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TECHNOLOGY GROUP

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0335 new 11/20/00 10:00 AM Page 1

WARRANTY

Use only MASTERFLEX precision tubing with MASTERFLEX pumps to ensure optimum performance. Use of other tubing may void applicable warranties.

The Manufacturer warrants this product to be free from significant deviations from published specifications. If repair or adjustment is necessary within the warranty period, the problem will be corrected at no charge if it is not due to misuse or abuse on your part, as determined by the Manufacturer. Repair costs outside the warranty period, or those resulting from product misuse or abuse, may be invoiced to you.

The warranty period for this product is noted on the Warranty Card.

PRODUCT RETURN

To limit charges and delays, contact the seller or Manufacturer for authorization and shipping instructions before returning the product, either within or outside of the warranty period. When returning the product, please state the reason for the return. For your protection, pack the product carefully and insure it against possible damage or loss. Any damages resulting from improper packaging are your responsibility.

TECHNICAL ASSISTANCE

If you have any questions about the use of this product, contact the Manufacturer or authorized seller.

These products are covered by one or more of the following U.S. and corresponding foreign patents:
4,813,855

Printed in U.S.A.
060800

OPERATING MANUAL

MASTERFLEX® L/S®

EASY-LOAD® PUMP HEADS



Cole-Parmer Instrument Co.
625 East Bunker Court
Vernon Hills, Illinois U.S.A. 60061-1844

800-MASTERFLEX (627-8373)
(847) 247-2929 FAX
www.masterflex.com
e-mail: techinfo@coleparmer.com

A-1299-0335
Edition 06

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SAFETY PRECAUTIONS

WARNINGS: ***Turn drive off before removing or installing tubing. Fingers or loose clothing could be caught in the rollers.***

Stop the drive when changing the tubing or its position in the rotor mechanism (the rotor is partially exposed when the LOADING LEVER is in the open position).

⚠ WARNING: PRODUCT USE LIMITATION

This product is not designed for, nor intended for use in patient connected applications; including, but not limited to, medical and dental use, and accordingly, has not been submitted for FDA approval.

NOTE: *Use only MASTERFLEX precision tubing with MASTERFLEX pumps to ensure optimum performance. Use of other tubing may void applicable warranties.*

C-FLEX—Reg TM Consolidated Polymer Technologies, Inc.
NORPRENE, PHARMED, TYGON—Reg TM Norton Co.
Trademarks bearing the ® symbol in this publication are registered in the U.S. and in other countries.

SPECIFICATIONS

Pump Head no.	Pump Material	Occlusion	Shaft Length	L/S® Tubing
7518-00	PSF/CRS	Fixed	Short	L/S® 13, 14, 16, 25, 17, 18
7518-02	PSF/CRS	Fixed	Short	L/S® 15, 24
7518-10	PSF/SS	Fixed	Short	L/S® 13,14, 16, 25, 17, 18
7518-12	PSF/SS	Fixed	Short	L/S® 15, 24
7518-20	PSF/CRS	Fixed	Long	L/S® 13, 14, 16, 25, 17, 18
7518-22	PSF/CRS	Fixed	Long	L/S® 15, 24
7518-30	PSF/SS	Fixed	Long	L/S® 13,14, 16, 25, 17, 18
7518-32	PSF/SS	Fixed	Long	L/S® 15, 24
7518-60	PPS/SS	Fixed	Short	L/S® 13, 14, 16, 25, 17, 18
7518-62	PPS/SS	Fixed	Short	L/S® 15, 24
7518-80	PPS/SS	Fixed	Long	L/S® 13, 14, 16, 25, 17, 18
7518-82	PPS/SS	Fixed	Long	L/S® 15, 24

Typical Flow, Pressure and Vacuum Data:

