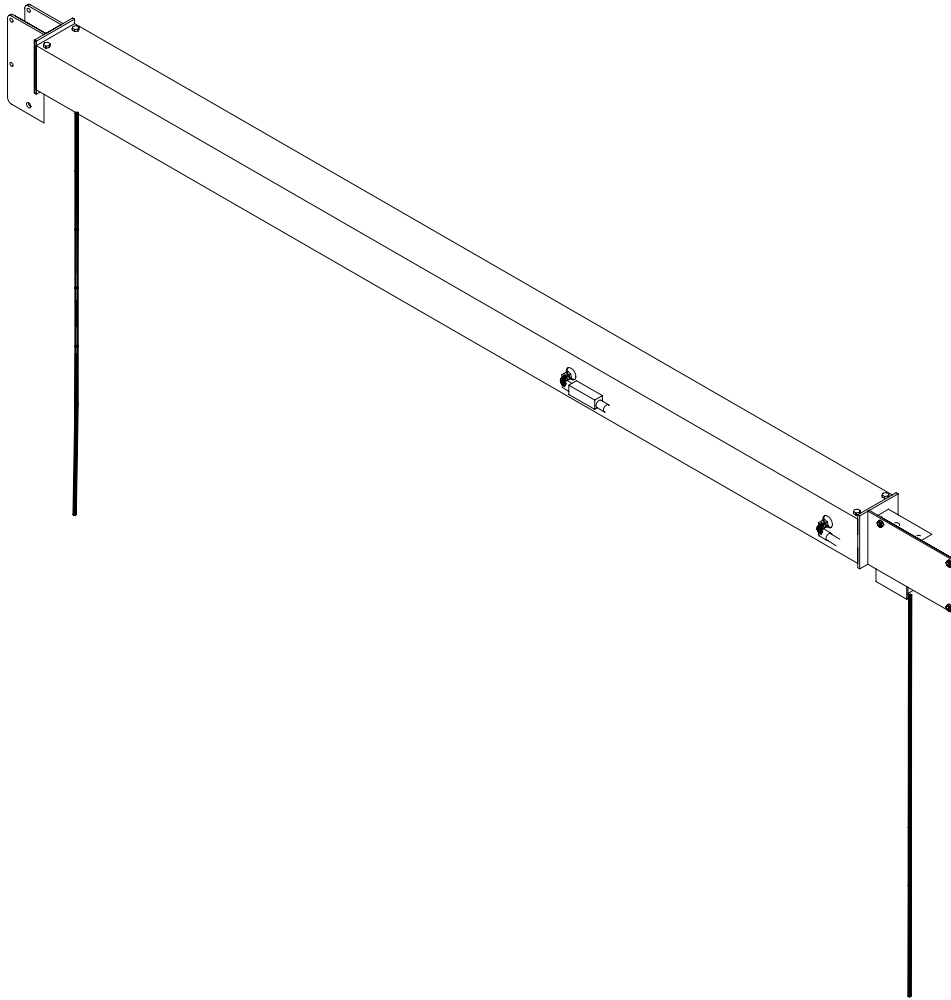




# HVL HYDRAULIC CYLINDER SERVICE INSTRUCTIONS



**REIMANN & GEORGER CORPORATION**  
**MARINE PRODUCTS**  
P/N 611

**BUFFALO, NY**  
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# HVL CYLINDER SERVICING

## CYLINDER DIS-ASSEMBLY

### Reference figure 1.

1. Remove the hydraulic cylinder assembly from the lift.
2. Place the cylinder assembly on a work bench or clean surface. Place the hydraulic cylinder assembly horizontally on the bench with the hydraulic connections facing up.
3. Disconnect the hydraulic hoses and fittings (details 15, 31, 35 & 37) from the cylinder assembly. Place plastic plugs in the cylinder ports to prevent dirt from entering the cylinder.
4. Remove the small sheave, bushing and bolts (details 3, 4, 6, 7, 8, 13 & 26) at the 'D' leg end of the cylinder assembly.
5. Remove the four 3/8-16 x 5 long bolts (detail 9) from each end of the aluminum tube.
6. Remove the 3/8-16 x 6 long bolt (detail 40) that supports the cylinder.
7. Slide out the steel bracket (detail 14) about 3" to 4" from the aluminum tube to access the hydraulic cylinder end clevis pin (detail 11).
8. Remove cotter pin and clevis pin (detail 11 & 18). Remove steel bracket from assembly.
9. You will need to attach a 12' rope to the end of hydraulic cylinder inside the aluminum tube. This rope will be used to pull the hydraulic cylinder and wire rope back thru the aluminum tube when re-assembling.
10. Go to the 'A' leg end of the aluminum tube. Pull the steel bracket out of the aluminum tube. The wire rope cables and the hydraulic cylinder will slide out of this end. Pull the bracket and the wire ropes enough to get access the rod clevis, pin and sheave (detail 16, 17, 18 & 19) but leave the cylinder guide plate (detail 33) inside the end of the aluminum tube.
11. Inspect the wire rope sheave (detail 19) if it rotates freely and check for wear in the grooves.
