SAE International

SURFACE VEHICLE RECOMMENDED PRACTICE

SAE J1257 FEB2012

Issued 1979-04
Reaffirmed 2012-02

Superseding J1257 OCT1980

Rating Chart for Cantilevered Boom Cranes

RATIONALE

J1257 has been reaffirmed to comply with the SAE five-year review policy.

1. ***Scope***—This recommended practice applies to mobile construction type cranes with cantilevered, telescopic booms when used in lifting crane service.

1.1 **Purpose—**The purpose of this recommended practice is to establish a standard format rating chart.

2. ***References***—There are no referenced publications specified herein.

3. ***Requirements***

3.1 **Format—**The Appendix example shows the desired format of data placement. The format shown, is for a complex boom arrangement; for a simpler machine one or two charts may be all that is necessary. The format contains the following information:

3.1.1 GENERAL NOTES—These notes are subdivided into *title, informational data, warnings, and definitions*. Warnings are further subdivided into *general, set-up, and operational*. A list of this type is shown in the Appendix.

3.1.2 RATING CONFIGURATION CHARTS—These are charts showing the boom combination and machine supports, load ratings, set-up, and operational notes and a table including weights of removable equipment all for the specific boom combination and machine supports. See Appendix examples.

3.1.2.1 A specific configuration requires the operator to refer to an applicable rating configuration chart.

3.1.2.2 There will be as many rating configuration charts as the manufacturer deems necessary to minimize operator calculation.

3.1.2.3 The load rating data shall be organized as shown in the following rating block module (Table 1).

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TABLE 1—RATING BLOCK MODULE

Load Radius (ft)	Loaded Boom Angle (deg)	Rated Loads		
		Over Side (lb)	Over Rear (lb)	Over Front (lb)
Boom Length—36 ft				
12	70	XXX00	XXX00	XXX00
15	65	XXX00	XXX00	XXX00
20	55	XXX00	XXX00	XXX00
25	43	XXX00	XXX00	XXX00
30	27	XXX00	XXX00	XXX00

3.1.2.4 Set-up and operational notes may be necessary on each rating configuration chart.

3.1.2.5 The manufacturer may deviate from the rating block module by eliminating certain columns. Some examples are:

a. Load radius column may be omitted from jib ratings.
b. Loaded boom angle column may be omitted from ratings for operation on tires.
c. Rated load columns over side, rear, or front may be combined or omitted as applicable.

3.1.2.6 Rating numbers shall be expressed in one-hundred pound increments.

3.1.2.7 Structural strength ratings shown in charts shall be shaded to segregate them from stability ratings.

3.1.2.8 A table consisting of the weights of removable equipment shall appear on each applicable rating configuration chart.

When equipment is removed, load ratings may be increased by adding the tabulated values.

3.1.3 RANGE DIAGRAMS—A separate range diagram is included with each rating configuration chart on the opposite facing page. Areas of instability in the unloaded condition shall be shaded. Figure A9 and Figure A10 for example. A single range diagram may be separately mounted and not included in the format for simple machines where all instability areas of an unloaded boom may be clearly shown.

3.2 Readability and Type Size—Alphanumeric characters in the format shall be no less than 8 point (9 lines per inch).

3.3 Placement—Operational configuration charts, and preferably the whole format package, shall be in the format hemisphere of the operator's visibility. See Figure A1 and Figure A2.

3.3.1 FASTENING—The rating chart shall be fastened to the cab in such a manner that it cannot be removed without tools.

3.4 Size—Figure A3 through Figure A32 show the pages of the format. Full scale size of each figure is approximately 7 x 9 in for data shown at minimum type size. Size may be larger.

3.5 Environmental—The rating chart shall be of a material so as to maintain legibility for many years in its environment. The environment consists of sunlight, handling, oil, water, and temperature extremes of –40-120°F.

4. Deviations

4.1 **Radius Increments—**Radius increments are manufacturer's option.

4.2 **Boom Length Increments—**Boom length increments are manufacturer's option.

4.3 **Warning Notes—**The warning notes shown in the attached Appendix are typical of those that may be required on many construction cranes. Exact content and wordage may vary according to specific usage and manufacturer's requirements. Clear, precise, simple language should be used.

4.4 See also Section 3.1.2.5.

5. Notes

5.1 **Marginal Indicia—**The change bar (l) located in the left margin is for the convenience of the user in locating areas where technical revisions have been made to the previous issue of the report. An (R) symbol to the left of the document title indicates a complete revision of the report.

PREPARED BY THE SAE OFF-ROAD MACHINERY TECHNICAL COMMITTEE SC17—EXCAVATORS

REAFFIRMED BY THE SAE CRANES AND LIFTING DEVICES COMMITTEE

APPENDIX A

The following is a workable example of the recommended practice. Deviations stated in Section 4 are permissible.

Figure A1 shows a location of the rating chart in a crane cab. Note that placement is in the front hemisphere in a location usable on most machines and accessible to the operator.

Figure A2 shows a method of fastening to the cab.

Figure A3 through Figure A32 show the pages of the multi-card rating chart. This example includes a title and a rather complete list of warning notes, informational data, load ratings, and range diagrams. The format shown is for a complex boom arrangement and adheres to all requirements of the recommended practice. For a simpler boom arrangement, one or two charts may be all that is necessary.

