

OPERATION MANUAL

BRUMBY ELECTRIC LOADER
www.brumbylife.com.au

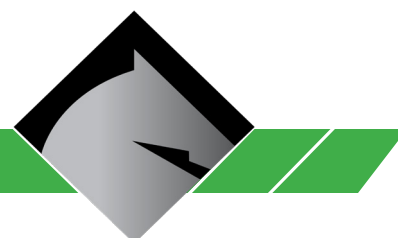
Your BRUMBY is an articulated DC battery electric wheel loader with a 400kg lift capacity, designed for light commercial use and small property landholders.

Your BRUMBY has multiple attachments to suit various applications which are connected by an easy to use hydraulic quick hitch system. Charged by a standard 240 volt power point, your BRUMBY will provide approximately four hours of run time.

This manual is designed to inform BRUMBY operators of the correct operating procedures. Please read it carefully so you can fully understand your BRUMBY's systems and capabilities.

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Safe Operating Procedure



PPE Required



Brumby Electric Loader

General Safety Instructions

- Complete pre-start checklist
- Read Manufacturers Operation Manual
- Do not wear loose clothing or jewellery
- Do not operate equipment near pedestrians or people
- Do not operate without the appropriate PPE as detailed
- Do not operate equipment under the influence of drugs or alcohol

Battery

Do not allow the battery charge to drop below 55 volts.

Batteries are dangerous do not tamper with them in any way. Strong corrosive acids can cause burns.

Top 4 Safety Rules

- Read and understand the Operation Manual.
- Ensure the load does not exceed 400Kg.
- Only Load and Unload trailer when it is connected to a vehicle
- Operating a Brumby loader on a hill is very dangerous only drive directly up and down slopes with bucket as low to ground as possible.

Risk Assessment

- Assess the immediate work area for any hazards
- Control or eliminate all the risks associated with the hazards
- Hazards to check for that may require risk control-
 - Overhead power lines
 - Digging
 - Confined space
 - Traffic & moving machinery
 - Stored energy – air, hydraulic, electricity, pressure
 - Working at height
 - Falling objects
 - High Voltage
 - Any stored energy

Operating Safety Instructions

Always have the heavy end of the machine uphill. With a full load the bucket end is heaviest, empty loads the rear of the machine is heaviest	When changing attachments always ensure that the locking pins are fully engaged prior to operation
Maintain proper tyre pressure – refer manufacturer specifications	Always carry the load as low to the ground as possible
Know where the ignition switch is located in case of emergency	Do not operate on or near embankments or ditches and beware of soft or damp ground that may give way
Do not move the hydraulic levers harshly – use very soft and steady motions	Do not operate on slopes greater than 10 degrees and only drive directly up and down slopes not across
Do not operate loader if you do not have vision as required by your standard Drivers Licence	Do not park on uneven ground
Plan work area prior to operation	Never have more than one person operating or riding on machine
Avoid lifting attachments manually – use the loader where possible	Never step off operating platform with load raised
When loading or unloading on a trailer ensure the trailer is attached to a vehicle and do not load or unload on a hill. If you can not unload or load on flat ground then the towing vehicle should be pointing downhill and not be greater than 10 degrees	Never allow children to operate machine
	Avoid sharp turns
	Always remove the key when not in use

Brumby Electric Loader
Issue: May 220



Technical Specifications

Performance:

Rated Load	400kg
Bucket Rated Capacity	0.2 cubic meters
Dumping Height @45°	1350mm
Lifting Height	2100mm
Dumping Reach	450mm
Max. Lifting Weight	400kg
Max. Excavation Force	8kn
Max. Grade Ability	15
Max. Turning Angle	28° ± 1
Rear Axwl Swing Degree	3

Dimensions & Weight:

Overall Length	2800mm
(Bucket on ground position)	
Bucket Width (overall)	900mm
Overall Height	2070mm
Wheel Base	1387mm
Min. Ground Clearance	300mm
Net Weight	900kg

Battery:

Battery Model No.	6-EVF-100A
Rated Capacity (3hr)	100Ah
No. of Battery Groups	5
Rated Voltage	60v
Working Hours	4hrs

Transmission System:

Hydraulic System	
Motor No.	HL-60
Voltage	60v
Power	1200w
Displacement	14mL/r

Oil Capacity:

Hydraulic Oil Tank	11L
Brake Fluid	.08L

Braking System:

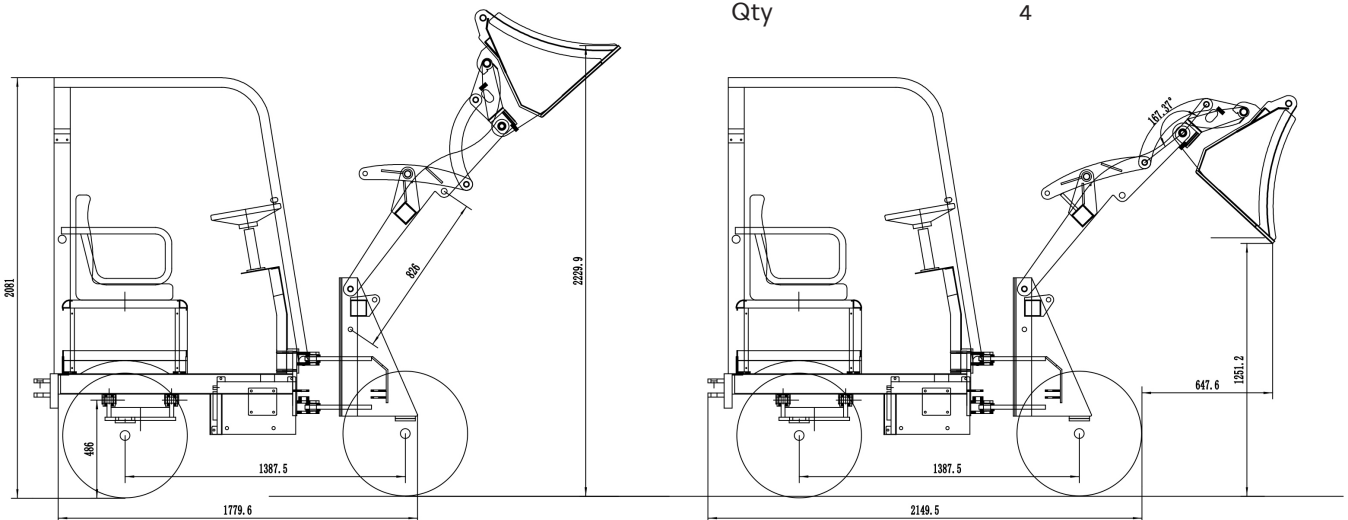
Service Brake	Drum Brake
Brake Drum	200mm
Parking break	Drum Brake
Distribution Valve	Model DL10
Type - Triple valve system	
Dumping Cylinder Bore	Ø50
Lifting Cylinder Bore	Ø50

Steering System:

Full Hydraulic Steering System	
External Gear Pump	1pc
Steering Cylinder Bore	50mm
System Pressure	16mpa

Tyres:

Type	6.00 - 12
Working Pressure	.025mpa
Qty	4



Simple by design, BRUMBY is an easy to operate machine with intuitive controls. BRUMBY's cockpit is easy to navigate and with a little practice you will be able to complete tasks with ease.

Please take the time to familiarise yourself with each control before operating.

Dashboard Instrument Cluster



1. Key Barrel - a key turn controls the drive type selection, one turn to 2wheel drive and a second turn to 4 wheel drive. Select either for the appropriate terrain.

2. Brake fluid - access for topping up brake fluid. (0.8L maximum capacity)

3. Lights - Head light and indicator switches.

4. Hydraulic Power Control - this switch is used to increase or decrease flow to the hydraulic system as required.

5. Battery Voltage Indicator - do not allow to drop below 55volts before re-charging.

6. Speedometer

7. Brumby Hours - Total run time.



Master Control Switch / Emergency Stop and Recharging Port

The master power control and recharging port sits on the lower seat panel. The button requires considerable force to activate.

Pull the main power switch to activate Brumby and push the button for an Emergency Stop.



The recharging port sits under the emergency stop button. **You should familiarise yourself with the Brumby Battery System.**

Hydraulics



The hydraulic system is topped up from the cap adjacent to the accelerator pedal. The hydraulic tank capacity is 11 litres and should be inspected regularly. A site gauge sits at the rear of the tank.



Attachments requiring hydraulic power are connected via hoses into the two camlock couplings. A valve lever selects quickhitch or ancillary settings.

Foot Pedals



The accelerator pedal is on the right and the brake is on the left hand side of the footwell. The brake also has a manual park brake, controlled by the red handle.



Joystick Control



Upward arrow is selected to drive forward.
Central position is neutral.
Downward arrow is selected for reverse.

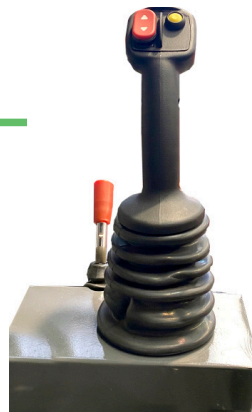
Yellow button controls the high and low speed.

