



TIVAN

Tivan, Incorporated – Lift Systems

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Storage Lift System

Instructions for Wood Frame Wall Installation and Owners Manual

09/22/05 #07-001

WARNING: Due to the potential hazards of improper installation, Tivan recommends that the installation of this Loft-It® product to be performed by trained professionals only. Tivan will not be responsible for product function or hazards resulting from non-professional installation.



Typical, Loft-It® enabled dual purpose storage in a garage corner. Note the use of the optional Open End Frame, to allow clearance for the longer snowmobile chassis.

NOTICE TO INSTALLER:

These instructions and users manual must be left with the consumer.

NOTICE TO CONSUMER:

Retain this manual for future reference.

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Tools Required

- 1 - Carpenters handsaw
- 1 - Hacksaw or Sawzall with metal cutting blade
- 1 - Adjustable, torque limited drill driver (18 volt minimum cordless, or corded)
- 1 ea - #25 and #30 Torx driver bits for drill driver
- 1 - Driver bit extension for drill driver
- 1 - 4-foot level
- 2 - 9/16" open-end wrenches or adjustable wrenches
- 1 - Tape measure (20-foot minimum)
- 1 - Stud finder or finishing nail
- 1 - Voltage detector to locate hidden wiring
- 1 - Carpenters hammer
- 1 - Carpenters pencil
- 1 - 1/4" hex wrench
- 1 - 5/16" hex nut driver
- 1 - #2 Phillips screw driver
- 1 - Extension cord (25" minimum)
- 1 - Triangular metal file
- 1 - Step stool or short stepladder
- 1 - Four castor furniture dolly helpful

Fastener and Accessories Package Packing List

- 2 - Large leveling feet (front)
- 2 - Small leveling feet (rear)
- 4 - 3/8-16 Hex jamb nuts
- 42 - #10-1 1/2" Torx drive flathead screws
- 16 - 5/16" x 4" Torx drive washer head screws
- 2 - 3/8" x 2 5/8" Clevis pins
- 2 - Push-on shaft retainer washers
- 2 - Lanyards with hairpin cotters
- 4 - Lift shoes
- 4 - 1/2" dia x 1" x 3/8-16 Nylock stripper bolts
- 2 - 3/8" x 3/4" plastic bushings
- 2 - 2 1/2" x 3/8-16 Hex head cap screws
- 2 - 3/8-16 Nylock hex nuts
- 2 - Aluminum end straps w/warning labels attached
- 2 - Control cable attachment straps
- 1 - Loft-It® latch bar
- 1 - Latch bar spring
- 2 - Corner cushion pads
- 1 - Spare fuse – 5x20MM 10Amp Slo-Blo
- 1 - Loft-It® product logo label
- 1 - Loft-It® installation manual
- 1 - Operators key set

Also Needed for Installation

2 - 2x6x10' (or 2"x 6"x 12') straight fir or pine boards (primer painted is optional).



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Unpacking



This is what the Loft-It® should look like after removal from the shipping container with components mounted for shipping.



This is the installed Loft-It® in the folded and stored position.

Step 1.

- a) Remove the unit from the shipping container.
- b) Remove the stapled plastic bags containing installation instructions and installation materials.
- c) Remove shipping screws and plastic cable straps used to secure cables to bottom of platform for shipping.
Save screws and straps for use later. Carefully cut all plastic ties from cables and wires.
- d) Remove the screws used to secure the control box and end straps to bottom of platform for shipping.

Installation Procedure

Step 1. Determine Location

- a) Locate area on wall where Loft-it® unit is to be installed. Be sure not to obstruct garage door operation, electrical outlets or other access needs, such as, water or gas supplies.
- b) Use the stud finder to locate two wall studs for the 8-foot span of the Loft-it® unit. If wall is enclosed, find the center of the two 8-foot span mounting studs and mark at the ceiling, center and floor extremes of the wall. Use a finishing nail to verify the stud edges to determine the exact center of the mounting studs. **NOTE: The stud center may not be a straight line and may not be exactly vertical.**

