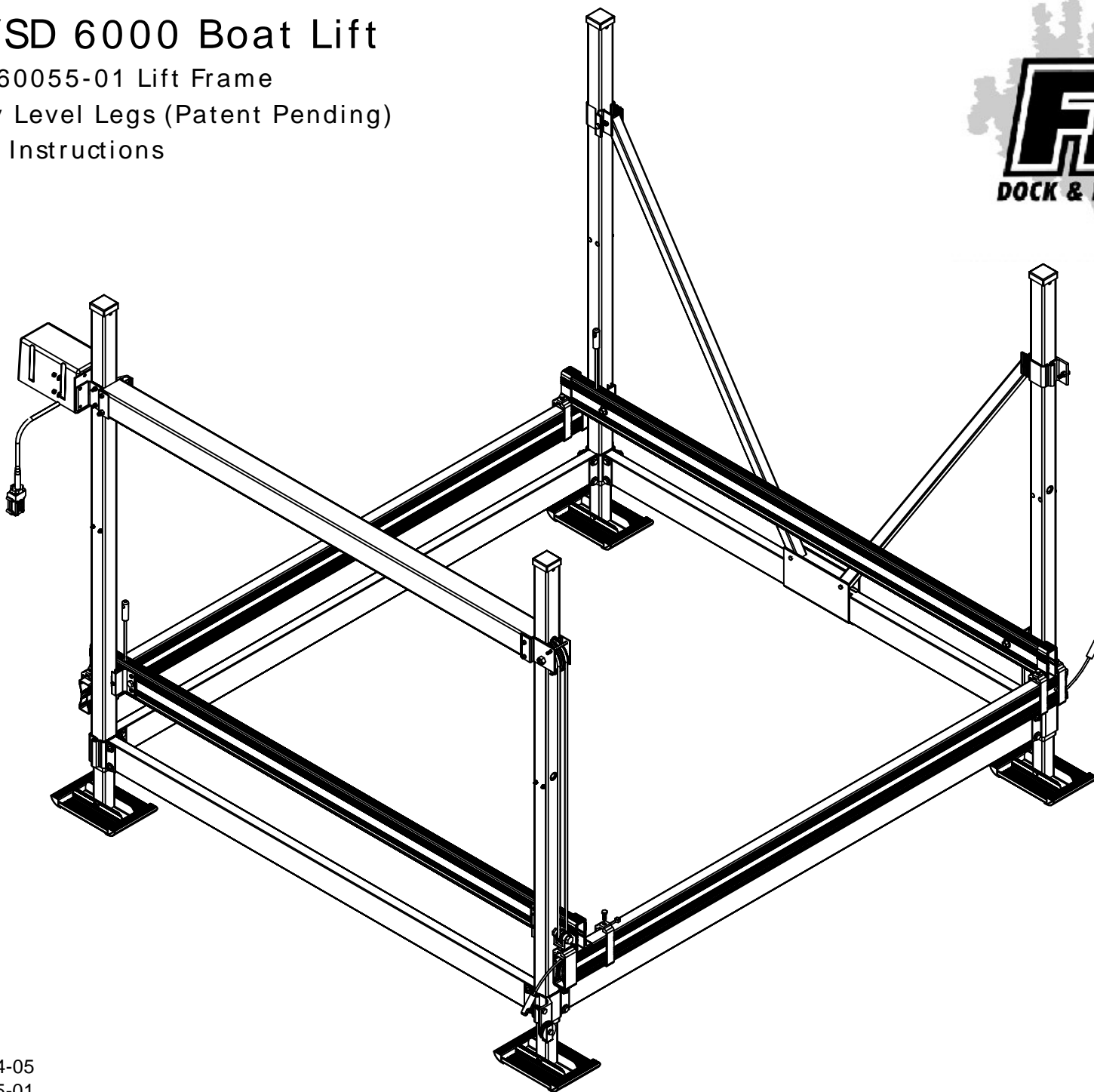


Floe VSD 6000 Boat Lift

P/N 511-60055-01 Lift Frame

With Easy Level Legs (Patent Pending)

Assembly Instructions



TOOLS REQUIRED

(2) 9/16" SOCKETS OR
WRENCHES

(2) 3/4" SOCKETS OR
WRENCHES

FRAMING SQUARE

TORQUE WRENCH

LOCKING PLIERS

UPDATED: 4-04-05
P/N 611-60055-01

Manufactured by:
Floe International Inc.
48473 State Hwy. 65
McGregor MN.
www.floeintl.com

VSD-6000 FRAME EXPLODED VIEW

NO.	PART NO.	QTY.	DESCRIPTION
1	002-04204-00	7	CRADLE CLAMP 1.75"
2	002-04351-00	2	6" SIDE FRAME BEAM 108"
3	002-04205-00	1	CRADLE LIFT CLAMP 3.875"
4	002-04202-00	2	8"F/R FRAME BEAM 118"
5	002-04355-00	2	V-BRACE 79.313"
6	002-04226-00	4	CRADLE GUIDE
7	002-04210-00	2	UPPER CLAMP (UNIVERSAL)
8	002-04211-00	1	UPPER CLAMP (FRONT)
9	002-04212-00	1	UPPER CLAMP (REAR)
10	002-04357-00	1	SIDE CRADLE (RIGHT) 126.5"
11	002-04356-00	1	SIDE CRADLE (LEFT) 126.5"
12	002-04215-00	1	FRONT CRADLE BEAM 127" (.188)
13	002-04217-00	1	V-BRACE CLAMP (FEMALE)
14	002-04216-00	1	V-BRACE CLAMP (MALE)
15	002-04208-00	3	FRAME BEAM CLAMP (OUTER)
16	002-04209-00	2	FRAME BEAM CLAMP (RF LR)
17	002-04207-00	1	FRAME BEAM LIFTING CLAMP
18	002-04241-00	1	CABLE HOLDER
19	002-04245-00	4	LEVEL LEG BRACKET
20	002-04352-00	1	CORNER POST 89.5" LIFTING (.125)
21	002-04353-00	1	CORNER POST 89.5" MOTOR (.125)
22	002-04354-00	2	CORNER POST 89.5" (.125)
23	111-00239-01	1	BALL SCREW TUBE - 109"
24	002-04223-01	1	4.5" BALL SCREW CLAMP
25	002-04224-00	1	4.5" PULLEY CLAMP (OUTER)
26	002-04230-00	1	4.5" PULLEY CLAMP (INNER)
27	111-00140-00	4	SAND PAD
28	111-00197-00	4	INNER SCREW LEG WELDMENT
29	911-08501-00	1	REAR CRADLE BEAM 127"
30	911-10301-00	4	CRADLE U-CLAMP 2.875"
31	006-10202-00	4	CRADLE GUIDE WEAR PAD
32	006-10207-00	8	SIDE CRADLE SHEAVE SPACER
33	006-11002-00	4	UHMW WEAR PAD- 1/4" x 1/2" x 6 1/2" LG.
34	006-15500-00	4	4.5" CORNER POST CAP
35	007-05500-00	1	1" SHEAVE PIN
36	007-05010-00	1	1 1/8" THRUST BEARING
37	007-05013-00	1	BALL SCREW END STOP PLATE
38	007-05023-00	4	TOP BEVEL GEAR - 1:1
39	007-05024-00	4	BOTTOM BEVEL GEAR - 1:1
40	007-05079-00	4	BEVEL GEAR ADJUSTMENT SCREW
41	007-07625-00	1	4" CLAMP SHEAVE
42	111-00198-00	2	7" LIFTING SHEAVE
43	007-07705-00	4	SPACER TUBE - SIDE CRADLE
44	007-07704-00	2	SPACER TUBE - FRONT CRADLE
45	007-09150-00	2	SIDE LEVELING CABLE - 190 1/2"
46	007-09155-00	1	FRONT LEVELING CABLE - 213 3/8"
47	007-09161-00	1	LIFTING CABLE 237"
48	011-15000-00	1	65" BALL SCREW 40-10mm w/NUT
49	111-00199-00	4	6" SHEAVE W/BUSHING
50	001-47532-00	4	1"-5 ACME THREADED ROD - 41"
51	001-23876-00	2	SHCS, 1/2-20 x 1 1/4" BLACK
52	001-33018-00	1	3/4" USS FLAT WASHER ZINC
53	001-70110-00	4	HHCS, 3/8-16 x 1 3/4" ss 18-8
54	001-70118-00	4	HHCS, 3/8-16 x 3 3/4" ss 18-8
55	001-70125-00	8	HHCS, 3/8-16 x 6" ss 18-8
56	003-40001-00	4	RUBBER BUSHING
57	111-00200-00	2	7 1/4" SHEAVE ASSY
58	001-70211-00	8	HHCS, 1/2-13 x 2" ss 18-8
59	002-04227-00	2	FRAME BEAM CLAMP (LF RR)
60	001-70219-00	14	HHCS, 1/2-13 x 4" ss 18-8
61	001-70223-00	6	HHCS, 1/2-13 x 5" ss 18-8

