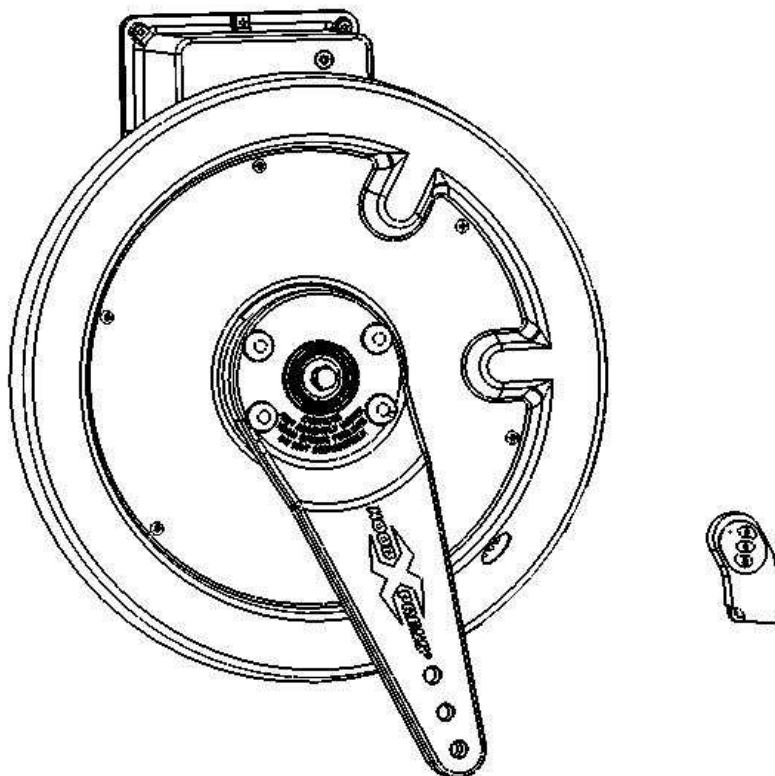




***Owner's Manual
Power Hood Lift
Use and Care Guide***

Model # 600836B



03/06 Rev A



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1.0 Introduction:

Congratulations on the purchase of your new **HoodXpress®** power hood lift system. All **HoodXpress®** products are manufactured to the highest standards of quality and durability. To ensure trouble free operation and long service life, please read and understand the entire owner's manual prior to use of the product.



2.0 Safety Warning Symbols / FCC Information:

Your safety and the safety of others is of the utmost importance. Please be familiar with the important safety messages provided in the manual and on/with your **HoodXpress®** product. Always read and obey all safety messages.



This is a safety alert symbol, which is used throughout this manual. This symbol alerts you to hazards that can cause serious personal injury or death.



This is an electrical shock alert symbol, which is used in the installation manual. This symbol alerts you to electrical shock hazards that can cause serious personal injury or death. Always disconnect the battery before performing any electrical work.

This equipment has been tested and found to comply with the limits for Class B digital devices, pursuant to Part 15 of the FCC & I.C.Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation, even when properly installed. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for assistance.

Warning: Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

3.0 Electrical specifications

Main unit:

