levelers are not fully retracted prior to vehicle being moved.

## Manual Leveling

1. Park the coach in a reasonably level area.
2. Put the transmission in "Park" if in a gasoline coach or "Neutral" if in a diesel coach.
3. Set the parking brake.
4. With the engine running, turn the control on by pressing the touchpad ON/OFF button. Verify that all jacks are fully retracted.
5. Press the MAN button (Manual light turns on).
6. If the jacks are fully retracted, the jacks will begin automatically extending. Jacks will stop when the ground is hit. The "Wait" light will blink while the jacks are automatically extending.
7. After the jacks are on the ground, manual features are available.
8. The Front/Left/Right/Rear lights show the side or end of the coach that needs to be extended to reach level. Push and hold the button next to the triangular orange light that is on.
9. Press the manual button when finished with manual mode. Manual light turns back off.

## Manual Override

### **⚠ WARNING**

*Before overriding an electric jack, keep all body parts clear of any pinch points, such as between the wheel well opening and the top of the tire or the bottom of the luggage compartment and the ground. Anytime you are under the coach proper caution must be taken to keep clear of these pinch points. Failure to be aware of this could result in serious injury or death.*

In case of loss of power or communication to the jacks, an Emergency Manual Retract Procedure can be used to retract the jacks. To perform this procedure, READ ALL STEPS BEFORE ATTEMPTING TO MANUALLY RETRACT THE JACKS.

1. Turn off the ignition of the vehicle, engage parking brake, put transmission in "Park" for gas chassis applications and in "Neutral" for diesel chassis applications. Reinflate the airbags, if so equipped.
2. Verify that all personnel and tools are clear of the coach. Make sure that all personnel are out of the coach. Retract any slideout room that may be extended.
3. In the event that only communication has been lost with the jack, attempt to manually retract the jack by first applying 12 volts directly to the motor connections.
4. Disconnect the jack motor power plug at the motor. Connect extension power leads to the motor power plug so that the operator can stay out from underneath the coach during manual retract.
5. Apply 12 volts to the extension leads to retract the jack. 12 volt power can be supplied by either the coach or chassis 12 volt batteries. If a battery charger is available, this can be used to supply 12 volts to the leads. Ensure that the jack is retracting after applying power. If the jack is extending, reverse the power extension leads to retract the jack.

### Full Extension Protection

If, when operating the control in MANUAL mode, a condition occurs where any one jack of the extending pair reaches full extension, the control will automatically stop the extension of that pair of jacks. Any attempt to further extend that pair will be prevented by the control. The remaining jacks are still operational until they reach full extension.

### Manual Air Dump Feature

Some diesel models are equipped with a manual air bag dump switch. The air bags should be dumped before attempting to level the coach.

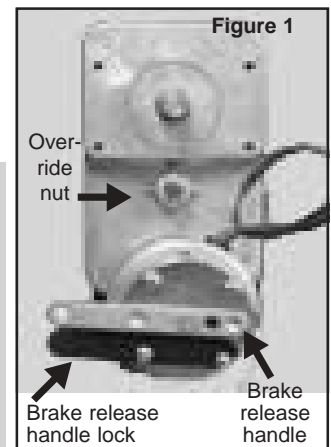
### Jack Retraction While In Manual Mode

The "Retract All Jacks" button will manually retract the jacks, but only while the button is held down. Continue to hold down the "Retract" button until the "Jacks Down" light turns off, indicating that all jacks have retracted.

6. Retract each jack partially until all jacks have cleared the ground, then retract each jack completely.
7. If the motor does not function after applying 12 volts, the jack can be retracted manually using a ratchet, 16mm socket and extension (an electric drill may be used, if available).
8. Remove the rubber boot from the jack motor.
9. Depress the release handle lock and rotate the brake release handle counter-clockwise approximately 10 degrees. See fig.1.
10. Rotate the override nut located on the underside of the jack clockwise (looking from bottom or underneath). See figure 1.
11. Repeat for any other jack not retracted. Retract each jack partially until all jacks have cleared the ground, then retract each jack completely.
12. Make sure that all jacks are in the fully stowed position (jack foot pad all the way up to the bottom of the outside tube of the jack).