12. Loosen the set screw (detail 32) on the cylinder rod clevis.
13. Remove the cotter pin on one end of the pin and remove pin from rod clevis.
14. Remove cable sheave from rod clevis. Inspect the sheave again for wear with the sheave pin (detail 17). The bore should be .015" to .03" larger than the pin. If sheave is worn, replace it.
15. Inspect sheave at the 'A' leg end (detail 27) for wear. Check groove wear and bore looseness with bushing (detail 2).
16. Remove wire rope anchor bolt, split lock washer, flat washer and nut (details 6, 7, 8 & 26).

## CYLINDER RE-ASSEMBLY

1. Install anchor bolt (details 6, 7, 8 & 26) to attach end of wire rope cable to "A" steel bracket. Install cables properly to prevent damage.
2. Route cables and install the sheave (detail 19) to the cylinder rod clevis.
3. Using the rope attached to the hydraulic cylinder, also attach the wire rope cable (detail 28) to this rope. Install hydraulic cylinder and wire rope cable into the aluminum tube. Make sure the wire rope cable is going through the slot in the guide plate (detail 33).
4. Pull the cylinder through the aluminum tube until the wire cable and the end of the cylinder are outside the tube.
5. Before installing the 'D' leg bracket, make sure the wire cable is not twisted inside the tube. Install steel bracket (detail 14) and the clevis pin (detail 11).
6. Slide the assembled 'D' leg bracket into the aluminum tube and attach with bolts previously removed.
7. Install the 3/8-16 bolt (detail 40). This bolt supports the front end of the cylinder. This bolt also separates the wire rope cable (detail 28) from the hydraulic cylinder. Make sure the wire rope cable (detail 28) is positioned on the other side of the bolt away from the cylinder.
8. Install 'A' leg bracket into the aluminum tube, make sure the cables are not crossed or pinched.
9. Install fittings on the hydraulic cylinder. Connect hydraulic hoses.

