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K6 / KR MINI-LUBE INSTRUCTION MANUAL

INTRODUCTION

Thank you for purchasing a Macnaught K6/KR Mini-Lube. The K6/KR Mini-Lube is a completely portable high pressure manual greasing system.

The K6 Mini-Lube is supplied complete with spring loaded pump, lid, rubber edged follower plate, 1.5 metres of special Macnaught grease hose, and a unique KR Pressurite (High pressure / High Volume) grease gun.

The design of the KR grease gun allows the user to grease at 5000psi when set on the high volume setting, and 10,000psi when set on the high pressure setting.

Macnaught manufacture a full range of greasing accessories to suit your K6 Mini-Lube. Consult your local Mini-Lube distributor for more information.

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 Mini-Lube. The information contained in this instruction manual will help you ensure many years of dependable performance and trouble free operation.

Please take a few moments to read through this manual before operating your Mini-Lube. If you experience problems with the product, refer to the Maintenance and Trouble Shooting sections of this manual. If you require any further assistance please contact your local Macnaught distributor or Macnaught Pty Ltd.

ASSEMBLY

- 1) Remove the follower plate from the pump tube.
- 2) Insert the follower in the grease container as shown with the follower boss facing upwards. Push down firmly onto the grease until grease emerges through the boss.

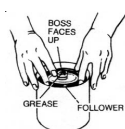


Fig 1

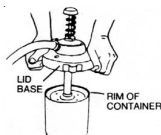


Fig 2

- 3) Push the pump tube through the follower boss and down until the lid sits on the rim of the grease container. Hand tighten the 3 thumbscrews evenly under the rim of the container.
- 4) To achieve initial prime, push the rod cap down several times with your foot to start grease flowing through the grease hose. When the hose is full of grease, the rod cap will stay down.



- 5) Squeeze the KR gun handle and hold closed to bleed air out of the system. When fully bled, container grease will emerge from the gun coupler.

Note: Grease must travel through the entire length of the hose to accomplish full bleeding and it may be necessary to repeat step 4.

If the unit fails to prime, bump the container base several times on a solid surface, to settle the grease.

OPERATING INSTRUCTIONS

After completing the assembly instructions described in the previous section, your Mini-Lube is now ready for use.

When greasing, the rod cap will rise slowly. When the rod is fully up and the gun loses pressure, push the rod cap down once or twice to re-prime the pump and continue greasing.

Each pump prime will provide sufficient grease for up to 30 shots of grease.

The KR Pressurite gun is normally operated on the HI-VOLUME switch position. Should high pressure be required to clear a blocked or seized grease nipple, simply push the switch on the gun to the HI-PRESSURE position.

Note: Once bled of air, the Mini-Lube does not usually require bleeding when changing over containers. If using a grease container that is only partly filled with grease, settle the grease and remove air bubbles by bumping the container base several times on a solid surface.

REFILLING CONTAINERS

For easy refilling of containers, use the Macnaught Model J2 grease pump. After filling the container, bump the container base several times on a solid surface to consolidate the grease and help remove any trapped air.

MAINTENANCE

Should the strainer require cleaning, undo the nut at the base of the pump spring with a suitable spanner, remove assembly, lever off strainer cover and remove assembly as illustrated. Clean all parts and check and replace any damaged or worn components before reassembly.