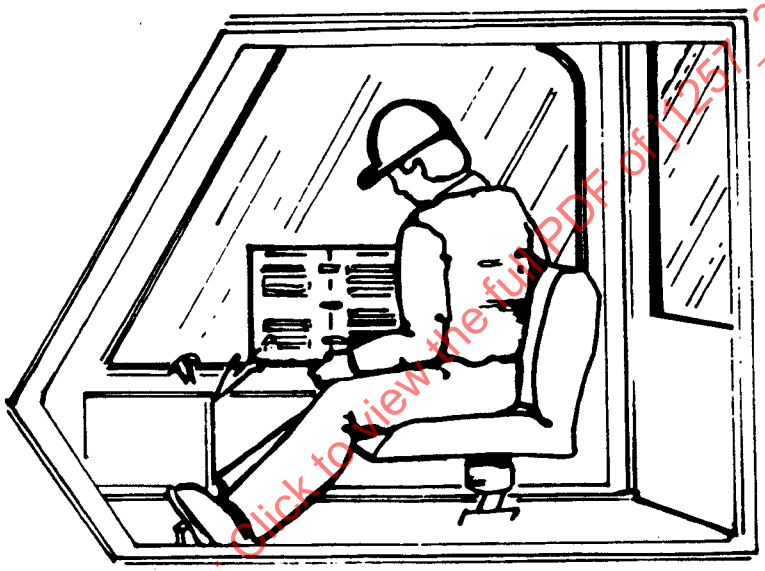

FIGURE A1—

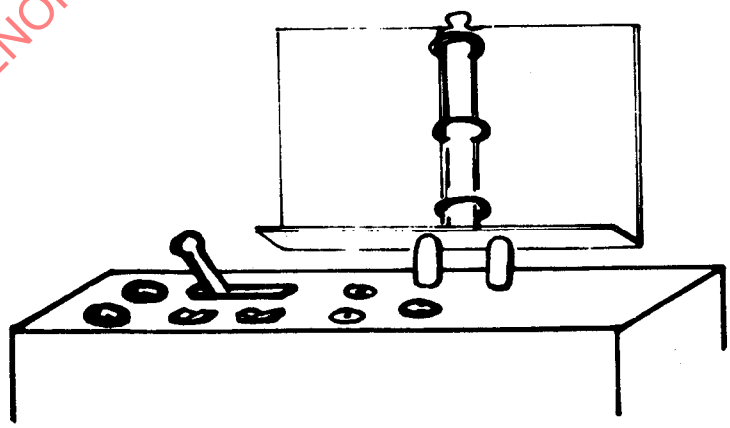

FIGURE A2—

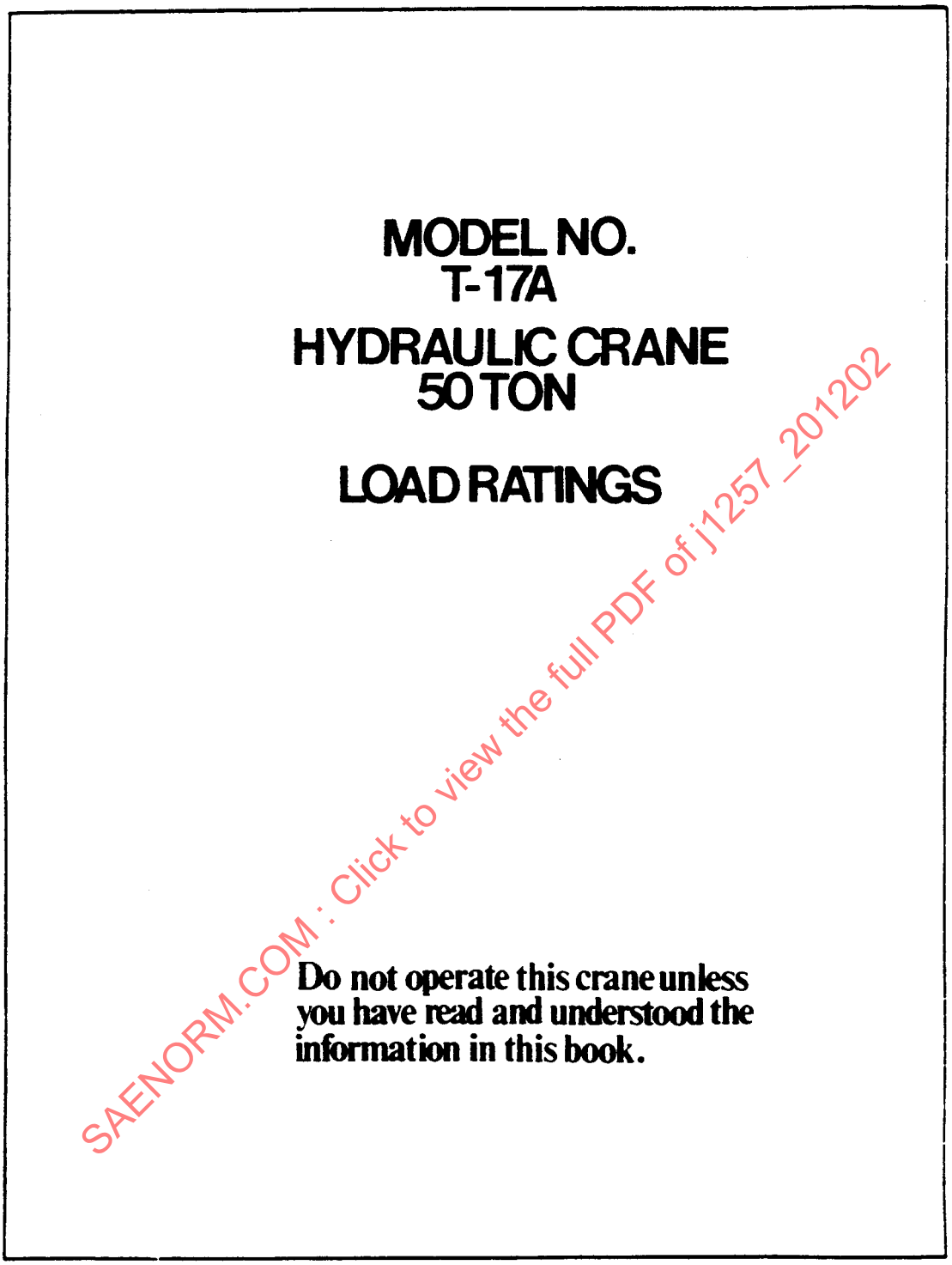

FIGURE A3—

INFORMATION DATA

Hoist Tackle Chart

Permissible Hoist Tackle Pull (lb)			
Parts	No. 1 Main Winch	Auxiliary Winch	Auxiliary Winch
1	12 500	7240	
2	25 000	14 480	
3	37 500		
4	50 000		
5	62 500		
6	75 000		
7	87 500		
8	100 000		
Wire Rope	3/4 in dia 6 x 37 EIPS IWRC	5/8 in dia 8 x 19 EIPS IWRC	

Tire Inflation Chart

Tire and Ply Rating	Inflation · PSI		
	Static	5 mph	Highway Travel
12.00-20x - 18PR	120	120	120
11.00-20 - 14PR	100	90	90
15x22.5 - 16PR	100	90	90

Machine Equipment

1 _____lb, extendable, removable for fixed counterweight

2 Outrigger spread of___ft___in frm the longitudinal axis of the carrier to the outrigger float pivot when fully extended

