

|       |
|-------|
| GE010 |
| 0107  |
| 0006  |



## ELECTRIC DIESEL FUEL PUMPS

**GE12A ( 12volt / Automatic Nozzle) and GE24A (24 volt / Automatic Nozzle)  
GE12M ( 12volt / Manual Nozzle) and GE24M (24 volt / Manual Nozzle)**

### INSTRUCTION MANUAL

#### INTRODUCTION

Thank you for purchasing a Macnaught 12 or 24 volt Electric Diesel Fuel Pump.

The Macnaught range of Electric Diesel Fuel Pumps are supplied, with either a Manual or Automatic Fuel Nozzle and Nozzle Holder, 3.65 m (12ft) x 3/4" Fuel Resistant Hose, 3 Piece Suction Tube and Bung Adaptor.

Macnaught also have a complete range of retractable hose reels, fuel nozzles, electric or manual fuel pumps, air operated or manual oil pumps and a full range of greasing equipment available to suit all of your fluid handling requirements .

#### GENERAL INFORMATION

This manual assists you in operating and maintaining your electric diesel fuel pump. The information contained will help ensure many years of dependable trouble free operation.

Please take a few moments to read through this manual before installing and operating your electric fuel pump. If you require further assistance please contact your local Macnaught distributor.

**Please read and retain this instruction manual to assist you in the operation and maintenance of this quality product.**

#### DESCRIPTION

The Macnaught Electric Diesel Pump has been designed to reliably transfer diesel and kerosene. The pump has the added feature of a continuous duty cycle.

If you require a filter or a meter for your pump, Macnaught recommends that you use a **Macnaught HA1s fuel filter** and/or a **Macnaught DM100 mechanical fuel meter**.



#### CAUTION

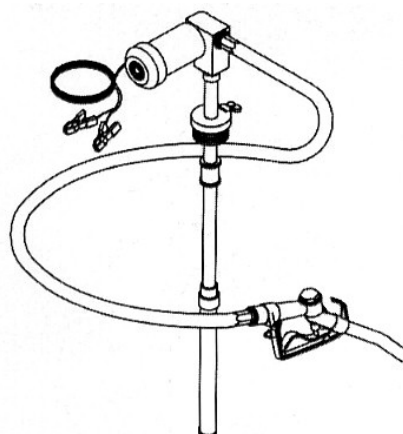
**Only use an automatic nozzle recommended by Macnaught, failure to do so may damage the pump and would void the pump warranty.**

#### ASSEMBLY

To assemble the nozzle holder to the pump assembly refer to fig 1.

#### PUMP INSTALLATION

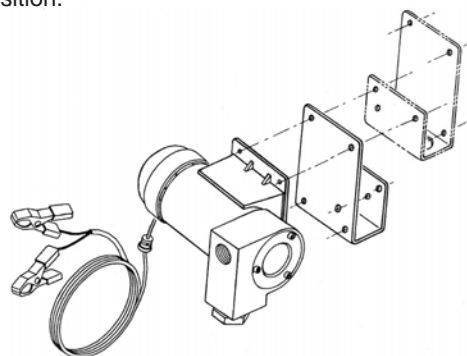
- 1) Slide the bung adaptor assembly onto the top section of the suction tube before assembling the 3 piece suction tube and reducing bush.



- 2) Assemble the suction tube sections and reducing bush by applying a suitable fuel resistant sealant to the screw threads.

**Note:** For tanks deeper than 810mm you will need to use a standard 1" pipe with a 3/4" BSP (M) thread on one end.

- 3) Apply a suitable fuel resistant sealant to the top of the suction tube and screw the suction tube firmly into the pump inlet.
- 4) Insert the pump and suction tube assembly through the bung opening on the drum. Screw the bung adaptor into the drum and lock the pump firmly into position.



(fig 1)

#### HOSE AND NOZZLE ASSEMBLY

- 1) Apply fuel compatible sealant to the male thread on the right-angle fitting and screw the fitting into the 3/4" BSP outlet port on the top of the pump.