Fig 3



Fig 4

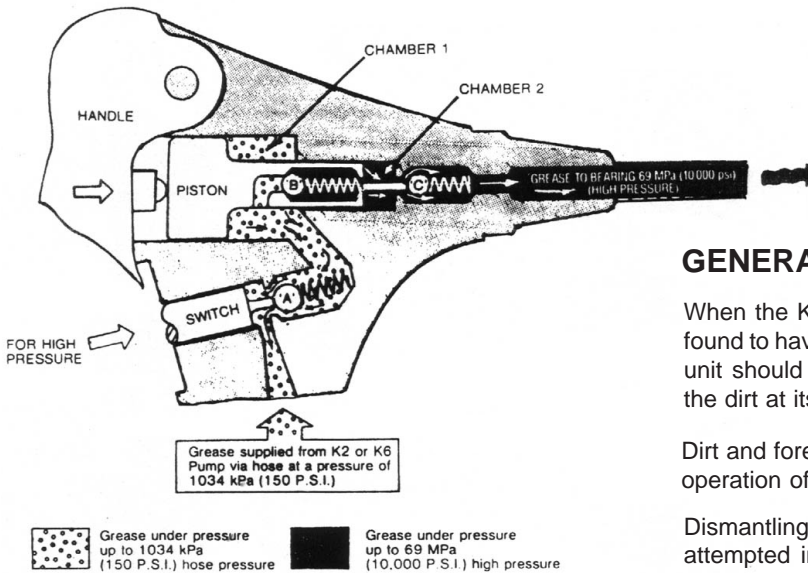


Caution

When replacing the hose assembly only use a genuine Macnaught replacement hose, failure to do so may result in pump damage.

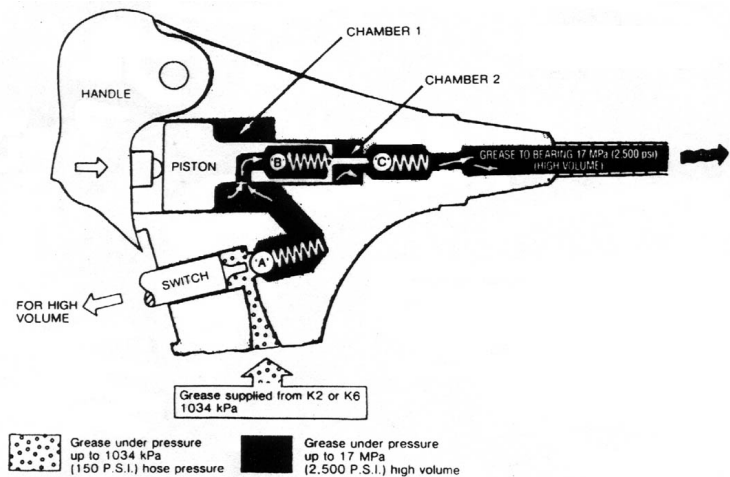
KR PRESSURITE GUN FEATURES

Operation on the High Pressure Setting



- 1) The switch is pushed forward and lifts ball 'A' off its seat.
- 2) As the piston is pushed forward by the handle, the grease in chamber 1 is pushed back past ball 'A' into the supply hose.
- 3) The grease in chamber 2 (small volume) is pressurised up to 69MPa (10,000 psi). This pressure seats ball 'B' and lifts ball 'C', then forces grease through to the equipment being greased.

Operation on the High Volume Setting



- 1) The switch is withdrawn allowing ball 'A' to seat.
- 2) The piston is pushed forward by the handle. As ball 'A' is seated, grease cannot return back into the hose. Therefore both volumes of grease in chambers 1 and 2 are combined (high volume) and pressurised for delivery to the equipment requiring greasing.
- 3) During the operation balls 'B' and 'C' are forced off their seats by both volumes of grease passing.

Note: To select either high pressure or high volume, refer to Fig 5.



Fig 5

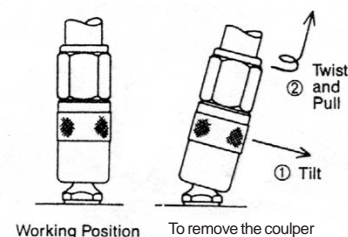
GENERAL INSTRUCTIONS

When the KR gun has been serviced and the trouble is found to have been caused by dirt in the valves, the pump unit should also be cleaned out thoroughly to eliminate the dirt at its source.