L/S® Tubing	Flow Rate		Discharge Pressure*		Vacuum*	Suction Lift*
	@1 rpm mL/Rev	@ 600 rpm mL/min	Contin. psig (bar)	Interm. psig (bar)	@ 600 rpm in (mm) Hg	@ 600 rpm ft (m) H_2O
L/S® 13	0.06	36	25 (1.7)	40 (2.7)	26 (660)	29 (8.8)
L/S® 14	0.21	130	25 (1.7)	40 (2.7)	26 (660)	29 (8.8)
L/S® 16	0.80	480	25 (1.7)	40 (2.7)	26 (660)	29 (8.8)
L/S® 25	1.7	1000	20 (1.4)	35 (2.4)	26 (660)	29 (8.8)
L/S® 17	2.8	1700	15 (1.0)	20 (1.4)	20 (510)	22 (6.7)
L/S® 18	3.8	2300	10 (1.0)	15 (1.4)	20 (510)	22 (6.7)
L/S® 15	1.7	1000	25 (1.7)	40 (2.7)	26 (660)	29 (8.8)
L/S® 24	2.8	1700	25 (1.7)	40 (2.7)	26 (660)	29 (8.8)

Number of rollers: 3

Maximum pump speed (rpm): 600

Nominal torque load-Running: up to 90 oz-in (6.5 kg-cm)

Housing materials: Polysulfone (PSF) or Polyphenylene sulfide (PPS), stainless steel (SS), anodized aluminum, nylon

Roller/bearing materials: Cold-rolled steel (CRS)/Cold-rolled steel (CRS) or Stainless steel (SS)/Sealed stainless steel

Rotor materials: Cold-rolled steel (CRS) or Stainless steel (SS)

Operating temperature ‡: 32°F to 104°F (0°C to 40°C)

Storage temperature: -49°F to 149°F (-45°C to 65°C)

Humidity: 0 to 90% (non-condensing)

Dimensions (W x H x D):

Operating: 4 9/16 in x 4 in x 2 3/16 in (116 mm x 102 mm x 56 mm)

Open: 4 9/16 in x 5 13/16 in x 2 3/16 in (116 mm x 148 mm x 56 mm)

Weight: 1 lb (0.45 kg)

* As tested with NORPRENE®, PHARMED® and TYGON® tubing. Values will be less with silicone and C-FLEX®.

‡ Use in this temperature range for continuous duty operation with no decrease in performance or product life. Pump heads will work outside this range with some possible reductions in performance or product life.

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0335 new 11/20/00 10:00 AM Page 3

INTRODUCTION AND GENERAL DESCRIPTION

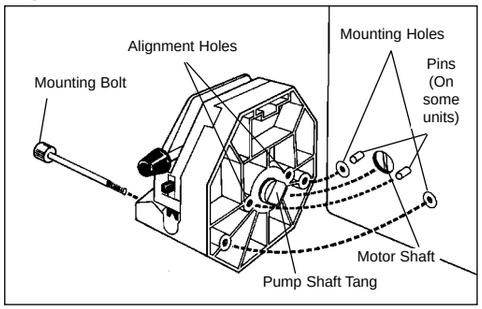
This EASY-LOAD pump head when combined with a MASTERFLEX® L/S® drive or compatible system is designed to provide a simple easy-to-use peristaltic pump system. The Pump Head accepts several different tubing sizes for a wide range of flow rates. The unique over-center cam design and adjustable tubing retention allows quick tubing changes and greatly reduced maintenance time.

Each pump is supplied complete with a 15 in (38-cm) length of tubing, one mounting hardware package and this manual. No tools are required to complete installation.

DRIVE COMPATIBILITY AND SETUP

The L/S EASY-LOAD Pump Head is compatible with most MASTERFLEX® L/S® drives with a standard tang interface. Mount the Pump Head using the 2 screws provided. **(See Figure #1.)**

Figure #1. Setup



TUBE LOADING

1. Be sure the pump drive is turned off.
2. Rotate the lever to the left to open the pump.
3. Load tubing of the correct size. Center the tubing between the retainers. **(Figure #2.)**
4. Rotate the lever to the right to close. **(Figure #3.)**

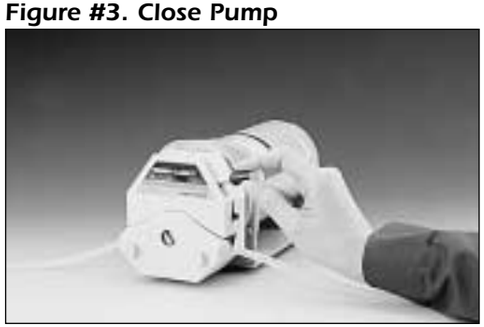
WARNING: Stop the drive when changing the tubing or its position in the rotor mechanism (the rotor is partially exposed when the LOADING LEVER is in the open position).

