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MH50R(Rigid) and MH50F (Flexible) OIL CONTROL GUNS WITH ELECTRONIC METER

INSTRUCTION MANUAL

INTRODUCTION

Thank you for purchasing a Macnaught oil control gun complete with mechanical meter with either a flexible or rigid extension. The MH50R and MH50F oil control guns have been designed for use with engine oil, gear oil, automatic transmission fluid, anti-freeze/anti-boil and compatible fluids.

Macnaught also manufacture a complete range of ratio oil pumps and retractable oil hose reels, greasing equipment and accessories to fulfill all your fluid handling and greasing needs requirements.

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

GENERAL INFORMATION

This manual assists you in operating and maintaining your new oil control gun. The information contained will help you ensure many years of dependable performance and trouble free operation.

Please take a few moments to read through this manual before installing and operating your new oil control gun.

IMPORTANT INFORMATION



READ THIS INFORMATION CAREFULLY BEFORE USE.

Your safety is important to us. Please read and follow all safety instructions listed inside.

Some of these instructions alert you to the potential for personal injury. "Cautions" listed throughout this manual advise of potential practices or procedures which may cause damage to your equipment.

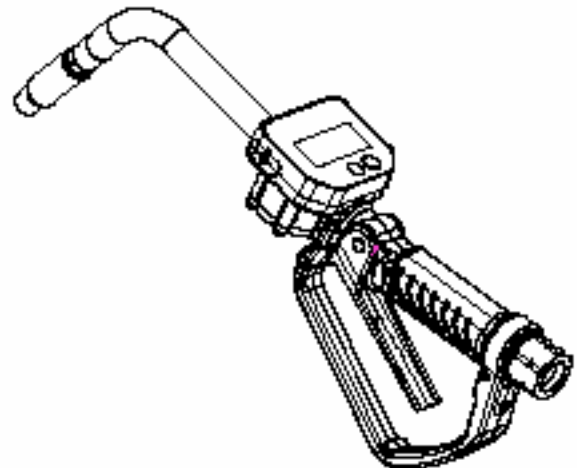
Ensure all operators have access to adequate instructions about safe operating and maintenance procedures.

Do not exceed the maximum working pressure of 10,350 kPa / 1500 psi / 103.5 bar.



CAUTION

Do not hit the oil control gun if it fails to operate. Refer to "trouble shooting guide" or return the unit to your nearest authorised service centre.



(MH50R-01 Pictured)

Never point the nozzle at yourself or anyone else.

Never exceed the pressure rating of any component installed in the System.

Before every use check all hoses for signs of wear, leaks or loose fittings. Tighten all fluid connections regularly.

Before attempting any repairs or maintenance of this product firstly disconnect the air supply from the oil pump, then release the oil line pressure by squeezing the lever on your oil control gun.

ASSEMBLY

OUTLET NOZZLE OPERATION

Use teflon tape (or suitable thread sealant) when connecting the oil control gun to an oil hose.

When fluid flows through the gun the outlet nozzle will automatically open. When the fluid flow stops the outlet nozzle will automatically shut

HANDLE OPERATION

To latch the handle, squeeze the lever, push the button and then release lever.

To release the latch simply squeeze and release lever.

METER OPERATION

DISPLAY BUTTON

Each press of the **DISP** button will allow you to scroll through the meter options

Resettable Batch Total
Non Resettable Accumulative Total

RESET BUTTON

The **RESET** button allows you to reset the Batch Total.

SLEEP MODE

If NO flow goes through the meter for 60 seconds the display will go into sleep mode (Blank). The display will automatically wake if the buttons are pressed or flow occurs.

CHANGE UNITS (e.g: ltr, gal, qrt)

- 1) Press and hold down RESET for 5 seconds until "unit 5" appears
- 2) Press Reset to scroll through the settings "ltr, gal, qrt" to the desired units.
- 3) Press and hold down RESET until "Program" disappears to accept setting
- 4) Press "RESET" for five seconds to return the meter to the operating mode.