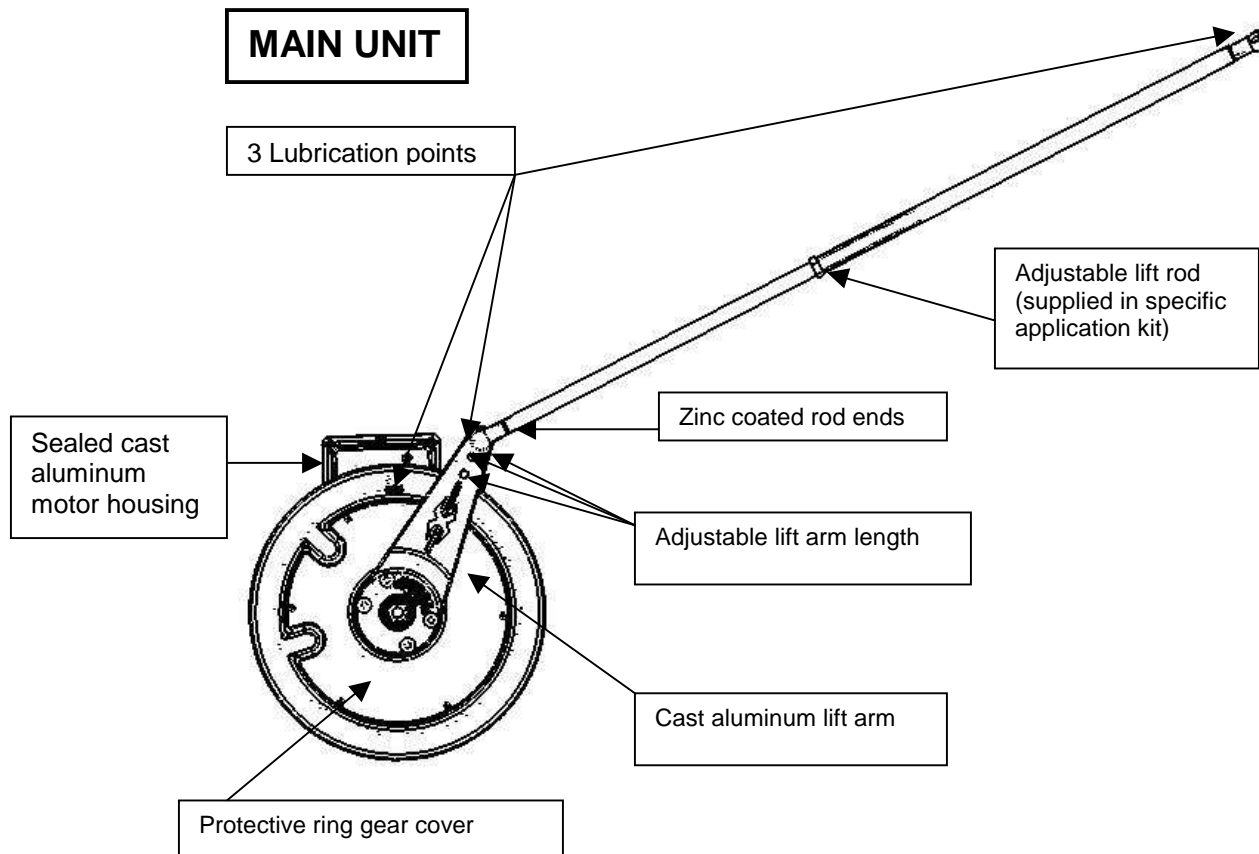
Nominal voltage: 12V DC (vehicle battery source)
Current draw: Standby: <4mA. Operating <25A
Operating temperature range: -40°C – 85°C

Key Fob:

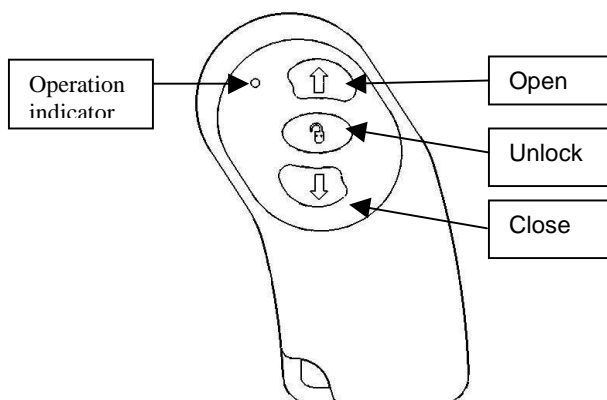
Nominal voltage: 3V DC
Operating temperature range: -40°C – 85°C

4.0 Parts and Features:

MAIN UNIT



KEY FOB





5.0 Installation:

Your **HoodXpress®** unit has been designed for simple installation using basic hand tools. For detailed installation instructions please refer to the installation guide included in the application specific adaptor kit for your vehicle. Installation guides can also be found on our website @ www.hoodxpress.com.