NOTE: For optimum tubing life, keep tubing straight where it enters and exits the pump.

Figure #2. Open and Load



Figure #3. Close Pump



TUBE LOADING (cont'd)

5. Adjust tubing retainer. **(Figure #4.)**

Release the tubing retainer from its locked position by pushing it slightly into the body, then downward and firmly against the tubing.

Repeat for both sides.

NOTE: Tubing retainers usually do not need to be readjusted when changing tubing of the same type and size.

Figure #4. Retainer Adjustment



NOTE: There are a few combinations of tubing and materials that may require a further adjustment of the tubing retainers if the tubing creeps. Open pump head, move tubing retainer down one (1) notch, then close pump head. Turn pump on. If tubing creep persists, repeat procedure.

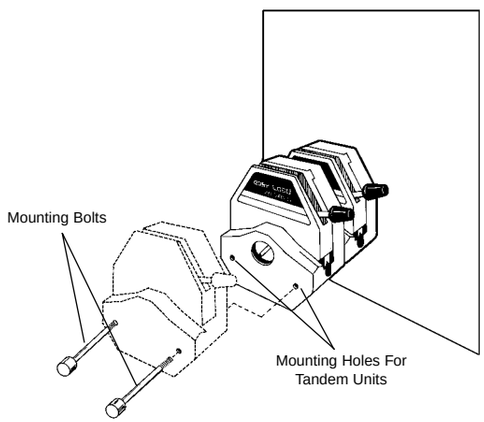
MULTI-CHANNEL MOUNTING

L/S EASY-LOAD Pump Heads can be mounted in tandem (up to four) depending upon the torque capabilities of the drive. **(See Figure #5.)**

Special mounting hardware is required.

See REPLACEMENT PARTS AND ACCESSORIES for mounting hardware.

Figure #5. Multi-channel Mounting



CAUTION: DO NOT OVERTIGHTEN SCREWS OR WING NUTS.

NOTE: The L/S EASY-LOAD Pump Head can be used in any combination with other L/S EASY-LOAD II Pump Heads. The longer L/S EASY-LOAD II mounting hardware is required (not supplied).

NOTE: The tubing on the inside EASY-LOAD Pump Head(s) can be changed without dismantling the outside pump head(s) from the drive.

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0335 new 11/20/00 10:00 AM Page 3

INTRODUCTION AND GENERAL DESCRIPTION

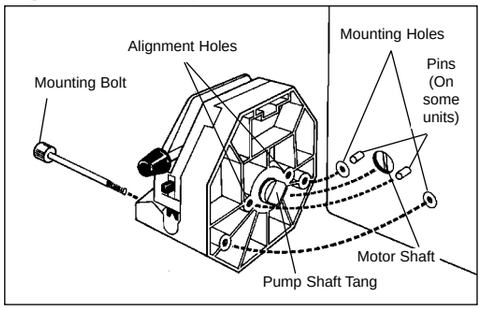
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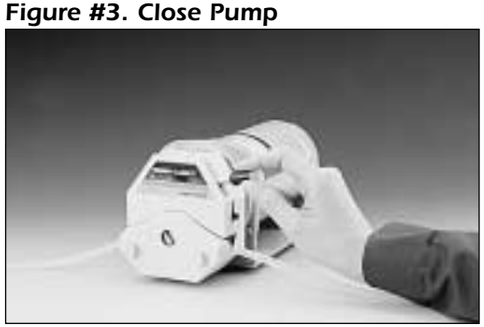
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TUBE LOADING (cont'd)

