

The Concept: GHS Series Oil Change Kits are built to meet the demands of the marine industry. A powerful gear pump provides positive evacuation of dirty oil and refill with fresh oil, and touch-pad operation is simple. All components are enclosed within a handsome hinged cover. GHS Kits are expandable if you decide to increase the number of engines and/or transmissions to be serviced.

Installation Location: Choose a location that is out of the way of engine room traffic. Most installers select a vertical bulkhead installation with plumbing to the engine oil pans at the bottom, but installation in any orientation is acceptable.

Electrical: Full voltage is required for efficient and safe operation. Refer to the wire size selection chart included and run the appropriate wire size to the location you have selected. Remove (4) thumbscrews that hold the cover in place. Refer to figure-1 and run the wires through the rubber grommet in the side of the base and up through the rubber grommet near the terminal screws. Crimp on (2) ring terminals for #8 screw (not provided). DO NOT connect to the terminal screws until the base plate is securely fastened to the chosen mount surface.

Protect your GHS Oil Change System with a dedicated circuit breaker of the proper size:

MODEL	BREAKER
GHS-13 12V, GHS-15 12V	25-AMP
GHS-13 24V, GHS-15 24V	15-AMP

Installation: After electrical wires have been run through the rubber grommets secure the base to the chosen location with (4) 5/16" stainless steel screws with flat washers and lock washers (not provided).

Plumbing:

SERVICE HOSE: Decide whether you want the service hose to exit the cover to the left, right, front or back. (An opening in the cover for left exit is provided). Three (3) and four (4) valve systems may exit through the front, through an unused opening. If you wish to exit right, a knock-out is provided; snip out the uncut part to utilize this opening. If you wish to exit at the back, drill a 1" diameter hole, centered in the blue dot on the inside of the cover. Form a slot by snipping out from the sides of the hole to the edge of the cover to allow for removal of the cover after the discharge hose is in place. Two (2) 45-degree street ells and one (1) 1/2" hose barb are provided.

OIL PAN CONNECTIONS: Minimum hose size for use with GP-1 pumps is 1/2" ID. Note that changing oil will be faster and operation will be quieter with the use of larger hose ID between oil pans and valves. Oil pan connections will be determined by the engine model. A reference chart is enclosed, but you should consult with the engine manufacturer for confirmation as engine models and plumbing requirements change frequently.

IMPORTANT: When making connections to the valves of the GHS kit, hold each valve securely to prevent it from turning while making plumbing connections. Use thread tape on threaded connections, and double-clamp hose connections. Use heavily reinforced hose (such as hydraulic hose) to prevent collapse under suction, and be sure the hose selected is suitable for use with engine oil.

Labels: When the stallation is complete, affix the operating instructions and schematic label to the desired location (inside cover or adjacent bulkhead), then attach each component label to the schematic label.

Operation: Before changing oil, run the engines for a few minutes to mix sludge and warm the oil. Ensure power is applied at the DC breaker panel. Place the service hose into an empty bucket and open the oil change system valve (turn CW) to one engine. Open the oil pan valve (if applicable), press the re-settable circuit breaker on the control panel next to the touch-pad to "Reset"; the red light above "Stop" will illuminate indicating that power is present. Press "Empty" to start the pump. Stop the pump if it does not prime and begin pumping oil within 30 seconds. When the oil flow ceases, press "Stop".

Place the service hose into a bucket with a pre-measured amount of fresh oil. (Consult engine manual for the proper amount of oil

for each engine to be serviced.) Press "Fill" to pump fresh oil back into the engine being serviced, and allow the pump to run for a few seconds after the bucket is empty to pump all oil in the connecting hose into the engine. Press "Stop". Close oil pan valve if applicable. Close oil change system valve.



Repeat this process for each engine. When all engines have been serviced, press the circuit breaker next to the touch-pad to "Off".

DISPOSE OF OLD OIL RESPONSIBLY.

