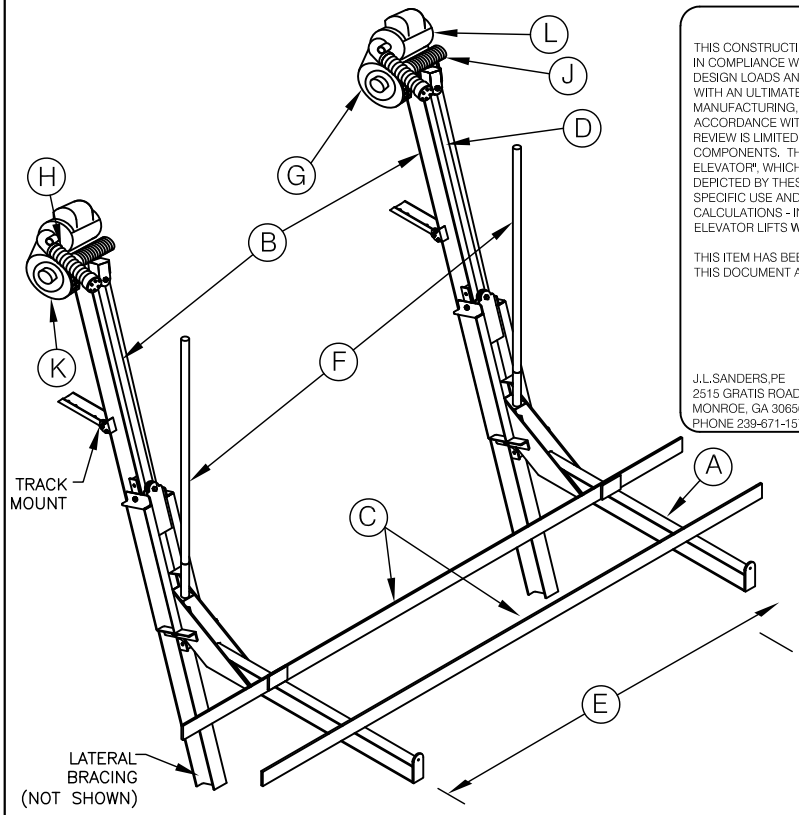
GOLDEN 2-TRACK ELEVATOR LIFT



INCLINE MOUNT OR VERTICAL MOUNT

STRUCTURAL ENGINEERING REVIEW

THIS CONSTRUCTION HAS BEEN DESIGNED AS A MAIN WIND FORCE RESISTING SYSTEM, WITH CALCULATED GRAVITY AND WIND LOADS IN COMPLIANCE WITH THE FLORIDA BUILDING CODE, 8th EDITION, 2023, CHAPTERS 16 & 20 , ADM 2020, AND ASCE/SEI 7-22 "MINIMUM DESIGN LOADS AND ASSOCIATED CRITERIA FOR BUILDINGS AND OTHER STRUCTURES" TO WITHSTAND THE WIND LOADS ASSOCIATED WITH AN ULTIMATE WIND SPEED OF 180 MPH, EXPOSURE "D", RISK CATEGORY I. J.L. SANDERS, PE HAS NO CONTROL OF THE MANUFACTURING, PERFORMANCE, OR INSTALLATION OF THIS PRODUCT. THESE GENERIC DESIGN FEATURES WERE ENGINEERED IN ACCORDANCE WITH ACCEPTED ENGINEERING PRACTICES BASED ON DATA PROVIDED BY THE MANUFACTURER. THIS STRUCTURAL REVIEW IS LIMITED TO THE PRIMARY FRAMING AND CONNECTIONS AND IS NOT INTENDED TO COVER MECHANICAL AND ELECTRICAL COMPONENTS. THESE DESIGN FEATURES ARE BASED ON STRUCTURAL CALCULATIONS, TITLED "STRUCTURAL CALCULATIONS FOR ELEVATOR", WHICH CONTAIN ADDITIONAL DESIGN REQUIREMENTS AND CRITERIA AND ARE AVAILABLE UPON REQUEST. THE BOAT LIFTS DEPICTED BY THESE DESIGNS AND RELATED CALCULATIONS WERE ENGINEERED AS MANUFACTURED PRODUCT FOR NON-SITE SPECIFIC USE AND SHALL MEET THE DESIGN REQUIREMENTS AND INSTALLATION LIMITATIONS LISTED IN THE STRUCTURAL CALCULATIONS - IN PARTICULAR THE TRACK BEAMS SHALL BE ADEQUATELY BRACED LATERALLY NO MORE THAN 8 FT. O.C. FOR ELEVATOR LIFTS WITH DISTANCE FROM TRACK MOUNT TO SEA FLOOR LESS THAN 9 FEET, LATERAL BRACING IS NOT REQUIRED

THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY J.L. SANDERS, PE ON THE DATE ADJACENT TO THE SEAL. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

Digitally signed by J.L. Sanders
Date: 2024.12.16 14:18:55 -05'00'

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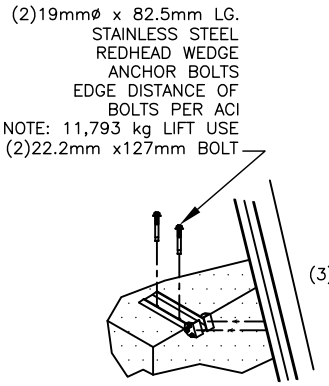
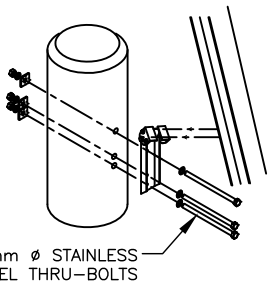


TYPICAL HORIZONTAL CONNECTION TO REINFORCED CONCRETE DOCK OR SEAWALL



TYPICAL VERTICAL CONNECTION TO WOOD PILE OR HORIZONTAL WOOD DECK FRAMING

NOTE: THIS STRUCTURE HAS BEEN DESIGNED FOR LOADS ASSOCIATED WITH AN ULTIMATE WIND SPEED OF 289 KM/HR, EXPOSURE "D", RISK CATEGORY I, CALCULATED PER FLORIDA BUILDING CODE 8th EDITION, 2023, ASCE/SEI 7-22 AND ADM-2020 BOATS SHALL NOT BE STORED ON LIFTS DURING HIGH WIND EVENTS (GREATER THAN 120 KM/HR). ALL PRIMARY STRUCTURAL MEMBERS ARE TO BE 6061-T6 ALUMINUM. TRACKS ARE TO BE DRIVEN TO FIRM BEARING MATERIAL AND SHALL BE SPACED HORIZONTALLY WITHIN THE LIMITS OF TRACK SPREAD "E". TRACKS SHALL BE ADEQUATELY BRACED LATERALLY FROM TRACK TO TRACK WHEN DISTANCE BETWEEN THE TRACK MOUNT AND SEA FLOOR IS 2.7 M OR GREATER. LATERAL BRACES SHALL BE SPACED AT NO MORE THAN 2.4 M APART. FOR LIFTS WITH DISTANCE FROM TRACK MOUNT TO SEA FLOOR LESS THAN 2.7 M, LATERAL BRACING IS NOT REQUIRED.

PILE DIAMETER CHART
Boat center of gravity @ center of cradles

Lift Capacity	MAX. "E" Dim.	Recommended Pile Diameters
kg.	M.	mm.
1,360 / 2,268 & 3,175 kg	3.05 M	254
4,536 kg	3.35 M	305
5,443 kg		
6,804 kg	4.27 M	
7,711 kg		
9,072 kg		
11,793 kg		