Step 2. Fit Wall Tracks

- a) Using one of the 2x6 boards and the level, measure the floor along the wall at the 8 foot space where the Loft-It® will be located. Note any out-of-level condition and which side is the highest and by how much. The Loft-It® leveling feet can allow a maximum of 2 inches of slope along the wall.
- b) Measure the height of the wall from the floor to the ceiling or to any obstruction where the unit is to be installed. Using a hacksaw or metal cutting power saw and the height at the longest location, less 1 inch, cut any excess length from one end of one aluminum wall track. It is OK if the wall height does not require shortening of the longest wall track. Cut one end of the other (shorter) aluminum wall track to the same dimension as the first, less any out-of-level dimension noted in Step 2. a) above. In any case, the cut ends of the wall tracks must be located on the floor allowing four track anchor screws to be placed in the four hole array at the top of each track.

Note: The two wall tracks will seldom be the same length and must be no more than 2 inches different in length to match an out-of-level floor.
- c) If the wall is sheet rocked, use a wall track as a straightedge to draw a line at the two stud centers on the wall, from the top center to the bottom center of the two wall studs marked in Step 1.

- d) Using the level, draw a straight line on the wall at each of the two stud locations from the stud center at the top to the bottom of the wall. Note any errors in the stud centers compared to the straight vertical line.

Step 3. Mount Wall Track 2x6 Framing

- a) Cut two 2x6x10' (or 2"x 6"x 12') boards equal to height of the mounting wall, normally from floor to ceiling. See the illustrations of various adjustments required in special situations.
- b) Using a wall track as a straight edge, draw a wall stud centerline 1 1/2" from the outside edge for the full length of each of the two 2x6 boards. If the left or right wall studs are not plumb or straight, the line on each 2x6 must match each respective stud as explained in step [d)].
- c) Make reference marks along the line drawn in the previous step at the approximate location of the wall track mounting holes, to avoid these locations and the resulting fastener collisions, when installing screws.



Coping the 2x6 board to accommodate baseboard.



Accommodating a protruding masonry stem wall.



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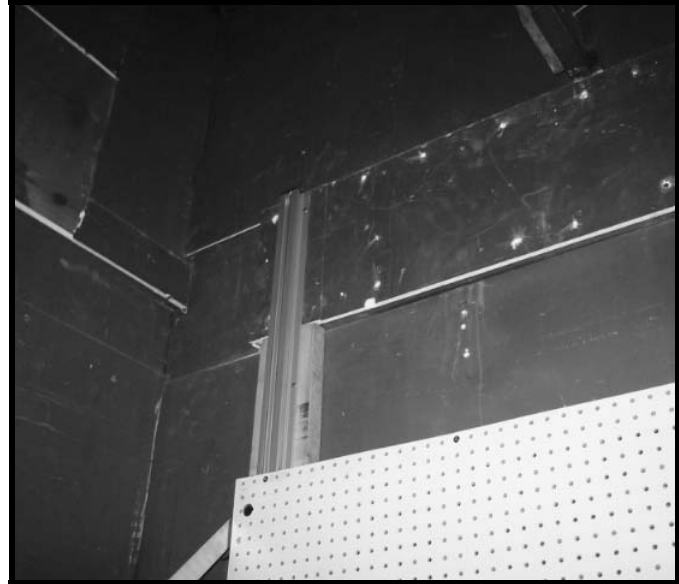
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Extending 2x6 board to floor when installing to a tall masonry stem wall.



Bridging wall protrusion where solid wood framing is beneath sheetrock to allow firm track anchoring.

- b) Temporarily place each 2x6 board on the wall adjacent to its mounting location with the pencil line on top and toward the outside. Record any off plumb or non straight stud center conditions on the matching 2x6 board to be mounted there, in order to position the 2x6 board attachment screws at the center of the studs, while keeping the 2x6 boards vertical or plumb on the wall. The wall space between the two mounted 2x6 boards should be 87 7/8 inches.
- c) If the wall is covered (sheet rocked) scan the wall area where screws are planned to be driven for the possible location of buried power wiring using a voltage detector.

WARNING: Be certain to locate, mark and avoid any possible contact with embedded wiring.