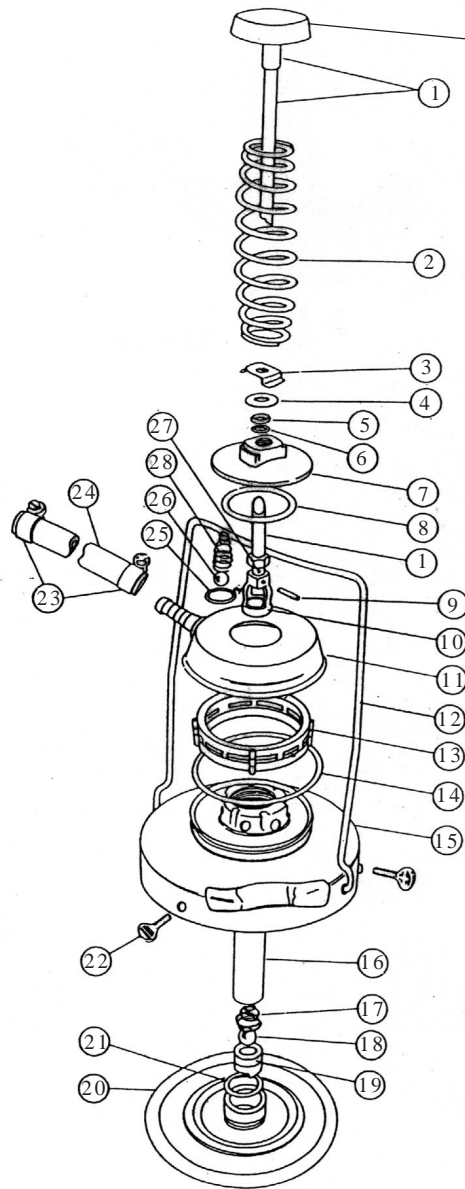
Dirt and foreign matter (lint, etc.) can seriously affect the operation of this unit.

Dismantling and reassembly of this unit should only be attempted in clean conditions.