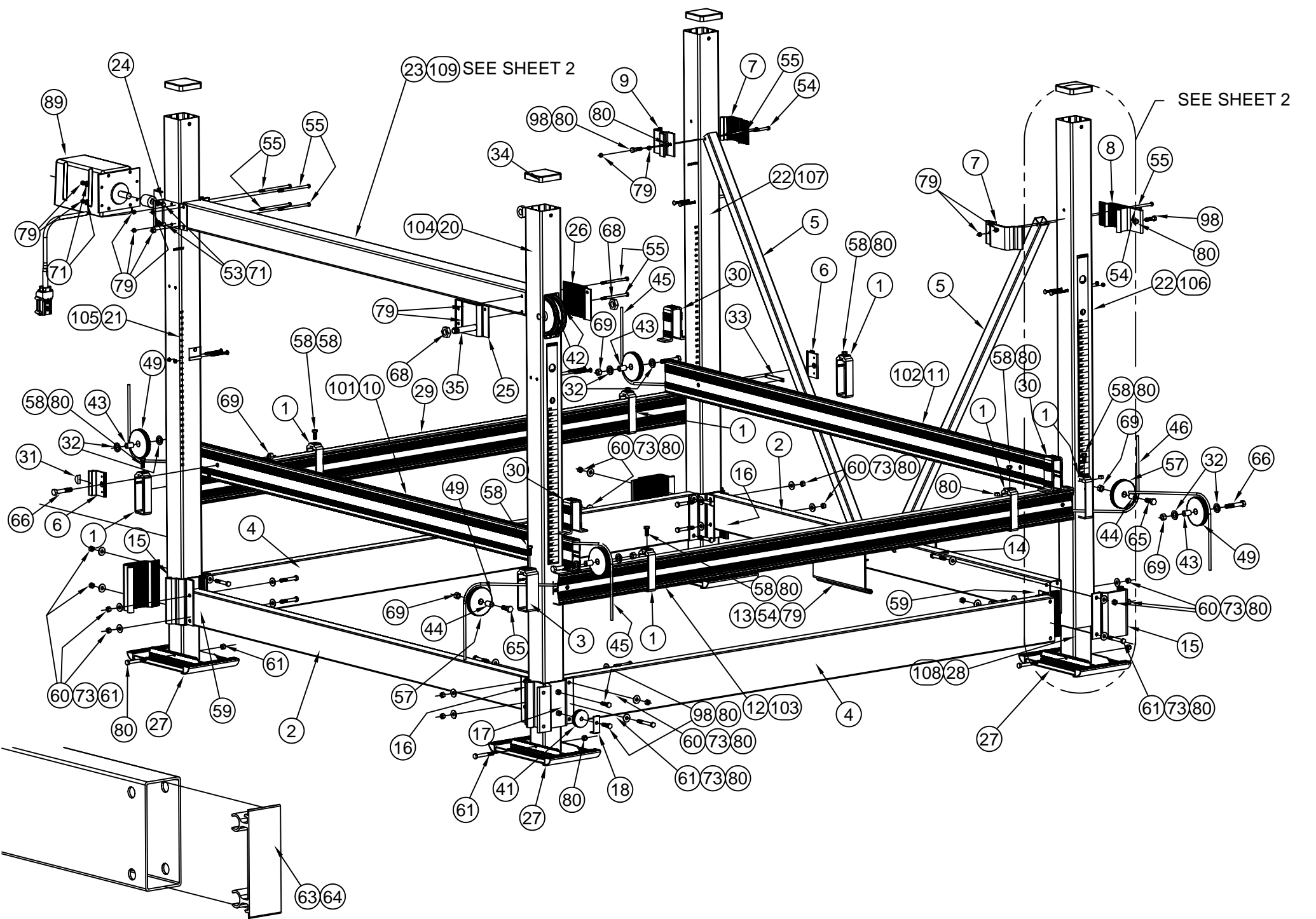
DRIVE TYPE OPTION

NO.	PART NO.	QTY.	DESCRIPTION
62	001-70215-00	3	HHCS, 1/2-13 x 3" ss 18-8
63	911-10501-00	4	6" FRAME BEAM SPACER
64	911-10601-00	4	8" FRAME BEAM SPACER
65	001-70365-00	3	HHCS, 3/4-10 x 3" ss 18-8
66	001-70363-00	4	HHCS, 3/4-10 x 2 1/2" ss 18-8
67	001-23933-00	1	SHCS, 3/4"-16 X 1 3/4"
68	001-70819-00	2	NUT, JAM 1"-8 ss 18-8
69	001-70817-00	7	NUT, JAM 3/4-10 ss 18-8
70	001-70861-00	8	NUT, 5/16-18 ALUMINUM NYLOCK
71	001-71017-00	8	3/8" SAE FLAT WASHER
72	001-71021-00	24	1/2" FLAT WASHER SAE ss 18-8
73	001-71022-00	32	1/2" FLAT WASHER USS ss 18-8
74	001-74165-00	4	3/16" x 1 3/4" ss SPRING PIN
75	001-26969-00	4	5/32" x 15/16" GROOVE PIN
76	001-26911-00	4	3/16" x 7/8" DOWEL PIN
77	001-74404-00	8	CARRIAGE BOLT, 5/16-18 x 5" ss 18-8
78	001-75123-00	4	NUT, 1"-5 ACME - BRASS
79	001-76071-00	17	NUT, 3/8-16 ALUMINUM NYLOCK
80	001-76072-00	32	NUT, 1/2-13 ALUMINUM NYLOCK
81	007-05000-00	1	BALL SCREW NUT BLOCK - UHMW
82	001-74423-00	1	CARRIAGE BOLT, 1/4-20 x 2" ss 18-8
83	001-75001-00	1	NUT, 1/4-20 ALUMINUM NYLOCK
84	007-05063-00	1	NUT, SLOTTED 1 1/8-12
85	006-10208-00	4	FRONT CRADLE SHEAVE SPACER
86	007-05068-00	1	LIFTING CABLE PULLEY CLEVIS
87	007-07626-00	1	2" CLEAVIS SHEAVE
88	001-70394-00	1	HHCS, 3/4-16 x 2" ss 18-8
89	511-75003-00	1	120 VAC VSD DRIVE TRAIN
	511-75005-00	1	24 VDC VSD DRIVE TRAIN
90	001-75210-00	8	1/2" FLAT WASHER - BRASS
91	007-05224-00	1	1" ID RIGID COUPLER
92	002-04238-00	1	BEARING BLOCK
93	007-05222-00	1	1/4" SQ. x 3" KEY
94	001-70121-00	1	HHCS, 3/8-16 x 4 1/2" ss 18-8
95	001-70203-00	2	HHCS, 1/2-13 x 3/4" ss 18-8
96	007-05126-00	1	M8 x 1 GREASE ZERK (FLUSH)
97	111-00213-01	1	6000# LIMIT SWITCH ASS'Y
98	001-70212-00	4	HHCS, 1/2-13 X 2 1/4" 18-8 ss