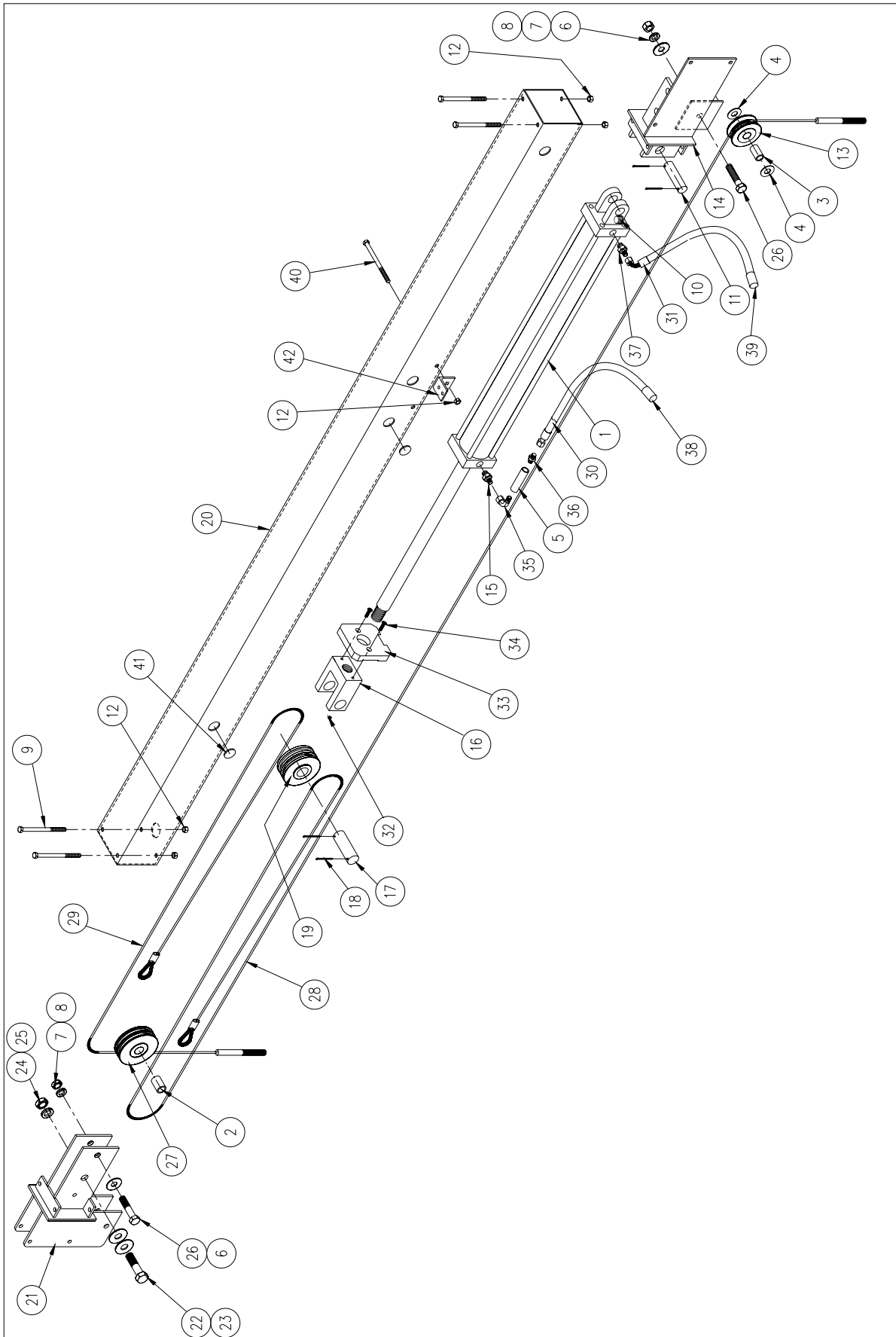
Caution: Test the hydraulic cylinder with a power unit. When running in the 'DOWN' direction, make sure the cables are manually pulled out, damage will occur to the cables.

#3641345 HVL 5K HYDRAULIC CYLINDER ASSEMBLY – See Figure 1

REF #	PART #	QTY	DESCRIPTION
1	6036419	1	Hydraulic Cylinder 3" bore x 30" stroke
2	3607787	1	Bushing Sleeve 1" OD x 1.47" lg
3	3603846	1	Bushing Sleeve 7/8" OD x 1.47" lg
4	5896415	2	5/8" USS Washer
5	6036418	1	Flow Regulator
6	5896414	2	5/8" SAE Washer
7	5806246	2	5/8" Lockwasher
8	5896380	2	5/8-11 Hex Nut
9	5896264	4	3/8-16 x 5-1/2" lg HHCS
10	5616803	1	SAE-8 Hollow Plug
11	3641765	1	Cylinder Clevis pin 3-7/8" lg
12	5897016	5	3/8-16 Hex Locknut
13	7308881	1	Sheave 3-3/8 Sgl
14	3641335	1	Mounting Bracket (D) powder coat
15	5636414	1	3/8" tube 37-degree to SAE -12 straight fitting
16	3641775	1	Cylinder Rod Clevis
17	3641770	1	Cylinder Clevis Pin 4" lg
18	5893645	4	1/8" x 2" Cotter Pin
19	7341935	1	Sheave 4-1/8 Dbl 1-1/4" bore
20	3641520	1	Cover Tube 107-1/4"
21	3641330	1	Mounting bracket (A) powder coat
22	5896121	1	3/4-10 x 3-1/2" Lg HHCS
23	5896417	1	3/4" SAE Washer
24	5806265	1	3/4" Lockwasher
25	5896381	1	3/4-10 Hex Nut
26	5896305	2	5/8-11 x 3" lg HHCS
27	7341945	1	Sheave 4-7/16 Dbl- 1" bore
28	3641305	1	HVL Cable assembly SS 5/16" X 139
29	3641310	1	HVL Cable assembly SS 5/16" X 247
30	3641945	1	Hydraulic Hose Assy 29' x 1/4"
31	3641950	1	Hydraulic Hose Assy 27' x 1/4"
32	5806308	1	1/4-20 x 3/16 lg set screw
33	3641920	1	Cylinder guide plate
34	5892801	2	1/4-20 x 1" Phillip Flat Head Screw
35	5636412	1	3/8 tube 37-degree to 1/4 pipe 90-degree fitting
36	5636411	1	1/4 pipe to 1/4 tube 37-degree straight fitting
37	5636413	1	1/4 tube 37-degree to SAE-12 straight fitting
38	6000700	1	Coupling 1/4 NPT female
39	6000701	1	Coupling 1/4 NPT male
40	5896267	1	3/8-16 X 6" LG HHCS
41		2	Plastic Cap 1-1/2 Dia
42		1	HVL Cyl Hose Support Bracket

