

Manual lubricating pump LT,LTS

INSTRUCTION MANUAL

- For your safety, read and understand this manual thoroughly before handling the pump.
- Keep this manual at a designated place for easy access at all times.

 **LUBE CORPORATION**

Introduction

■ System application

This manual lubricating pump “LT,LTS” is designed to lubricate each point on a machine by delivering relatively small amount of oil through a metering valve.

Do not use this system for any other purposes.

■ Marks used in manual

In this manual, safety precautions are provided using the marks below in order to prevent accidents which might cause injuries to human bodies. Be sure to carefully read these safety precautions to understand the contents thoroughly before handling the pump.

 WARNING	Indicates a potentially hazardous situation which, if ignored, could result in death or serious injury.
 CAUTION	Indicates a potentially hazardous situation which, if ignored, may result in minor or moderate injury.

In addition to the above, the marks below will also appear in this manual. Please read the following explanation in order to handle the pump correctly.

	Indicates referential information or points to which special attention should be paid while handling the pump. If ignored, the pump and/or the machine could be damaged.
	Indicates referential information or points which are helpful for handling the pump.
	Indicates a reference clause.

■ Questions/Contacts

If any question or doubt arises concerning the contents of this manual, contact following:

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■ Details of contents

Details of all illustrations and specifications in this manual are subject to change without prior notice for improvement and development of the pump.

■ Resale or leasing

At the time of resale, leasing out or lending out the pump to the third party, make sure to include with the pump all the manuals and any other documents found supplied at the time of initial installation.

■ Disposal of pump/Oil

Make sure to dispose pump or oil as designated by national laws and/or local regulations.

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1. Safety precautions

1-1 Basic safety precautions



- Carefully read this manual to understand the contents before handling the pump.
- Keep this manual at a designated place for easy access at all times.
- This pump is handled by only personnel who have the knowledge and skill of its installation and adjustment.
- Never modify or change this pump without prior permission of LUBE.

1-2 Labels

The following labels are affixed on the pump. If any label gets damaged or becomes illegible, contact LUBE immediately. A new one will be supplied at your own cost.



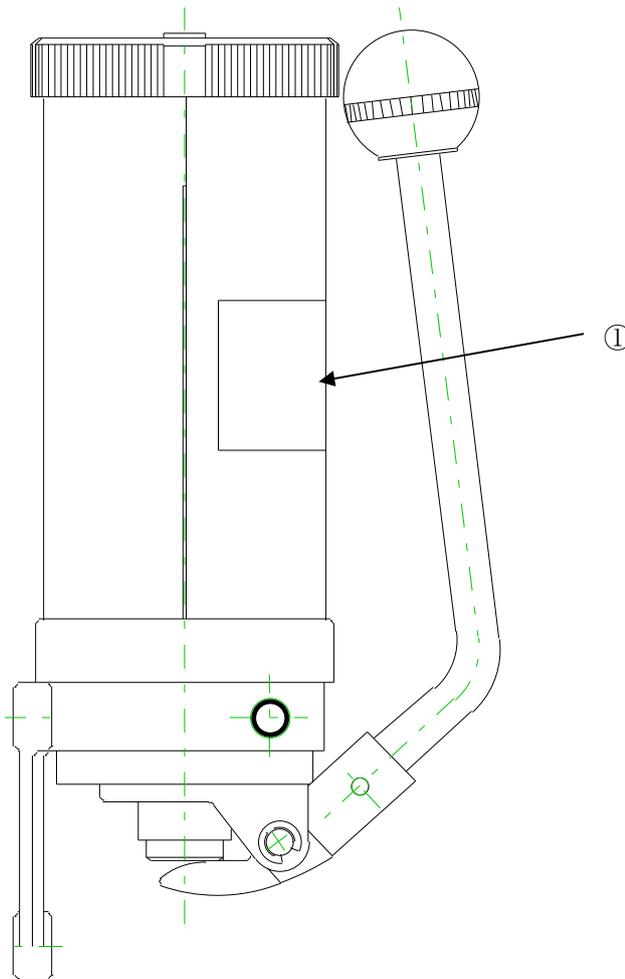
- Strictly observe the instructions on the labels affixed to the pump.
- Never remove from nor disfigure any labels on the pump.

1-2-1 Types of labels

①

LT-S HAND PUMP	
DISCHARGE VOL.	8 cc / SHOT
DISCHARGE PRESS.	3.5 MPa
OIL TANK	260 cc
SER NO.	
 L U B E CORP.	