THE CORRECT METHOD FOR REMOVING THE KEY COUPLER FROM A GREASE NIPPLE



K6 PARTS DIAGRAM



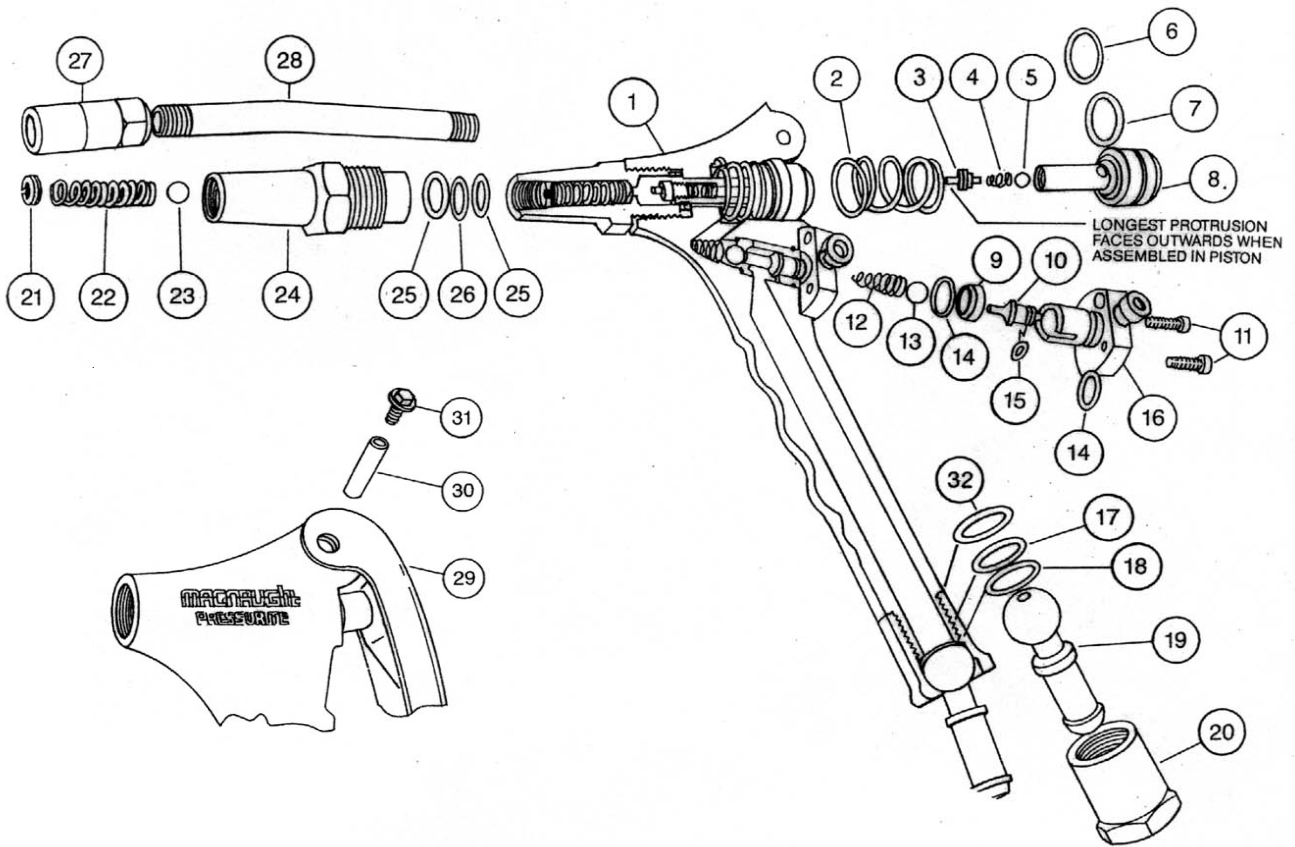
CAUTION

DO NOT ATTEMPT TO REMOVE THE CAP FROM THE ROD

K6 PARTS LIST

Item	PART No.	No. off	ORDER FOR REPLACEMENT		DESCRIPTION
			PART/SET	KIT. REF	
			K6-2 K (KIT A)		PUMP ROD ASSEMBLY KIT
			K6-3 K (KIT B)		SEAL KIT
1	KM 194	1	order K6-2K	A	PISTON ROD AND CAP ASSEMBLY
2	KM 2	1	order K6-2K	A	PUMP SPRING
3	KM 56	1		A	RETAINER CAP
4	N 125	1		A	WASHER
5	N 151	1		A & B	BACK UP WASHER
6	BS110	1		A & B	O' RING
7	KM 50	1	order K6-2K	A	CLAMP NUT
8	KM 6	1	order N151s	A & B	SEALING WASHER
9	N331	1		A	SPIROL PIN
10	KM 24	1	order KM 23s	A	PISTON
11	KM 17	1			STRAINER COVER
12	KM 29	1			HANDLE
13	KM 9	1			STRAINER
14	BS240	1		A & B	O' RING
15	KM 13	1			LID BASE
16	KM 75	1			PUMP TUBE
17	KM 157	1		B	BALL RETAINER
18	N412	1		B	9/16" BALL
19	KM 57	1			FOOTVALVE
20	KM 81	1			FOLLOWER
21	BS214	1		B	O' RING
22	N72	3	N72s		THUMB SCREW
23	KH74	2			HOSE CLAMP
24	KH40	1			HOSE
25	BS115	1		A & B	O' RING
26	N410	1		A & B	1/2" BALL
27	N225	1		A	NUT
28	KH11	1		A	BALL SPRING