CONTROL HANDLE DISASSEMBLY

NOTE: The control handle body / meter body assembly cannot be separated.



CAUTION

Before carrying out any maintenance disconnect the air supply to the pump and release the fluid pressure in the system by pressing the lever on the control gun.

Inspect your oil control gun daily for any signs of damage. Replace any damaged parts or components as required.

Use a clean bench to carry out maintenance.

- 1) Remove the oil hose from the control gun inlet swivel (2).
- 2) Remove the 2 handle end plate screws and handle end plate (13)

- 3) Remove the swivel retaining ring (1), followed by the swivel assembly (2)
- 4) With the use of a pair of circlip pliers, remove the circlip (3), remove the back swivel bush (4) and quad ring (5)
- 5) Using the same circlip pliers remove the spring retainer clip (6), valve spring (7), valve body assembly (8) and valve stem (9).
- 6) Remove the lever screw and washer (17,16)
- 7) Remove the lever (15), by carefully unclipping it from the cam shaft (11)
- 8) Push out the cam body (15)
- 9) Inspect for any signs of wear or damage and replace as required.

CONTROL HANDLE REASSEMBLY

- 1) Lightly lubricate the cam shaft 'O' rings (12) with oil then carefully fit the cam body assembly(11) into the body casting (10).

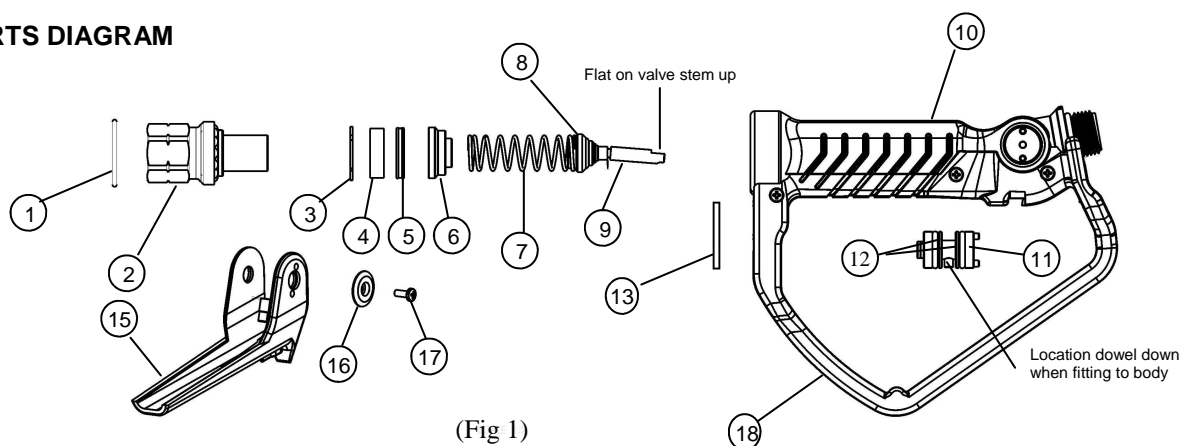
Note: Refer to Fig 1 for correct orientation of cam shaft (11) and valve stem (9).

- 2) Insert the valve stem (9), valve body assembly (8) and spring (7) into the body casting (10).
- 3) Fit the spring retainer circlip (6)
- 4) Carefully fit the lever (15) to the cam shaft (11)

Note: Press the lever to ensure the correct operation of the lever.

- 5) Fit lever washer and screw (16,17)
- 6) Carefully fit the quad ring (5), back swivel bush (4) and circlip (3).
- 7) Fit the swivel assembly (2) to the body casting (10).
- 8) Fit the swivel retaining ring (1), handle end plate (13) and screws (14).
- 9) Check the correct operation of the control handle.
 - 1) To latch, press and latch the lever.
 - 2) To release press the lever

PARTS DIAGRAM



METER INSTRUCTIONS

BATTERY REPLACEMENT

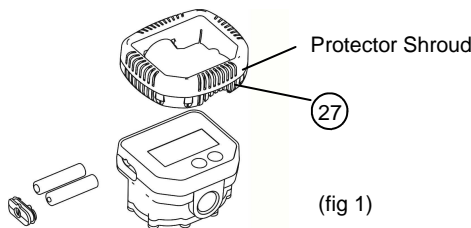
All data will be saved when the batteries are removed.