1-2-2 Location of labels



2. Specifications and outline

2-1 Specification

Item		Specification	
		LT - 03	LTS - 03
Pump	Delivery	8ml/stroke	
	Discharge pressure	3.5MPa	
	Automatic pressure relief	×	○
Tank	Effective capacity	260ml	

2-2 List of Part Number

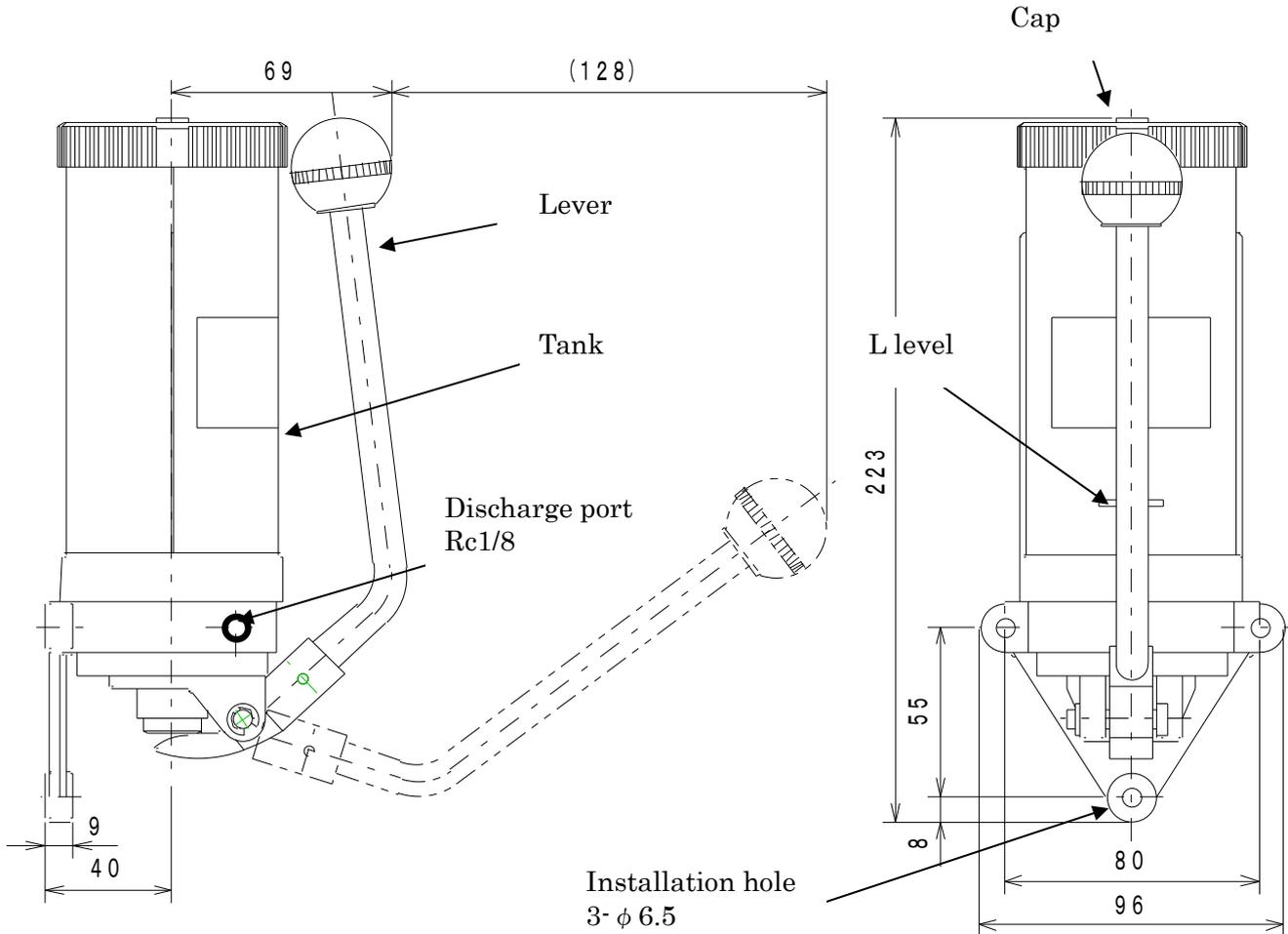
(1) Pump

Part Number	Type
103420	LT - 03
103421	LTS - 03

(2) Tank

Part Number	Type	Material
540260	Tank	Cellulose acetate
540528	Cap	PVC
810156	O-ring S56	NBR

2-3 Name of each component



3. Installation

3-1 Environmental requirement

Be sure to this pump in the following environment.

- Ambient temperature : 5 ~ +40°C
- Humidity : 35 ~ 85% RH

3-2 Mounting unit



Make sure to fix the pump firmly.
Insufficient mounting of the pump could
fall itself and cause injury.

Be sure to fix the pump against the vertical and
flat surface, which can sustain its weight
sufficiently.

Mount and fix the pump firmly using three (3)
M6 bolts.



LUBE recommends anti-vibration rubber
to be applied when the pump is exposed to
vibration.

3-3 Tubing connection

Connect tubing to the machine to the discharge port
(Rc1/8)



Use tubing good for the pressure 5 MPa or higher.

Fix the joint with hands and then tighten it 2/3 turns with a spanner.



Clamping torque please refer to “Tightening level for connecting section”

After connection, make sure there is no grease leakage from the joint. Make sure to bleed air from the tubing and the pump after connection.

4. How to control the pump

(1) L T model

Discharge oil by pulling the handle.

Operate the pump at specified interval for each machine.

(2) L T S model

Discharge oil by pulling the handle.