3 Powered boom length___ft retracted to___ft extended
Maximum extension per second is__ft Manual extension adds ___ft

4 (___by___) carrier,___in wheelbase, ___ft wide

Hook Block Weight Chart

50 ton	4 sheave	920 lb
18 ton	1 sheave	400 lb
5 ton	overhaul hook	225 lb

30 ft Fly	1200 lb
20 ft Jib	760 lb

Clamshell and Concrete Bucket Service

1 Maximum boom length for bucket service is ____ft

2 Derate load chart ____% and single line pull not to exceed ___lb

Outrigger Pad Loads

No single outrigger pad load exceeds sum of the lifted load plus machine gross vehicle weight (GVW) times ___% not to exceed a maximum of ___lb

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FIGURE A4—

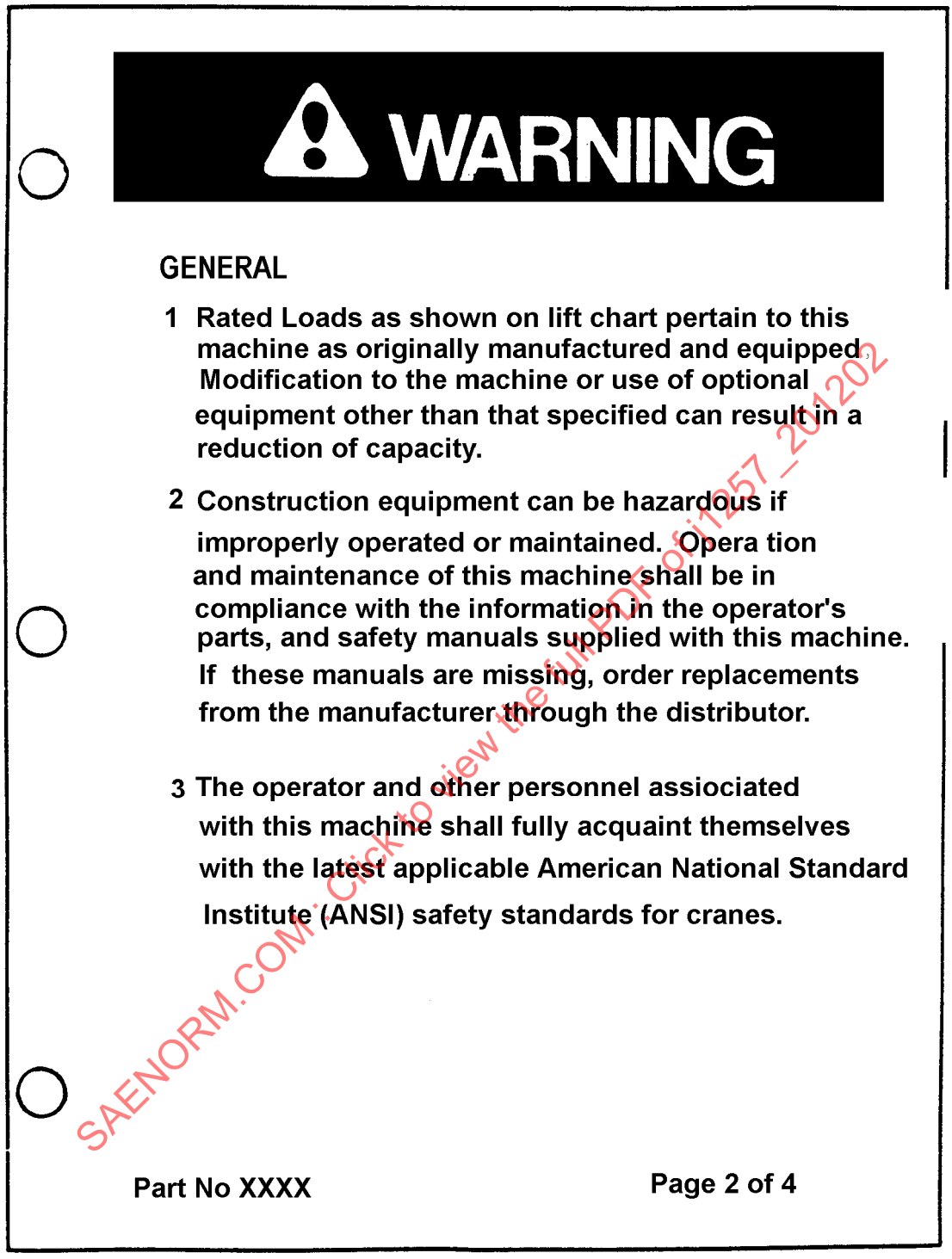


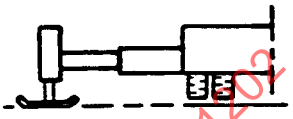
FIGURE A5—

WARNING

Set-Up:

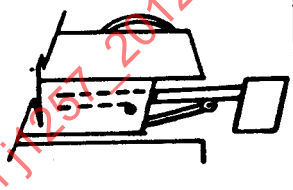
1 The machine shall be leveled on a firm supporting surface. Depending on the nature of the supporting surfave, it may be necessary to have structural supports under the outrigger floats or tires to spread the load to a larger bearing surface

2 When outrigger use is intended, the beam shakk be fully extended and set with tires raised from the supporting surface.



3 Counterweight shall be fully extended before operation

4 Tires shall be inflated to the recommended pressure before lifting on tires



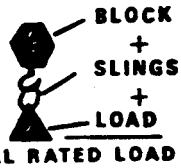
5 Axle lockout shall be engaged before lifting other side on tires. Set wheel brakes for static on tires.

Operation:

1 Rated loads at rated radius shall not be exceeded. Do not tip the machine to determine allowable loads.

2 Rated loads do not exceed ___% on outriggers, ____% on static tires, and ___% for pick and carry, of the tipping load as determined by SAE Crane Stability Test Code J765a. Structural strength ratings ub chart are shaded.

3 Rated loads include the weight of the hook block, slings, and auxiliary lifting devices and their weights shall be subtracted from the listed rated load to obtain the net load to be lifted.



4 Rated loads are based on freely suspended loads. No attempt shall be made to move a load horizontally on the ground in any direction.