**Note: Do not over tighten connections.**

- 2) Apply thread sealant to both threads on the hose assembly. Screw one end of the hose into the female thread on the right angle fitting on the pump outlet and tighten.

- 3) Screw the nozzle onto the remaining end of the hose assembly and tighten.
- 4) Make sure the pump switch is in the “ Off ” position.
- 5) Connect the red wire to the positive (+) battery terminal and the black wire to the negative (-) battery terminal.



## WARNING

**Ensure the pump voltage is (either 12 volt or 24 volt) (depending on the model and is the same voltage as the available power source) or you will damage your pump.**

## PUMP PRIMING

- 1) The pump will prime with no fluid in the chamber to a height of 2.7 metres. If the height from the pump to the lowest fuel level is greater than 2.7 metres or the pump fails to prime, remove the hose from the right angle fitting on the pump outlet and pour 1 cup of motor oil into the pump outlet port. The pump should then prime.
- 2) If the suction height is too great, the pump may lose its prime if the nozzle is opened with the pump turned off.
- 3) On tanks with a suction height over 1.5 metres a check valve (foot valve) may be required on the bottom of the suction tube to hold the fluid in the tube.
- 4) The tank must be vented or the pump may not prime, or it may lose its prime due to a vacuum in the tank.

## OPERATING INSTRUCTIONS

- 1) The switch to turn the pump on is located on the side of pump base.
- 2) Insert the nozzle into the fuel tank and squeeze the nozzle lever to dispense fuel.
- 3) **DO NOT** operate the pump dry. **DO NOT** run the pump for more than five minutes with the nozzle closed.
- 4) **Immediately after use.** Activate the switch on the pump (to turn the power off) and replace the nozzle into the nozzle holder located on the pump.



## IMPORTANT NOTICE

**Note: If the pump has been operated with the nozzle closed or has been left running before turning the pump off, press the trigger on the outlet nozzle to release any built up pressure inside the hose or pump.**

## MAINTENANCE



## WARNING

**DO NOT under any circumstances put you fingers inside the pump with the electric power connected. Serious injury can occur.**

**Note: The fuse is located on the cable and mounting plate assembly (20).**

- 1) Turn off the pump and disconnect the power cables from the power supply before carrying out any maintenance.

- 2) Clean the poppet valve strainer every 50 hours of use by removing the by-pass poppet retainer.

## POPPET VALVE REPLACEMENT

- 1) Turn off the pump and disconnect the power cables from the power supply .
- 2) Remove the suction tube from the inlet adaptor.
- 3) Unscrew and remove the inlet adaptor (6).
- 4) Remove the strainer, poppet valve support, spring and poppet valve (2,3,4,5).
- 5) Inspect all components and replace as required.
- 6) Assembly is a reversal of the disassembly procedure.

## ROTOR VANE REPLACEMENT

- 1) Turn off the pump and disconnect the power cables from the power supply .
  - 2) Remove the 3 Allen screws (13) from the body cover plate (12).
  - 3) Remove the rotor (9) and vanes (10) from the pump body (8).
- Note:** Take note of the orientation of the vanes before removing the vanes from the rotor assembly.
- 4) Inspect the vanes (10) and replace if damaged or worn.
  - 5) Ensure the correct orientation of the vanes (10). Fit the 4 vanes (10) into the rotor (9), and fit the rotor assembly into the pump body (8).
  - 6) Replace the cover plate o’ring (11), coverplate (12) and the 3 coverplate Allen screws (13).

