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1. Preface & introduction

Please carefully read this owners manual before using the machine, also view the video at www.mgbeh.co.uk

Improper use will could cause harm or injury to users or those around you.

This owners manual includes operation instructions for every aspect of the machine, assembly instructions, limitations and warranty details.

Please keep it in a safe place.

Ensure other users are aware of all available instruction media.

As designs change some illustrations and pictures in the manual may not correspond to the machine that you purchased.

We reserve the right to make design modifications.

The Goodsman 100 and Goodsman 300 models are part of the MGB Easy Handling range, and have been designed and manufactured to provide a strain relief to everyday manual materials handling in a secure yet affordable solution.

The Goodsman 100 has large 14" PU tyres (puncture proof).

The Goodsman 300 has 10" pneumatic tyres.

If you have attachments for your machine, ensure that any clips are in good condition and that they fix positively in place, also periodic checks of the attachments to ensure safe use is recommended by a competent person, if in doubt contact your supplier.

2. Safety notices

2.1. Before using

The user should be familiar with the use and operation of the machine before using.

Please bear the following safety notices in mind at all times.

- Do not use when you are tired or after consuming drugs or alcohol.
- The Goodsman 300 has a maximum carrying weight of 350 kg
- If you exceed the permitted workload, the unit may temporarily shut down to prevent internal damage, if this occurs, switch off and reduce the load before commencing, wait for approx 1 minute before powering on again.
- **People & animals must NOT ride on the unit**

Limitations of use;

- Goodsmán trolley units are NOT designed for dropping heavy loads down steps/stairs, occasional steps are acceptable but a flight of steps is not. Failure to comply may damage components and may invalidate your warranty.
- When laden, max drop is 7.5cm (3") a gradual and controlled non-impact drop is permitted
- Exceeding the maximum weight limit may cause unit to shut down for self protection reasons
- Practice operating your machine in an open area first
- Before using the machine in busy or potentially dangerous areas, familiarise yourself with the operation of it and practice starting stopping, turning, reversing and gradients.
- Only use the higher speed setting when you are confident that you can easily operate and control your machine.
- Battery range is dependent on the load carried, ambient temperature, charge level and condition of batteries and length of journey and frequency.
- Take care when driving your machine in low light. It has not been designed for use at night.

The manufacturer disclaims all responsibility for any personal injury or property damage which may occur as a result of improper use of its products.

3. Using for the first time
3.1. Controls & Operation

POWER SWITCH



TILLER LEVER

TILLER ASSEMBLY

How to operate

Power Switch

Use the power switch located on the tiller head to switch the machine on and off.

The depressed button is ON and the Battery Meter will show a corresponding number of coloured bars dependent on the battery charge level



Wait until the lights on the battery meter are displaying solid colours



Press the yellow speed switch to change from lo to hi speed



Gently activate the tiller lever to start moving the machine

Move the lever towards or away from the handlebar

Closing the lever moves the machine forward and opening away, is reverse

The further the lever is moved, the faster the machine will go

Moving the lever to full deflection either way will allow the machine to gradually accelerate to maximum speed, this is over a short time.

Releasing the lever will see the machine come to a gradual stop

Battery Meter

If the battery gauge flashes but the machine will still drive, then this indicates low battery power and the batteries should be recharged immediately. If the battery gauge flashes and the machine will not drive, this indicates that a fault has been detected with the machine. In this case seek advice from your dealer.

Ensure the batteries are fully charged

- Use ONLY the charger provided
- The electrical system is disabled during charging for legal & safety reasons
- When you have finished using the trolley, it is important for the life of the battery to recharge ASAP
- The smart charger supplied is ok to leave plugged in. Once charging is complete, the charger will revert to a stand-by condition
- Switch on the device at the tiller handle

4. During use

Please carry out daily inspections. Refer to the section entitled 'Daily Checking'

Do not use your machine in the following environments

- Surfaces that are not fit to walk safely on or which may cause adverse balance and traction performance
- Places where you might get the wheels stuck.
- Do not drive at night or if it is raining heavily, snowing, misty or windy.
- Do not take the machine onto escalators.