KR GUN PARTS DIAGRAM



KR GUN PARTS LIST

			ORDER FOR REPLACEMENT			
Item	PART No.	No. off	NEW PART/SET	KIT. REF	DESCRIPTION	
			KR-1K (KIT A)		OVERHAUL KIT	
			KR-2K (KIT B)		PISTON KIT	
1	KR2	1	KR2		GUN BODY	
2	KR3	1	KR-2K incl N326, N65	A & B	PISTON SPRING	
3	KR1	1		A & B	VALVE STEM (PISTON)	
4	KH5	1		A & B	SPRING, PISTON CHECK	
5	N403	1		A & B	7/32" BALL, PISTON	
6	KR5	1		A & B	GLYDE RING	
7	BS111	1		A & B	O' RING FOR GLYD RING	
8	KR4	1		A & B	PISTON	
9	KH2	1		A	VALVE SEAT	
10	KH7	1	KR 12s		OPERATING PLUNGER CONTROL	
11	N81	2			CAP SOCKET 1/2" X 3/16" WHIT	
12	KH11	1		A	SPRING, (INLET CHECK)	
13	N402	1		A	5/16" BALL, INLET	
14	BS013	2		A	O' RING, SEAL BODY	
15	BS008	1		A	O' RING, PLUNGER CONTROL	
16	KH3	1			CONTROL BODY ASSEMBLY	
17	N113	1		A	WASHER, HOSE ADAPTOR	
18	BS113	1	A	O' RING, HOSE ADAPTOR		
19	KR6	1	KR 13s incl BS017		BALL END, HOSE ADAPTOR	
20	KH77	1			BALL SOCKET RETAINER	
21	KD64	1	KR 14s		KEEPER SCREW (OUTLET)	
22	KD61	1		A	SPRING (OUTLET)	
23	N400	1		KH22s	A	1/4" BALL (OUTLET)
24	KH22	1				OUTLET BODY
25	KH9	2		A	TEFLON BACK-UP WASHER	
26	BS012	1		A	O' RING PISTON	
27	KY	1		KY		COUPLER
28	KH23	1		KH23s		EXTENSION TUBE
29	KH19	1			HANDLE	
30	N326	1		A & B	HANDLE PIN	
31	N65	2		A & B	DRIVE SCREW	
32	BS017	1		A	RETAINER O' RING	

TROUBLE SHOOTING GUIDE

K6 PUMP UNIT

TROUBLE	CAUSE	REMEDY
The pump rod cap rises slowly when not using the gun. (No visible leakages)	a) Dirt trapped between the inlet ball (26) and the piston (10).	a) Unscrew the clamp nut (7) and withdraw the assembly. Clean the ball (26) and piston (10) thoroughly. Reassemble.
	b) The piston o'ring (25) is defective or worn.	b) Replace the piston o'ring (25).
The rod cap springs up and the unit will not pump grease.	a) Air lock in the grease caused by :- i) Dent in the container stopping the follower ii) Damaged follower o'ring (21).	a) i) Remove the dents or tilt the follower (20) under the dent. ii) Replace the o'ring (21) in the follower (20).
	b) Grease container empty.	b) Change over to a new grease container or refill the old container with grease.
	c) The footvalve assembly (19) is faulty, holding the ball (18) off the seat.	c) Replace with a new footvalve assembly (Do not attempt to rework this part).
The rod cap stays down, but the unit will not pump grease.	a) The grade of grease is too Heavy.	a) Use NLGI No2 grease, or lighter. (Force out the old grease).
	b) The strainer (13) is blocked.	b) Unscrew the clamp nut (7) and withdraw the assembly. Using a screwdriver, lever off the strainer cover (11).Clean or replace the strainer (13).
Grease leaks at the top of the clamp nut (7).	Gland o'ring (6) and back up washer (5) are defective or worn.	Unscrew the clamp nut (7) and withdraw the assembly. Hold the piston (10) and loosen the nut (27), by pushing against the spring (2) on the clamp nut (7), then carefully undo the nut (27). Replace the o'ring (6) and back up washer (5). When re-assembling, support the piston (10) when driving the pin (9) home. Ensure that the flat end of the spring (2) fits in the cap (1).
Grease leaks from the bottom of the strainer cover (11).	a) O'ring (14) damaged.	a) Unscrew the clamp nut (7) and withdraw the assembly. Using a screwdriver, lever off the strainer cover (11). Replace o'ring (14)
	b) Spot welds broken.	b) Replace the lid base (15).
Grease leaks from under the clamp nut (7).	a) Dirt under the clamp nut (7).	a) Undo and clean surfaces.
	b) Damaged seal washer (8).	b) Replace seal washer (8).