## MAIN PUMP SEAL REPLACEMENT

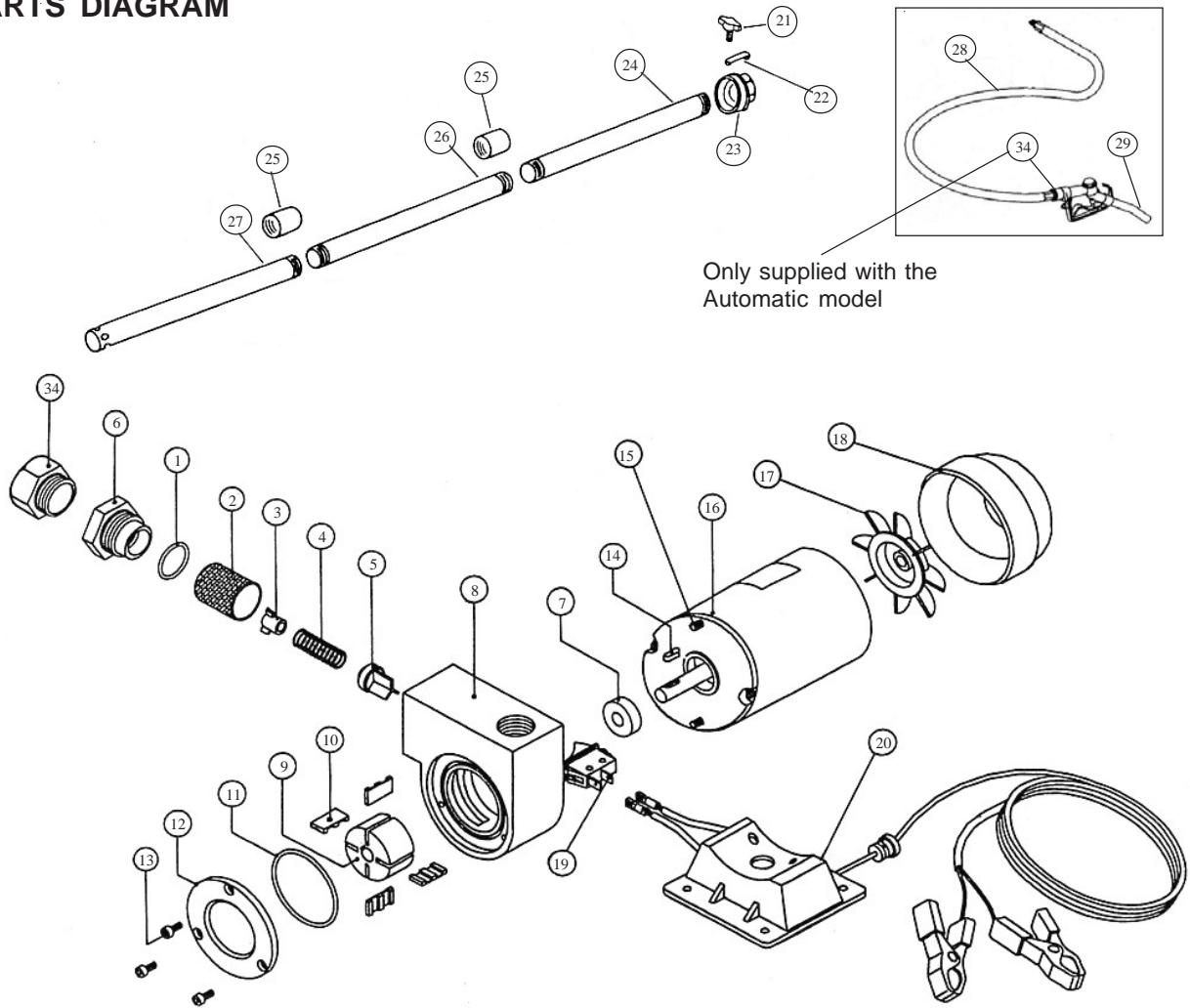
- 1) Turn off the pump and disconnect the power cables from the power supply .
- 2) Remove the 3 Allen screws (13) from the body cover plate (12).
- 3) Remove the rotor (9), vanes (10) and drive key (14) from the pump assembly (8).
- 4) Remove the fan cover (18) from the rear of the electric motor assembly (16)
- 5) Remove the 2 hex-bolts located at the rear of the motor assembly (16).
- 6) Carefully withdraw the pump body assembly (8) from the motor assembly (16).
- 7) Remove the 2 Allen screws (15) securing the motor end plate to the pump body (8).
- 8) Carefully remove main seal (7) from the pump body(8).