5 Rated loads do not account for wind on lifted load or boom. It is recommended when wind velocity is above ___mph, rated loads and/or boom lengths should be appropriately reduced. It is recommended when wind velocity exceeds ___mph , the boom sgiykd ve retracted or laid down out of service.

6 Rated loads are for lift crane service only.

7 Do not operate at radii or boom lengths where capacities are not listed. At these positions, the machine can overturn without any load on the hook.

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FIGURE A6—

WARNING

8 The maximum load which can be telescoped is not definable because of variations in loadings and crane maintenance, but it is permissible to attempt retraction and extension if rating is not exceeded.

9. When either boom length or radius or both are between values listed, the smallest load shown at either the next larger radius or boom length shall be used.

10 The user shall operate at reduced ratings to allow for adverse job conditions, such as: soft or uneven ground, out of level conditions, high winds, side loads, pendulum action, jerking or sudden stopping of loads, hazardous conditions, experience of personnel, two machine lifts, traveling with loads, electric wires, etc. Side pull on boom or jib is hazardous.

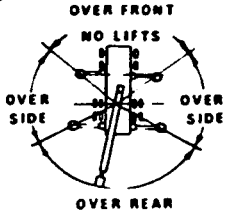
11 Operation of this equipment in excess of rating configuration charts and disreguard of the instructions is hazardous.

Definitions:

1 Load Radius- Horizontal distance from a projefction of the axis of rotation to the supporting surfaces before loading to the center of the vertcal hoist line or tackl with load applied.

2 Loaded Boom Angle- Loaded Boom angle is the angle between the boom and thge base section and the horizonatal, after lifting the rated load at the rated radius. The boom angle before loading should be greater to account deflections. The loaded boom angle combined with the boom length give only an approximantion of the operating radius.

3 Working Area- Areas measured in a circular arc about the center line of rotation as shown on the working area diagram.



4 Freely Supsended Load- Load hanging free with no direct external force applied except by the hoist line.

5 Side Load- Horizontal side force applied to the lifted load either on the ground or in the air.

6 No Load Stability Limit- The stability limit radius shown on the range diagrams is the radius beyond whch it is not permitted to position the boom plus block configuration, because machine can overturn without any load on the hook.

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FIGURE A7—

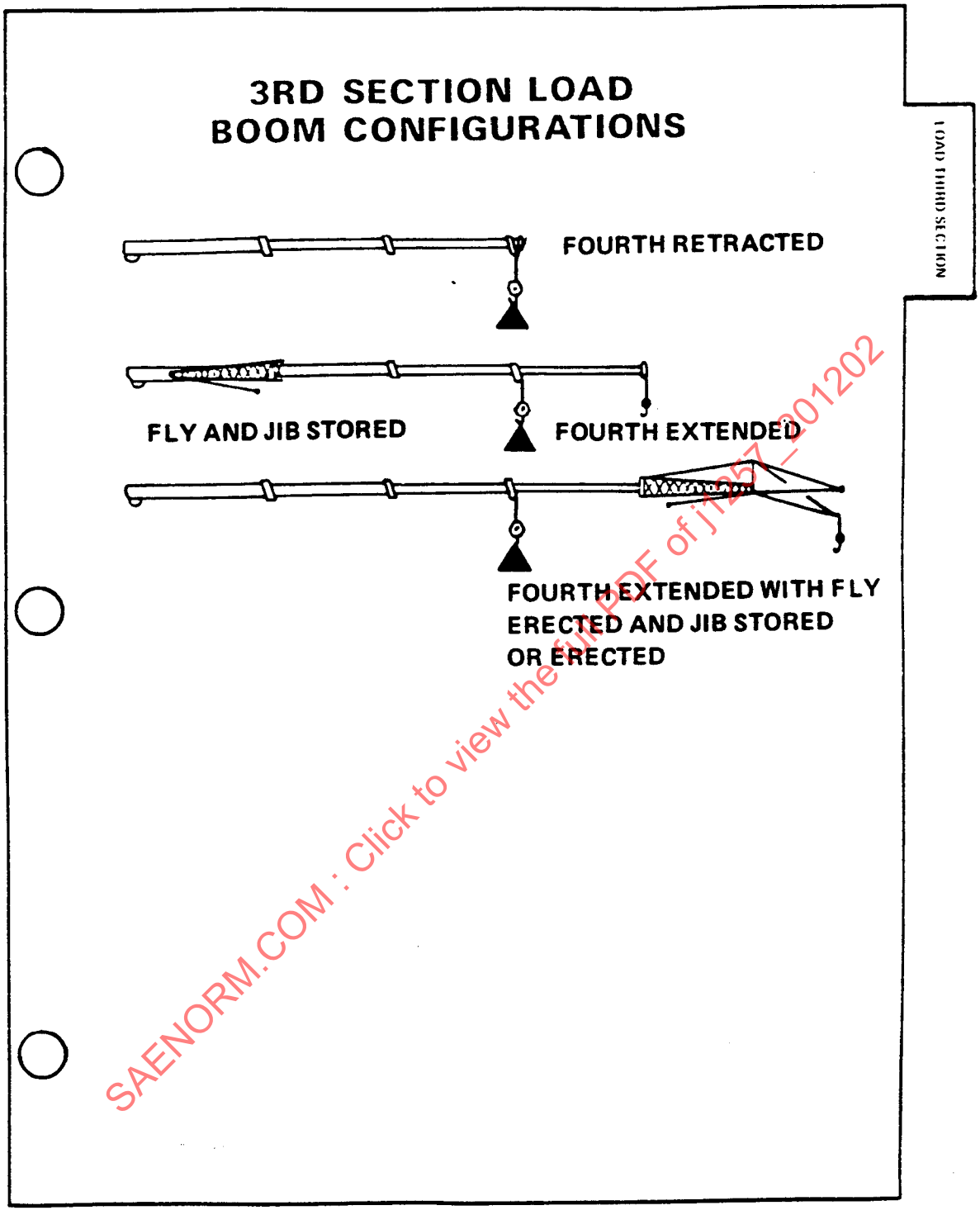
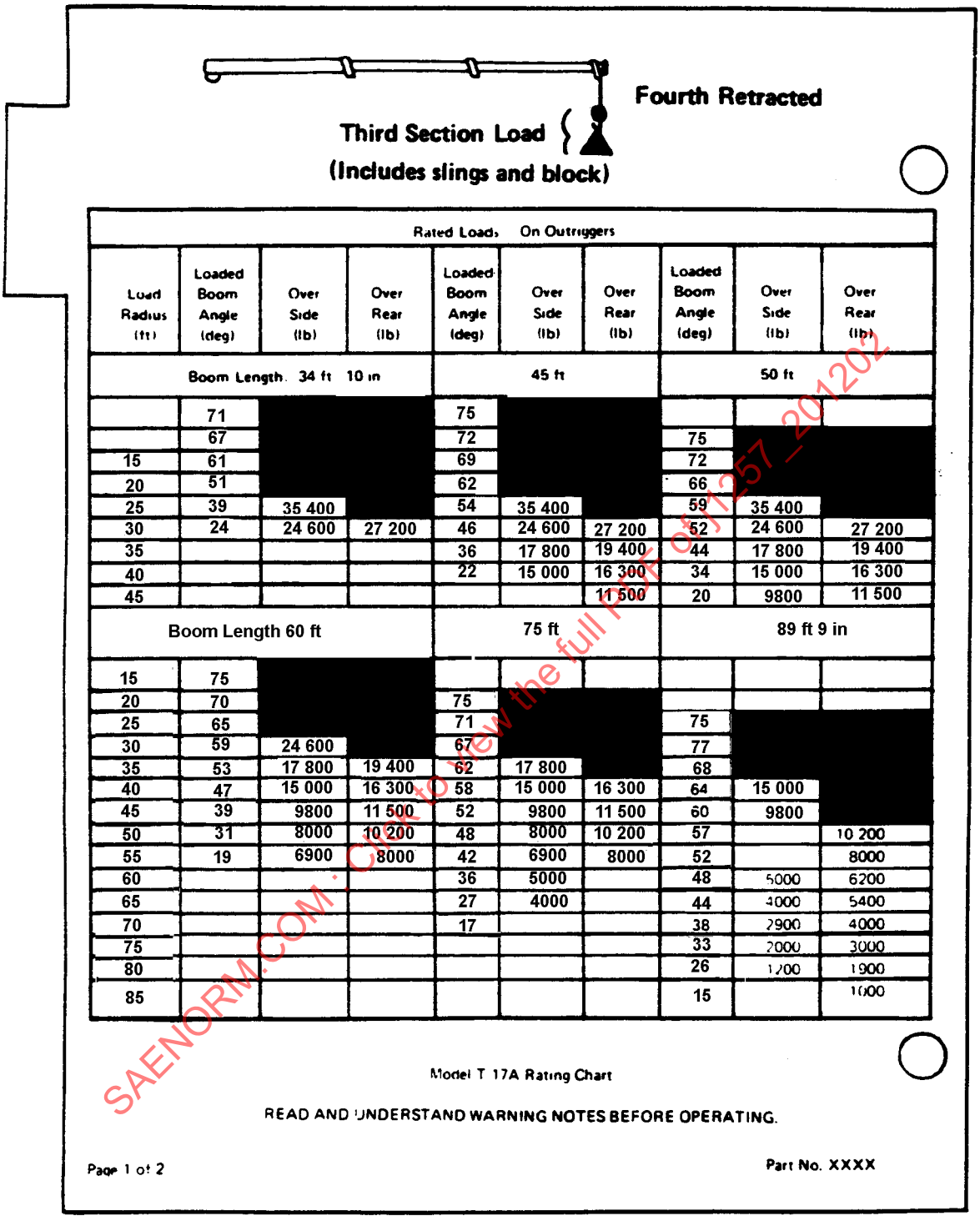


