

MODEL L-30

L-30N, L-30R, L-30CR, VERTICAL L-30NV, L-30CRV

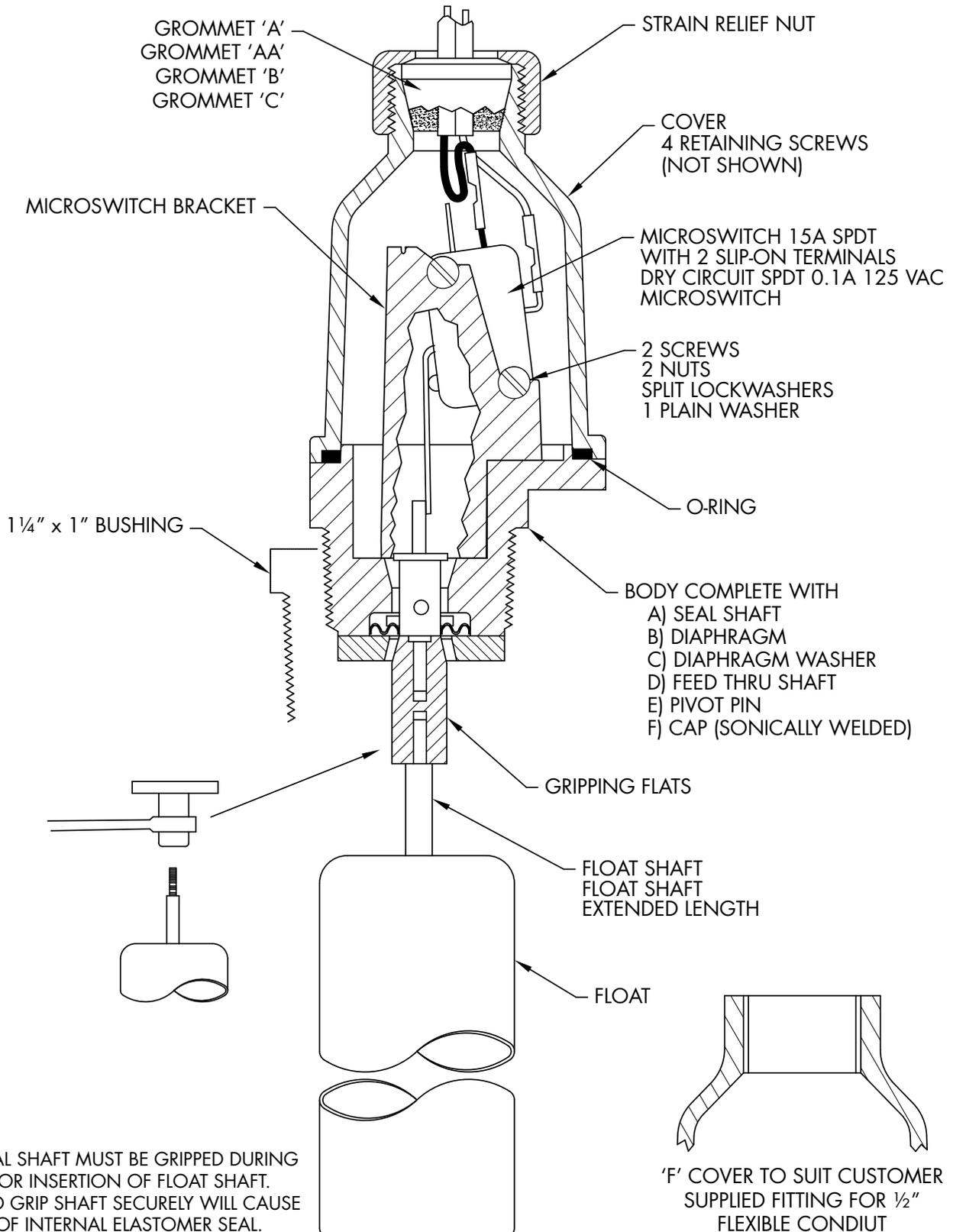
HARWIL CORPORATION

541 KINETIC DRIVE, OXNARD, CA 93030

TEL: (805) 988-6800 FAX: (805) 988-6804

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INSTALLATION AND OPERATING INSTRUCTIONS



ULTRA RELIABLE SINCE 1956

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The L-30 liquid level switch is supplied with a 1½" or 1¼" x 1" bushing, threaded in place with 2 to 3 wraps of Teflon tape, which must be intact or renewed if the bushing and switch are separated before assembly in the tank. Care must be taken when threading the bushing into plastic or metal fittings. Apply a minimum of 2 to a maximum of 3 wraps of Teflon tape to the threads of the bushing—this is especially important if the unit is to be used in metal fittings where coarse METAL THREADS could gall plastic if not lubricated. The plastic bushing CAN BE CRACKED if the main body of the flow switch is tightened into it FIRST. Cracking will not occur if the bushing is FIRST tightened into the pipe or tank fitting and THEN the L-30 body is tightened into the bushing.

