

APPENDIX

Figures and Tables of Useful Information

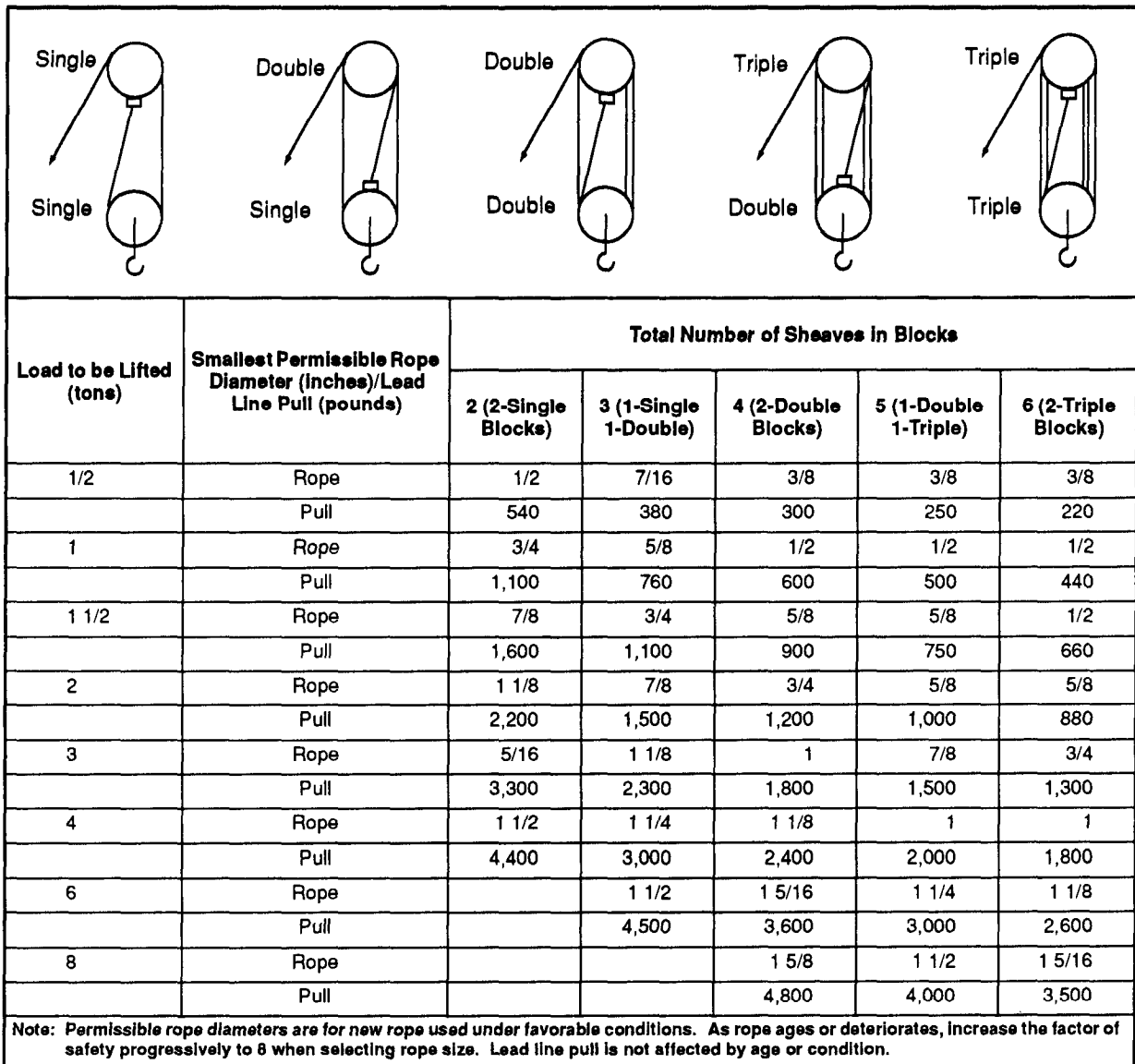


Figure A-1. Simple block-and-tackle rigging for manila rope (FS 3)

Table A-1. Simple block and tackle rigging for plow steel wire rope (FS 6)