With open stud walls, the potential for collisions between attachment screws and power wires will be obvious. Mark all final attachment screw locations on the 2x6 boards at least six inches clear of embedded power wiring.

- d) Use the drill driver and a #30 Torx bit to drive the screws into each 2x6. Avoiding the wall track mounting locations and embedded wiring, start a 4" x 5/16" Torx screw provided, about 24" from the bottom of the board at the previously marked stud center position, making sure that the screw protrudes through approximately



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1/2". Repeat the operation, putting a screw about 12' down from the top of the board. Repeat the above process for the second 2x6 board.

- g) Using the level for verification, place each board with the screws protruding on the stud center line previously drawn on the wall. (The line indicates the center of the stud on the enclosed wall. If the wall has open studs you must center the protruding screws on the mounting stud.) Repeat the above process for the second 2x6 board.



Set torque of drill driver to drive these large screws securely and sink the head as shown. Do not set the torque too high and destroy the threads in the wooden structure of the wall beneath.



Scanning wall for stud location and electrical wiring. Placing IMPORTANT screws in top wall framing plate.

- h) Use the drill driver and a #30 Torx bit to attach the board to the wall. Sink the screw heads in the face of the 2x6 board to flush or slightly below flush using the drill driver torque limit to prevent over tightening.
- i) **-VERY IMPORTANT-** Place 2 screws at the top of each 2x6 board one inch in from the edge and one inch down from the top, angled upward into the top wall framing plate.
- j) Being careful to avoid the wall track mounting locations, use the balance of the 4" screws spaced evenly between the top and bottom screws in the center of the wall studs. Repeat steps "h)" thru "j)" above for the second 2x6 board.

Step 4. Finish Loft-It® Frame Assembly

- a) Place the Loft-It® unit on the floor in the location where unit is to be installed. (hinges toward the wall and back frame on top)
- b) Thread one jamb nut all the way onto each of the four leveling foot studs.
- c) Tip entire unit upward temporarily to install leveling feet. Install two smaller feet to back and larger feet to the front.



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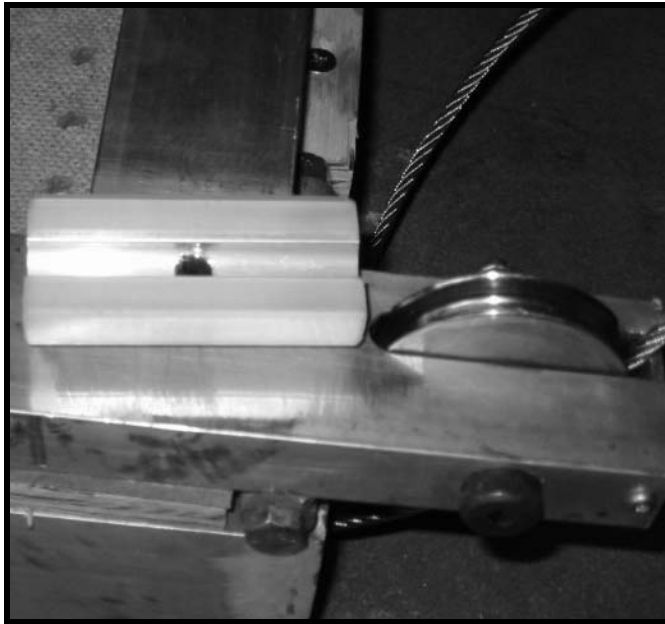
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- d) Tip the back frame up temporarily and install the four lift shoes to the peg board back frame using the 1/2" x 1" x 3/8-16 Nylock stripper bolts. Tighten stripper bolts using 1/4" hex wrench tight, and then loosen each 1/4 turn.
- e) Install the 2 diagonal support bars found attached beneath the floor for shipping, using the two 2 1/2" hex bolts and 5/8" plastic bushings and Nylock nuts provided, on the side towards the front on both sides of the bottom platform (leave the bolts slightly loose). The latch bar and spring is also installed over the plastic bushing on the left or right side as accessibility dictates. (See illustration)
- f) Insert the clevis pins provided from the inside in the holes at the top of each side of the back frame. Slide the lanyard with cotter pin attached provided, over each protruding pin and slide the retainer washers provided on top to secure.