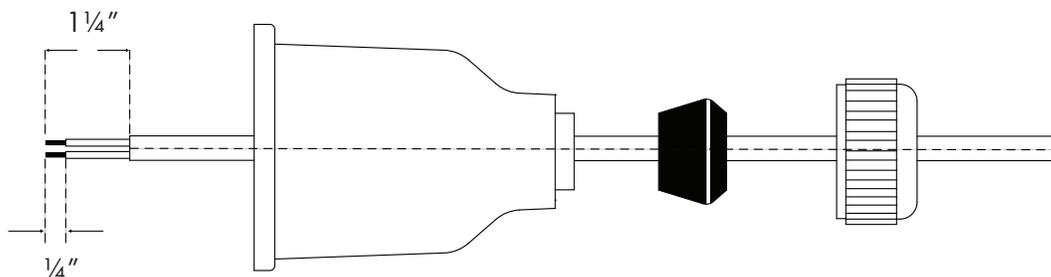
Thus:

1. Teflon tape thread and tighten plastic bushing into pipe or tank fitting.
2. Teflon tape thread and tighten L-30 switch into a PLASTIC bushing by applying a wrench to the hexagonal section. Repeat steps 1 and 2 until the ARROW on the body points UPWARD and threads are leak tight.

Plumber's tools, such as pipe wrenches, are not recommended. If possible, use a "rigid" type wrench where the smooth jaws closely fit the hexagonal section.

ELECTRICAL WIRING

1. Remove the gland nut, grommet, and switch cover.
2. Strip the outer jacket of the electrical cord back approximately 1¼". Strip the insulation from individual conductors back approximately ¼".
3. Slip on terminals are supplied with each switch. Remove from switch terminals and crimp on or solder them to the electrical leads.
4. Feed the electrical cable through the gland nut, grommet, and switch cover as shown.



5. Apply slip on terminals to appropriate contacts of the microswitch. Slide the cover down the cable and fasten it to the body of the switch with the four screws provided. Push the grommet into the tapered end of the cover. Hold the cable jacket to prevent rotation and thread the gland nut firmly onto the cover.

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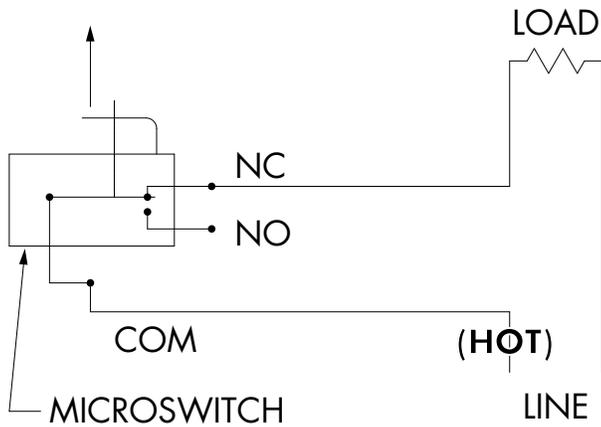
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LOW LIQUID LEVEL ALARM

Fig 1: Wiring schematic for power applied to load when liquid level is less than set point (power to load interrupted when level increases to above set point).

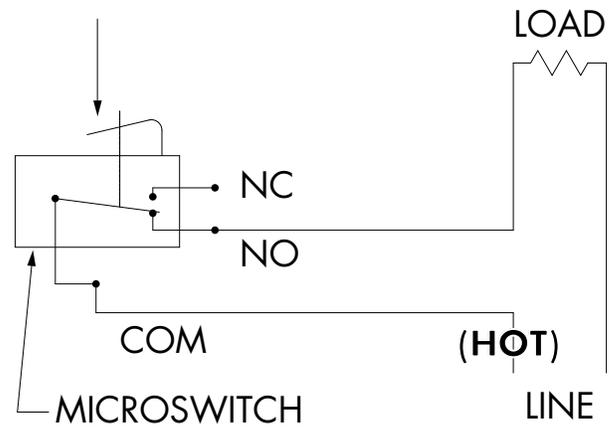
Decreasing liquid level moves actuator in direction shown.



HIGH LIQUID LEVEL ALARM

Fig 2: Wiring schematic for power applied to load when liquid level is greater than set point (power to load interrupted when level decreases to below set point).

Increasing liquid level moves actuator in direction shown.