Pull the joystick back to raise the lifting arm and the attachment.



Push the joystick forward to lower the lifting arm and the attachment.

Left hand movement tilts the attachment downwards.



Right hand movement tilts the attachment up.

Quick Hitch Handle



Brumby uses a Quick Hitch system to connect attachments. Attachment must be in an on-ground safe position before using the quick hitch control lever. Forward movement on the quick hitch handle will release the locking pins to enable removal of the attachment. Always return the quick hitch lever to its locked position. The hydraulic three way valve lever needs to be in the Quickhitch position. CAUTION - always ensure the locking pins are correctly in place before using any attachment.



Storage

Brumby should be stored in a safe, dry, well ventilated, clean environment.

Warranty Terms

The machine comes with a 12 month/1500 hour warranty, whichever is first. The warranty is return to base (transport at customer cost) or parts only, and excludes:

- All Ground Engaging Tools (GET)
- Tyres and tubes
- Damage caused by operator or other
- Operator abuse

About the Battery System

Battery Model:	6 – EVF-100A
Rated Capacity (3hr)	100Ah
Number of Battery Groups	5
Rated Voltage	60V
Usage Time	4hrs

- The working time of the rated (rated capacity) is 3 hours, and the longest working time is up to 4 hours.
- The battery contains 5 sets of battery packs, each with a battery capacity of 100Ah total capacity is 500Ah.
- The weight of each individual battery is 31.5kgs, (total weight of all 5 batteries is 157.5kgs).
- Use the voltage gage to ensure voltage does not drop below 55 volts before recharging.
- Do not allow the battery to fully drain.
- Full charge should be attained within 10hrs . Stop charging if the charging indicator light does not turn green within a 10 hr period and refer to our after sales service team.
- Battery capacity is calculated at an ambient temperature of 25° colder temperatures will reduce battery capacity and Brumby should not be used below -10°
- Like all batteries, Brumbys batteries are considered a consumable item. General use, charging and discharging the battery will gradually reduce its capacity This is normal.
- The service life of the battery is 400 charge / discharge cycles within a three year period.
- The electrolytes in the battery are strong corrosive acids. Do not tamper with the batteries.
- Special charger detection prevents over-charging, and overheating and also detects damage and liquid leakage.
- Opening the battery case while charging is strictly prohibited.
- Only qualified auto electrical engineers are allowed to open the battery case.
- The charger will stop functioning if the grid voltage is fluctuating until normal stable power is detected.
- The charger can not be used to charge other machinery.
- The charger can repair the vulcanized battery of the polar plate and will not cause damage if left connected to brumby for extended periods of time. However its recommended to unplug the charger when full charge is reached.
- Do not operate Brumby while connected to the charger.
- Batteries should not be repaired or replaced while connected to the charger.



Battery Warranty:

- The battery comes with a 12month warranty, from date of purchase.
- Battery warranty is made void if:
 - Brumby is not used for its intended purpose.
 - Power loss because of loose terminals, excessive starting, end column pollution and excessive loads.
 - Unauthorized modification and disassembly of the battery.
 - Damage caused by collision.
 - If a damaged charger is used to recharge Brumby.

About the Hydraulic System

- Do not drive through water deeper than 10cm
- Do not exceed 3 km/h while driving in shallow water less than 10cm deep.
- Keep the system clean.
- Resting the system after 1hr of continuous use will prolong the service life of the hydraulic motor.
- Change the carbon brush regularly, inspect and change every twelve months.
The specifications of the carbon brush replacement should match the original part so that the pressure of the brush spring is 39 Pa / cubic cm
- Use of hydraulic fluid, L-HM46 for ambient temperature -10-40 degrees, L-HV32 for ambient temperature -10--30 degrees.
- Items that require regular maintenance are the hydraulic oil filter, the oil filter element and the replacement of hydraulic oil.
- Normal service life of the pumps and valves is 3 – 5 years
- Warranty
 - o Hydraulic system 12 months from date of purchase

About the Motor Warranty

- The motor warranty is twelve months from purchase date.
- Unauthorized repair or tampering of the motor will void the warranty.
- Motor failure caused by improper use of the vehicle is not covered by the warranty.
- Damage caused by water ingress voids any warranty claim. Grease

Grease Point Lubrication

Brumby has moving parts that need grease for smooth movement and to help eliminate wear from heat and friction. Regularly inspect the lubricate the grease points.



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