SUMMARY OF DESIGN FEATURES

		Ⓐ		Ⓑ		Ⓒ		Ⓓ	Ⓔ	Ⓕ	Ⓖ	Ⓗ	Ⓙ	Ⓚ	Ⓛ	
LIFT CAPACITY		CRADLE I-BEAM		TRACK I-BEAM		BUNKS		CABLE SIZE	TRACK SPREAD	GUIDE POST HEIGHT	BRGS	DRIVE SHAFT	WINDER DIA	GEAR RATIO	MOTOR HP/VOLTAGE	mm LIFT PER MIN.
Lb	Kg	Inches	Mm	Inches	Mm	Inches	Mm									
3,000#	1,360 kg	(2) 8 H x .23 5 W x .35 x 8' LG. @ 6.18#/FT	(2) 203mm x 5.8mm H 127mm x 8.9mm W x 2.44M LG. 9.20 kg/M	(2) 8 H x .23 5 W x .35 x 25' LG. @ 6.18#/FT	(2) 203mm x 5.8mm H 127mm x 8.9mm W x 7.62M LG. 9.20 kg/M	(2) 2" x 8" x 144" ROUGH SAWN CARPETED	(2) 50.8mm x 203.2mm x 3.66M ROUGH SAWN CARPETED	(2) 7.9mm Ø x 9.14M S.S. 2 PART	2.13 M THRU 3.05 M	2.03 M	(4) 50.8mm EXTRUDED 6061-T6 ALUM	(2) 48.26mm O.D. x 3.76mm WALL GALVANIZED HSS	FLAT PLATE DRIVE: 76.2 mmØ O.D. X 50.5 mm I.D. SEA DRIVE: 88.9 mm Ø O.D. X 50.5 mm I.D.	480:1	(2) 3/4 HP 120V/20A 240V/10A	342.9
5,000# & 7,000#	2,268 kg & 3,175 kg	(2) 8 H x .25 5 W x .41 x 8' LG. @ 7.02#/FT	(2) 203mm x 6.35mm H 127mm x 10.4mm W x 2.44M LG. 10.45 kg/M	(2) 8 H x .25 5 W x .41 x 25' LG. @ 7.02#/FT	(2) 203mm x 6.4mm H 127mm x 10.4mm W x 7.62M LG. 10.45 kg/M			(2) 7.9mm Ø x 9.14M S.S. 2 PART							5,000# (2) 3/4 HP 7,000# (2) 1 HP	
10,000#	4,536 kg	(2) 9 H x .27 5.5 W x .44 x 8' LG. @ 8.36#/FT	(2) 229mm x 6.86mm H 139.7mm x 11.2mm W x 2.44M LG. 12.44 kg/M	(2) 9 H x .27 5.5 W x .44 x 25' LG. @ 8.36#/FT	(2) 229mm x 6.9mm H 139.7mm x 11.2mm W x 7.62M LG. 12.44 kg/M			(2) 9.5mm Ø x 9.14M S.S. 2 PART	2.44 M THRU 3.35 M			(2) 48.26mm O.D. x 4.19 mm WALL GALVANIZED HSS			(2) 3/4 HP 120V/20A 240V/10A	
12,000#	5,443 kg	(2) 10 H x.25 6 W x .41 x 8' LG. @ 8.65#/FT	(2) 254mm x 6.35mm H 152.4mm x 10.4mm W x 2.44M LG. 12.87 kg/M	(2) 10 H x .25 6 W x .41 x 25' LG. @ 8.65#/FT	(2) 254mm x 6.4mm H 152.4mm x 10.4mm W x 7.62M LG. 12.87 kg/M	(2) 2" x 10" x 192" ROUGH SAWN CARPETED	(2) 76.2mm x 254mm x 4.88M ROUGH SAWN CARPETED									228.6
15,000#	6,804 kg	(2) 10 H x.29 6 W x .50 x 8' LG @ 10.3#/FT	(2) 254mm x 7.37mm H 127mm x 12.7mm W x 2.44M LG. 15.33 kg/M	(2) 10 H x.29 6 W x .50 x 25' LG @ 10.3#/FT	(2) 254mm x 7.4mm H 127mm x 12.7mm W x 7.62M LG. 15.33 kg/M			(2) 9.5mm Ø x 13.7M S.S. 3 PART	2.44 M THRU 4.27 M	3.05 M						
17,000#	7,711 kg	(2) 12 H x.29 7 W x .47 x 10' LG. @ 11.7#/FT	(2) 304.8mm x 7.37mm H 177.8mm x 11.9mm W x 3.05M LG. 17.41 kg/M	(2) 12 H x.29 7 W x .47 x 25' LG. @ 11.7#/FT	(2)304.8mm x 7.4mm H 177.8mm x 11.9mm W x 7.62M LG. 17.41 kg/M			(2) 9.5mm Ø x 17.1M S.S. 4 PART							(2) 1 HP 120V/20A 240V/10A	171.5
20,000#	9,072 kg	(2) 12 H x.31 7 W x .62 x 11' LG. @ 14.3#/FT	(2) 304.8mm x 7.88mm H 177.8mm x 15.75mm W x 3.35M LG. 21.28 kg/M	(2) 12 H x.31 7 W x .62 x 25' LG. @ 14.3#/FT	(2)304.8mm x 7.9mm H 177.8mm x 15.75mm W x 7.62M LG. 21.28 kg/M											
26,000#	11,793 kg	(2) 14 H x.30 8 W x .60 x 10' LG. @ 16.0#/FT	(2) 355.6mm x 7.62mm H 203.2mm x 15.24mm W x 3.05M LG. 23.81 kg/M	(2) 14 H x.30 8 W x .60 x 30' LG. @ 16.0#/FT	(2)355.6mm x 7.6mm H 203.2mm x 15.24mm W x 7.62M LG. 23.81 kg/M	(2) 10" x192" ALUMINUM "I" BEAM	(2) 254mm x 4.88M ALUMINUM "I" BEAM	(2) 11.1mm Ø x 18.3M S.S. 4 PART	3.05 M THRU 4.27 M						(2) 1.5 HP 120V/20A 240V/10A	228.6