Gradients and Drops

- The ground clearance of the machine should be observed to avoid clashed to ground.
- Do not cross wide gutters where there is a risk of getting the wheels stuck.

5. EMC

This portion of the content will provide the user with basic information that describes the problems with EMI, known sources of EMI, protective measures either to lessen the possibility or exposure or to minimise the degree of exposure, and suggested action should unexpected or erratic movement occur.

Attention: It is very important that you read this information regarding the possible effects of electromagnetic interference on your machine.

Electromagnetic Interference (EMI) for Radio Wave Sources

Powered machines may be susceptible to electromagnetic interference (EMI), which is interfering electromagnetic energy (EM) emitted from sources such as radio stations, TV stations, amateur radio (HAM) transmitters, two-way radios, and mobile phones. The interference (from radio wave sources) can cause the machine to move by itself, or move in unintended directions. It can also permanently damage the machine's control system.

There are a number of sources of relatively intense electromagnetic fields in the everyday environment. Some of these sources are obvious and easy to avoid. Others are not apparent and exposure is unavoidable. However, we believe that by following the warning listed below, your risk to EMI will be minimised.

The sources of radiated EMI can be broadly classified into three types:

1. Hand-held portable transceivers (transmitter-receivers with the antenna mounted directly on the transmitting unit). Examples include: citizens band (CB) radios, "walkie talkies", security, fire, and police transceivers, mobile telephones and other personal communication devices.

Attention:

Some mobile telephones and similar devices transmit signals while they are ON, even when not being used.

2. Medium-range mobile transceivers, such as those used in police cars, fire trucks, ambulances and taxis.
3. Long-range transmitters and transceivers, such as commercial broadcast transmitters (radio and TV broadcast antenna towers) and amateur (HAM) radios.

Attention: Other types of hand-held devices, such as cordless phones, laptop computers, AM/FM radios, TV sets, CD players, and cassette players, and small appliances, such as

electric shavers and hair dryers, so far as we know, are not likely to cause EMI problems to your machine.

Powered Machine Electromagnetic Interference

Because EM energy rapidly becomes more intense as one moves closer to the transmitting antenna (source), the EM fields from hand-held radio wave sources (transceivers) are of special concern. It is possible to unintentionally bring high levels of EM energy very close to the control system of the machine while using these devices. This can affect powered machine movement. Therefore, the warnings listed below are recommended to prevent possible interference with the control system of your.

Warnings

Electromagnetic interference (EMI) from sources such as radio and TV stations, amateur radio (HAM) transmitters, two-way radios, and mobile phones can affect powered machines. Following the warnings listed below should reduce the chance of unintended machine movement which could result in serious injury.

- Do not operate hand-held transceivers-receivers, such as citizens band (CB) radios, or turn ON personal communication devices, such as mobile phones, while the powered machine is turned ON;
- Be aware of nearby transmitters, such as radio or TV stations, and try to avoid coming close to them;
- If unintended movement occurs, turn the powered machine OFF as soon as it is safe;
- Be aware that adding accessories or components, or modifying the powered machine, may make it more susceptible to EMI (Note: There is no easy way to evaluate their effect on the overall immunity of the powered machine).
- Report all incidents of unintended movement or brake release to the powered machine manufacturer, and note whether there is a source of EM I nearby.