### **⚠ WARNING**

*Releasing the brake will result in the jack retracting while under load. The coach may immediately begin to lower. Make certain that you are clear of any pinch points before rotating the brake release handle. Failure to be aware of this condition could result in serious bodily injury or death.*



## Error Codes

An "Error Code" is indicated by certain lights on the touch pad blinking in a given pattern. Note the pattern indicated below and then find the corresponding mode, which explains the type of error encountered.

BLINKING LIGHT(S) PATTERN	MODE (ERROR)	BLINKING LIGHT(S) PATTERN	MODE (ERROR)
Front, right, rear and left blink in a clockwise pattern	Diagnostic Check (internal - occurs each time system is turned on and will shut off after a few seconds)	Wait	Wait until light turns off
"Power Gear" logo (green)	Level Achieved	Low Voltage	Low Input Voltage (check battery)
Park Brake	Park Brake not set	All Lights Blinking & Buzzer	Jacks Down while traveling (jacks not fully retracted, drive-away mode will automatically retract all jacks)
Wait & On/Off	Transmission not in park (gas) or neutral (diesel)	All Lights Blinking	Zeroing Mode
		Front, right, rear, left & Power Gear logo	Excessive Slope

## Error Mode - Troubleshooting

If any problem is detected with the leveling system electronics or motors, the system will enter error mode.

If the AUTO and MAN lights are blinking together, the system is in Error Mode.

- Press the ON/OFF button to disable the buzzer. Make sure the light underneath the ON/OFF button is ON.
- The Front/Left/Right/Rear lights will tell you which jack is seeing an error. For example, if the Front and Left lights are blinking, the Left Front jack has the error. If the Right and Rear lights are blinking, the Right Rear jack has the error, etc.

When the error is first detected, the buzzer will sound alerting the user of the problem.

There are several things that can cause the control to go into Error Mode:

- Jack motor drawing too much current - short circuit.
- Jack motor drawing too little current-open circuit.
- Jack extending too long-sensor circuit.
- Jack retracting too long-sensor circuit.

If the buzzer continues to sound, the control is in "Emergency Retract Mode". Verify that the coach is in park (neutral for a diesel engine) and the parking brake is engaged. The light and buzzer should stop once the jacks are fully retracted.

ALL NORMAL FEATURES ARE DISABLED IN ERROR MODE.

The intent of this mode is to allow the user or service technician to individually drive the jacks, in order to isolate the error. Please note that on REV 0C controls additional fault detection is disabled in this mode. REV 0D and later controls have fault detection active in error mode.

To assist in identifying and correcting jack problems you can operate the jacks independently while in error mode.

- To operate the left front jack, hold down the Left + Front buttons + "AUTO" to extend, OR "MAN" to retract the jack.
- To operate the right front jack, hold down the Right + Front buttons + "AUTO" to extend, OR "MAN" to retract the jack.
- To operate the left rear jack, hold down the Left + Rear buttons + "AUTO" to extend, OR "MAN" to retract the jack.
- To operate the right rear jack, hold down the Right + Rear buttons + "AUTO" to extend, OR "MAN" to retract the jack.

Once the cause of the error has been eliminated, you can exit error mode by pressing all 4 jack buttons (LEFT, RIGHT, FRONT, and REAR) simultaneously. If your control is a REV 0C, 0D, or 0E you will need to press "RETRACT ALL JACKS" to exit error mode. The control revision can be found to the right of the part number on the leveling control.

- If the error has been eliminated, the jacks will fully retract and the Touch Pad will return back to normal.
- If the error has not been eliminated, the system will return back to error mode.

