**Product Usage:**

This product is designed and intended **ONLY** to be used as a Bed-Lift mechanism. Any other use of this system will void any and all written or expressed warranties and indemnify HAPPIJAC COMPANY from any harm which may occur as a result of any other use or misuse of this product.

**Operating Precautions:**

**CHECK....** To be sure the attaching pins are securely fastened at all 4 corners of the bed platform before towing the trailer, or using the bed(s).

**ALWAYS..** Raise the bed(s) to the **FULL UP** position when the trailer is being towed **TO AVOID DAMAGE TO THE BED(s)** as a result of bouncing.

**NEVER....** Operate the bed(s) with any items other than bedding on the bed platform.

**NEVER....** Travel with any items other than bedding on the beds. Loose items can become projectiles.

**NEVER....** Operate the bed(s) when persons are on the bed platform.

**NEVER....** Hang from, or hang more than 20 pounds from the cross-connecting shaft.

**ALWAYS..** Ensure that the areas above, below and adjacent to the bed(s) are free from obstructions before operating the bed(s).

**ALWAYS..** Check before operating bed(s) to ensure bedding is not over-hanging the ends of the beds where it could become entrapped.

**ALWAYS..** Exercise care when loading cargo/vehicles in the bed area to avoid damage to the bed mechanism.

**ALWAYS..** Properly secure loads in the bed area to avoid damage to the bed mechanism from shifting or falling loads.

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**TESTING LIMIT SWITCHES**

To determine if there is a problem in a limit switch circuit, the best test is to eliminate the switch from the circuit. This can be done by removing the small red plugs from the PNP Control Module, and shorting the pins of the module, then briefly depressing the up/down switch to see if the motor energizes. If it does, the problem is in the limit switch circuit and it needs to be replaced. If the motor does not energize the problem is elsewhere. (Refer to the photo diagrams below for shorting and testing limit switches).

**TESTING UP / DOWN SWITCH**

(Happijac Supplied Switch Only)

The up/down rocker switch can be bypassed for testing purposes. Remove the screws from the switch bezel to gain access to the back of the switch. The switch is plugged into a circuit board which transitions the signal from the switch to the communication cord. You can bypass the switch by shorting the center contact of the switch to the outer contacts. If the beds move while shorting, but not when the switch is depressed, the switch is defective.

With switch plugged in short from center silver lug to each outside lug. One side should move beds up – the other side down,
**Operating Instructions:**

The bed(s) is/are operated from the control switch. Pressing and holding the switch in the UP position moves the bed(s) upward. Pressing and holding the switch in the DOWN position, moves the bed(s) downward.

Limit switches are used to stop the bed(s) at their maximum travel range. However, the bed(s) can be stopped and used at any desired height. Once the control switch is released, the brake sets securing the bed(s) in that position.

**User configuration options:**

The following user configuration options are possible.

**Trolley Tab Settings**

The “Trolley tabs” are the angular pieces which support the bed platform. These can be adjusted upward or downward, or flipped 180 degrees. The purpose for this adjustment option is to provide greater flexibility in configuring the system for users specific needs. Examples would include: Creating more headroom when the beds are up or creating more spacing between the beds in a “bunk bed” (2 bed) system. See the following illustrations.

Examples of optional Trolley Tab configurations.

Single bed units can be easily upgraded to bunk bed (2 bed) units by installing the trolley tabs to the existing second trolley and adding a bed platform and mattress.

**Wiring Diagram**

[Diagram of Relay Control Module]

**OPERATIONAL NOTES:**

Within the control module is a tri-state relay. This relay transfers bi-directional power from the trailer power source to the bed lift motor and to the brake solenoid to release the brake. The up/down switch when activated closes the ground path to one of two solenoid coils within the relay causing the coil to energize and close the appropriate set of relay contacts. IE: the up contacts to move the beds up and the down contacts to move the beds down.

The limit switches are normally closed switches and are wired in series with the up/down switch. Therefore, until the beds reach and trip (open) the limit switch, there is a ground path through the micro switch and up/down switch and the bed moves. Once the micro switch is reached and tripped (opened), this ground path is broken and the motor stops and the brake sets.

In some systems, the trailer manufacture may have added and additional switch as an “ON/OFF” or “LOCK’OUT SWITCH”. If so, this switch may be wired in one of two ways. It will either be used to break the switch common lead to the Up/Down switch, in which case there will be additional wires coming to the back of the up/down switch, or it may be used to kill the primary power from the trailer to the PNP Control Module, in which case there will be no power at the modules main power input until this switch is closed.
Bunk Stop Settings (Upper trolley stop):
The upper bunk trolley is free floating and is carried by
the lower trolley. The height at which this trolley stops is set by
“stop blocks” which sits inside the trolley rails. To change
this stop, remove the 2 screws which hold it in place and
move it to the desired height. (All 4 corners)

Stowing The Top Bunk:  (2 BED CONFIGURATION)
The bed lift system has a stow feature for the top bunk
which leaves it in the travel position at the ceiling while
allowing the lower bunk to be set at a usable height.

To Stow
1. Run the beds to the FULL UP stop.
2. Insert the locking pins through the trolley rails
   as shown in the adjacent photo.
3. Lower bottom bunk to desired height.