To avoid safety and/or warranty issues, always follow manufacturer's installation instructions. Failure to follow these instructions may cause serious personal injury or death and/or damage to the HoodXpress® unit or your vehicle.

6.0 Operation:

6.1 Opening the hood

- Release hood straps on both sides of the vehicle.
- Make certain there is sufficient space in front of vehicle to open hood safely.
- Stand clear and to the side of the vehicle.
- Press and hold the middle "unlock" button on the key fob. Wait until the base unit beeps. This beep signals that you have electronically unlocked the unit. For safety reasons this electronic locking feature will time out and lock 15 seconds after cycle completion.
- Press the top button (marked with an arrow pointing up) on the key fob. This will start the automatic hood opening cycle.

Note: In case of emergency, you may interrupt the opening of the hood at any time by pressing any button on the key fob.



For safety reasons, always open hood to full cycle stop before working under hood.

Never operate the HoodXpress® unit from inside the vehicle or while vehicle is in motion.

6.2 Closing the hood



Before closing the hood, always make certain area is clear and safe to do so. Failure to do this could result in serious personal injury or death and/or equipment damage.

- If electronic locking feature has timed out, press and hold the middle button on the key fob until the base unit beeps. This will unlock the **HoodXpress®**.
- Press the bottom button (marked with an arrow pointing down) on the key fob and allow the unit to cycle to closed stop.



Once the hood is fully closed, always secure the hood on both sides with the original equipment hood latches.

6.3 Manual operation method

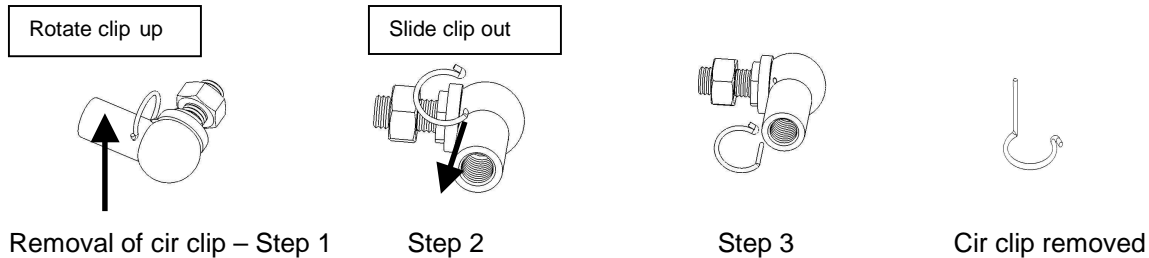
If vehicle (or key fob) battery power is lost and hood is required to be opened, then follow the simple steps below.

- With the engine shut off, reach in the wheel well and locate the lower rod end.
- Remove the small cir clip (see photos below) by unclipping it towards you and then sliding it up and out of the rod end. Note: Do not lose this cir clip. It must be reinstalled later.
- With a screwdriver or pry bar gently pop the rod end off of the ball stud.



WARNING: Never attempt to separate a rod end with the hood partially or fully open as the hood could fall and cause serious personal injury or death.

- The hood may now be traditionally opened from the front of the vehicle after original equipment hood latches have been loosened.



Remember to always reinstall the rod end safety cir clip before resuming use of the HoodXpress®. Failure to do so may result in the rod detaching from the HoodXpress base unit and cause serious injury or death.

6.4 Cold weather climate operation

- It is strongly recommended that excessive snow and ice buildup be **cleared off the hood prior to hood opening and closing**. Excessive snow and or ice buildup on the hood may cause the hood to sag unevenly, causing damage to the hood during closing.
- We recommend that you store the key fob somewhere warm. If the key fob battery gets too cold, it could give false “low battery” warnings (see section 8.0 Key fob information). If this happens, the key fob will return to normal when its temperature warms up.