Load to be Lifted (tons)	Smallest Permissible Rope Diameter (Inches)/ Lead Line Pull (pounds)	Total Number of Sheaves in Blocks				
		2 (2 Single Blocks)	3 (1-Single 1-Double)	4 (2-Double Blocks)	5 (1-Double 1-Triple)	6 (2-Triple Blocks)
1	Rope	3/8	3/8	3/8	3/8	3/8
	Pull	1,000	720	560	460	400
2	Rope	1/2	3/8	3/8	3/8	3/8
	Pull	2,100	1,400	1,100	920	800
4	Rope	5/8	1/2	1/2	3/8	3/8
	Pull	4,200	2,900	2,200	1,800	1,600
6	Rope	3/4	5/8	5/8	1/2	1/2
	Pull	6,200	4,300	3,400	2,800	2,400
8	Rope	7/8	3/4	5/8	5/8	5/8
	Pull	8,300	5,800	4,500	3,700	3,200
10	Rope	1	7/8	3/4	5/8	5/8
	Pull	10,400	7,200	5,600	4,600	4,000
15	Rope	1 1/8	1	7/8	3/4	3/4
	Pull	15,600	10,800	8,400	6,900	6,000
20	Rope	1 1/2	1 1/8	1	7/8	7/8
	Pull	20,800	14,400	11,200	9,200	8,000

Table A-2. Recommended sizes of tackle blocks

Wire Rope		Manila Rope	
Rope Diameter (Inches)	Outside Diameter of Sheave (Inches)	Rope Diameter (Inches)	Length of Shell (Inches)
3/8	6-8	1/2	4
1/2	8-10	5/8	6
5/8	10-12	3/4	6-7
3/4	12-16	7/8	7-8
7/8	14-18	1	8-10
1	14-20	1 1/8	8-10
		1 1/4	10-12
		1 1/2	12-14
		1 3/4	14-16

Note: Largest diameter of sheave for a given size of rope is preferred, when available, except that for 6 x 37 wire rope, the smaller diameter of sheave is suitable.

Table A-3. Bearing capacity of soils

General Description	Condition	Safe Allowable Pressure (PSI)
Fine-grained soils: clays, silts, very fine sands, or mixtures of these containing few coarse particles of sand or gravel. Classification: MH, CH, OH, ML, CL, and OL.	Soft, unconsolidated, having high moisture content (mud)	1,000
	Stiff, partly consolidated, medium moisture content	4,000
	Hard, well consolidated, low moisture content (slightly damp to dry)	8,000
Sands and well-graded sandy soils, containing some silt and clay. Classification: SW, SC, SP, and SF.	Loose, not confined	3,000
	Loose, confined	5,000
	Compact	10,000
	Loose, not confined	4,000
Gravel and well-graded gravelly soils containing some sand, silt and clay. Classification: GW, GC, and GP.	Loose, confined	6,000
	Compact	12,000
	Cemented sand and gravel	16,000
Rock	Poor quality rock, soft and fractured; also hardpan	10,000
	Good quality; hard and solid	20,000