Microswitch actuation point may be monitored by an audible click or with an ohmmeter before connecting line power to the switch terminals or by monitoring the voltage supplied to the load through the microswitch.

BREAKDOWN OF PARTS DIAGRAMS ON FOLLOWING PAGES

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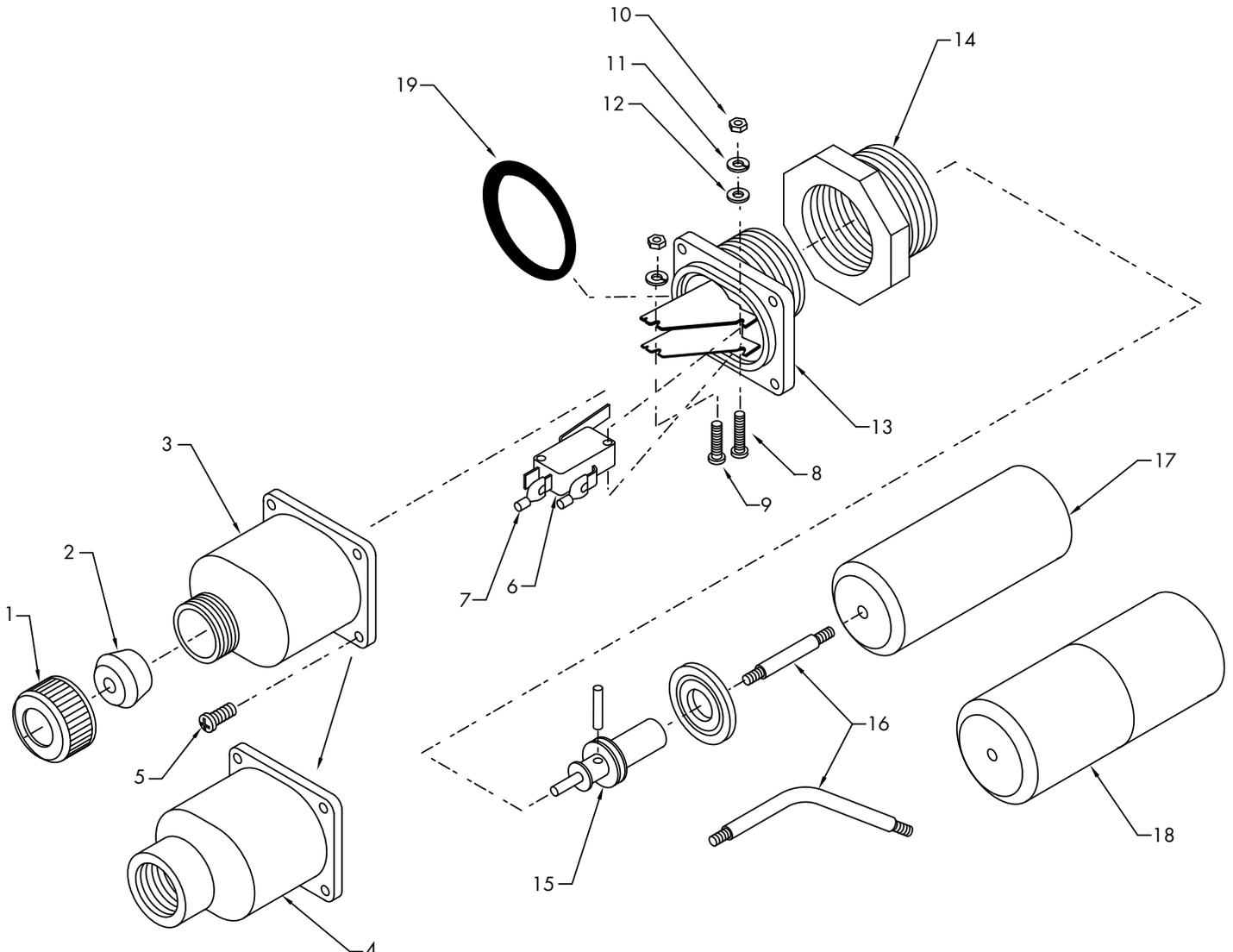
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#	PART NAME	QTY	PART #	#	PART NAME	QTY	PART #
1	STRAIN RELIEF NUT	(1)	60127 (N) 65301 (R, CR)	13	BODY (ASSEMBLY ONLY)	(1)	65203 (N) 65304 (R, CR)
2	GROMMET				CLAMP RING (SONIC WELD)	(1)	65102 (N) 65305 (R, CR)
	#A (OPTIONAL)	(1)	10440 (N, R) 65701 (CR)	14	BUSHING REDUCER (OPTIONAL)	(1)	65204 (N) 65306 (R, CR)
	#AA (OPTIONAL)	(1)	10441 (N, R) 65702 (CR)		BUSHING REDUCER (OPTIONAL)	(1)	65205 (N) 65307 (R, CR)
	#B (OPTIONAL)	(1)	10442 (N, R) 65703 (CR)	15	FEED-THRU SHAFT (ASSEMBLY ONLY)	(1)	65103
	#C (OPTIONAL)	(1)	10443 (N, R) 65704 (CR)		A) SEAL SHAFT	(1)	65104
3	COVER (MALE) (OPTIONAL)	(1)	60125 (N) 65302 (R, CR)		B) DIAPHRAGM	(1)	65105 (N) 65705 (R, CR)
4	COVER (FEMALE) (OPTIONAL)	(1)	60126 (N) 65303 (R, CR)		C) DIAPHRAGM WASHER	(1)	65106 (N) 65306 (R, CR)
5	SCREW	(4)	109-S	16	D) PIVOT PIN	(1)	65107
6	MICROSWITCH	(1)	20103		3) CROSS PIN	(1)	65108
7	TERMINALS	(3)	706-T	17	SHAFT #2-B (OPTIONAL)	(1)	65208 (N, R) 65708 (CR)
8	SCREW	(1)	133-S		45% (OPTIONAL)	(1)	65402 (N, R) 66004 (CR)
9	SCREW	(1)	116-S	18	FLOAT (NORYL) (OPTIONAL)	(1)	65601 (N)
10	NUT	(2)	219-N	19	FLOAT (RYTON) (OPTIONAL)	(1)	65805 (R, CR)
11	WASHER	(2)	311-W		FLOAT (POLYPROPYLENE) (OPTIONAL)	(1)	65602
12	WASHER	(2)	301-W		O-RING	(1)	65110