Lower lift shoe placement



Upper lift shoe placement with clevis pin and lanyard.

- g) Raise the back frame to the vertical position and engage the support bar clevis pins and cotters. Level the platform starting at the rear by adjusting the leveling feet. Once the rear is level, repeat the leveling operation at the front. Recheck the front and back and front to back for level to correct any interaction while leveling.



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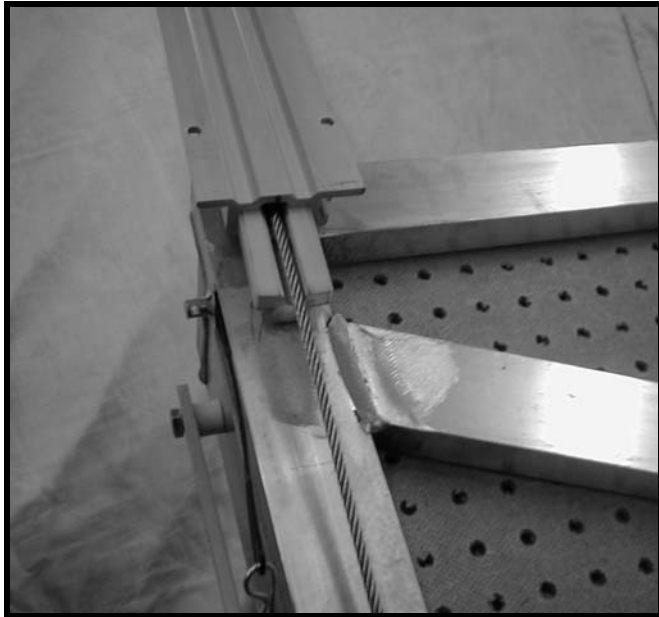
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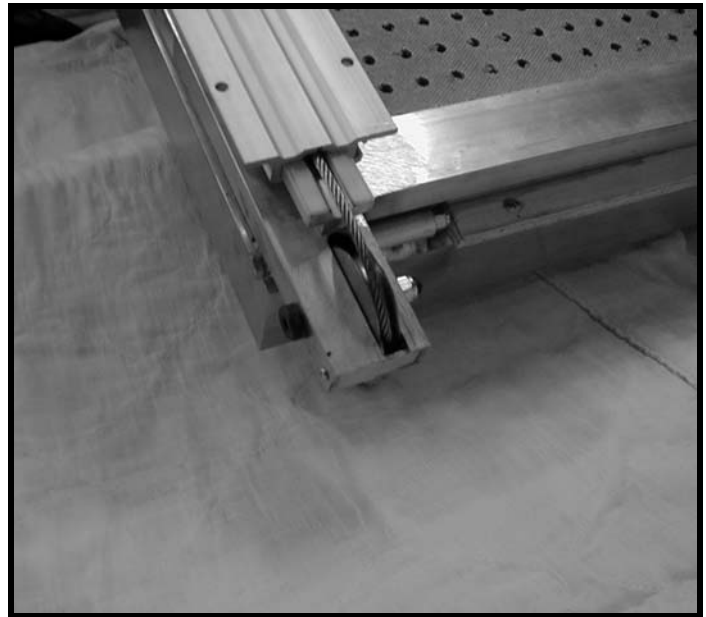
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(Note the floor may have a generous slope away from the wall) Once the platform is perfectly level we are ready for the installation of the wall tracks.



Sliding wall track over upper lift shoe with cable in place.



Sliding wall track over lower lift shoe with cable in place.

Step 5. Install Wall Tracks to Loft-It®

- a) Especially if it was necessary to cut the wall track, check for a rough edge on the inside of the end opening in the wall track and remove with a file.
- b) Place the back frame flat on the bottom platform. Lay the stainless steel cables from bottom to top, in the lift shoe recesses as shown in the illustration.
- c) Carefully slide the wall track, bottom end first, over the top lift shoe. Carefully slide the track rearward onto the bottom shoe, making sure the cable is between the recessed area of the shoe and the wall track. Then repeat for the other side.