SUB-ASSEMBLIES

101	111-00188-00	V6000 SIDE CRADLE ASSEMBLY (RIGHT)
		INCLUDES ITEMS 6,10,31,32,33,43,45,49,66,69
102	111-00189-00	V6000 SIDE CRADLE ASSEMBLY (LEFT)
		INCLUDES ITEMS 6,11,31,32,33,43,45,49,66,69
103	111-00246-00	V6000 FRONT CRADLE ASSEMBLY (.188)
		INCLUDES ITEMS 12,44,46,57,65,69,85
104	111-00184-00	V6000 CORNER POST ASSY (RF)
		INCLUDES ITEMS 16,17,18,20,25,26,34,35,41,42,68,70,77,79,94
105	111-00185-01	V6000 CORNER POST ASSY (RR)
		INCLUDES ITEMS 15,21,24,34,36,55,56,59,79,108
106	111-00186-00	V6000 CORNER POST ASSY (LF)
		INCLUDES ITEMS 5,7,8,15,16,22,34,54,55,79,108
107	111-00187-00	V6000 CORNER POST ASSY (LR)
		INCLUDES ITEMS 5,7,9,15,22,34,54,55,59,79,108
108	111-00136-00	7500/6000# INNER SCREW LEG ASSEMBLY
		INCLUDES ITEMS 19,28,38,39,40,72,75,76,90
109	111-00190-01	6000# BALL SCREW TUBE ASSEMBLY
		INCLUDES ITEMS 23,36,37,47,48,51,52,62,67,72,80,81,84,91,92,93,95,96,97

VSD-6000 FRAME EXPLODED VIEW



VSD-6000 FRAME EXPLODED VIEW

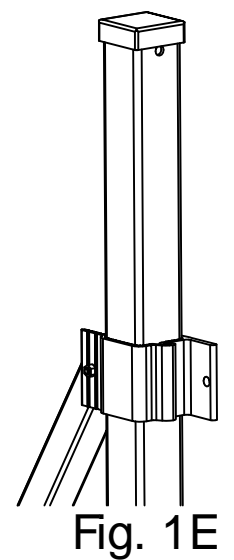
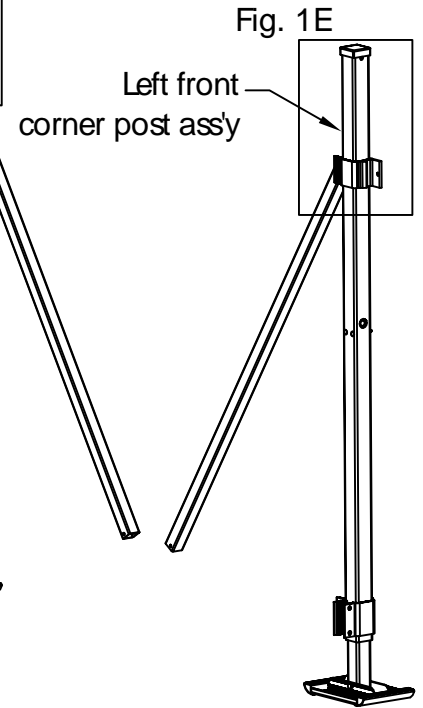
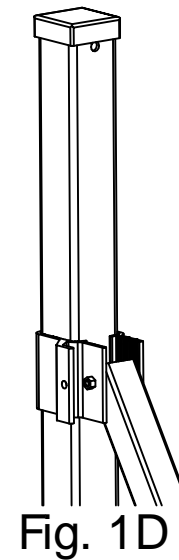
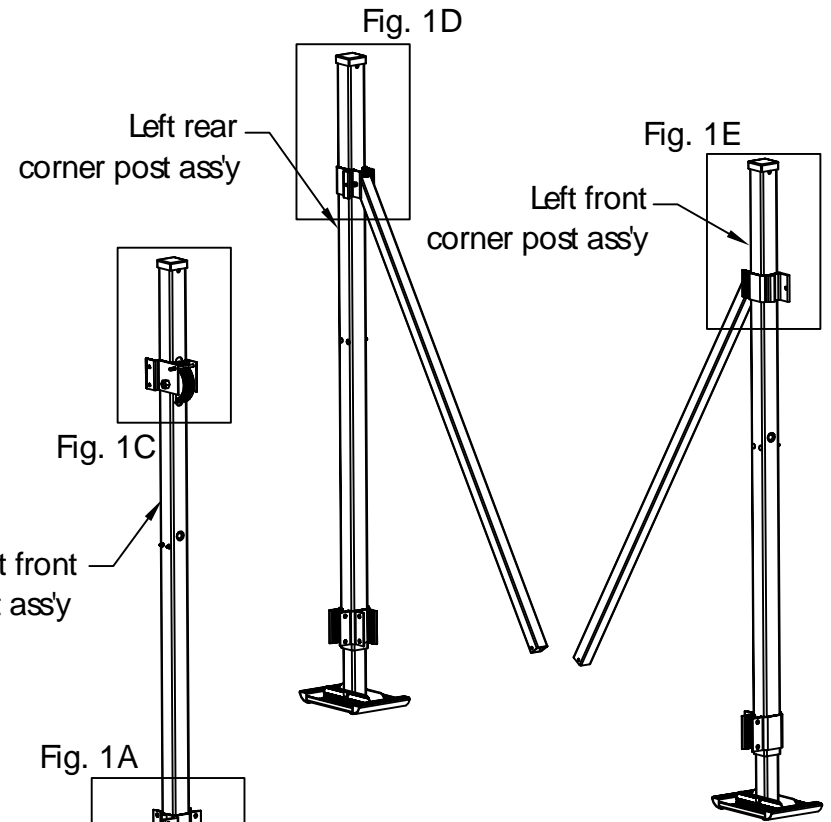
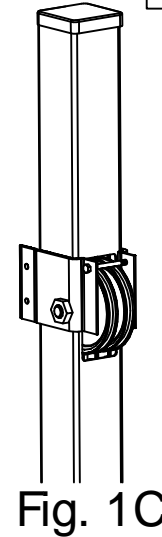
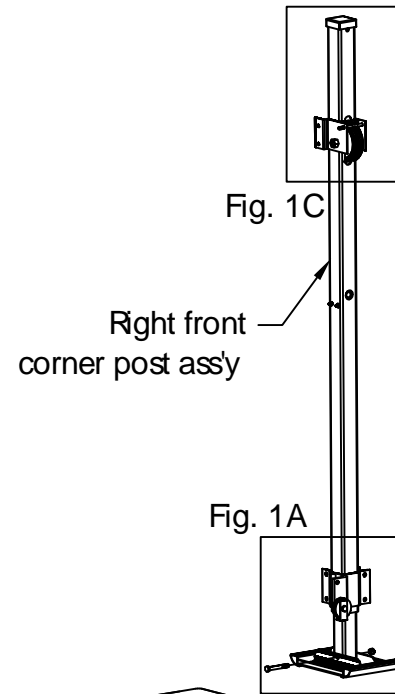
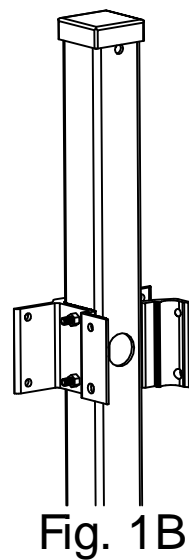
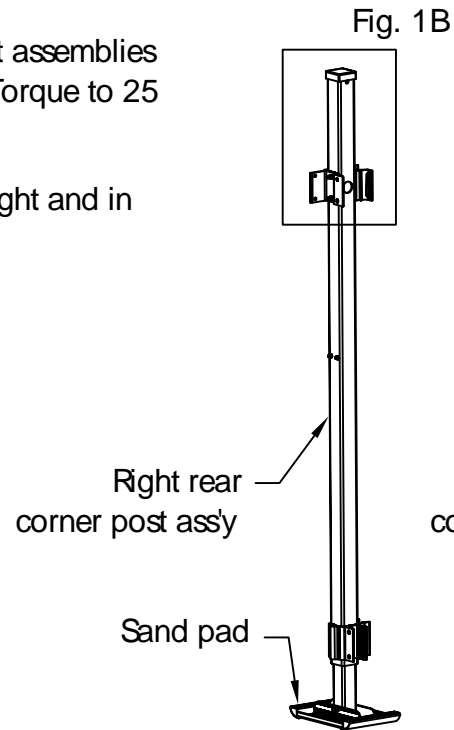
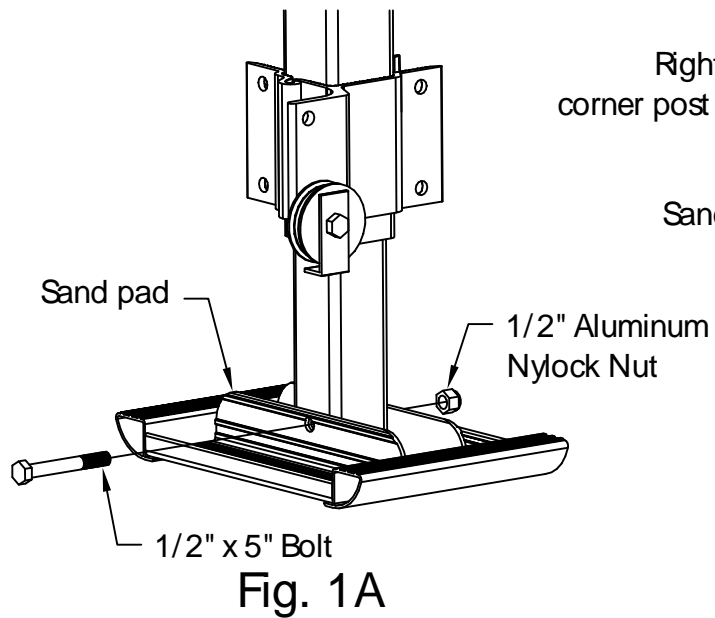
This diagram illustrates the exploded view of the VSD-6000 frame assembly. The components are numbered as follows:

- 91: Roll of material
- 93: Small rectangular piece
- 56: Vertical support structure
- 24: Small rectangular piece
- 82: Small rectangular piece
- 84: Small rectangular piece
- 92: Small rectangular piece
- 62: Small rectangular piece
- 81: Small rectangular piece
- 51: Small rectangular piece
- 48: Small rectangular piece
- 96: Small rectangular piece
- 80: Small rectangular piece
- 23: Long horizontal beam
- 108: Long horizontal beam
- 37: Small rectangular piece
- 52: Small rectangular piece
- 67: Small rectangular piece
- 79: Small rectangular piece
- 68: Small rectangular piece
- 94: Small rectangular piece
- 35: Small rectangular piece
- 68: Small rectangular piece
- 42: Small rectangular piece
- 47: Small rectangular piece
- 87: Small rectangular piece
- 69: Small rectangular piece
- 86: Small rectangular piece
- 88: Small rectangular piece
- 65: Small rectangular piece
- 72: Small rectangular piece
- 95: Small rectangular piece
- 77: Small rectangular piece
- 70: Small rectangular piece
- 22: Small rectangular piece
- 39: Small rectangular piece
- 38: Small rectangular piece
- 72: Small rectangular piece
- 40: Small rectangular piece
- 75: Small rectangular piece
- 19: Small rectangular piece
- 72: Small rectangular piece
- 50: Small rectangular piece
- 74: Small rectangular piece
- 76: Small rectangular piece
- 78: Small rectangular piece
- 28: Small rectangular piece
- 108: Small rectangular piece
- 80: Small rectangular piece
- 61: Small rectangular piece
- 27: Small rectangular piece

SHEET 4 OF 12

STEP 1

- ❑ Attach sand pads to all four corner post assemblies using 1/2" x 5" bolts and nylock nuts. Torque to 25 ft/lbs. See Fig 1A.
- ❑ Arrange corner posts as shown to the right and in Fig. 1B thru Fig. 1E.



STEP 2

Frame beams are fastened to the corner posts using the pre-attached lower clamps. See clamp layout top view in Fig. 2C. Insert frame beam spacers into ends of all four frame beams before assembly as shown in Fig. 2D.

For ease of assembly, attach the 118" front and rear frame beams first. Lay the rear corner posts down and fasten to the frame beam using (4) 1/2" x 4" bolts, (8) flat washers and (4) nylock nuts. The front frame beam is attached the same as the rear but use (2) 1/2" x 5" bolts on the bottom holes. Do not tighten the nuts on the 5" bolts at this time. See Fig 2B and 2C.

The 108" side frame beams are attached using (4) 1/2" x 4" bolts, (8) flat washers and (4) aluminum nylock nuts on each beam. See fig. 2C.

To help keep the frame square while assembling, gradually tighten each bolt a little at a time, and alternate between each side of the clamp. Torque all clamp bolts to 100 ft/lbs.