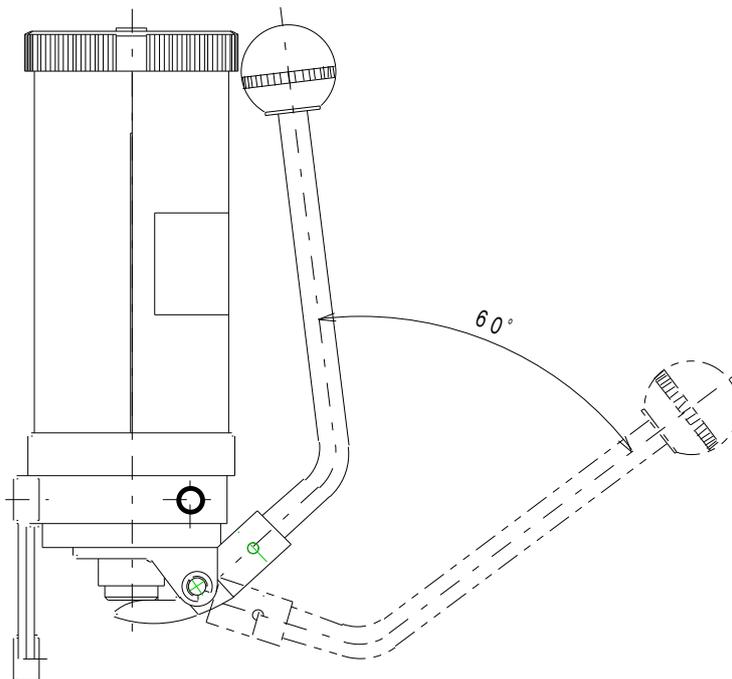
As soon as the lever is released it will start reducing pressure.

Please be sure of discharging enough volume for all valves.



Operate the valve at range of 60° (as shown)

Please be sure of not operating the lever with tools, body weight that will be a cause of damaging pump.



5. Lubricating oil and refilling

5-1 Lubricating oil to be used

Use industrial lubricating oil in the range from 32 to 1300 mm²/s of ISO viscosity.



Do not use any lubricating oil other than that which has been recommended.

Use lubricating oil of the same grade made by the same manufacturer.

5-2 Refilling lubricating oil

If the oil surface gets down to the L level, refill the oil.



Use new lubricating oil. If lubricating oil contains any foreign substances, clogging may occur, causing the pump to stop discharging oil.



If lubricating oil overflows or leaks, wipe off the overflowing or leaking oil.

6. Maintenance

6-1 Troubleshooting

When troubles occur, take the measures as defined in the chart below.

Trouble	Cause	Measures to take
No oil discharged from pump	Low oil level	Refill the same oil in use ☞ Refer to “5. Lubricating oil and refilling”
	Damage in the tubing inside the pump (Twisted, crashed, or disconnected)	Recheck oil in use and replace it to proper oil ☞ Refer to “5. Lubricating oil and refilling”
	Viscosity is too high, so that oil can not be sucked	Refer to above measures
Pressure in main tubing is not built up	No oil discharged from pump due to any of above causes	Take off closure plug(s) at the end and operate pump and bleed air in tubing
	Air in the tubing	Contact LUBE
Pressure in main tubing is not built up	Oil leaking from pump discharge port or pipe connection parts on machine (Due to looseness or excessive tightness)	Replace damaged tubing
	Damaged tubing	Refer to above measures for “Air in the pump” and “Air in the tubing”
Air in the system	Air in the system due to above reasons	Refill tank with same or equivalent oil and then bleed air
	Due to low level of oil in tank, air is introduced into pump	Refer to above measures for “Pressure in main tubing is not built up”

Trouble	Cause	Measures to take
No oil discharged from valve(S)	Pressure does not increase	Check oil and change oil to proper oil ☞ Refer to “5. Lubricating oil and refilling”
	Viscosity is too high, so the reaming pressure are not relieved completely	

■ Tightening level for connecting section

	Tightening level	Reference torque (N·m)
OD 4mm nylon pipe (Valve discharge port)	Turn compression bushing with hands until it stops and then tighten it 2/3 turn with a spanner ,etc	3.5
OD 4mm copper tubing & steel tubing (Valve discharge port)	Turn compression bushing with hands until it stops and then tighten it 2/3 turn with a spanner ,etc	4.1
Taper screw for tubing Rc1/8 (Pump discharge port & junction)	Turn the undercut joint with hands until it stops and then tighten it two and a half to three turns with a spanner , etc	7.1

Appendix. Oil contamination

Causes and measures

■ Causes

Causes for contamination can be divided into two categories.

- Before the completion of installation
Foreign particles in the tubing or pump tank.
(Manufacturing defects of the assembly parts or connecting parts and unconformity during construction.)
- During operation
Foreign particles from outside or generated inside of the system.
(Condensation of the moisture in the air due to change in temperature or sludge by oxidation of lubrication oil itself.)

■ Measures

1. Clean the tank and remove the foreign particles.
2. Keep the oil for refilling in the proper place.
If the system is installed and/or oil is stored outdoors, proper care must be taken since introduction of dust or rain into the oil would lead to system malfunction.