- d) Nest the cable anchor blocks in the top end of the wall tracks being careful to rotate the tang on the anchor block to the front open slot of the wall track. If inserted backward, the cable anchor blocks will not seat fully in the wall track and remain at a cocked angle.
- e) Pivot the peg board frame and wall tracks upward so they are perpendicular and flush against the wall track mounting boards and attach the end straps with the lanyard hairpin cotters provided.

Step 6. Mount Wall Tracks to Wall

- a) Use the torque limited drill driver and a #25 Torx bit in a drive extension to mount wall tracks to the previously installed 2x6 framing. Place a #10 x 1 1/2" Torx screw provided in the outside bottom track hole of each wall track. **CAUTION:** Set the torque limit carefully to prevent over driving the screws and destroying the threads in the wooden 2x6.



Driving the wall track anchor screws using the drive bit extension to avoid collision with the protruding track and the drill chuck. Note that the drill driver torque setting is set to seat the screws without stripping the threads in the wooden 2x6.



Driving the four screws at the top of the lift track. These screws are very IMPORTANT to achieve maximum pull-out strength to safely handle heavy loads.

- b) Using either the left or right track, at the top, move the track free play to the rightmost position and mark the edge location with the pencil.



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- c) Move the track to the leftmost free play position and mark. Locate the center point of free play and place a #10 x 1 1/2" Torx screw in the topmost inside track hole.
- d) Plug in the unit to AC power and run the unit to near the top of travel.
- e) Move the other wall track to the center of free play and place a screw in the topmost inside track hole.
- f) Run the unit from top to bottom of travel to check for points of binding. Adjust as necessary if binding occurred, and install the remaining track screws.
- g) **-VERY IMPORTANT-** Be certain to install all four track screws at the top of each track to assure maximum pull-out strength with heavy loads.
- h) Run the lift all the way to the top and down, if the unit runs freely you have successfully installed the Loft-it®.
(Note: If it does not run up and down smoothly then the track placement needs further adjustment.)

Step 7. Mount Control Box and Finish

- a) Decide which side of the unit to mount the operator control station for best convenience.
- b) Route the control cable along the rear bottom access cover and remove two cover screws and attach cable using two screws and two cable straps saved during the unpacking step. (See example in illustration)



Control cable mounting clip placement on bottom of Loft-it®. Latch bar and protective corner pad installed.

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- c) Install the operator station on the wall or a stud. Make sure you do not install the operator station either too high or too low to cause control cable stress at the top or bottom of lift travel. Use two #10 Torx screws provided.
- d) Install the two protective corner pads to the metal frame as shown.



- e) Install the Loft-It® product logo label at the center of the front base frame as shown.

Step 8. Wrap Up

Remove the keys and give to the purchaser along with this owner's manual and warranty.

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Specifications

Dimensions - Base platform = 4' x 8' x 4" thick. Backboard = 4' x 8' x 1.4" thick.

Shipping Weight - Boxed Loft-It® = 251 Lbs. Boxed wall tracks = 25.5 Lbs.

Electrical - Full load = 4 Amps @ 120 VAC 60Hz

Load Capacity - 1200 Lbs. maximum (lifting or storage)

Loft-It® Accessories

Curb Ramp - A molded plastic curb ramp to assist the drive-on/off loading/unloading of heavy wheeled equipment is provided. See dealer for ordering.

Open End Frame - Either one or both ends of the Loft-It® platform can be open to long equipment that can extend beyond the eight foot length of the platform. To accommodate long equipment, Tivan provides the Optional Open End Frame, part #TL90A509. See dealer for ordering.

Extension Wheel Rest - To accommodate wheeled vehicles longer than eight feet, Tivan provides the Extension Wheel Rest, part #TL90B605. See dealer for ordering.

Security Enclosure - A four foot high by four foot wide by eight foot long enclosure accessory is provided by Tivan to hide stored items from public view. There are two four foot wide doors in the front for full access to the interior for loading and unloading. Opaque panels hide your belongings. This enclosure is shipped knocked down in kit form for easy assembly by the user. See dealer for ordering.