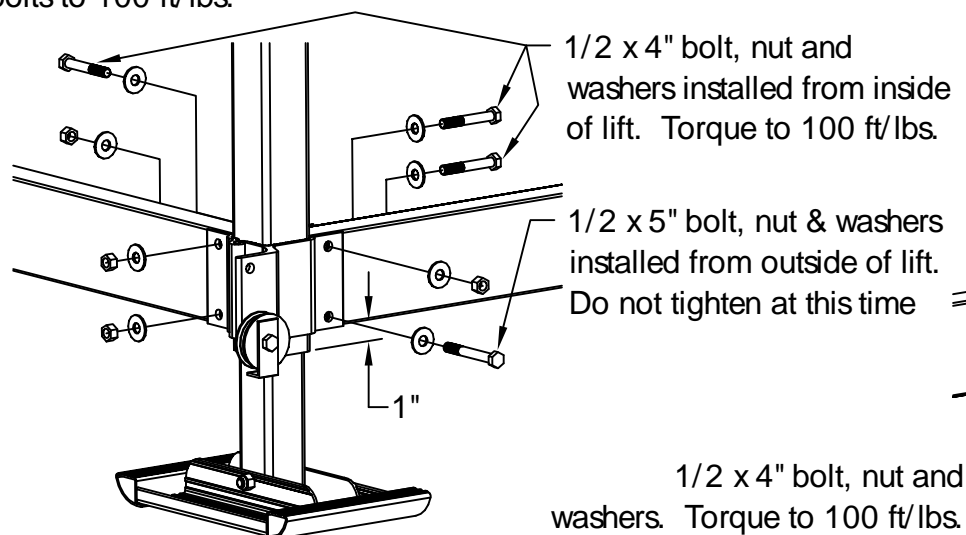


Fig. 2A

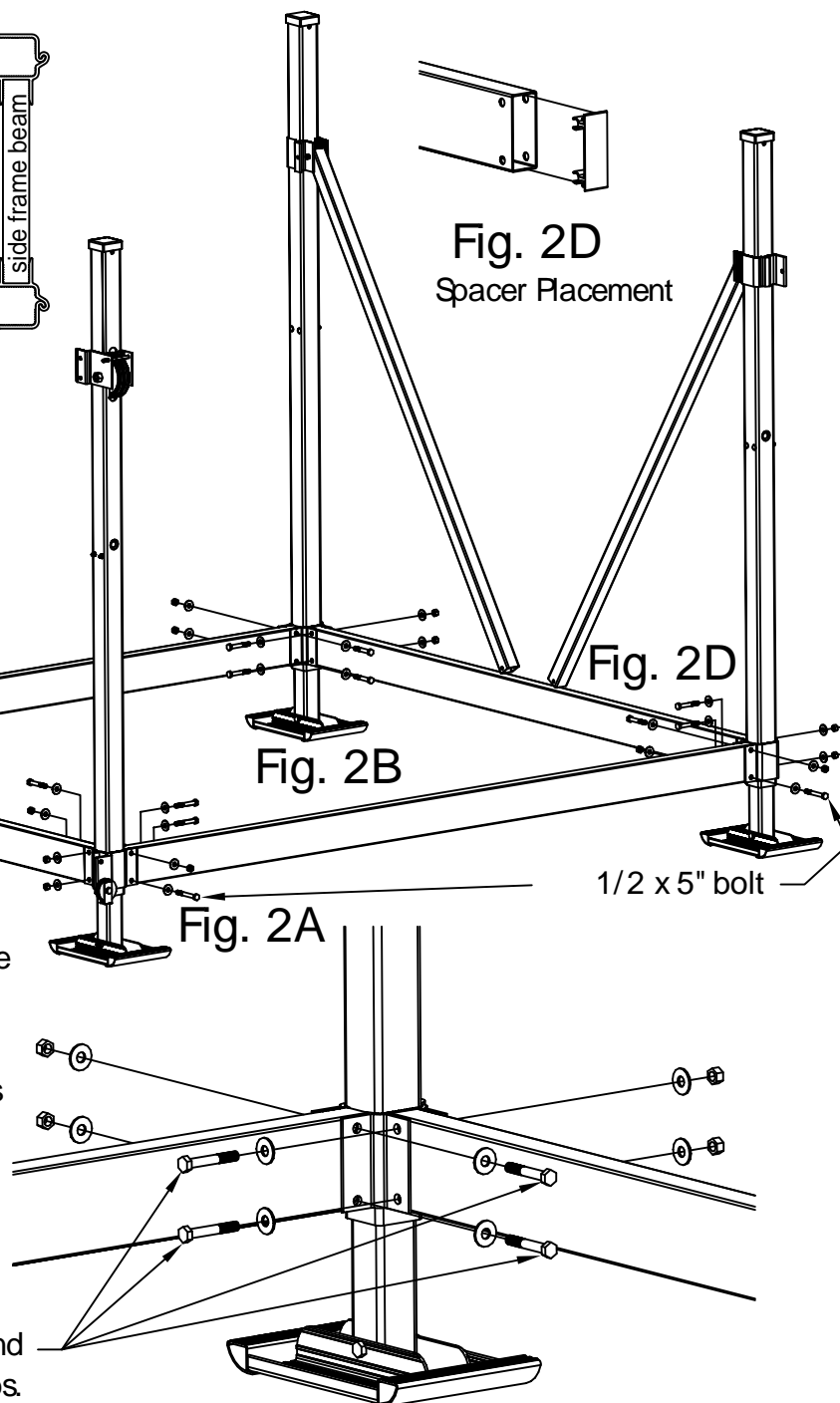
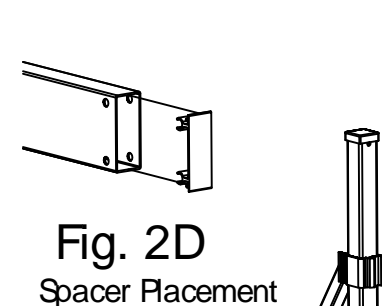
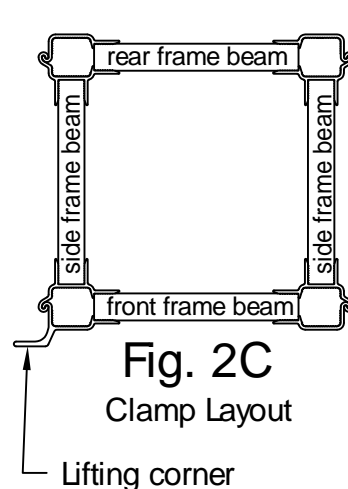
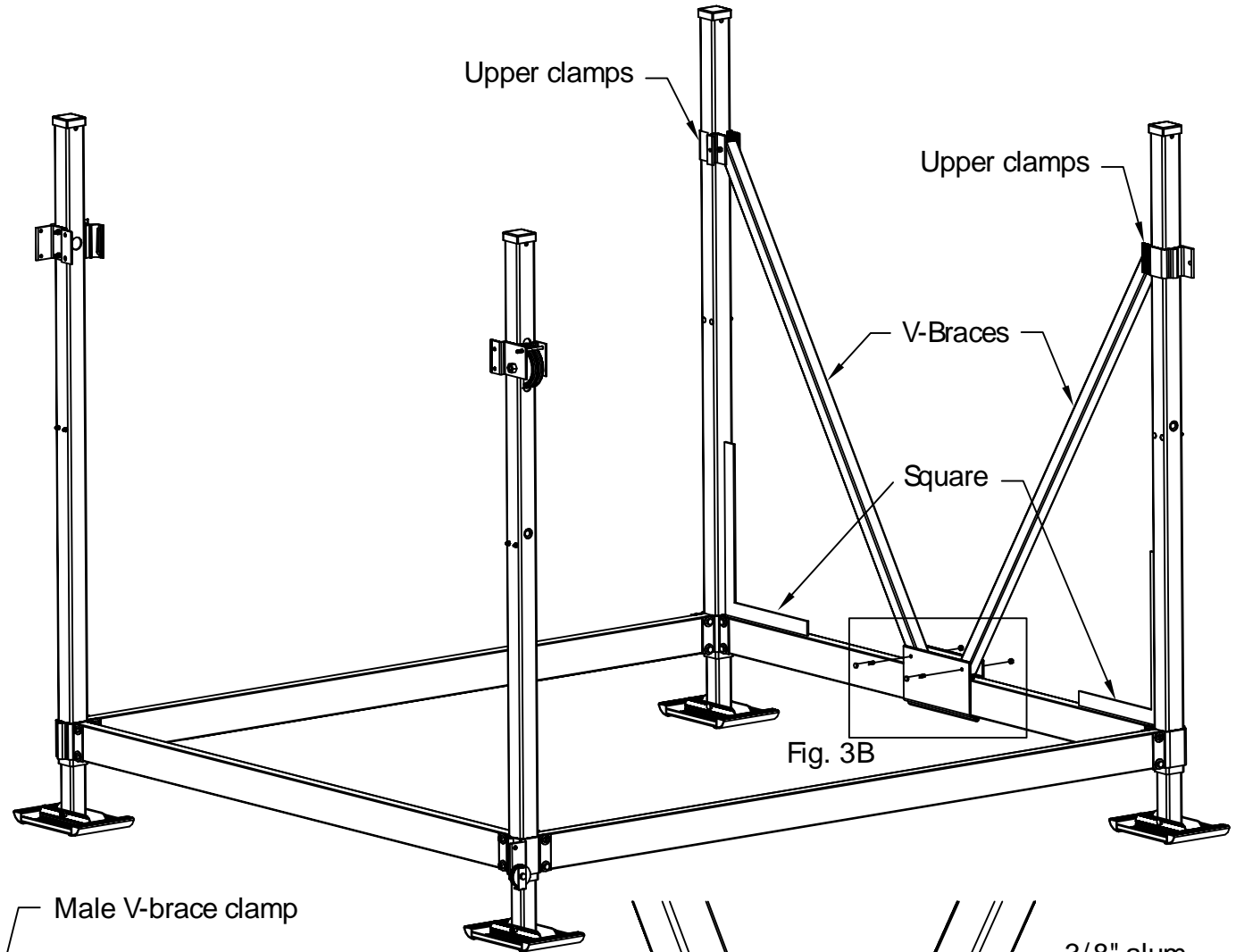


Fig. 2B

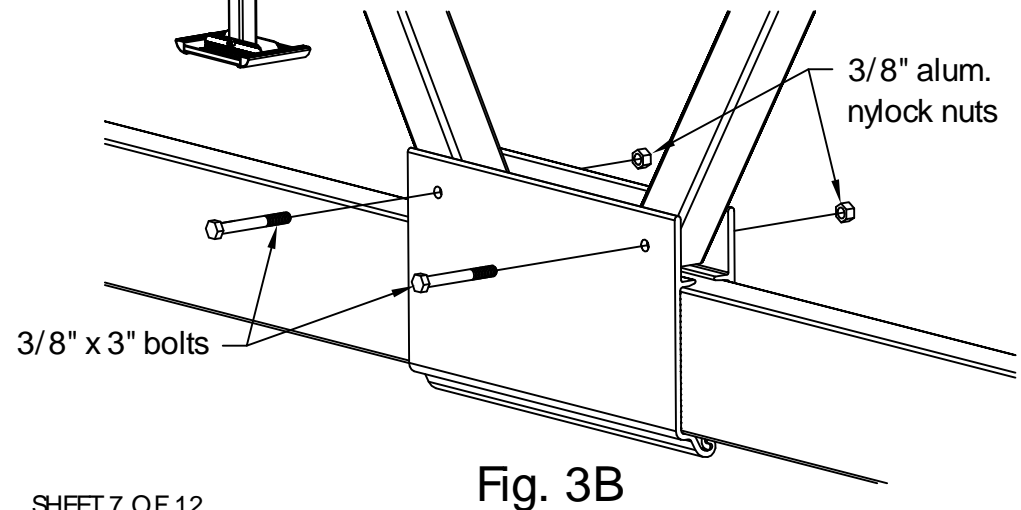
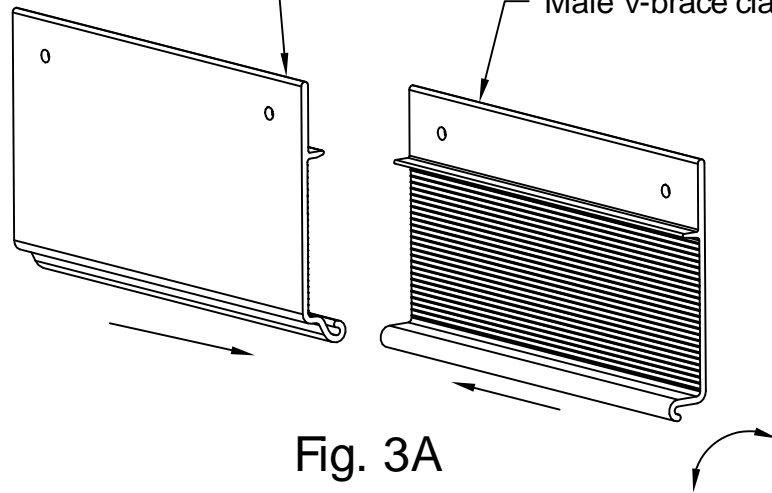
STEP 3