Note: Replace the batteries as soon as the battery indicator on the LCD is displayed.



- 1) Remove the plastic protector shroud from the meter body (fig 1).
- 2) Remove the battery cover.
- 3) Replace the 2 x (AAA) Alkaline batteries. (Refer to the front of the meter for correct battery orientation).
- 4) Replace the battery cover and re-fit the plastic shroud.

Note: Only use Alkaline batteries.



CAUTION

Ensure the fluid supply to the meter is disconnected and the line pressure is released before disassembly.

Note: The electronic computer module is non-repairable. The meter will need to be replaced if found to be damaged or faulty.

- 1) Remove the 8 x philips head screws (20) from the meter cover.
- 2) Remove the meter cover (21) and o-ring (22).
- 3) Remove both rotors (23).
- 4) Clean and inspect all parts. Replace any suspect, worn or damaged components.

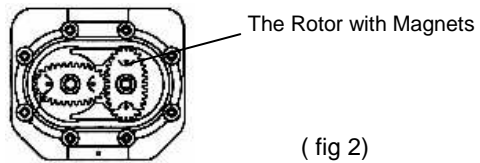
PARTS LIST

ITEM	PART NO.	NO OFF	ORDER FOR REPLACEMENT		DESCRIPTION	
			PART/SET No	KIT. REF		
			IH20-2K (Kit A)	A	Seal Kit	
1	IM553	1	IM551ABs (INCL ITEM 1)	A	SMIVEL RETAINER RING	
2	IM551-B	1		SMIVEL ASSY (1/2" BSP)		
2	IM551-N	1		SMIVEL ASSY (1/2" NPT)		
3	N271	1		A	CIRCLIP	
4	IM076	1		A	BACK SMIVEL BUSH	
5	NX209	1		A	QUAD RING	
6	IM075	1		IM072s		SPRING RETAINER CLIP
7	IM074	1				VALVE SPRING
8	IM073	1			A	VALVE BODY ASSY
9	IM072	1		A	VALVE STEM	
10	IM20A	1		N/A		CONTROL HANDLE BODY
11	IM045	1		IM045s		CAMBODY
12	BS112	2			A	CAM'O RINGS
13	IM026B	1		IM026SBs (INCL ITEM 18,19)		HANDLE END PLATE
14	N102	2			A	END PLATE SCREWS (Not Shown)
15	IM027L	1		IM027LBs (LATCHING)		LEVER (LATCHING)
15	IM027	1				LEVER (NON LATCHING)
16	IM049	1		IM027Bs (NON LATCHING)		HANDLE WASHER
17	N102	1				HANDLE SCREW
18	IM026	1	IM026Bs (INCL ITEM 13,14)		HANDLE GUARD ASSY	
19	N102	5			HANDLE SCREWS	
	IM078A	1	IM078As		FLEXIBLE EXTENSION (Not Shown)	
	IM106A	1	IM106As		RIGID EXTENSION (Not Shown)	
	HG583	1	HG583s		AUTOMATIC NOZZLE (Not Shown)	
	BS113	1	NA	A	STRAINER O'RING (Not Shown)	
	TD81	1	NA	A	STRAINER (Not Shown)	

METER REASSEMBLY

NOTE: Ensure the rotor with the magnets is assembled on the same side as the batteries. The magnets in the rotor must face towards the electronic display .

