

THE MIGHTY MOVER



Introduction

Thank you for purchasing your "Mighty Mover" (MM) we expect your MM to provide many years of towing assistance for you. Your MM will require some simple final assembly once it arrives (*final assembly instructions will be attached with your MM*). You will find the battery charger in its own packaging plus the bolt for the handle in its position in the chassis. You will find the remote controller and Emergency Safety switch key in a snap lock plastic bag inside the battery box. You will need to insert the key and turn to the "ON" position in order to power up the MM.

The MM was designed to assist with towing heavy trailer vehicles such as boats, caravans, horse floats and farm trailers etc.. The MM is a versatile machine, well designed, very efficient and powerful. Voltmotive (NZ) Ltd recommends a maximum towing weight of approx 2200kg's. Although we have used the Mighty Mover to tow much greater weights.

SAFETY WARNING

Please do not allow any body parts to come into contact with the MM drive train when the MM is in operation, serious injury could occur.

- Do not allow children to operate the MM at any time.

The MM is best operated on flat terrain, maintaining the downward weight as constantly as possible. (*Weight = the downward pressure from the trailer coupling onto the MM tow ball when hitched, plus the weight applied to the MM handle in a downward direction*).

Towing over MODEST ground incline is generally acceptable, however when attempting to tow under these conditions always be sure that the weight of the towed vehicle (*at the coupling*) remains the same or greater than the weight that would be present on flat terrain. Otherwise the towed vehicle through changed weight distribution may create a lifting effect on the MM causing the MM to lose ground traction and therefore reducing your control over the towing event. A safe towing practice when encountering a minimal ground incline is to push uphill and pull downhill, this practice will generally keep the maximum weight on the MM tow ball.

Please apply common sense with safety always in mind, consider the terrain and the effects that such situations may have on the operational safety of the MM.

Operating the MM

MM Drive Control Mechanism

The MM is equipped with a motor engage/disengage mechanism, the actuating control is a knob found on the opposite end of the electric motor shaft.

- To TOW the knob should be positioned in the engaged position; (*turned clockwise*)
- To FREE WHEEL the knob should be in the disengaged position. This position allows for easy moving of the MM. (*turned anti-clockwise*)

The mechanism should be easy to turn to the desired direction, please ensure no attempt is made to turn the knob while towing. When the MM is new the internal clutch mechanism may be quite tight, over time with use the mechanism will free up. Some times to dis-engage the drive it's necessary to rock the mover forward and reverse (*using the rocker switch*) to dis-engage the drive.

Always engage the mechanism when ready to tow, when engaged and the power switch on the handle bar is in the middle (neutral position) the wheels of the MM will remain locked acting as an MM brake.

Mighty mover Set-up and Operation

General

Your MM will reach you basically ready to go once you have assembled the handle onto the main chassis and connected the 3 x control wires. Using your MM with the Heavy Duty Hitch (HDH) incorporates the use of your trailer jockey wheel during the towing procedure. Essentially using the combined

downward weight at your trailers drawbar/coupling and the weight of the Mighty Mover to achieve maximum grip/traction at the Mighty Mover tires. **Please ensure the MM clutch is engaged prior to hitching your trailer onto the MM.**

Operation – Step by Step.

Step (1)

Using your jockey wheel on your trailer drawbar lift your drawbar/coupling to a height whereby the Mighty Mover tow ball will sit comfortably underneath your trailer coupling. Then continue using your jockey wheel to lower your coupling just enough to secure the coupling onto the MM tow ball and lock your coupling onto the tow ball in the usual manner, leave your jockey wheel in this position on the ground.

Step (2)

Now wind up the jockey wheel dropping your drawbar/coupling further until the Mighty Mover rear casters raise off the ground by approximately 40 to 50mm. At this stage leave your jockey wheel in that position.

Step (3)

You're now ready to move your trailer. Press down on the Mighty Mover handle until the MM casters just touch the ground and maintain this pressure throughout the tow. Should the ground be uneven winding the jockey wheel up further will increase the distance the jockey wheel is from the ground during towing which will assist in accommodating variances in the ground levels between the trailer wheels and the MM drive wheels/tires

Please experiment with these setting until you find the most comfortable setting in your towing environment. Essentially we're looking for a position that the jockey wheel may remain in while providing the required grip at the MM tires to move the trailer load and a comfortable experience for the operator to manage the downward pressure at the handle. The optimum set-up is to require minimal effort for the operator providing downward pressure at the handle and the trailer jockey wheel moves fluently across the ground as towing continues.