- ❑ Slide the two V-brace clamps together and center on the side frame beam. See Fig. 3A.
- ❑ Attach the diagonal V-braces to the V-brace clamps using (2) $\frac{3}{8}$ " x 3" bolts and nylock nuts as shown in Fig. 3B.
- ❑ The frame can be squared to the corner post by adjusting the upper clamps up or down as necessary. Once square, torque bolts to 40 ft/lbs.



Female V-brace clamp

Male V-brace clamp

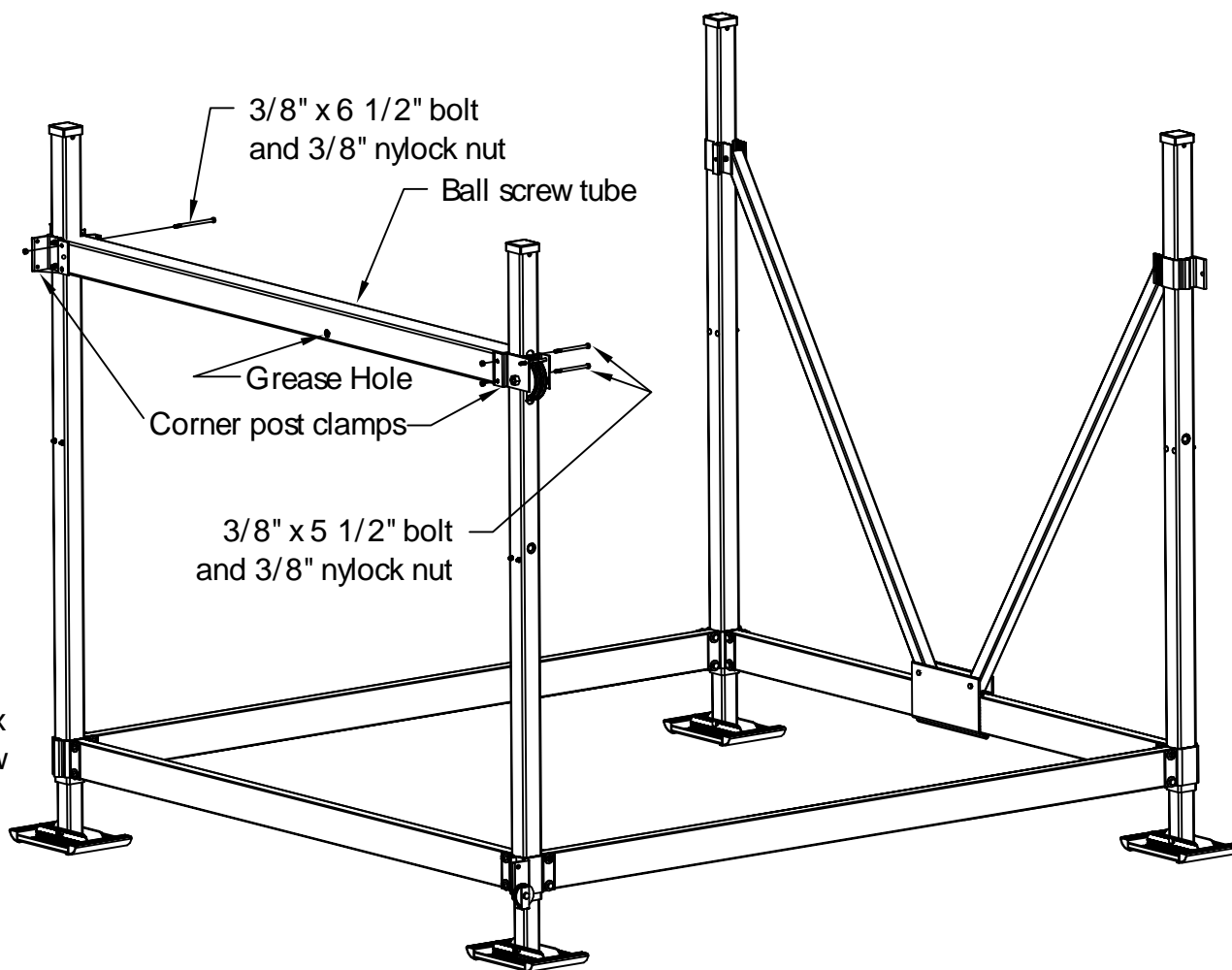


STEP 4

- ❑ The 109" ball screw tube is attached using the pre-installed clamps on the corner posts. Orient the tube so the large grease hole is on the side facing out. Pull the cable out the other end so there are no kinks in the cable.