FIGURE A8—



Rated Loads On Outriggers

Load Radius (ft)	Loaded Boom Angle (deg)	Over Side (lb)	Over Rear (lb)	Loaded Boom Angle (deg)	Over Side (lb)	Over Rear (lb)	Loaded Boom Angle (deg)	Over Side (lb)	Over Rear (lb)
Boom Length 34 ft 10 in				45 ft			50 ft		
	71			75					
	67			72			75		
15	61			69			72		
20	51			62			66		
25	39	35 400		54	35 400		59	35 400	
30	24	24 600	27 200	46	24 600	27 200	52	24 600	27 200
35				36	17 800	19 400	44	17 800	19 400
40				22	15 000	16 300	34	15 000	16 300
45						11 500	20	9800	11 500
Boom Length 60 ft				75 ft			89 ft 9 in		
15	75								
20	70			75					
25	65			71			75		
30	59	24 600		67			77		
35	53	17 800	19 400	62	17 800		68		
40	47	15 000	16 300	58	15 000	16 300	64	15 000	
45	39	9800	11 500	52	9800	11 500	60	9800	
50	31	8000	10 200	48	8000	10 200	57		10 200
55	19	6900	8000	42	6900	8000	52		8000
60				36	5000		48	5000	6200
65				27	4000		44	4000	5400
70				17			38	2900	4000
75							33	2000	3000
80							26	1200	1900
85							15		1000

Model T 17A Rating Chart

READ AND UNDERSTAND WARNING NOTES BEFORE OPERATING.

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FIGURE A9—

Set-Up:

1. Fully extend outriggers and level crane turntable.
2. Fully extend counterweight.
3. Fourth section retracted with fly, jib, and block removed.

Operation:

1. The 34 ft boom length capacities are based on boom fully retracted. If not fully retracted, do not exceed ratings for the 45 ft boom length.
2. The power operated telescoping boom sections are hydraulically sequenced to extend and retract equally. These sections must be extended equally at all times.
3. DO NOT EXTEND UNLOADED BOOM WITH BLOCK BEYOND NO LOAD STABILITY LIMIT RADII SHOWN ON RANGE DIAGRAM AS LOSS OF STABILITY MAY OCCUR. A 920 lb main block has been allowed for.

