

NOTE: THOSE PARTS NOT SPECIFIED OTHERWISE ARE COMMON TO ALL MODELS: L-5, L-5SS, LD-5, AND LD-5SS



- The level switches are supplied with a 2" x 1" TT bushing threaded in place with 2 to 3 strips of Teflon tape, which
 must be intact or renewed if the bushing and switch are separated before assembly in the tank. Apply a mimimum of
 two (2) to a maximum of three (3) wraps of Teflon tape to the male threads of the bushing. This is especially important
 if the unit is to be used in metal fittings where coarse threads could bind if not lubricated.
- 2. Thread the unit into the tank and tighten it until a good no-leak seal is obtained, and until the arrows molded onto the body casting and printed on the label are pointed vertically downward.
- 3. Remove the cover and test for proper switch action by applying multimeter probes to common, NO and NC terminals of microswitch while actuating the switch lever arm.
- 4. The unit is supplied with the adjusting spring in the relaxed condition. Leave the spring in the relaxed condition and fill the vessel until the float is submerged. If the switch is actuated, proceed with the electrical wiring. If the specific gravity of the working fluid is too low to lift the float actuate the switch, the buoyancy adjusting feature must be used. <u>Turn the lead screw clockwise</u> until the switches are actuated. Lower the liquid level until the float is clear of liquid and the switch is de-actuated. Raise the liquid level again until the float is submerged and the switch actuates. If no further spring bias adjustment is required, proceed with wiring to local code.

ELECTRICAL WIRING

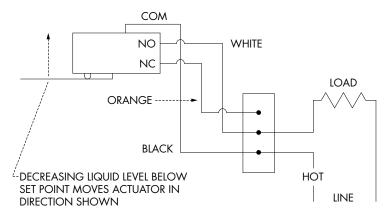
- 1. <u>Models L-5 and L-5SS are supplied with Harwil strain relief cable fitting for use with round, rubber or plastic jacketed</u> power cable.
 - a. Remove gland nut and tapered rubber grommet from strain relief cable fitting and slide over cable fitting and slide over cable with gland nut going on first.

Note: Check match outside diameter of cable with inside diameter of grommet. No more than 0.020" of play should be evident.

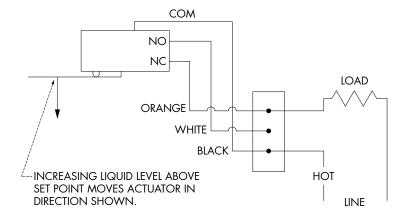
b. Strip outer jacket of cable back 51/2". Strip insulation from individual conductors approximately 1/4".

FIG. 1: Wiring schematic for power applied to load when liquid level is <u>lower</u> than set point (power to load interrupted when liquid level is <u>above</u> set point).

FIG. 2: Wiring schematic for power applied to load when liquid level is <u>higher</u> than set point (power to load interrupted when liquid level is <u>below</u> set point).



Decreasing liquid level below set point moves actuator in direction shown.



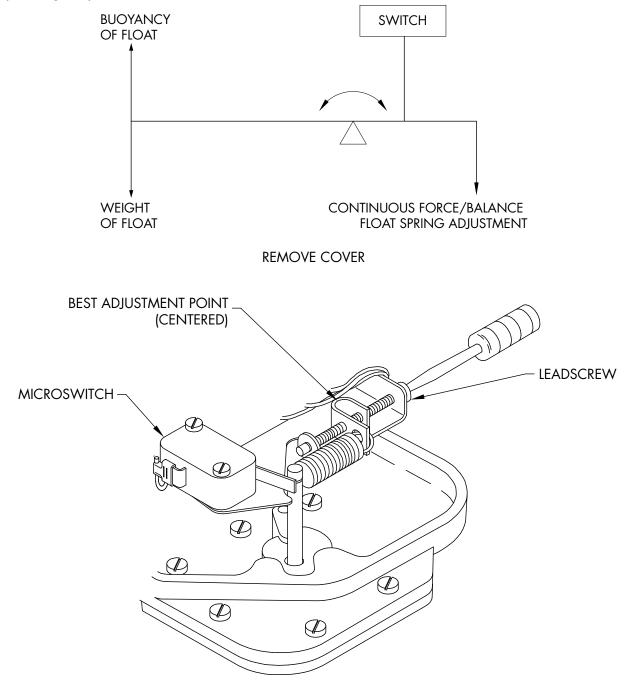
Increasing liquid level below set point moves actuator in direction shown.