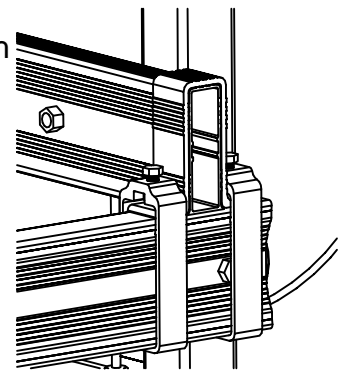
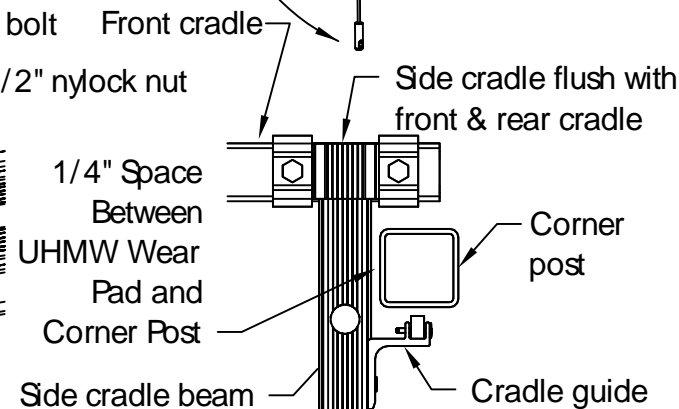
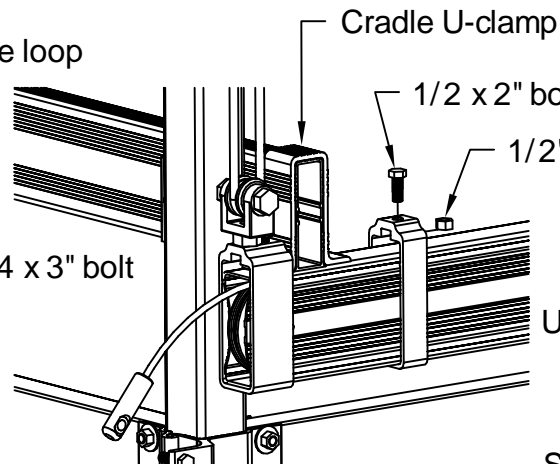
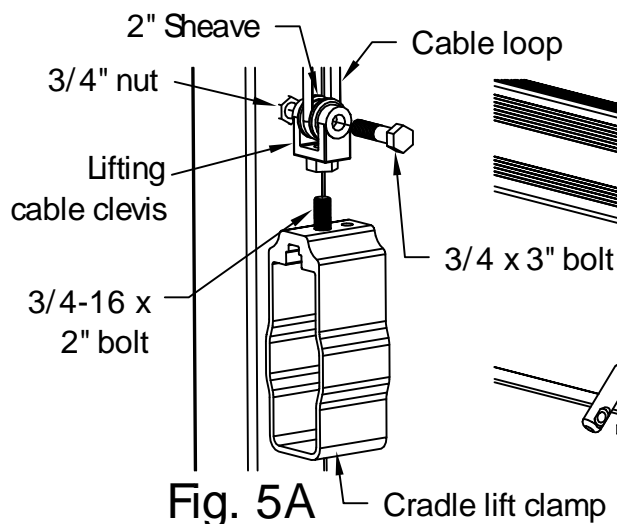
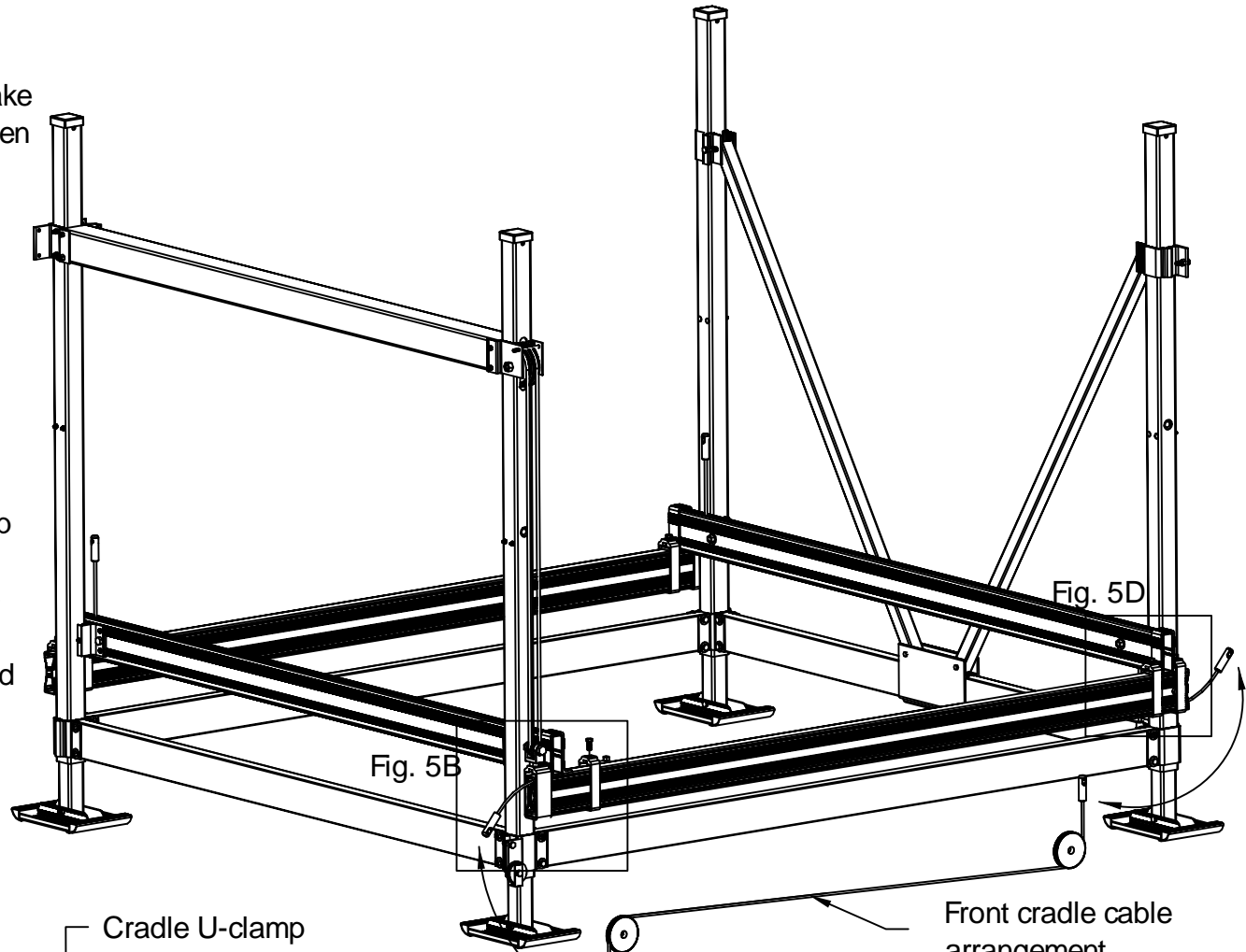
- ❑ Hoist the tube up and insert the end of the ball screw into the hole in corner post. Insert the cable from the other end in the corner post slot and over the pulley.

- ❑ Attach the cable end of the tube using (2) 3/8" x 6" bolts and (2) 3/8" nylock nuts. The ball screw end is attached using a 3/8" x 6" bolt and 3/8" nylock nut in the top hole. Do not fasten a bolt in the bottom hole at this time.



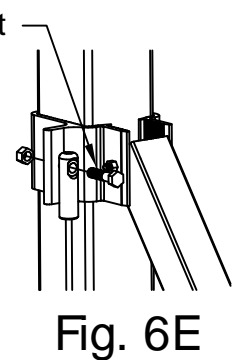
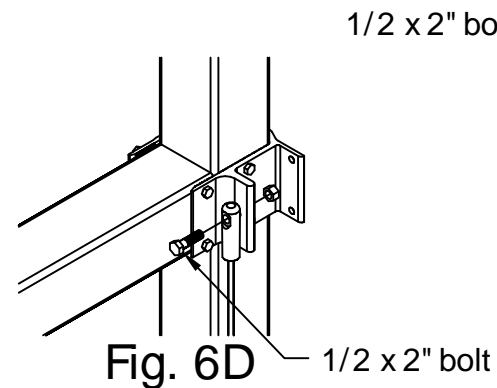
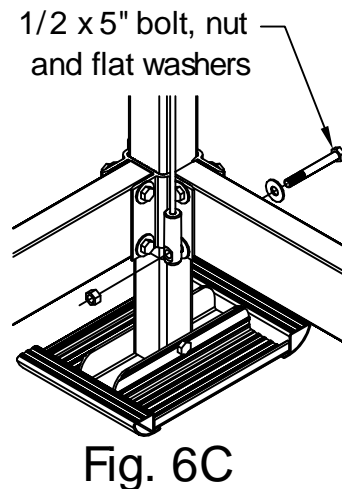
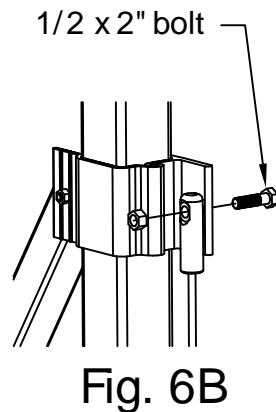
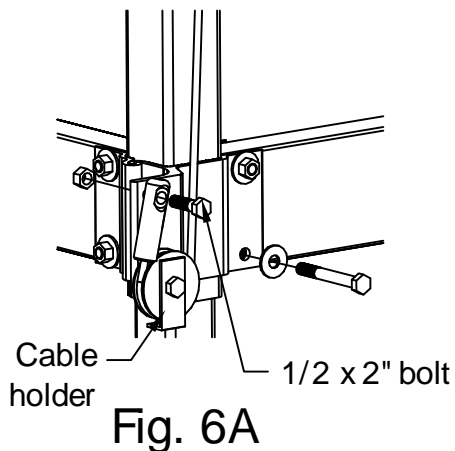
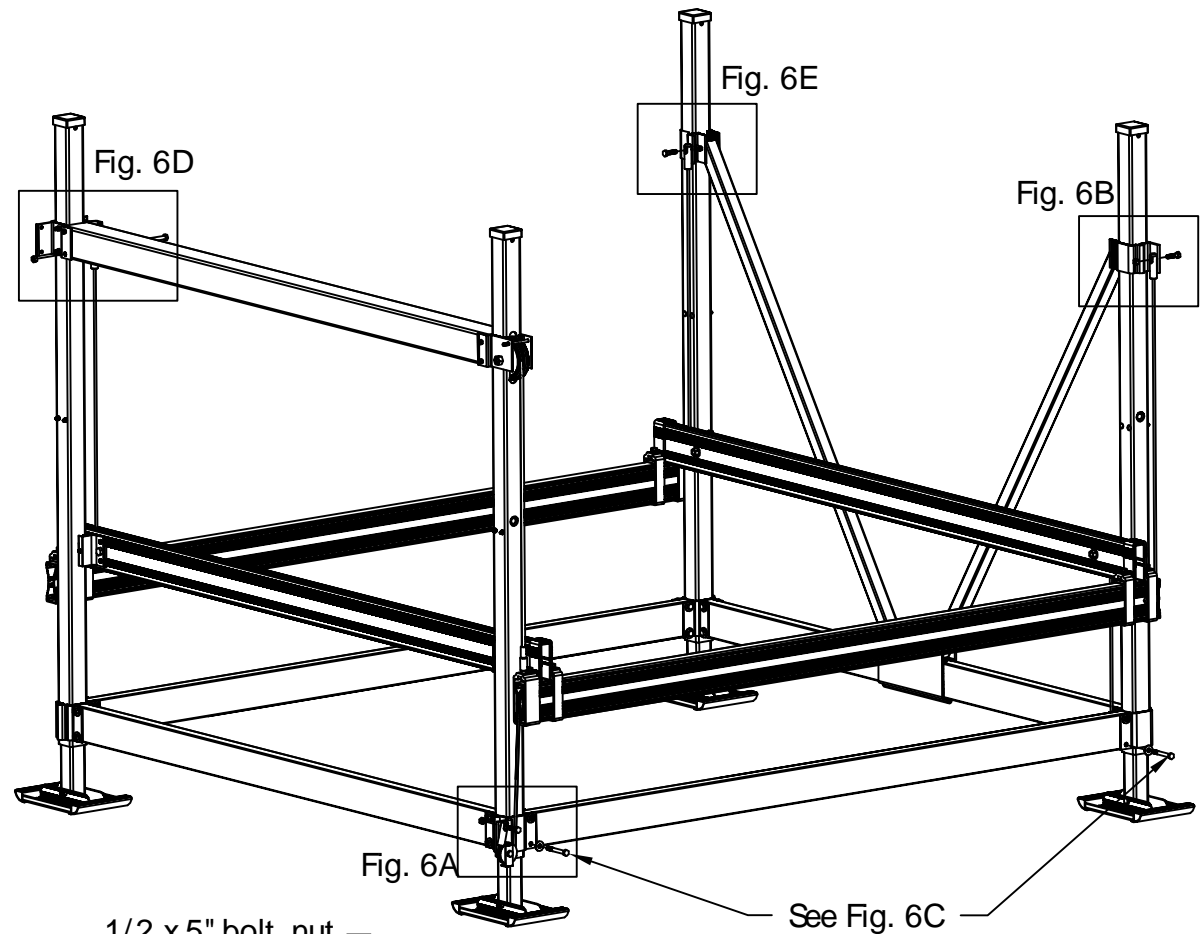
STEP 5