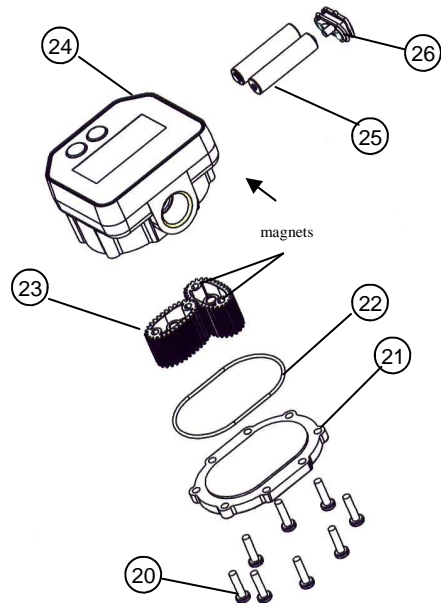
- 1) Replace both rotors (23) at 90° Deg to each other. (see fig 2). Check rotor rotation by turning either of the rotors. If the rotors are not in mesh correctly or do not rotate freely remove one of the rotors and replace it correctly at 90° Deg to the other rotor. Re-check the operation of the rotors.
- 2) Lightly grease the o-ring (22) and place it on the meter body.
- 3) Clean the meter cover plate (21) and place it on the body. Take care not to damage the o-ring (22).



- 4) Install the 8 screws (20) and tighten in a diagonal pattern to 1nm (0.73 ft.lb). Visual check the cap has been pulled down evenly.

- 5) Test the meter by turning the rotors with a finger or by applying low air pressure (No more than a good breath) to the inlet port of the meter. This will confirm the meter is operating correctly.

PARTS DIAGRAM



PARTS LIST

ITEM	PART NO	No. off	ORDER FOR REPLACEMENT		DESCRIPTION
			PART/SET		
20	N65	8	IM011s (incl item 2)		SCREW SET
21	IM011	1			METER COVER PLATE SET
22	BS035	1	IM020s		O'RING SEAL
23	IM020	2			ROTOR SET
24		1	N/A		METER BODY
25	IM066	2	IM066s		BATTERY SET
26	IM060A	1	IM060As		BATTERY COVER SET
27	IM070	1	IM070BKS = (BLACK)		PROTECTOR SHROUD SET
27	IM070	1	IM070BUS = (BLUE)		PROTECTOR SHROUD SET
27	IM070	1	IM070GRS = (GREEN)		PROTECTOR SHROUD SET
27	IM070	1	IM070RDS = (RED)		PROTECTOR SHROUD SET
27	IM070	1	IM070YLS = (YELLOW)		PROTECTOR SHROUD SET

TROUBLE SHOOTING GUIDE

TROUBLE	CAUSE	REMEDY
No fluid passing through the meter	a) Blocked strainer	a) Clean or replace strainer
	b) Dirt particles jamming the rotors	b) Dismantle meter assembly and clean (refer to meter disassembly)
	c) Damaged plunger seal (8)	c) Replace damaged plunger seal
The meter is not registering fluid output	a) Flat battery	a) Replace battery
	b) No signal from the rotor magnets (23)	b) Check magnets and replace rotors
	c) Damaged computer module	c) Replace complete IH50
Constant oil leak from the nozzle	Damaged plunger seal (8)	Replace plunger seal (check for damage)
Intermittent drip from the nozzle	Dirt in the nozzle	Remove the nozzle and blow out any dirt particles, replace if necessary.
Oil leak from the lever assembly area	Damaged o' rings (19)	Replace damaged o' rings
Oil leak from between the body casting and the computer module casting	Damaged o' ring (22)	Replace damaged o' ring
Low flow rate	Blocked swivel strainer	Replace strainer
Oil leaking from the swivel inlet	Damaged o' ring or swivel	Replace swivel

TECHNICAL SPECIFICATIONS

Wetted components:	Acetal, aluminium, nitrile (NBR), mild steel
Accuracy:	+/- 0.5%
Flow Range:	1-30 litres/minute (0.26-8 US gal/min)
Max. working pressure:	10,350 kPa / 1500 psi / 103.5 Bar
Inlet Thread	½" BSPT or NPT (F)
Operating temperature:	-10°C (14°F) to +55°C (131°F)
Weight (approx):	1.3kg (2.8lbs)



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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 7, 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.