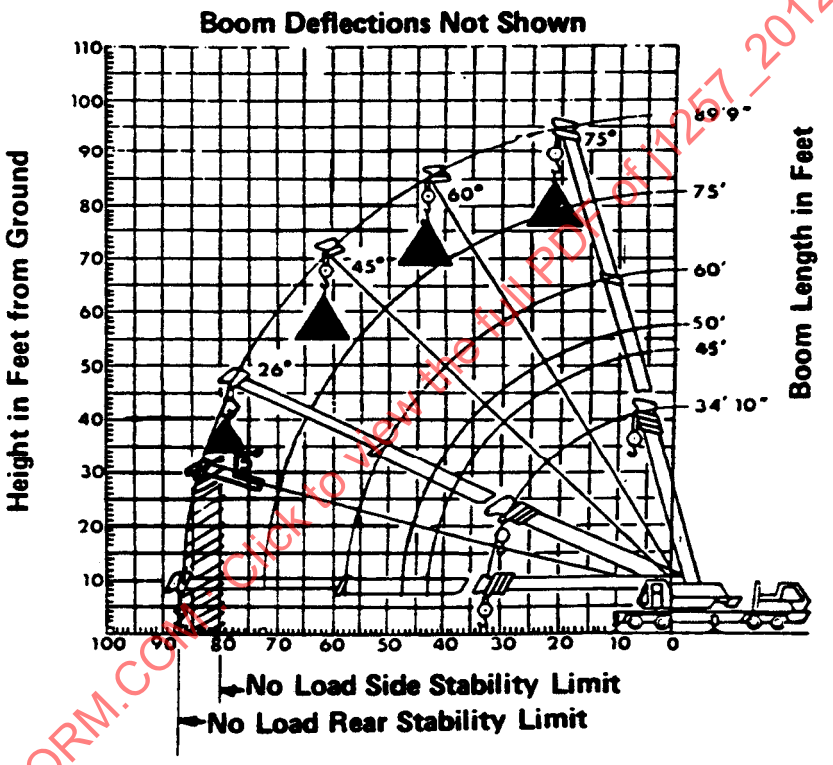

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FIGURE A10—

*Rated Loads on Outriggers

Load Radius (ft)	Loaded Boom Angle (deg)	Over Side (lb)	Over Head (lb)	Loaded Boom Angle (deg)	Over Side (lb)	Over Rear (lb)	Loaded Boom Angle (deg)	Over Side (lb)	Over Rear (lb)
10	72			75					
12	68			73					
15	62			70					
20	52			63			66		
25	40	32 000	34 000	55	32 000	34 000	59	32 000	
30	24	20 000	22 000	46	20 000	22 000	52	20 000	22 000
35				36	14 800	16 500	44	14 800	16 500
40				24	10 000	12 800	35	10 000	12 800
45							21	8100	10 000
15	75								
20	70			75					
25	65			71			75		
30	59	20 000		67			77		
35	53	14 800	16 500	62	14 800		68		
40	47	10 000	12 800	58	10 000	12 800	64	10 000	
45	39	8100	10 000	52	8100	10 000	60	8100	10 000
50	31	5000	7200	48	5000	7200	57	5000	7200
55	19	4000	5000	42	4000	5000	52	4000	5000
60				36	2900	4700	48	2900	4700
65				27	1900	3500	44	1900	3500
70				17		2400	38		2400
75							33		1900
80							26		1300

Model T-17A Rating Chart
READ AND UNDERSTAND WARNING NOTES BEFORE OPERATING

*All other blocks and equipment shown have been deducted from ratings using values shown in Add-On capacity chart.

Set-Up:
1 Fully extend outriggers and level crane turntable.
2 Fully extend counterweight.
3 Extend the fourth section as shown in the OPERATOR'S MANUAL.

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FIGURE A11—

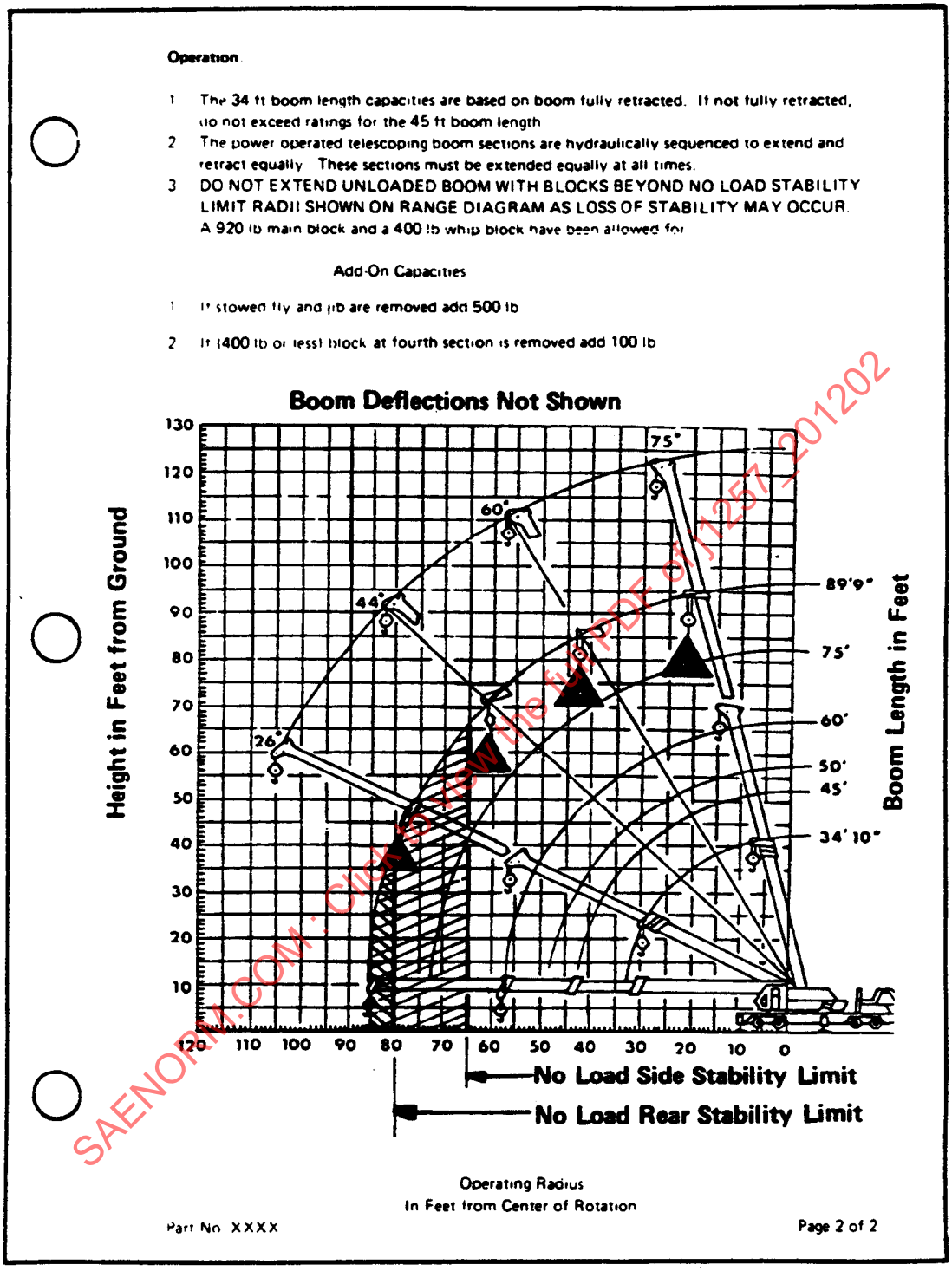
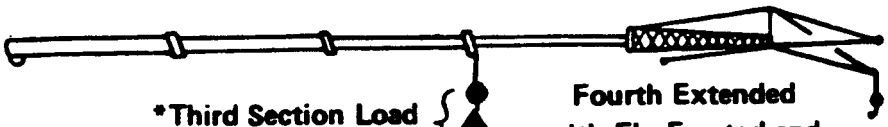