## Preventive Maintenance

1. Inspect and clean all electrical connections every 12 months
2. Remove dirt and road debris from jacks as needed.
3. Battery condition is important to the leveling system. Keep batteries fully charged when possible.

## Drive Away Protection

If the ignition is in the "Run" position, the jacks are down, and the operator takes the transmission out of neutral or park, or releases the parking brake, all of the LEDs will flash and the alarm beeper will activate. The system will then automatically retract the jacks until they are fully retracted. During this time the touch pad cannot be turned off.

## Power Gear Limited Warranty

Power Gear warrants to the original retail purchaser that the product will be free from defects in material and workmanship for a period of (2) years following the retail sales date. Power Gear will, at its option, repair or replace any part covered by this limited warranty, which, following examination by Power Gear or its authorized distributors or dealers, is found to be defective under normal use and service. No claims under this warranty will be valid unless Power Gear or its authorized distributor or dealer is notified in writing of such claim prior to the expiration of the warranty period. Warranty is transferable pending documentation of original sale date of product.

WARRANTY SHALL NOT APPLY TO:

- Failure due to normal wear and tear, accident, misuse, abuse, or negligence.
- Products which are modified or altered in a manner not authorized by Power Gear in writing.
- Failure due to misapplication of product.

- Telephone or other communication expenses.

- Living or travel expenses.

- Overtime labor.

- Failures created by improper installation of leveling systems, including final adjustments made at the plant, or low fluid level, wiring or ground problems.

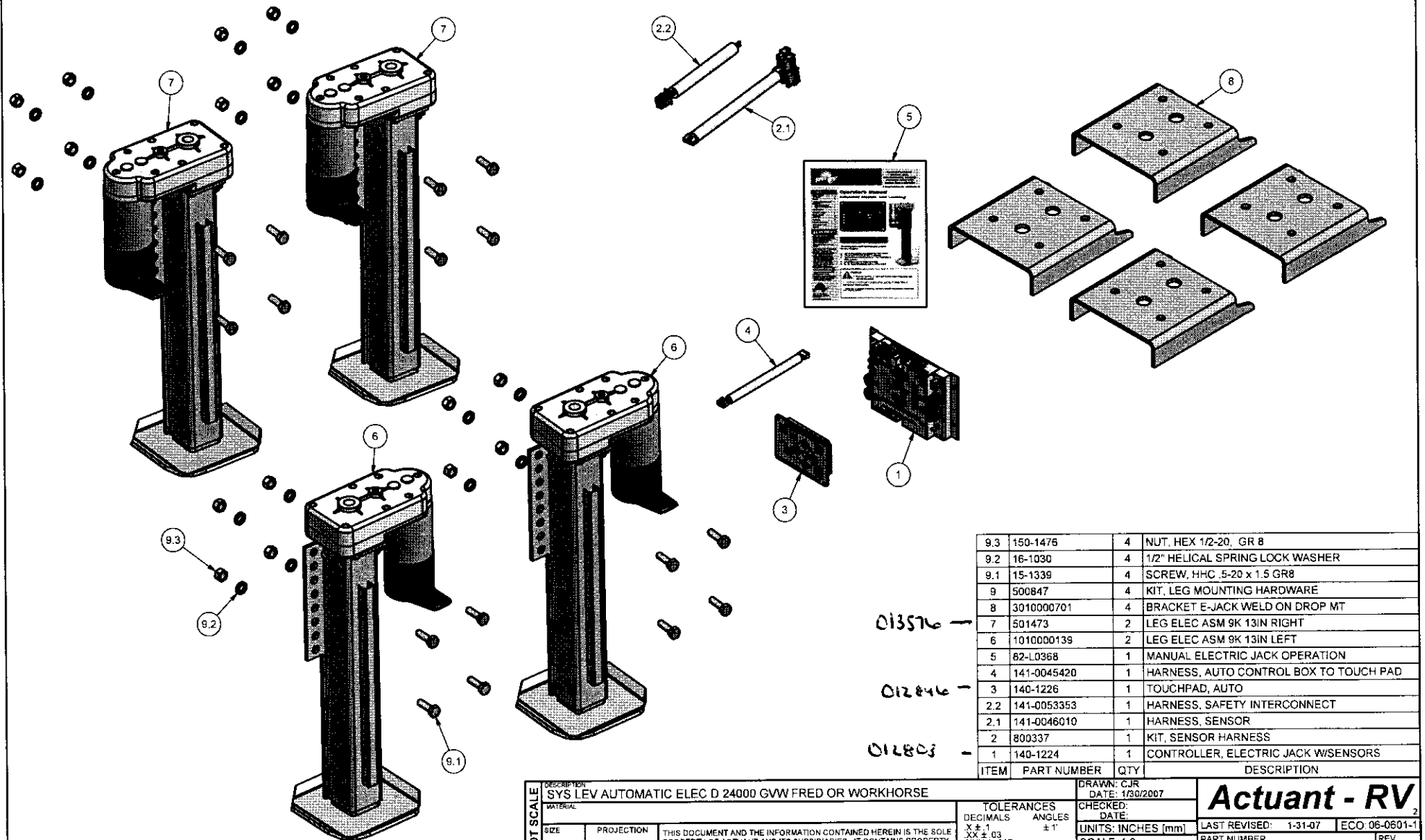
- Replacement of normal maintenance items.