System Specifications:  (Lifting mechanism only)

Voltage = 12 VDC.
Nominal current draw = 8 amps (1 bed going up)
12 amps (2 beds going up)
Load limit* = 450 pounds dynamic (moving) load.
600 pounds static (stationary) load.

* Note: These ratings are for the lifting mechanism only.
Happijac does not manufacture and therefore
does not rate any attachments, such as bed
platforms, sofas, etc. Load ratings for these items
would be the responsibility of the manufacturer.

To Un-stow
1. Run the beds to the FULL UP stop.
2. Remove the locking pins.
3. Lower both bunks until the top bunk
   rests on the bunk stop and the
   lower bunk is at desired height.
### Troubleshooting & Repair:

<table>
<thead>
<tr>
<th>Symptom</th>
<th>Possible Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bed will not move either up or down when switch is pressed.</td>
<td>1… No or insufficient power to operate bed</td>
</tr>
<tr>
<td></td>
<td>2… Faulty control module</td>
</tr>
<tr>
<td></td>
<td>3… Faulty switch</td>
</tr>
<tr>
<td></td>
<td>4… Defective motor</td>
</tr>
<tr>
<td>Bed will go one direction well but not the other.</td>
<td>1… Defective limit switch</td>
</tr>
<tr>
<td></td>
<td>2… Faulty control module</td>
</tr>
<tr>
<td></td>
<td>3… Faulty up/dn switch</td>
</tr>
<tr>
<td></td>
<td>4… Faulty brake</td>
</tr>
<tr>
<td>Bed operates well going down, but stops part way going up.</td>
<td>1… Insufficient power to bed</td>
</tr>
<tr>
<td></td>
<td>2… Defective motor/brake assembly</td>
</tr>
<tr>
<td></td>
<td><em>See test on page 10.</em></td>
</tr>
<tr>
<td>Bed will not stay level side to side, or front to back.</td>
<td>1… Broken or loose timing shaft</td>
</tr>
<tr>
<td></td>
<td>2… Broken chain sprocket</td>
</tr>
<tr>
<td>Bed fails to stop at preset stop point coming down.</td>
<td>1… Motor brake not engaging</td>
</tr>
<tr>
<td></td>
<td><em>See test on page 10.</em></td>
</tr>
<tr>
<td></td>
<td>2… Defective limit switch</td>
</tr>
<tr>
<td>Bed fails to stop at preset stop point going up.</td>
<td>1… Defective or damaged limit switch</td>
</tr>
<tr>
<td>Upper bunk (2 bed system) Does not come down smoothly.</td>
<td>1… Sticky bed carrier. Spray a small amount of Silicone lubricant up both inner sides of all 4 rails.</td>
</tr>
</tbody>
</table>

**CAUTION:** When beds are not being manually raised or lowered, the BRAKE MUST BE SET or beds will drift down and will damage objects or vehicles placed below the beds.
**Troubleshooting Flow Charts:**

**Problem:** Bed(s) will not move either up or down when switch is pressed.

**START**  
Press the Up/Dn switch, do the beds make any attempt to move?  
No

Do you hear a clicking noise in control module near motor when switch is pressed?  
No

Set manual brake release lever on motor to “OFF” position. Will beds move?  
No

Replace faulty brake  
Yes

**No**

Check battery charge or Plug into AC or Start Generator  
Will beds move?  
No

Rectify power problem  
Yes

**No**

Test limit switches by removing red plugs and shorting pins protruding from module (See page 12)  
Beds move with pins shorted?  
Yes

Replace faulty limit switch assy.  
No

**Contact:** Happijac Company Technical Support 1-800-231-7440

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**EMERGENCY MANUAL OPERATION**

*Note:* Before manually cranking the bed-lift, the brake must be released and the motor unplugged.

**CRANKING POINT FOR MANUAL OPERATION**

Use ½” hex socket wrench. Cranking is easier if 2 people crank, one on each side of the coach.

**To Manually Raise the beds:**
1. Unplug the motor  
2. Release the brake  
3. Turn hex shaft using a ½” ratchet wrench.  
4. Re-apply brake at desired bed height.  
5. Reconnect motor plug.

**To Manually Lower the beds:**
1. Unplug the motor  
2. Release the brake  
3. Apply downward pressure to the bed platform. Bed will slowly drift downward.  
4. Re-apply brake at desired bed height.  
5. Reconnect motor plug.
**Problem: Bed will go down but will not go up.**

**START**

While pressing switch in the up position, does the bed make any attempt to go up? Do, do you hear a click at the control module?

**NO**

Did the bed move up?

**YES**

Make certain coach batteries are adequately charged and if possible, plug into AC power or engage generator. Try again – Problem solved?

**NO**

Move brake lever to OFF position then try again. Did beds go up?

**YES**

Replace faulty brake.

**NO**

Replace defective limit switch

**YES**

End

**Problem: Bed will go up but will not go down.**

**START**

While pressing switch in the down position, does the bed make any attempt to go down? Do, do you hear a click at the control module?

**NO**

Did the bed move down?

**YES**

Make certain coach batteries are adequately charged and if possible, plug into AC power or engage generator. Try again – Problem solved?

**NO**

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**YES**

Replace defective limit switch

**NO**

End

Contact: Happijac Company Technical Support 1-800-231-7440