FIGURE A12—



*Third Section Load
(Includes slings and block)

Fourth Extended with Fly Erected and Jib Stored or Erected

*Rated Loads on Outriggers

Load Radius (ft)	Loaded Boom Angle (deg)	Over Side (lb)	Over Rear (lb)	Loaded Boom Angle (deg)	Over Side (lb)	Over Rear (lb)	Loaded Boom Angle (deg)	Over Side (lb)	Over Rear (lb)
Boom Length 34 ft 10 in				45 ft			50 ft		
10	73			75					
12	69			74			75		
15	63			70			72		
20	53			63			65		
25	39	25 000	25 000	55	25 000	25 000	59	25 000	25 000
30	26	14 000	14 000	46	14 000	14 000	52	14 000	14 000
35				36	9000	9000	44	9000	9000
40				23	5000	5000	35	5000	5000
45							22	3200	3200
Boom Length 60 ft				75 ft			89 ft 9 in		
15	75								
20	70			75					
25	65			71			75		
30	60	14 000	14 000	67	14 000	14 000	71		
35	54	9000	9000	62	9000	9000	68	9000	9000
40	47	5000	5000	58	5000	5000	64	5000	5000
45	40	3200	3200	53	3200	3200	60	3200	3200

Model T-17A Raing Chart

READ AND UNDERSTAND WARNING NOTES BEFORE OPERATING

*All other equipment shown plus a 400 lb whip block has been deducted from ratings.

Set-Up:

1 Fully extended outriggers and level crane turntable.
2 Fully extended counterweight.
3 Erect fly and jib in sequence given on 20 ft jib rating to prevent tipping.

1 The 34 ft boom length capacities are based on boom fully retracted, do not exceed ratings for the 45 ft boom length.
2 The power operated telescoping boom sections are hydraulically sequenced to extend and retract equally. These sections must be extended equally at all times.