There is no other express warranty other than the foregoing warranty. THERE ARE NO IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL POWER GEAR BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state. Some states do not allow the limitations of implied warranties, or the exclusion of incidental or consequential damages, so the above limitations and exclusions may not apply to you. For service contact your nearest Power Gear authorized warranty service facility or call 1-800-334-4712. Warranty service can be performed only by a Power Gear authorized service facility. This warranty will not apply to service at any other facility. At the time of requesting warranty service, evidence of original purchase date must be presented.



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NEW MAIL PART # 99167



9.3	150-1476	4	NUT, HEX 1/2-20, GR 8
9.2	16-1030	4	1/2" HELICAL SPRING LOCK WASHER
9.1	15-1339	4	SCREW, HHC .5-20 x 1.5 GR8
9	500847	4	KIT, LEG MOUNTING HARDWARE
8	3010000701	4	BRACKET E-JACK WELD ON DROP MT
7	501473	2	LEG ELEC ASM 9K 13IN RIGHT
6	1010000139	2	LEG ELEC ASM 9K 13IN LEFT
5	82-L0368	1	MANUAL ELECTRIC JACK OPERATION
4	141-0045420	1	HARNESS, AUTO CONTROL BOX TO TOUCH PAD
3	140-1226	1	TOUCHPAD, AUTO
2.2	141-0053353	1	HARNESS, SAFETY INTERCONNECT
2.1	141-0046010	1	HARNESS, SENSOR
2	800337	1	KIT, SENSOR HARNESS
1	140-1224	1	CONTROLLER, ELECTRIC JACK W/SENSORS
ITEM	PART NUMBER	QTY	DESCRIPTION

DESCRIPTION: SYS LEV AUTOMATIC ELEC D 24000 GVW FRED OR WORKHORSE

MATERIAL:

DO NOT SCALE  
SIZE  
PROJECTION  
B

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TOLERANCES  
DECIMALS ANGLES  
X ± .1  
XX ± .03  
XXX ± .015  
BREAK ALL SHARP  
EDGES .005/.030  
UNLESS OTHERWISE SPECIFIED

DRAWN: CJR  
DATE: 1/30/2007  
CHECKED:  
DATE:  
UNITS: INCHES (mm)  
SCALE: 1:6  
REF:

**Actuant - RV**

LAST REVISED: 1-31-07 ECO: 06-0601-1

PART NUMBER REV.

9010000222 0A

SHEET 1 OF 1