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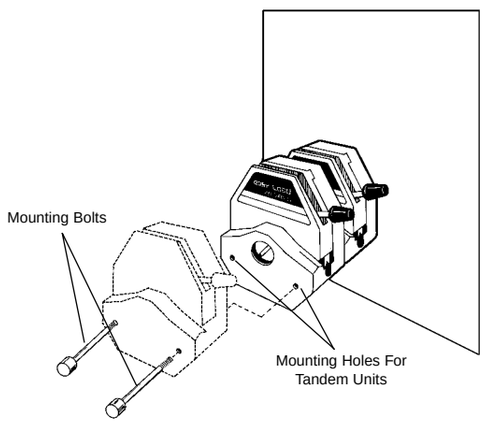
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0335 new 11/20/00 10:00 AM Page 4

MAINTENANCE

No lubrication is required for the L/S EASY-LOAD Pump Head.

See REPLACEMENT PARTS AND ACCESSORIES for parts ordering information. Contact dealer for further repair information.

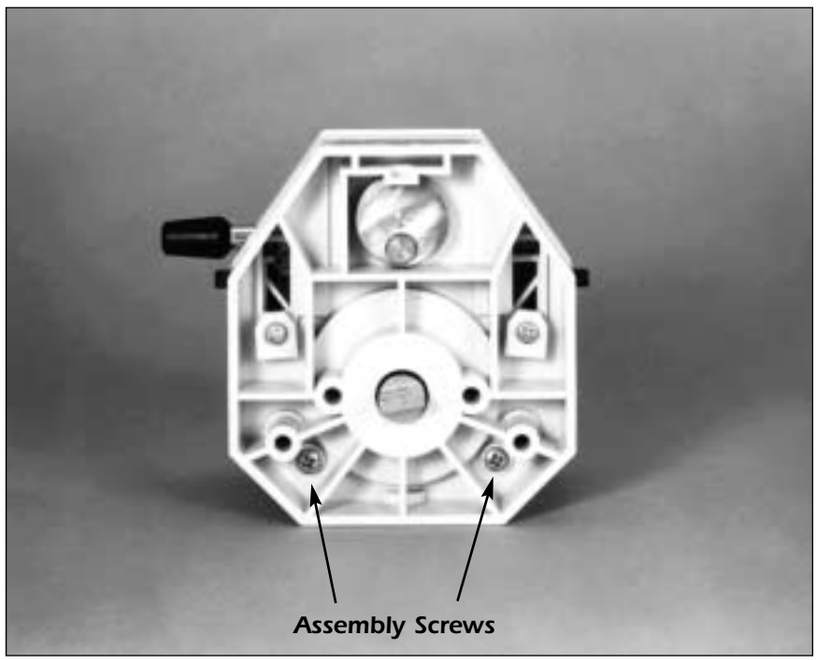
Cleaning

Use a mild detergent solution to clean the pump head.
Do not immerse, nor use excessive fluid.

Disassembling Pump Head

1. Remove pump head from drive.
2. Remove the two screws shown in **Figure #6**.

Figure #6. Disassembling Pump Head



3. Remove rotor/bearing support assembly.
4. Replace rotor/bearing support assembly and secure with two screws.

NOTE: Screws have a high/low dual thread. Be careful to engage the threads in the housing properly.

REPLACEMENT PARTS AND ACCESSORIES

A. Main body assembly (occlusion bed with rear bearings).

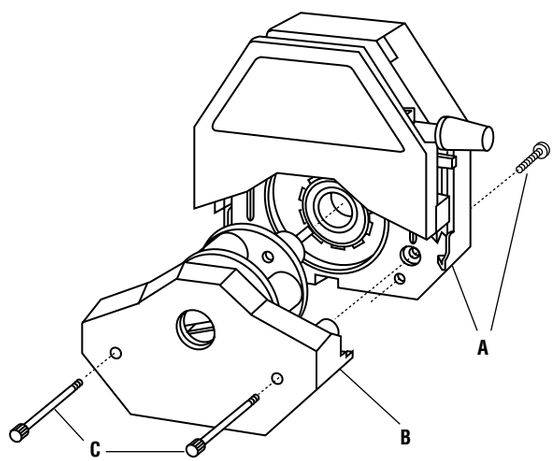
Pump Head no.	PSF order no.	Pump Head no.	PPS order no.
7518-00, -02, -20, -22	**07518-07**	—	—
7518-10, -12, -30, -32	**07518-17**	7518-60, -62, -80, -82	**07518-67**