KR PRESSURITE GREASE GUN TROUBLE SHOOTING GUIDE

TROUBLE	CAUSE	REMEDY
A) Coupler Leaks.	a) Dirt under the seat of the outlet ball (23). Note: There is nothing wrong with the coupler itself.	a) Change to high volume and strike the handle sharply. If it still leaks, remove the extension tube (28), spring keeper screw (21), spring (22) and ball (23). Clean the seat and replace the ball, spring and spring keeper screw (part way). Prime the pump and screw in the spring keeper screw until the grease stops leaking. Then screw in an extra 2 full turns. Reassemble extension tube. Note: Too many turns makes the gun hard to operate, and too few turns allows the gun to leak. If the coupler still leaks replace the complete outlet body assembly. When refitting the outlet body (24) hold the handle (29) in the closed position. This enables the back-up washers and o'ring seals to enter squarely onto the piston.
	b) The valve stem (3) has worked loose and is holding the outlet ball (23) off its seat.	b) Remove the handle pin (30), and handle (29). Remove piston (8), re-tighten valve stem (3) or replace the complete piston assembly.
B) Gun leaks at the back end of the piston.	Glyd ring worn	Remove the handle pin (30) and handle (29). Remove the old piston and replace with a new piston assembly.
C) Gun fails to deliver grease on the high pressure setting.	a) Dirt under the delivery ball (5) or damaged ball seat in the piston (8).	a) Change over to the high volume setting and strike the handle hard to shift dirt off the seat. If there is no improvement, replace the piston assembly.
	b) Seals (25, 26) are worn.	b) Replace seals (25, 26) in the outlet body.
	c) Valve stem (3) has become loose from the piston (8).	c) Replace piston assembly.
D) Gun fails to deliver grease on the high volume setting.	a) Dirt on the inlet valve seat (9) Note: This fault will decrease volume.	a) Remove the control body (16), tap out the valve seat (9), o'ring (14), ball (13) and spring (12). Clean parts and replace in the correct order.
	b) Operating plunger control (10) sticking in body (16).	b) Replace the control body assembly.
E) The control push rod in the control body leaks.	O'ring (15) damaged or worn.	Remove the control body and replace worn or damaged parts.
F) The gun leaks at the swivel joint.	Worn seals (18, 23).	Replace worn or damaged swivel seals.
G) The gun, when on the high volume setting is too slow or hard to operate.	a) Springs (2 or 4) may have collapsed and is blocking the flow of grease.	a) Fit KR-1K overhaul kit.
	b) Grade of grease is too heavy.	b) Change grease to NLGI No 2 grease or lighter.
	c) Too much compression on the outlet spring (22).	c) Reset the spring keeper screw (Refer to A - a) of the trouble shooting guide) or replace the outlet body assembly.

NOTES:

TECHNICAL SPECIFICATIONS

The KR Grease gun is suitable for use with Macnaught models K3 and K6 Lubrication systems.

The KR Grease Gun is recommended for use with greases up to and including NLGI No 2 consistency.

The KR Grease Gun will deliver greasing pressures up to 10,000 psi (69 MPa) on the high pressure setting.

The K6 Mini-Lube pump will deliver 30 shots of grease on each prime of the pump.



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

WARRANTY POLICY

Macnaught Pty Ltd ("Macnaught") warrants that all Products manufactured by Macnaught and purchased after 1st of July 1999 will be free from any defects caused by faulty materials or workmanship for a period of (5) years from the date of purchase of the product, provided that during the Warranty period:

- 1) Macnaught receives notice setting out full details of any defect in any product and details of the time and place of purchase.
- 2) The Purchaser, at their own cost returns the product to the nearest authorized Macnaught service center.

For componentry contained in the product, (such as o'rings, seals, springs and hoses) which are subject to wear, the warranty period will be (12) months from the date of purchase of the product.

Macnaught shall, at its option repair or replace any product found defective by its inspection. This warranty does not cover failure of parts or components which, in the judgment of Macnaught, arises from misuse, abrasion corrosion, negligence, accident, substitution of non-Macnaught parts, faulty installation or tampering.

If Macnaught inspection discloses no defect in material or workmanship, repair or replacement and return will be made at customary charges.

Macnaught's liability and the purchaser's rights under this Warranty shall be limited to such repair or replacement and in particular, shall not extend to any direct, special, indirect or consequential damage or losses of any nature.

The foregoing warranty supersedes, voids and is in lieu of all or any other warranties.

"Note: 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, Divisions 2 and 2A of the Trade Practices act 1974 (Commonwealth) or other legislative provisions. Macnaught otherwise excludes, to the extent permitted by law, any rights conferred on the end-user or duties or liabilities imposed upon it."