Turning

During turns always maintain power "ON" where possible as the MM is fitted with a fixed axel drive and its point of axis is the MM tow ball, by maintaining the power on during turns the MM will move left and right in a fluent manner if power is "OFF" during turns (*which we understand may be necessary in some circumstances*) the MM may have a tendency to roll onto its inside wheel a little, should this occur additional pressure at the MM handle should rectify the rolling.

Towing - General

Please ensure if you are attempting to move a trailer fitted with brakes, that the brakes are fully disengaged at all times during the tow.

Holding the MM handlebar move the thumb rocker switch accordingly. *(Please note final tightening will be required at the handlebar switch, we don't fully tighten the switch mounting bracket as customers often change the switch position to suit themselves)*

Note;

Please ensure at all times during the MM use that you maintain a firm grip on the MM handlebar as there's a reasonable amount of torque created during MM start up towing phase also when towing over rough terrain particularly if you're towing heavy loads, Please ensure that the MM motor doesn't overheat through continued heavy towing should this occur please stop towing immediately and allow a suitable rest time for the motor to cool down before continuing. Continued use in this manner will void the warranty.

Tandem Trailers

When attempting to turn a tandem trailer small incremental turns will assist in mitigating the tire scrub generated by the trailer tires. Attempting to turn through large degrees may create severe tire scrub generating a large amount of energy which is transmitted through the trailer chassis resulting in the trailer coupling attempting to roll or move the MM sideways during turning. Small incremental turns until the trailer is completely positioned to your requirements will reduce these pressures and make the turning the trailer far more comfortable. *(We do sell Positioning Jacks – approx. \$400.00 per set, which will illuminate tire scrub and basically turn a tandem axel trailer into a single axel trailer as far as maneuvering is concerned – please enquire accordingly)*

Charging your MM

The MM comes with an automatic battery charger. The charger may be left connected to the MM at all times when the MM isn't in use, simply plug the charger into the mains outlet using the 230v plug, connect the battery charge contacts into the connection on the side of the battery box, then switch on the charger. The automatic battery charger will charge and measure the MM battery voltage continuously ensuring that when you need to use your MM the battery is always ready, the charger turns itself off and on accordingly.

Storing, Maintenance and Cleaning your MM

We recommend storing your MM under cover preferably in a garage or similar space when not in use. Please remember you are using 230volts into your charger so practical care makes sense. Your MM is reasonably waterproof, if cleaning your MM please be careful with water around the electric motor, battery area connections and operating switch.

From time to time the chain tension may require adjustment, this is very easy to do the chain adjuster is situated on both sides of the MM upright chassis members adjust by turning the threaded adjuster either in or out to increase or decrease the chain tension, always maintain a balanced tension between the 2 adjusters, we would recommend adjusting the tension using one adjuster, when the tension is almost correct adjust the 2nd adjuster to balance the motor position and final chain tension. When properly adjusted there should be approx 3 - 5mm of easy movement/play at the bottom of the chain. Do not over tighten the chain. If the chain appears dry of oil please apply a light coating of chain oil from time to time. Other than checking the various nuts and bolts remain tight on the MM there are no other regular maintenance issues required other than checking that the tire pressures remain inflated correctly at 18psi, unless working on sandy, or loose gravel terrain then we recommend between 10 – 12psi. **When carrying out any maintenance or cleaning of the MM please ensure the motor is always disengaged and/or the emergency safety switch is in the OFF position or one of the battery terminals is disconnected for safety.**

Warranty

Voltmotive (NZ) Ltd warranty provides for a 12 months period commencing from the time of delivery of your MM, during which any defective parts and the labor associated with the parts their repair or replacement will be provided at no charge to the customer. Any damage or misuse of the MM causing parts failure will not be covered under this warranty. The warranty is provided on a return to base basis, whereby the customer will return their Mighty Mover to the Voltmotive workshop for repair and arrange pick up once repaired all freight costs will be the customers care.

Please note;

- (a) Should the customers arrange any repairs during the Mighty Mover warranty period with any other person or business without Voltmotive (NZ) Ltd confirmation and agreement prior to such repairs commencing then any costs incurred for those repairs will be entirely at the customer's costs and not covered or reimbursed under this warranty.
- (b) If the Mighty Mover is used in a commercial purposes/capacity then the warranty provided is void.

Disclaimer

Every effort has been made to ensure the information contained herein is accurate and helpful, Voltmotive (NZ) Ltd takes no responsibility for any injury or damage that may occur to any party or material from the use of the Mighty Mover under any circumstances. The information contained herein is not intended to be limiting or final it is the responsibility of the operator to ensure the Mighty Mover is used safely and within it's operational parameters at all times.