System Expansion: The valve manifold can be expanded from its present configuration to include any number of valves. Both ends of the manifold are fitted with a pipe plug for this purpose. To expand beyond 5 valves you will have to drill a 1" hole in the cover. The blue dots on the inside of the cover identify the location of the hole center for left/right exit or back from the cover. Order additional GROCO #IBV-500-FM valves and elbows as required to complete the desired modification.

Maintenance: If you are using GHS system for oil change no regular maintenance is required.

Winterization: If you are using GHS system for oil change winterization is not required. If you are pumping fresh or saltwater you must protect the system from freezing by draining the pump, valves and manifold. To drain, remove all hose connections and open all valves.

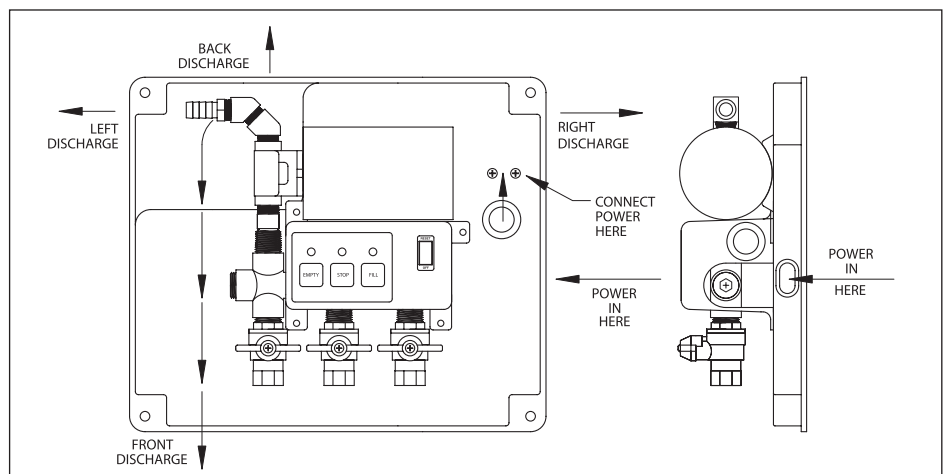


FIGURE 1

G-3, G-4, G-5 and G-6 Series Oil Change Systems Installation, Operation, and Maintenance

ITEM	PART NUMBER	PART NAME	QTY	SERVICE KIT
1	GP-1-C	COVER	1	
2	1032X12HS	SCREW	6	
3	10S	WASHER	4	
5	B-200-G	GROMMETS SET (4)	1	
6	GPK-09-0938	GEAR, KEYED	1	
7	GP-09-0938	GEAR	1	
9	031-075-8	SEAL	2	*
10	2-029	O-RING	1	*
11	GP-1-375B	HOUSING	1	
12	(VOLTAGE)-F	MOTOR	1	
13	012-0038-00	TOUCHPAD, SYMBOLED	1	
	012-0032-00	TOUCHPAD, WORDER	1	
14	SWITCH-7	THERMAL BREAKER	1	
15	G3-C	COVER, 3-VALVE MODELS	1	
	G6-C	COVER, 4, 5, 6 VALVE MODELS	1	
16	IBV-500-FM	VALVE, 3-VALVE MODELS	3	
	IBV-500-FM	VALVE, 4-VALVE MODELS	4	
	IBV-500-FM	VALVE, 5-VALVE MODELS	5	
	IBV-500-FM	VALVE, 6-VALVE MODELS	6	
17	B-200-P	BASE	1	
18	ELBOW-3	3/8" 45-DEGREE ELBOW	2	
19	BPTH500	3/8" NPT X 1/2" BARB	1	
20	G3-B	BASE, 3-VALVE MODELS	1	
	G6-B	BASE, 4, 5, AND 6-VALVE MODELS	1	
21	1420X34HS	BOLT	4	
GP-1	SERVICE KIT			*