Note: The key fob has been designed to continue to operate the HoodXpress® unit even with a “low battery” (see key fob information section).



7.0 Maintenance

- Your **HoodXpress®** unit has been designed and tested to be virtually maintenance free. However, periodic greasing (recommended once a year) of the rod ends and the ring gear teeth will ensure that the product will have many years of smooth and quiet operation. (see section 3.0 Parts and Features section)

8.0 Obstacle Detection

- For added safety, your **HoodXpress®** unit has been designed with electronic obstacle detection.



Note: Electronic obstacle detection is intended to protect against damage to vehicle / property by sensing overload during operation. It is not meant to protect from physical injury. Failure to comply with safety precautions outlined in this manual could result in serious personal injury or death.

- If contact is made with an obstacle during normal operation, the motor inside the **HoodXpress®** unit will shut down and the hood will stop moving. If this happens, you should do a circle check of the hood and see if anything is obstructing the opening or closing of the hood. Operation will resume when key fob button is pressed again. Note: If unit has timed out (more than 15 seconds), you will need to “unlock” it again. Examples of obstacles that may be encountered are:
 - Vehicle parked too close to a building or wall.
 - Hood guides are not adjusted properly.
 - Tools, air line left under the hood, etc.
 - Hood latches not released.
- The hood will also shut down during the cycle if a large wind gust is encountered. If this happens, simply press the key fob button again and the unit will resume operation.
- For added safety, the **HoodXpress®** electronic obstacle and load detection system is constantly monitoring the hood opening and closing cycles. It will adapt to or “learn” normal hood load conditions via the regular use of **HoodXpress®**.
- If extra mirrors or accessories are added to the hood that subsequently change the weight of the hood, the electronic obstacle detection system will sense this and adjust the motor power and safety levels accordingly.
- If the **HoodXpress®** unit shuts down during operation for “no apparent reason”, please do not be alarmed, simply press the key fob again and operation should resume. This is most likely the obstacle detection system trying to give you the safest level of obstacle detection possible.



9.0 Key fob Information

- When any button on the key fob is pressed, the green light at the top of the fob should illuminate continuously as long as the button is pressed.
- If a key fob button is pressed and the green light at the top of the fob flashes, this indicates a low battery in the key fob. If the **HoodXpress®** unit is operated with a low battery in the key fob, the warning beeps from the base unit will change to a longer duration. This is your audible warning that you must change the battery in the key fob. If battery is not replaced at this point and battery voltage drops even further, the unit eventually will not cycle and will instead produce 3 beeps as a fault code indicating battery replacement is required before further operation.

The battery in your key fob is a “**CR2032**” and is available at major stores where batteries are sold.

9.1 Additional purchase and programming of key fobs

- Additional **HoodXpress®** key fobs can be purchased from your local dealer.
- Up to 8 key fobs can be programmed for each unit, allowing for multiple drivers.
- A “Mechanic’s Master key fob” can be created by separately programming a single key fob for use on each and every truck in your fleet that is **HoodXpress®** equipped. This is very convenient for the shop, however you must read and understand the safety warning below prior to each use of this special key fob.



Warning: Use extreme caution when operating a “Mechanic’s Master key fob”. If multiple HoodXpress® equipped units are within range they will operate. Always be certain that any HoodXpress® equipped vehicles within range, that you do not want to activate, have the hood straps safely secured on both sides prior to operation. Failure to follow this important safety item could result in serious personal injury or death.