#3641380 HVL 5K TALL HYDRAULIC CYLINDER ASSEMBLY – See Figure 1

REF #	PART #	QTY	DESCRIPTION
1	6036417	1	Hydraulic Cylinder 3" bore x 36" stroke
2	3607787	1	Bushing Sleeve 1" OD x 1.47" lg
3	3603846	1	Bushing Sleeve 7/8" OD x 1.47" lg
4	5896415	2	5/8" USS Washer
5	6036418	1	Flow Regulator
6	5896414	2	5/8" SAE Washer
7	5806246	2	5/8" Lockwasher
8	5896380	2	5/8-11 Hex Nut
9	5896264	4	3/8-16 x 5-1/2" lg HHCS
10	5616803	1	SAE-8 Hollow Plug
11	3641765	1	Cylinder Clevis pin 3-7/8" lg
12	5897016	5	3/8-16 Hex Locknut
13	7308881	1	Sheave 3-3/8 Sgl
14	3641335	1	Mounting Bracket (D) powder coat
15	5636414	1	3/8" tube 37-degree to SAE -12 straight fitting
16	3641775	1	Cylinder Rod Clevis
17	3641770	1	Cylinder Clevis Pin 4" lg
18	5893645	4	1/8" x 2" Cotter Pin
19	7341935	1	Sheave 4-1/8 Dbl 1-1/4" bore
20	3641520	1	Cover Tube 107-1/4"
21	3641330	1	Mounting bracket (A) powder coat
22	5896121	1	3/4-10 x 3-1/2" Lg HHCS
23	5896417	1	3/4" SAE Washer
24	5806265	1	3/4" Lockwasher
25	5896381	1	3/4-10 Hex Nut
26	5896305	2	5/8-11 x 3" lg HHCS
27	3641610	1	Sheave 4-7/16 Dbl- 1" bore
28	3641370	1	HVL Cable assembly SS 5/16" X 127
29	3641375	1	HVL Cable assembly SS 5/16" X 235
30	3641950	1	Hydraulic Hose Assy 31' x 1/4"
31	3641960	1	Hydraulic Hose Assy 29' x 1/4"
32	5806308	1	1/4-20 x 3/16 lg set screw
33	3641920	1	Cylinder guide plate
34	5892801	2	1/4-20 x 1" Phillip Flat Head Screw
35	5636412	1	3/8 tube 37-degree to 1/4 pipe 90-degree fitting
36	5636411	1	1/4 pipe to 1/4 tube 37-degree straight fitting
37	5636413	1	1/4 tube 37-degree to SAE-12 straight fitting
38	6000700	1	Coupling 1/4 NPT female
39	6000701	1	Coupling 1/4 NPT male
40	5896267	1	3/8-16 X 6" LG HHCS
41		2	Plastic Cap 1-1/2 Dia
42		1	HVL Cyl Hose Support Bracket



**Figure 1**  
**HVL Cylinder Assembly**