6. Parts introduction



7. Battery charging

Charging

Use only the charger provided

Plug the charger into the machine, then plug into the mains and turn on, remove in the opposite order

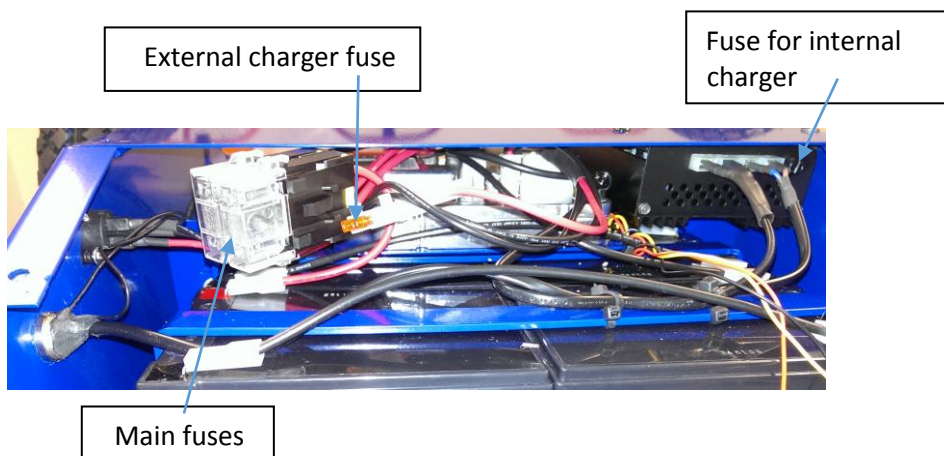
If the batteries require charging, the RED LED on the charger will illuminate
 If the batteries are fully charged the GREEN LED will illuminate

7.1. Battery

Great care has been made to choose the correct batteries
 Use only batteries provided by the manufacturer
 The batteries are sealed and will not spill even if turned upside down

7.2 On-Board Charger (if fitted)

Never connect both supplies
 The External and Internal plugs are not interchangeable
 Internal charger must ONLY be connected with 24v DC



It is advisable to always connect the Internal charger if an overnight charge from the mains is not scheduled.
 The on-board charger is permanently wired but can be left connected to the Lorry supply

8. Inspection & maintenance

Attention

Switch the machine off and remove any charger leads prior to conducting any maintenance.
 Regular visual checks for component security are necessary along with periodical physical checks
 It is recommended that every 100 hours of use the wheels and axle fixing are checked for tightness,
 these should be checked with a torque wrench to 23Nm

8.1. Fuses

Note; there are 2 fuses on the machine
 Only these sizes and types can be found,
 the fuses must only be replaced by the same rated fuse



Battery charger fuse.

If the battery charger is switched on and no LEDs are lit, check the fuse.



If the machine suddenly stops and the battery indicator goes out, check the main fuse.



Suggestion

Ensure water is not directly splashed into your machine as this can cause damage to the electrics, do NOT pressure wash.

Do not use petrol, solvents or vaporizing solution as these may cause damage.

8.2.

Storage

Ensure the machine is switched off.

Store the machine in an environment away from damp. When storing for long periods of time, charge the battery fully and then disconnect the main fuse.

On vehicle storage positions, stood up and secured or laid on it back, ie on the wheels and the upper loop with the trigger lever facing down

8.3. Moving About

Switch the machine off at the ignition before moving.

Lift the machine by metal parts, not by the plastics if fitted.

If fitted, mover the lever for the solenoid brake to allow free running of the axle, this hangs down from the end of the motor (only fitted when requested by the buyer)

For your safety, always ask for help if required. You may need 2 people when moving or lifting the machine.

8.4 Maintenance

Regular visual checks for component security are necessary along with periodical physical checks for

abrasions on the cables, the machine works on 24v, this is safe for personal handling when the cabling is in good condition, should any damage be apparent to cabling, these should be replaced immediately to prevent shorting and component damage.

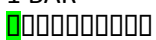
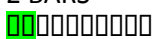
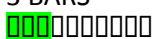
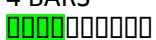






It is recommended that every 100 hours of use, the wheels and axle fixing are checked for tightness, these should be checked with a calibrated torque wrench to 23Nm.