9.2 Key Fob Programming:

Note: The key fob included with your HoodXpress® base unit comes fully programmed from the factory. This procedure only applies to any additional key fobs that have been purchased.		
Program one key fob –	Action required:	Confirmation:
	Step 1- Attach yellow programming wire from HoodXpress® base unit to a good ground.	Base unit will beep once. If base unit beeps three times, there has been a failure (possible yellow wire has lost ground).
	Step 2- Press and hold both the up arrow and the down arrow buttons at the same time.	Base unit will beep once to confirm this has happened properly.
	Step 3- Remove yellow programming wire from ground and install it back in the protective conduit.	Base unit will beep twice to confirm that the key fob was programmed successfully.
Deprogram one key fob – Note: This procedure is required if you need to remove a key fob's programming to a base unit for any reason. For example: You have programmed one key fob to open two separate trucks and they are parked beside each other. After deprogramming, the key fob may then be programmed to operate on another HoodXpress® base unit if desired.	Action required:	Confirmation:
	Step 1- Attach yellow programming wire from HoodXpress® base unit to a good ground.	Base unit will beep once. If base unit beeps three times, there has been a failure (possible yellow wire has lost ground).
	Step 2- Press and hold both the up arrow and the down arrow buttons at the same time.	Base unit will beep once to confirm this has happened properly.
	Step 3- Press and hold the middle "unlock" button on the key fob.	Base unit will beep once to confirm this has happened properly.
	Step 4- Remove yellow programming wire from ground, and install it back in the protective conduit.	Base unit will beep twice to confirm that the key fob was successfully removed.
Erase base unit's memory of all key fobs. Note: This procedure is required if you need to remove all key fob programming for a base unit for any reason. This will allow you to "clear key fob memory and start all over". If this procedure has been performed on the HoodXpress® unit, the factory programmed key fob (the one that was sent with the unit) will need to be reprogrammed as well.	Action required:	Confirmation:
	Step 1- Attach yellow programming wire from HoodXpress® base unit to a good ground.	Base unit will beep once. If base unit beeps three times, there has been a failure (possible yellow wire has lost ground).
	Step 2- Press and hold both the up arrow and the down arrow buttons at the same time.	Base unit will beep once to confirm this has happened properly.
	Step 3- Press and hold the middle "unlock" button on the key fob.	Base unit will beep once to confirm this has happened properly.
	Step 4 – Press and hold all three buttons on the key fob at the same time.	Base unit will beep once to confirm this has happened properly.
	Step 5- Remove yellow programming wire from ground, and install it back in the protective conduit.	Base unit will beep twice to confirm that all of the key fobs was successfully removed from the base units memory.



10.0 Troubleshooting:

Condition:	Possible causes:	Action required:
HoodXpress® does not operate	No electrical power to unit.	Check for 12V battery feed and for proper ground at HoodXpress® unit. Repair as necessary.
	Key fob battery dead/low or installed upside down.	Replace battery in key fob. A low battery in the key fob will flash green light when any button is pressed.
	Rubber hood restraints still latched.	HoodXpress® motor is designed to shut down if overloaded. Unlatch rubber hood restraints prior to attempting hood opening.
	Motor overload - Gear obstruction.	HoodXpress® motor is designed to shut down if overloaded. Remove obstruction from gears. (extreme ice or stone)
	HoodXpress® motor/unit defective.	Replace entire HoodXpress® unit.
	Rod ends/ball studs seized.	Remove/clean and lubricate rod ends and ball studs. Replace if necessary.
	Hood hinges seized.	Clean and lubricate the hood hinges.
	Key fob not programmed.	Follow key fob programming table.
Intermittent HoodXpress® operation	Wind gust – normal.	The HoodXpress® unit has built in obstacle detection. It will detect large wind gust and shut down. Resume operation by pressing key fob again.
	Faulty wiring to HoodXpress® unit.	Check and repair faulty / loose connection in wiring.
	Key fob defective.	Replace key fob.
	Obstructed gears.	HoodXpress® motor is designed to shut down if overloaded. Remove obstruction from gears (possible ice build up or stone/gravel).
	HoodXpress® motor/unit defective.	Replace HoodXpress® unit.
Hood does not close fully	HoodXpress® unit has detected and obstacle or obstruction.	Check that the path for the hood to close is clear of any obstruction. Pay close attention to the lower hood guide brackets and rollers. Adjust lower hood guide brackets (if equipped.) Resume operation by pressing key fob.
	Rod length too long.	Adjust lift rod to proper length as per installation guide.
Hood does not open fully	Normal.	In order to protect factory hardware, the hood does not actually open to absolute full travel. A small amount of slack in the hood restraining tether strap is normal when main unit is cycled to hard stop.
	Incorrect arm hole location chosen.	Ensure the lower rod end is installed in the correct hole in the arm.
Hood noisy during operation	Hood assist springs and hinges making noise.	Hood assist springs inherently make noise. <u>Do not remove the hood assist springs.</u> If hood hinges make creaking noises during operation, clean and lubricate as necessary.