- ❑ Attach the lifting cable clevis to the cradle lift clamp using a 3/4-16 x 2" bolt (fine thread). Make sure the bolt is seated in the slot of the clamp when tightening the cable clevis. Insert the 2" sheave into the cable loop and attach to cable clevis using a 3/4 x 3" bolt and nut. See Fig. 5A.
- ❑ Place the side cradle beams as shown with holes on top in the rear. The front cradle beam should be placed so the cable runs over the top of the pulley on the lifting side. See front cable orientation to the right.
- ❑ Side (1) cradle clamp over each end of the front and rear cradle beams. Place (1) cradle U-clamp over each side cradle so it is flush with the end. Attach the rear cradle beam by sliding the cradle clamps over the cradle U-clamps. Side a cradle clamp over each end of the rear cradle beam and U-clamp. See Fig. 5B and 5D.
- ❑ Cradle is fastened together using (8) 1/2" x 2" bolts and (8) 1/2" nylock nuts. Allow 1/4" gap between the side cradle and corner post as shown in Fig. 5C. Torque to 100 ft/lbs.



STEP 6

- ❑ Remove the cable holder and insert the front cable into groove on the sheave. Re-attach the cable holder and sheave to clamp. Wrap the cable around sheave and attach to the clamp with a 1/2" x 2" bolt and nylock nut. See Fig. 6A. Torque to 60 ft/lbs.
- ❑ Attach the other end of the cable by lifting the opposite side of the front cradle and fastening with a 1/2" x 2" bolt and nylock nut as shown in Fig. 6B. Torque to 60 ft/lbs.
- ❑ Fasten the side cables to the lower frame clamps using 1/2" x 5" bolts and nylock nuts as shown in Fig. 6C. Check front corner posts for square and torque to 100 ft/lbs.
- ❑ The ball screw side cable is attached to the upper clamp using a 1/2" x 2" bolt and nylock nut. See Fig. 6D. The other side cable is attached to the upper clamp using a 1/2" x 2" bolt and nylock nut as shown in Fig. 6E. Torque both bolts to 60 ft/lbs.



STEP 7

- The drive train can now be attached to the clamp on the lift. Note that the rigid coupler on the ball screw and the drive train mate together. With the drive train being held in place, attach it to the lift clamp using 3/8" x 1" bolts, nylock nuts and flat washers as shown in Fig 7A.

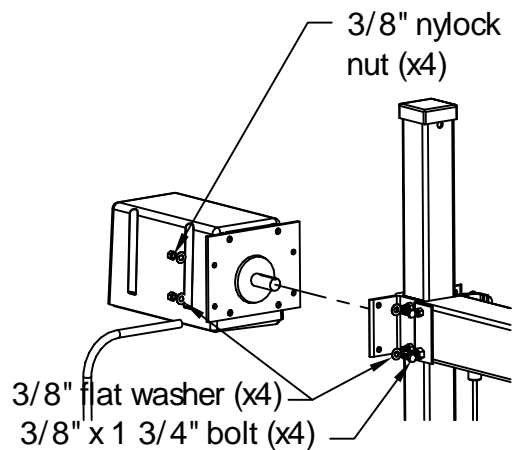


Fig. 7A

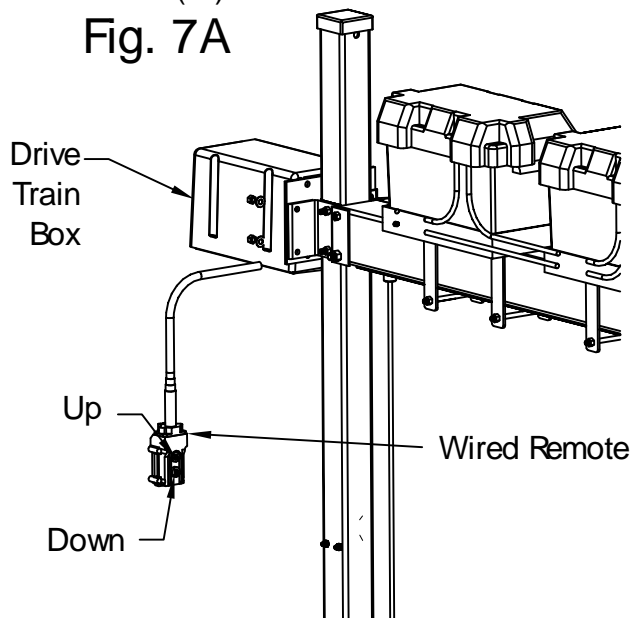
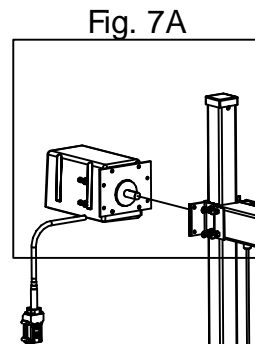


Fig. 7B



- Plug the wired remote into the socket on the control panel of the drive train. Use the supplied Velcro to run the wire to the desired location of the remote.
- Plug the limit switch wire into the control panel marked "Up Limit". The limit switch wire is located on the channel on the bottom side of the ball screw tube.



Optional Wireless Remote

If you purchased the optional wireless remote, the receiver box must be installed. Plug the wire into the "radio remote" plug on the control panel. Using the supplied adhesive Velcro, attach the box to the corner post or canopy frame with the antenna facing away from the metal framework.

6000# VSD Boat Lift

24 Volt Battery Connection Diagram

1. Connect the red wire from the drive train to the positive post of one battery. Connect the black wire from the drive train to the negative post of the other battery.
2. Connect the 32" white battery interconnect wire to the negative post of the first battery and the positive post of the other battery. See diagram below. Place the covers on the battery boxes and strap it through the slots on the battery tray.