**Note:** A new seal (7) should always be fitted.

**Note:** Ensure the orientation of the main seal (7) is correct when fitting new seal.

- 9) Assembly is a reversal of disassembly procedure.

# PARTS DIAGRAM



## PARTS LIST

|         |         |        | Order for Replacement |                  |   |                          |  |
|---------|---------|--------|-----------------------|------------------|---|--------------------------|--|
| Item no | Part No | No Off | Part or Set           | Kit.Ref          | Description                               |                          |  |
|         |         |        | GE-1K (A)             |                  | Seal Kit                                  |                          |  |
| 1       | BS123   | 1      | GE018s                | A                | O RING                                    |                          |  |
| 2       | GE018   | 1      |                       | A                | STRAINER                                  |                          |  |
| 3       | GE017   | 1      |                       | A                | POPPET VALVE SUPPORT                      |                          |  |
| 4       | GE016   | 1      |                       | A                | SPRING                                    |                          |  |
| 5       | GE015   | 1      |                       | A                | POPPET VALVE                              |                          |  |
| 6       | GE014   | 1      | GE011s                | A                | INLET ADAPTOR                             |                          |  |
| 7       | GE013   | 1      |                       | A                | MAIN SEAL                                 |                          |  |
| 8       | GE012   | 1      |                       |                  | PUMP BODY                                 |                          |  |
| 9       | GE009   | 1      |                       |                  | ROTOR                                     |                          |  |
| 10      | GE011   | 4      |                       | GE012s           | A   | VANES                    |  |
| 11      | BS137   | 1      |                       | A                | O RING                                    |                          |  |
| 12      | GE007   | 1      |                       |                  | BODY COVER PLATE                          |                          |  |
| 13      | N449    | 3      |                       |                  | ALLEN SCREWS (M4 X 12mm)                  |                          |  |
| 14      | GE008   | 1      |                       | A                | DRIVE KEY                                 |                          |  |
| 15      | N451    | 2      |                       |                  | ALLEN SCREWS (M5 X 12mm)                  |                          |  |
| 16      | GE001   | 1      | GE001s (12 volt)      |                  | ELECTRIC MOTOR (12 VOLT)                  |                          |  |
| 16      | GE002   | 1      |                       | GE002s (24 volt) |   | ELECTRIC MOTOR (24 VOLT) |  |
| 17      | GE003   | 1      | GE003s                |                  | FAN                                       |                          |  |
| 18      | GE004   | 1      |                       |                  | FAN COVER                                 |                          |  |
| 19      | GE005   | 1      | GE005s                |                  | SWITCH                                    |                          |  |
| 20      | GE006   | 1      |                       |                  | CABLE AND MOUNTING PLATE ASSY             |                          |  |
| 21      | VR66    | 1      | GR34s                 |                  | CLAMP SCREW                               |                          |  |
| 22      | VR67    | 1      |                       |                  | CLAMP PLATE                               |                          |  |
| 23      | VR65    | 1      |                       |                  | BUNG ADAPTOR                              |                          |  |
| 24      | VR61    | 1      | VR62s                 |                  | UPPER SUCTION TUBE                        |                          |  |
| 25      | VR64    | 2      |                       |                  | ADAPTOR SLEEVE                            |                          |  |
| 26      | VR62    | 1      |                       |                  | MIDDLE SUCTION TUBE                       |                          |  |
| 27      | VR63    | 1      |                       |                  | LOWER SUCTION TUBE                        |                          |  |
| 28      | GE019   | 1      | GE019s                |                  | OUTLET HOSE ASSY - 3/4" ID X 3.65m (12ft) |                          |  |
| 29      | MCHP085 | 1      | MCHP085               |                  | AUTOMATIC NOZZLE                          |                          |  |
| 29      | GE020   | 1      | GE020s                |                  | MANUAL NOZZLE                             |                          |  |
| 30      | GE042   | 1      | GE042s                |                  | NOZZLE BRACKET (See Fig 1)                |                          |  |
| 31      | MS346   | 4      |                       |                  | ALLEN SCREWS (M6 X 20mm) (not shown)      |                          |  |
| 32      | MS497   | 4      |                       |                  | NUTS (6mm) (not shown)                    |                          |  |
| 33      | N129    | 8      |                       |                  | WASHERS (not shown)                       |                          |  |
| 34      | N446    | 2      | N446                  |                  | 1" BSP (F) x 3/4" (M) Reducer Bush        |                          |  |