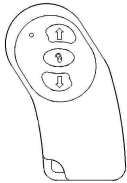


11.0 Audible operation codes

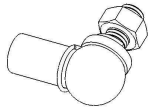
Operation code	Meaning	Action required
1 beep	Unit unlocked.	None. Unlock button has been pressed – unit is ready for operation.
2 beeps	Vehicle battery voltage is too low.	Vehicle battery voltage has dropped below 10V. Charge vehicle battery / check vehicle charging system.
3 beeps	Key fob battery voltage is too low.	Replace key fob battery.
4 beeps	Unit internal fault.	1. Retry operation. 2. If fault still present, reset unit by removing and plugging back line fuse. 3. If fault still present, check main unit for blockages, etc.

12.0 Replacement Parts:

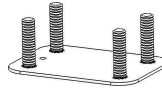
The following replacement parts are available at your local HoodXpress® distributor.



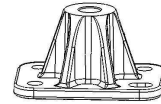
Key Fob
PN/ XXX



Rod end Assembly
PN/ XXX



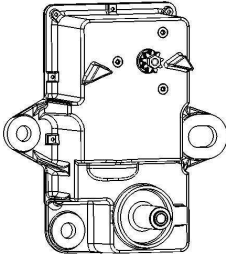
Outer Hood Plate
PN/ XXX



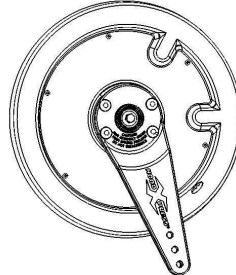
Inner Hood Bracket
PN/ XXX



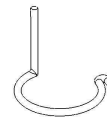
Upper and Lower Lift Rods (application specific, contact your HoodXpress® dealer)



Base HoodXpress® unit with motor
PN/ XXX



Gear, arm and cover assembly
PN/ XXX



Cir clip (pkg 2)
PN/ XXX



13.0 Limited Warranty:

Litens Automotive Partnership warrants that its HoodXpress ® products shall be free from defects in materials and/or workmanship for a period of one (1) year from the date of original purchase. The exclusive remedy for breach of this limited warranty is the repair or replacement of the defective product at Litens' option.

This warranty is void if the product has been altered, misused or abused in any way. Litens does not assume responsibility for damage from shipping, handling, acts of God or other factors beyond its reasonable control. Consequential or incidental damages are not recoverable under this warranty.

Any properly installed product that proves defective in the first year of normal use will be repaired or replaced, at Litens' option, provided that the product is returned to Litens' authorized dealer:

Tendeco Sales, Inc.
HoodXpress ® Customer Service Department
5650 Blazer Parkway
Dublin, Ohio 43017

The product should be properly packaged and shipped postage prepaid. Please enclose the following:

1. Proof of purchase, including date of purchase.
2. An explanation of the defect of failure.
3. Your return address and contact telephone number.

Implied warranties (if any), including but not limited to implied warranties of merchantability and fitness for a particular purpose, are limited in duration to a period of one year from the date of original purchase. In no case shall Litens' liability under any other remedy prescribed by law exceed the purchase price.

Some states/provinces do not allow the exclusion or limitation of incidental or consequential damages or limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights which may vary from state/province to state/province.