- c. Fork terminals are supplied with each switch. Remove from terminal strip and crimp or solder to appropriate leads.
- d. Feed cable up through cable fitting and attach leads to terminal strip per wiring schematics. Fig. 1 or Fig. 2 below.
- e. Push rubber grommet into conical hole in cable fitting, allowing enough cable to protrude from opposite side to allow some slack in leads attached to terminal strip. Grip cable to prevent rotation and thread gland nut onto the cable fitting to seal grommet tightly to cable.
- 2. <u>Models LD-5 and LD-5SS are supplied with Harwil strain relief cable fitting for use with round, rubber or plastic jacketed power cable.</u>
 - a. As "1-a" above.
 - b. Strip outer jacket of cable back 2". Strip insulation from individual conductors approximately 1/4".
 - c. Each microswitch is supplied with 3 flag slip on terminals. Remove microswitch and crimp or solder to appropriate leads.
 - d. Feed cable up through cable fitting and attach leads to microswitches per wiring schematics. Fig. 1 or Fig. 2 below.
 - e. Push rubber grommet into conical hole in cable fitting. Side cable through until end of jacket is flush with inboard end of cable fitting. Grip cable to prevent rotation and thread gland nut onto cable fitting to seal grommet tightly to cable.
- 3. <u>Electrical fitting other than Harwil strain relief fitting.</u>
 - a. Attach fitting to body and attach conduit to fitting and wire to local code per wiring schematics Fig. 1 or Fig. 2.
 - b. Microswitch actuation point may be monitored by an audible click or with an ohm meter before connecting line power to the terminal strip or by monitoring the voltage supplied to the load through the microswitch.

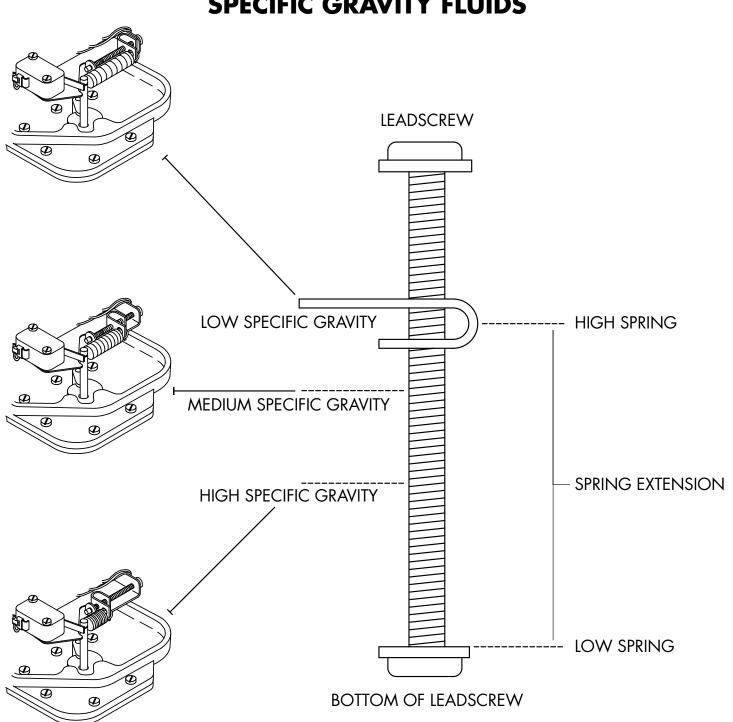


Models L-5, LD-5, L-5SS, and LD-5SS are provided with a continuous adjustable float buoyancy control to allow use in fluids with specific gravity down to 0.6.



- 1. Remove cover.
- 2. All units are delivered with the spring in the fully relaxed condition which corresponds to the maximum specific fluid condition.
- 3. Insert blade type screwdriver in slotted end of adjusting screw and turn in a clockwise direction. This extends the length of adjusting spring, which in turn adjusts the float net effective buoyancy to respond to lower specific gravity fluids.





SPECIFIC GRAVITY FLUIDS

Microswitch actuation point may be monitored during the adjustment procedure detailed in (2 and 3) above by an audible click or with an ohm meter before connecting line power to the terminal strip, or by monitoring the voltage supplied to the load through the microswitch.