CERTIFICATE OF CONFORMANCE

All Harwil Corporation ("HARWIL") products are manufactured using new materials and components. Our products meet the applicable performance and materials specifications indicated in our current Specifications Sheets and Parts List. HARWIL endeavors to obtain its materials and components from American Companies.

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Each user **MUST** make appropriate analysis and tests to determine the suitability of the HARWIL product for the intended use prior to purchase.

HARWIL warrants that all HARWIL products will be free from defects in material and workmanship for a period of one year from the date of original shipment. This Warranty shall be LIMITED to the replacement and reconditioning of our products and parts. HARWIL reserves the right and sole discretion to modify or change the composition, design and appearance of its products at anytime.

THIS WARRANTY SHALL BE IN LIEU OF ALL WARRANTIES OF MERCHANTABILITY AND OF ALL WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE RELATING TO HARWIL PRODUCTS AND PARTS. BUYER'S SOLE REMEDY SHALL BE REPLACEMENT OR RECONDITIONING AS SET FORTH HEREIN.

HARWIL SHALL INCUR NO OBLIGATIONS HEREUNDER AND NO LIABILITY IN THE EVENT OF (1) BUYER NOT FULFILLING ITS RESPONSIBILITIES; INCLUDING AS SET FORTH HEREIN; (2) NEGLIGENCE, ALTERATION OR IMPROPER PRODUCT USE, INCLUDING USE WITH NON-COMPATIBLE DEVICES OR CHEMICALS; OR (3) REPAIR BY ANOTHER COMPANY OR PERSON THAN HARWIL.

ANY LAWSUIT RELATING TO THIS LIMITED EXPRESS WARRANTY MUST BE COMMENCED WITHIN ONE YEAR OF THE DATE THE LAWSUIT ACCRUES.

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Corrosion resistance information listed in HARWIL specification sheets, information sheets and product brochures is solely for general background information. This information table has been compiled from literature published by various material suppliers and by equipment manufacturers who use these materials in their products. Inasmuch as these data are based on tests by entities over which HARWIL has no control, HARWIL DOES NOT GUARANTEE AND DOES NOT ACCEPT ANY RESPONSIBILITY FOR THE ACCURACY OF SUCH THIRD PARTY TESTING. When using the table, please remember that in any given case several factors such as concentration, temperature, degrees of agitation and presence of impurities influence the rate of corrosion. The information table is intended, in a general way, to rate materials for resistance to chemicals which contain their usual impurities and for types of equipment in common use. Ratings should be used only as a general tool to first approximation of your material requirements rather than as the final answer.

WHEN IN DOUBT, TEST MATERIALS BEFORE INSTALLATION.
AFTER INSTALLATION, FOLLOW UP WITH SCHEDULED PREVENTATIVE MAINTENANCE AND PERIODIC INSPECTION.