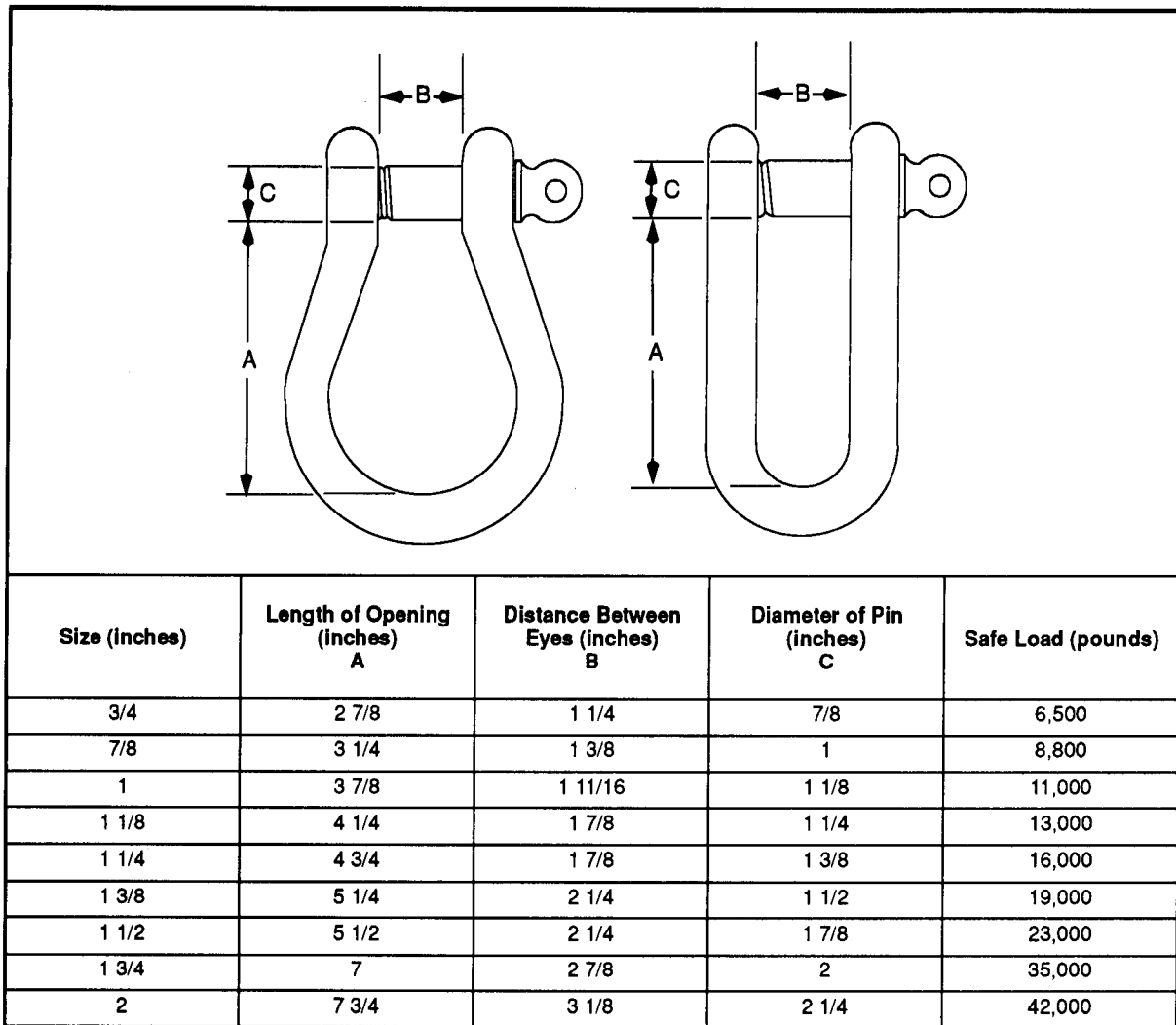


Figure A-2. Safe loads on screw-pin shackles

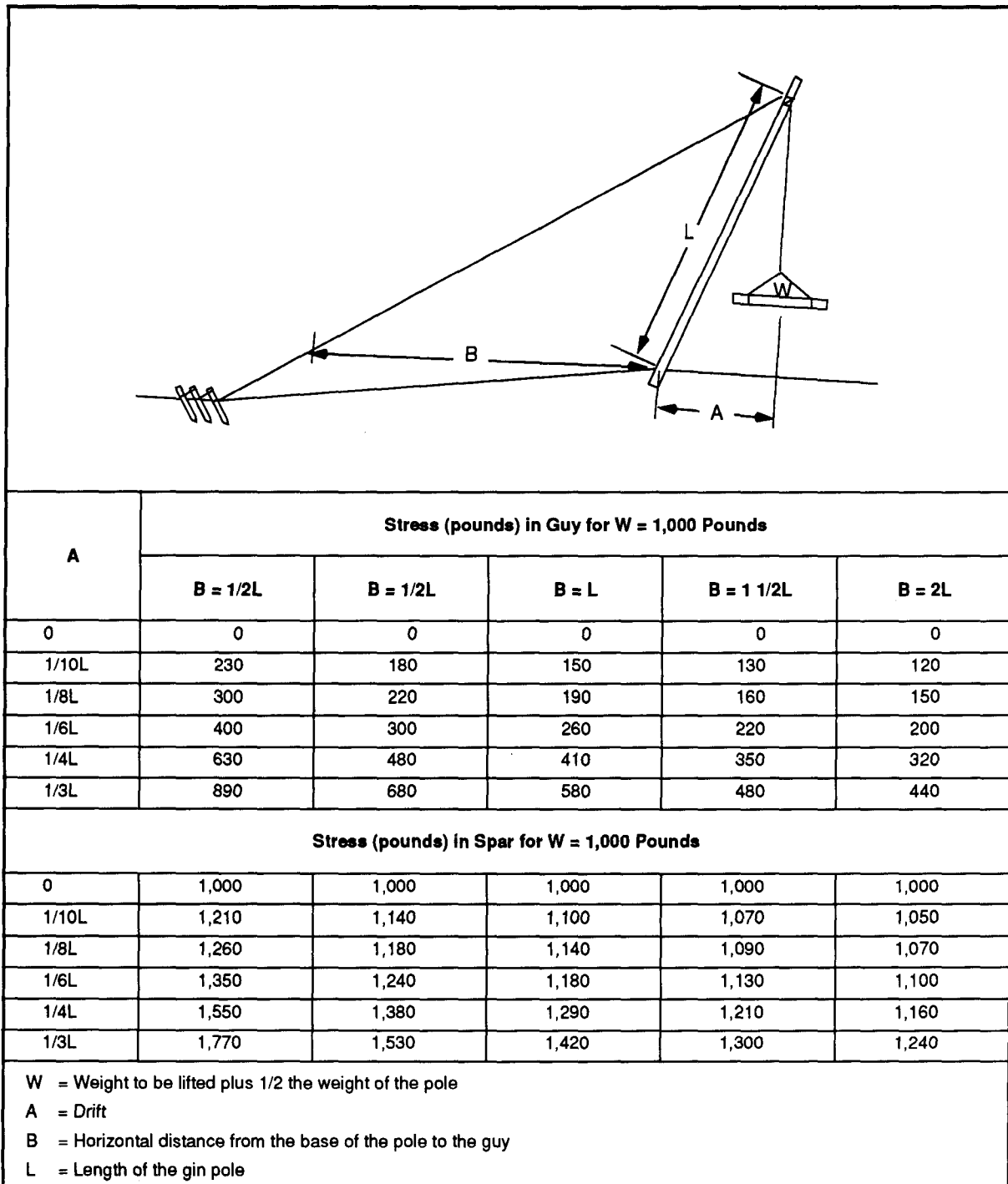