## TROUBLE SHOOTING GUIDE

| TROUBLE                                    | CAUSE  | REMEDY  |
|--|--|---|
| The motor runs but the pump will not prime | a) The motor is rotating in the wrong direction.<br>b) The poppet valve is damaged.<br>c) There is dirt under the poppet valve.<br>d) The cover plate seal (11) is damaged.<br>e) The fuel depth is too great to prime.<br>f) The fuel level is too low<br>g) The mesh filter (2) is blocked<br>h) There is an air leak in the suction tube or connection.<br>i) There is an air lock in the system.<br><br>j) The motor does not run at the proper speed. | a) Check for correct wiring instructions in this manual.<br>d) Inspect poppet valve and replace if required.<br>c) Inspect and clean the poppet valve assembly.<br>d) Replace the cover seal (11)<br>e) Refer to priming instructions.<br>f) Refill tank.<br>g) Remove and clean filter mesh.<br>h) Inspect all the suction tube joints, and re-seal if required.<br>i) This may occur if a filter, meter or automatic nozzle is used. If this occurs, fill the pump and meter with fuel through the top of the pump.<br>j) Check the electric connection and supply voltage for correct voltage level. |
| The pump output flow is low.               | a) The mesh filter (2) is blocked.<br>b) There is an air leak in the suction tube or connection.<br>c) The suction tube is too close to the bottom of the tank.<br><br>d) The tank is not vented.<br>e) The motor is damaged, or dirty terminal connection<br>f) The suction tube or hose or nozzle is blocked.  | a) Clean or replace the mesh filter.<br>b) Check that all the suction tube joints are sealed.<br>c) The suction tube must have 25 mm minimum clearance from the bottom of the tank or drum.<br>d) The tank must be vented to atmosphere.<br>e) Replace the motor, or clean the terminal connections<br>f) Inspect suction tube and hose for any blockages.  |
| The motor stalls when the nozzle is closed | a) By pass relief valve is stuck.<br>b) Low voltage<br>c) Sticking vanes.<br>d) Faulty motor   | a) Check the bypass poppet is not stuck, replace if required.<br>b) Check the supply voltage is correct and to specifications.<br>c) Inspect the vanes slide freely, replace if required.<br>d) Replace motor.  |
| Pump Leaking                               | a) Faulty main seal (7).<br>b) Faulty cover plate o'ring (11).<br>c) Faulty poppet cover screw o'ring (1).   | a) Replace the main seal.<br>b) Replace cover plate seal<br>c) Replace poppet cover screw o'ring.   |
| Pump motor is overheating.                 | a) The fluid is too viscous<br>b) Blocked filter mesh (2)<br>c) Blocked suction tube, hose or nozzle.<br>d) Sticking vanes (10).   | a) Refer to pump specifications<br>b) Clean or filter mesh.<br>c) Inspect suction tube and hose for any blockages.<br>d) Inspect and clean or replace if required.  |
| The switch will not turn on the pump.      | a) Blown fuse<br>b) Defective switch (19)<br>c) Damaged or defective motor.  | a) Replace blown fuse.<br>b) Check switch and replace if faulty.<br>c) Check motor and replace if faulty.   |