(Series 20500)											
Number. 1 2 3 4 5 6 7 7 8 9 10 11 12	Part Name COVER CASTING SCREW UOCKWASHER SCREW WASHER LID CASTING CONNECTOR CABLE - optional BODY NUT GROMMET #A GROMMET #A GROMMET #B GROMMET #C LOCKNUT O RING CONNECTOR CABLE - optional CONNECTOR CABLE - optional CONNECTOR CABLE - optional FEEDTHRU SHAFT - assembly only RUBBER MOLDED PIN WASHER SCREW	<pre>(1) (1) (1) (1) (1) (1) (1) (1) (1) (1)</pre>	Part Number 20300 112-5 321-W 107-5 319-W 20301 60116 10429 10430 10440 10441 10442 10443 101-DC 20117 20115 20116 20501 20134 20135 324-W	Number. 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39	Part Name GASKET BODY CASTING BUSHING SPACER SPRING LEADSCREW SHRINKWRAP SCREW BRACKET WASHER WASHER WUT TERMINAL STRIP WASHER SCREW MICROSWITCH SCREW TERMINALS WIRE TERMINALS WIRE FLOAT FLOAT STUD LABEL	Qty (1) (1) (2) (1) (1) (1) (1) (1) (1) (2) (2) (2) (2) (1) (2) (2) (1) (2) (3) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	Part Number 20307 20208 20505 20315 20316 20107 901-F 132-S 20314 300-W 311-W 20102 313-W 117-S 20103 116-S 708-T 20318 706-T 20318 706-T 20317 20504 20502 20503 20502				
	WASHER 4 5 6 7 9 10 10 10 10 12 38	=		40	INSTRUCTION SHEET	30 29 22 23 24 25 20 20 20 20 20 20 20 20 20 20					

L-5, LD-5 (Brass Body) (Series 20500)



(Series 20600)											
	Number.	Part Name	Qty	Part Number	Number.	Part Name	Qty	Part Number			
	1	COVER CASTING	(1)	20300	14	GASKET	(1)	20407			
	2 3	SCREW LOCKWASHER	(1)	112-S 321-W	15 16	BODY CASTING BUSHING	(1)	20408 20602			
	4	SCREW	(7)	107-S	17	SPACER	(2)	20315			
	4 5 6	WASHER	(7)	319-W	18	Spring	(1)	20108			
	6 7	LID CASTING CONNECTOR CABLE	(1)	20401	19 20	leadscrew Shrinkwrap	(1)	20107 901-F			
	/	- optional	(1)	60116	20	SCREW	(1)	132-S			
		BÓDY	(1)	10429	22	BRACKET	(1)	20314			
		NUT	(1)	10430	23	WASHER	(1)	300-W			
		GROMMET #A GROMMET #AA	(1)	10440 10441	24 25	WASHER NUT	(2) (2)	311-W 201-N			
		GROMMET #B	(1)	10442	26	TERMINAL STRIP	(1)	20102			
		GROMMET #C	(1)	10443 101-DC	27 28	WASHER	(2) (2)	313-W 117-S			
		locknut o ring	(1)	20117	28 29	SCREW MICROSWITCH	(2)	20103			
	8	CONNECTOR CABLE			30	SCREW	(2)	116-S			
	9	- optional CONNECTOR CABLE	(1)	20115	31 32	TERMINALS WIRE	(3) (1)	708-T 20319			
	7	- optional	(1)	20116	32	WIRE	(1)	20319			
	10	FEEDTHRU SHAFT			34	TERMINALS	(3)	706-T			
		- assembly only RUBBER MOLDED	(1)	20601 20405	35 36	WIRE FLOAT	(1)	20317 20504			
		PIN	$\begin{pmatrix} 1 \\ 1 \end{pmatrix}$	20405	37	FLOAT	(1)	20502			
	11	WASHER	(1)	324-W	38	STUD	(1)	20503			
	12 13	SCREW WASHER	(3) (3)	118-S 311-W	39 40	LABEL INSTRUCTION SHEE	(1) FS (1)	20408 20506			
	15	WASHER	(3)	511-44	40	INSTRUCTION STILL	13 (1)	20300			
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L-5SS, LD-5SS (316 Stainless Steel Body) (Series 20600)