9. Troubleshooting & specifications

Troubleshooting

SYMPTOM	REMEDY
The machine will not switch on	Try recharging the battery Check the fuse in the machine
Single solid red light, no drive	This is because the machine has been pushed, turn off and on and cycle power twice if needed
The machine switches on, but will not move	Ensure there is enough power in the batteries. If not, recharge the batteries.
The machine appears slow	Check the battery power level and recharge Check the speed switch, it may be set to the lower speed

The following table is a fault finding guide that is seen on the battery charge indicator should a fault occur
These lights will flash in the following groups

1 BAR 	The battery needs charging or there is a bad connection to the battery. Check the connections to the battery. If the connections are good, try charging the battery
2 BARS 	There is an open circuit connection to the motor. Check all connections between the motor and the controller .
3 BARS 	The motor has a short-circuit to one of the battery connections. Contact your supplier.
4 BARS 	The freewheel input is active.
5 BARS 	Not used.
6 BARS 	The controller is being inhibited from driving.
7 BARS 	A throttle or direction switch error is indicated. Ensure that the throttle and / or direction switches are in the rest / neutral position before turning on the vehicle.
8 BARS 	A controller error is indicated. Ensure that all connections are secure and the battery is fully charged.
9 BARS 	Not used.
10 BARS 	An excessive battery voltage has been applied to the controller. Check the battery and its associated wiring .

Note; colour may change from those indicated

Specifications

Model	Goodsman 350
Weight (total)	39kg / 86lb (4kg/9lb for 3 rd wheel)
Drive system	Direct drive to wheels with differential
Control system	i90
Motor	24V 600W DC
Battery	24V 14ah Can be doubled
Weight capacity	350kg ~ 55 stone ~ 6.9 cwt 450kg ~ 71 stone ~ 8.8 cwt (with 3 rd wheel)
Wheels	12" pneumatic (60psi)

NB; Weight will vary if the battery packs are different

Note:

- The top speed, climbing angle and cruising range may be affected by a number of factors including (but not exclusively) user mass, gradient, speed, temperature, and terrain.
- When a battery is new off-the-shelf it is below its optimum capabilities.
- During the first 3 months of use the batteries will improve to a peak point at which they will remain for their expected lifespan (if maintained and charged correctly, as described in this manual).
- At this point the batteries will begin to deteriorate until they will require replacing.
- It is for this reason that the batteries must be correctly charged at all times else the peak point reached may not be the batteries' optimum capacity and their lifespan may be dramatically reduced.
- The manufacturer reserves the right to modify the specification if necessary. The final specification is subject to the individual machine your purchase from your dealer.

10. Warranty Conditions

10.1. Serial number (please add your number here) (this is found on the controller) or under the main cover

10.2.

There is a return to base twelve-month warranty from the date on which your new machine is delivered.

The warranty covers the machine for repairs or replacement during this period. For more detail, please

see the Warranty Conditions below.

Warranty Conditions:

- 1.Any work or replacement part installation must be carried out by an authorized dealer / service agent.
- 2.To apply the warranty should your machine require attention please contact your supplier.
- 3.Should any part of the machine require repair or full or part replacement, as a result of a manufacturing or material defect within twelve months of receiving the machine, replacement parts will be supplied free of charge.

Note: This guarantee is not transferable

- 4.Any repaired or replaced parts will be covered by this warranty for the balance of the warranty period on the machine.
- 5.Parts replaced after the original warranty has expired will be covered by a three months warranty.
- 6.Consumable items supplied will not generally be covered during the normal warranty period unless such items require repair or replacement clearly as a direct result of a manufacturing or material defect.
Such items include (among others): Batteries and wheels

- 7.The above warranty conditions apply to brand new machine purchased at the full retail price.
- 8.Under normal circumstances, no responsibility will be accepted where the machine has failed as a direct result of:
 - a) The machine part not having been maintained in accordance with the manufacturer's recommendations.
 - b) Failure to use the manufacturer's specified parts The machine or part having been damaged due to neglect, accident or improper use
 - c)The machine or part having been altered from the manufacturer's specifications or repairs having been attempted before the service agent is' notified

In the event of your machine requiring attention, contact your seller and give all relevant details so they can act quickly.

The manufacturer reserves the right to alter without notices any weights, measurements or other technical data shown in this manual.