Showcase Enclosure - A showcase version of the above security enclosure is provided by Tivan for persons wishing to have stored contents to be visible. Beautiful smoked acetyl see-thru panels with hook/loop fabric top dust cover. Shipped knocked down in kit form. See dealer for ordering.

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Owners Manual

Lubrication- The Loft-It® product is designed for many years of trouble free service. There are no periodic lubrication needs. In fact, the wall tracks are anodized aluminum, to maintain a corrosion free linear bearing surface for the life of the product. The track slide bearing surfaces are molded acetyl plastic resin with natural self lubricating properties. The life and operation of the track slide bearing system can be severely compromised by the introduction of dust collecting lubricants. **Please do not lubricate the wall track or slide bearing system.**

Fasteners- Periodically check the tightness of external fasteners. Most of the Loft-It® fasteners are self locking and will not require re-tightening for the life of the product.

There are no periodic maintenance requirements beneath the drive system dust cover at the bottom rear of the unit.

Cleaning and Appearance- The aluminum metal surfaces of your Loft-It® can be protected from corrosion and discoloration by the application of automotive wax or light machine oil. Harsh household cleaners may damage the aluminum finish. The plywood floor may be stained and oiled or sealed with polyurethane, or it may be painted with any floor paint or covered with any floor covering up to 1/16 inch thick.

User Cautions- The Loft-It® storage lift functions as a weight scale and will not lift if an overweight load is attempted. The floor platform must rest securely on the floor before any attempt is made to remove the side support straps when the unit is carrying a load. Both loading and unloading the platform while resting on the floor, is facilitated by unpinning the upper mount of the end support straps, and pivoting the straps outward to rest on the floor. **NEVER remove the end support straps if the unit is loaded and not resting on the floor.** Of course, the support straps must be reattached and safety pinned before attempting to lift the loaded platform.

When lifting to the top of travel, it is advised to manually stop the unit before reaching the top mechanical stop. The unit will stop automatically when the cables are stressed; however, it is best to avoid the added stress on the lifting mechanism. **In the event of a power failure**, the unit can be lowered by rotating the motor shaft by inserting a straight blade screwdriver, manual or battery powered, in the access hole on the right side of the base frame.

The operating key should be removed and stored in a safe place when the lift is not in use, to prevent tampering by unauthorized persons. **Severe damage to persons and property could occur through improper use.**

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TIVAN INCORPORATED

LOFT-IT® STORAGE LIFT SYSTEM

ONE-YEAR LIMITED WARRANTY

Tivan, Incorporated, warrants, to the original purchaser, the Loft-It® Storage Lift System to be free from faulty workmanship and flaws in material for a period of one year from the date of professional installation.

Tivan, Incorporated, will repair or replace, at their option, the faulty portion of the Loft-It® Storage Lift System during a period of one year after the date of professional installation.

Tivan, Incorporated, will not be responsible for any costs incurred for unauthorized repairs. Unauthorized repairs may void the warranty on items repaired. Warranty repairs are subject to a \$25.00 customer (consumer) co-payment. This warranty does not cover any possible damages due to any failure by the user to strictly abide by the operating instructions set forth in the Operating Manual or failure to observe warning labels, overloading the lift, or damage resulting from misuse, storm damage or being struck by any type of vehicle or negligence. This warranty covers personal use and does not apply to commercial or rental use. Tivan is not responsible for damage where repairs have been made or attempted by others.

To receive performance under this warranty, contact Tivan, Incorporated at 952-440-8233 or 1-800-409-1350 or contact us at 5305 Frost Point, Prior Lake, MN 55372-1906

THERE ARE NO OTHER EXPRESSED OR IMPLIED WARRANTIES. OUR OBLIGATIONS UNDER THIS WARRANTY ARE LIMITED TO REPAIR OR REPLACEMENT AT OUR DISCRETION AND WE SHALL NOT BE LIABLE FOR INCIDENTAL OR CONSEQUENTIAL DAMAGES OF ANY KIND.

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