## SPECIFICATIONS

|                     |  |
|---------------------|--|
| Pump Type:          | Self priming vane pump                             |
| Fluids:             | Diesel Fuel, Kerosene.                             |
| Voltage:            | 12 volt (GE12M / GE12A)<br>24 volt (GE24M / GE24A) |
| Fuse Rating:        | 12 volt (25 amp), 24 volt(20amp)                   |
| Typical Curr. Draw: | 18 - 24 amps @ 12volts<br>9 - 17 amps @ 24 volts   |
| Flowrate:           | 32 litres / minute (man. nozzle)                   |
| Maximum Pressure:   | 150 kPa (22 psi) (1.5 Bar)                         |
| Wetted Materials:   | Cast Iron, Mild Steel, PPS, NBR                    |
| Suction Lift:       | 2.5 metres   |
| Inlet Port:         | 3/4" BSP   |
| Outlet Port:        | 3/4" BSP   |
| Pump Weight Only:   | 4.3 kg   |

### macnaught warranty

- Macnaught Pty Ltd ("Macnaught") warrants that all products manufactured by Macnaught and/or supplied by Macnaught under the "Macnaught" brand, excluding M-Series positive displacement meters ("Meters") and components subject to wear, will be free from any defects caused by faulty materials or workmanship ("Warranty") for a period of 5 years from the date of purchase of the product.
- For products (excluding Meters) which carry the "Macnaughtdesign" endorsement, an additional Warranty period of 5 years applies to all mechanical components (excluding electronic and electrical components), giving a total Warranty period of 10 years.
- For Meters, the Warranty period is 12 months from the date of purchase of the product.
- For components contained in all products which are usually subject to wear from normal operation of the products (such as o-rings, seals, springs, hoses and batteries), the Warranty period is 12 months from the date of purchase of the relevant product.
- For products and components which are not manufactured by Macnaught and are supplied by Macnaught under a brand name other than "Macnaught", the Warranty period is the longer of 12 months from the date of purchase of the relevant product and the period of the manufacturer's warranty.
- The warranties contained in clauses 1, 2, 3, 4 and 5 above are conditional on the purchaser, during the relevant Warranty period:
  - delivering to Macnaught a detailed notice setting out full details of any defect in any product and details of the date and place of purchase (together with copies of purchase receipts and/or other supporting documents), and
  - at the purchaser's own cost, returning the defective product to the nearest authorised Macnaught service centre.
- Subject to compliance by the purchaser with clause 6, Macnaught shall, at its option, repair or replace any product or component found defective by its inspection by reason of faulty materials or workmanship of Macnaught.
- This Warranty does not cover the failure of products, parts or components which, in the sole judgment of the Macnaught, arises other than from faulty materials or workmanship of Macnaught, including misuse, abrasion, corrosion, negligence, accident, substitution of non-Macnaught parts, unauthorised modification, improper use, storage or handling, faulty installation or tampering by the purchaser or any third party.
- If Macnaught's inspection discloses no defect in material or workmanship, repair or replacement and return (at Macnaught's sole option) will be made at customary charges, which will be advised to the purchaser.
- Macnaught's liability and the purchaser's rights under this Warranty shall be limited to the repair or replacement of defective products or components and particular, shall not extend to any direct, special, indirect or consequential damage or losses of any other warranties.
- The foregoing Warranty supersedes, voids and is in lieu of any other warranties.
- This Warranty does not form part of, nor does it constitute, a contract between Macnaught and the end-user or purchaser. It is additional to any warranty given by the seller of the products. This Warranty does not exclude, limit, restrict or modify the non-excludable rights or remedies conferred upon the end-user or purchaser, or the non-excludable duties or liabilities imposed on the seller or Macnaught, by Part V, Division 2, 2A, and Part VA of the Trade Act 1974 (Commonwealth) or other rights conferred on the end-user or purchaser or duties or liabilities imposed upon Macnaught.



Macnaught Pty Ltd  
 PO Box 90 Arncliffe NSW 2205 Australia  
 Telephone (02) 9567 0401  
 Facsimile (02) 9597 7773  
 Email: sales@macnaught.com.au  
 Web: www.macnaught.com.au