Figure A-3. Stresses in guys and spars of gin poles

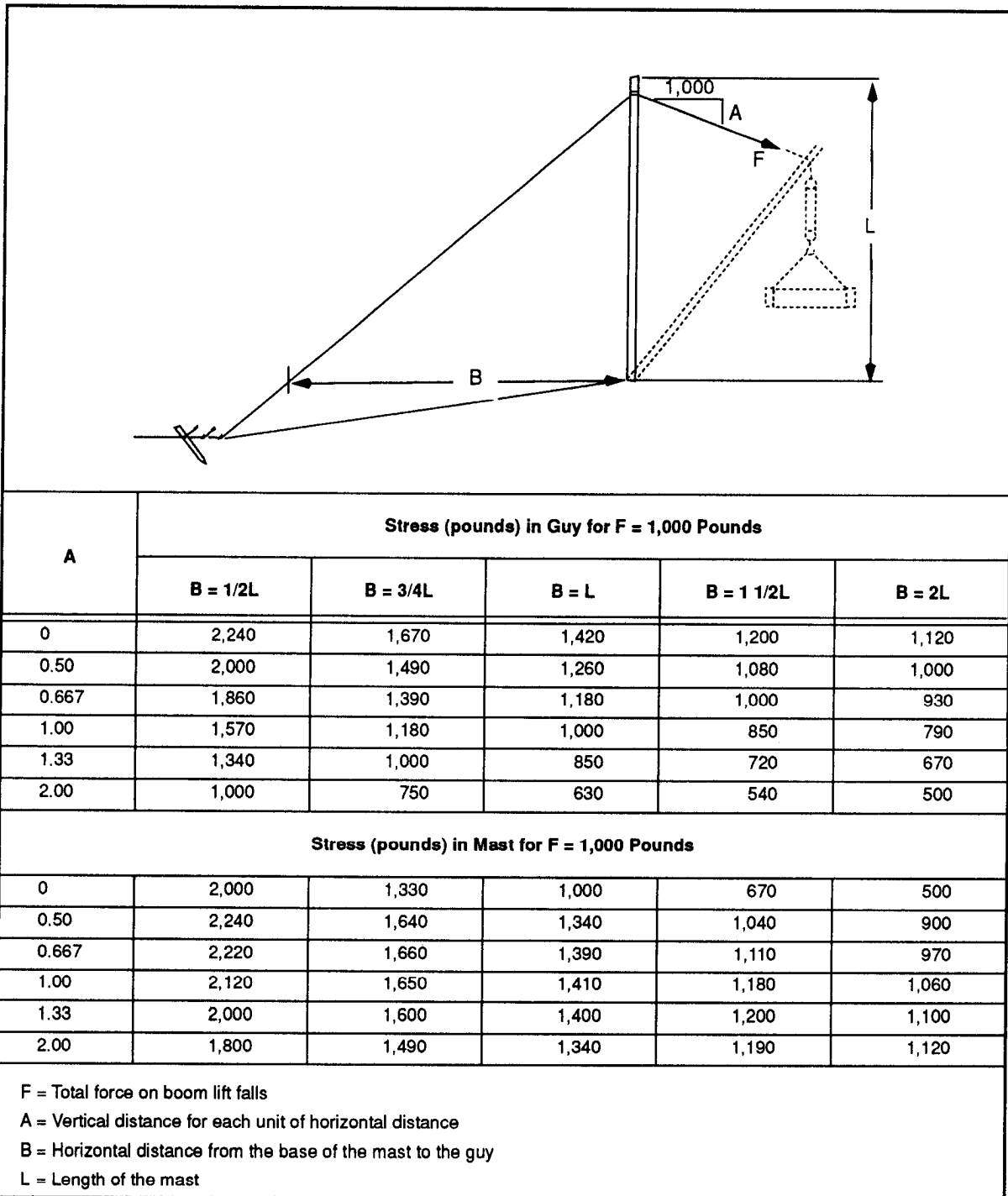


Figure A-4. Stresses in guys and mast of guy derrick