B. Rotor/bearing support assembly.

Pump Head no.	Short shaft order no.	Pump Head no.	Long shaft order no.
7518-00	**07518-08**	7518-20	**07518-28**
7518-02	**07518-09**	7518-22	**07518-29**
7518-10	**07518-18**	7518-30	**07518-38**
7518-12	**07518-19**	7518-32	**07518-39**
7518-60	**07518-68**	7518-80	**07518-88**
7518-62	**07518-69**	7518-82	**07518-89**

C. Mounting hardware for L/S EASY-LOAD pump heads.
Set contains #8-32 screws, washers, and wing nuts (in 2-, 3- and 4-head hardware).

Number of heads to be mounted	Stainless steel order number
1	**07013-04**
2	**07013-05**
3	**07013-08**
4	**07013-09**



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0335 new 11/20/00 10:00 AM Page 4

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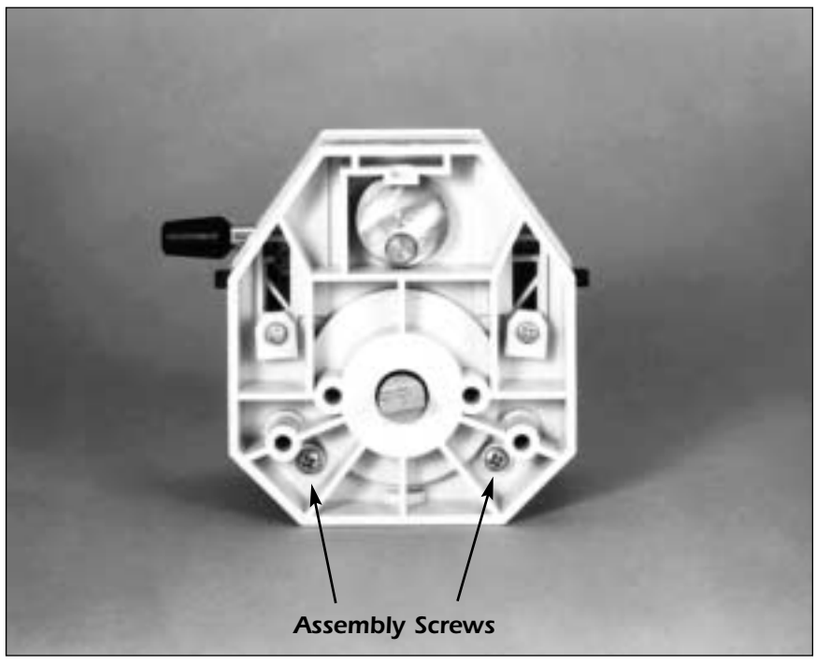
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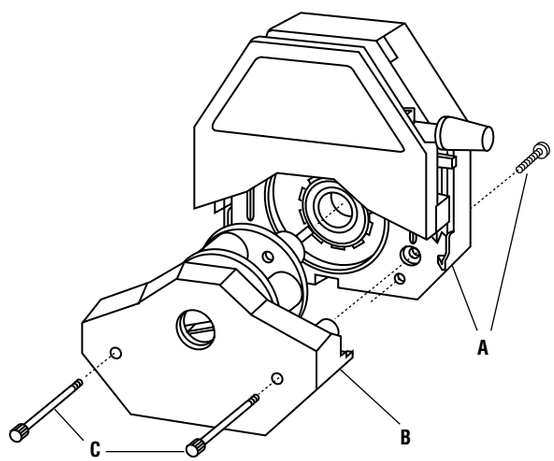
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B. Rotor/bearing support assembly.

Pump Head no.	Short shaft order no.	Pump Head no.	Long shaft order no.
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Cole-Parmer Instrument Co.
625 East Bunker Court
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e-mail: techinfo@coleparmer.com

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