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FIGURE A13—

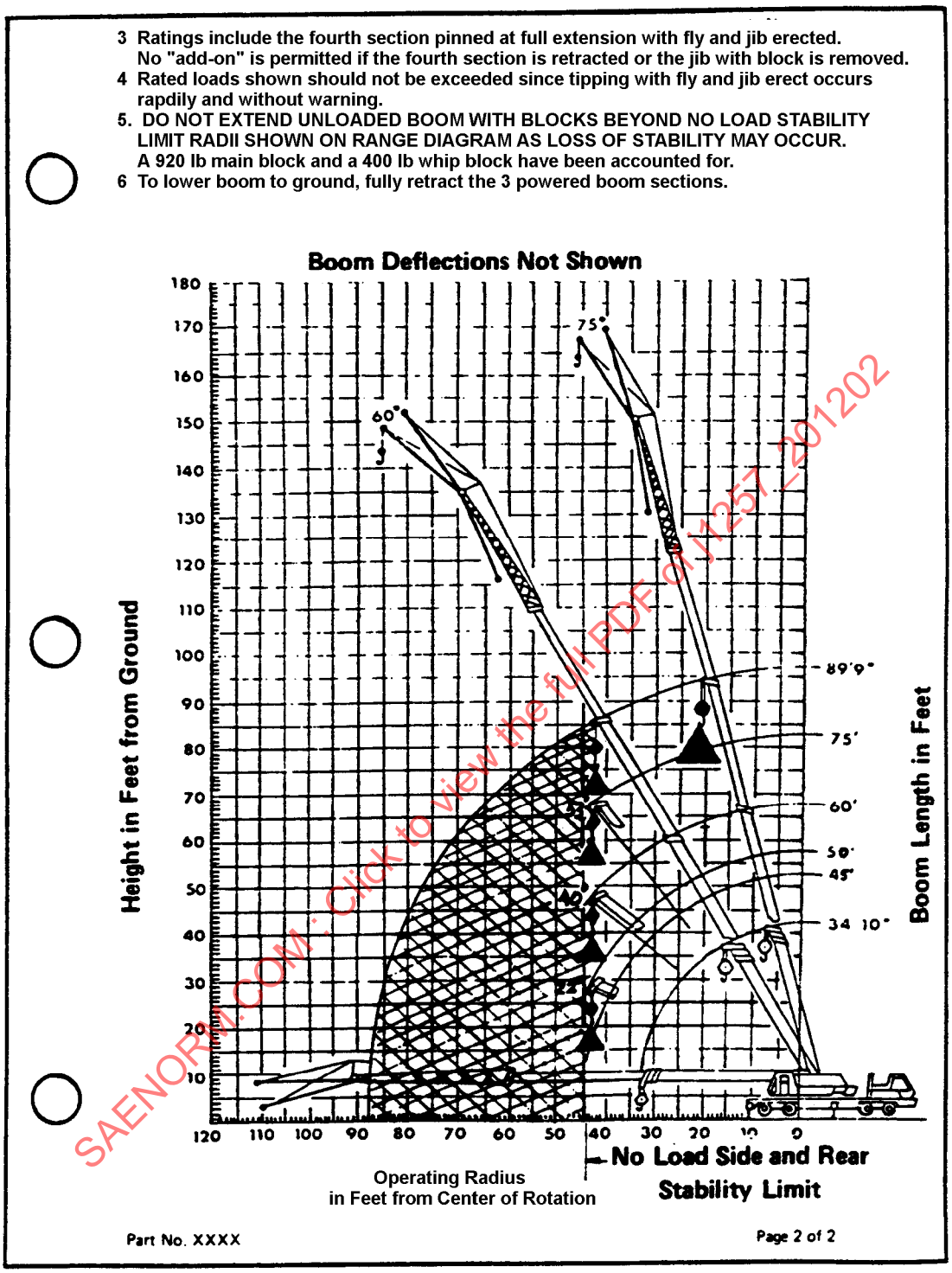

FIGURE A14—

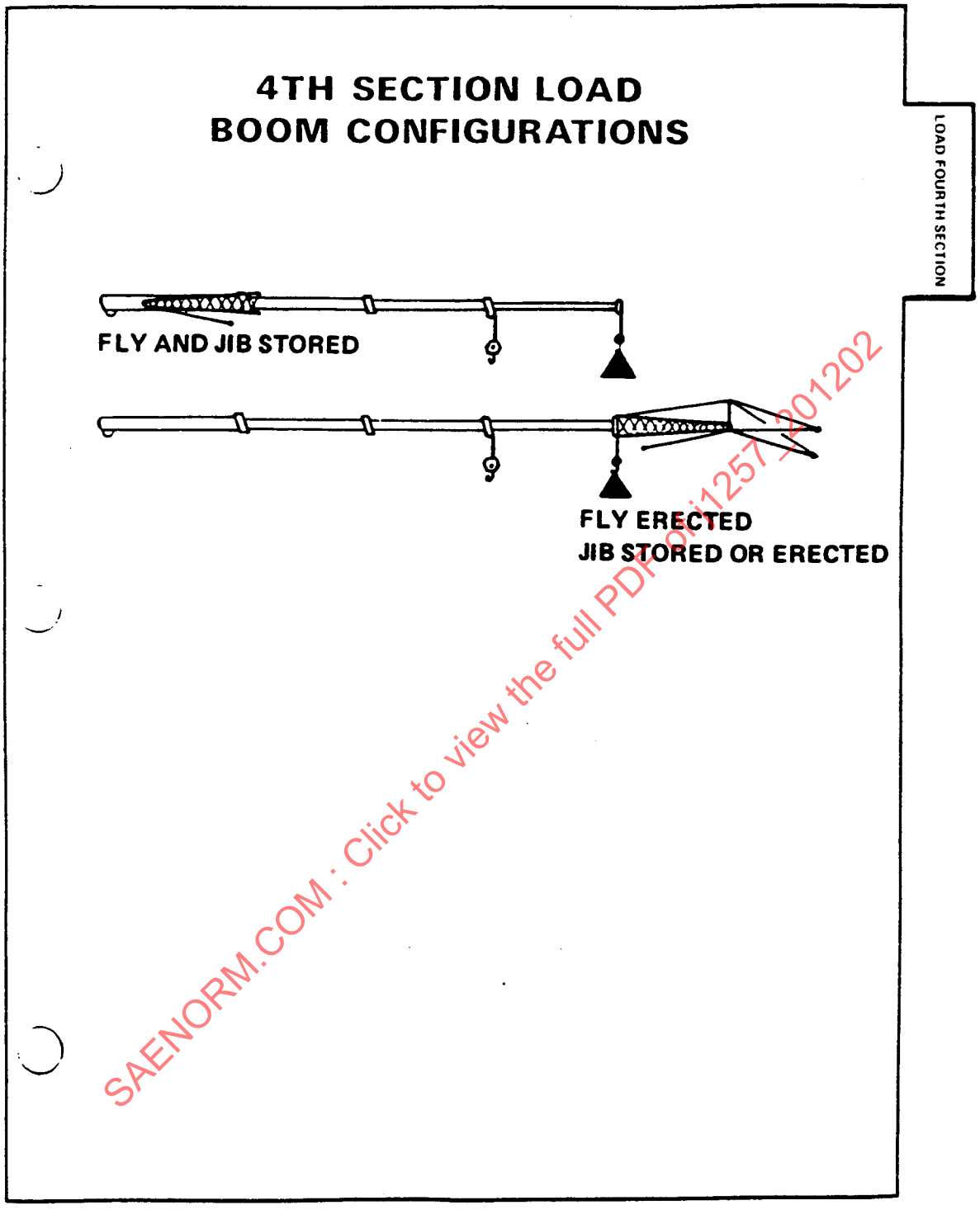

FIGURE A15—

Fly and Jib Stored

*Fourth Section Load
(Includes slings and block)

*Rated Loads on Outriggers			
Load Radius (ft) (For 119 ft Boom)	Loaded Boom Angle (deg)	Over Side (lb)	Over Rear (lb)
Boom Length 119 ft or Less (See Operation Note 1)			
33	75		
35	74		
39	72		
43	70		
47	68		
51	66		
55	64		
58	62	5500	
62	60	4700	
70	55	3500	5200
78	50	2700	4500
85	45	1800	3400
92	40	1000	2000
97	35		1700
103	30		1300
107	25		1000

Model T-17A Rating Chart

READ AND UNDERSTAND WARNING NOTES BEFORE OPERATING.

*All other blocks and equipment shown have been deducted from ratings using values shown in Add-On capacity chart.

Set-Up:

1. Fully extend outriggers and level crane turntable.
2. Fully extend counterweight.
3. Extend fourth section in this sequence to prevent tipping.
   a. Position fully retracted boom over side or rear.
   b. Extend the fourth section as shown in the OPERATOR'S MANUAL.
   c. Retract the three powered boom sections and erect the single sheave block.

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FIGURE A16—

Operation:

1. Operate with fourth section by boom angle. With 119 ft fully extended boom, do not exceed loaded radius for boom angles given in chart, and if necessary, increase boom angle to maintain loaded radius. Ratings are based on structural strength at the main boom angles given regardless of main boom length.
2. DO NOT EXTEND UNLOADED BOOM WITH BLOCKS BEYOND NO LOAD STABILITY LIMIT RADII SHOWN ON RANGE DIAGRAM AS LOSS OF STABILITY MAY OCCUR. A 920 lb main block and a 400 lb whip block have been allowed for.

Add-On Capacities

1. If stowed fly and jib are removed add 200 lb
2. If 920 lb block at third section is removed add 500 lb

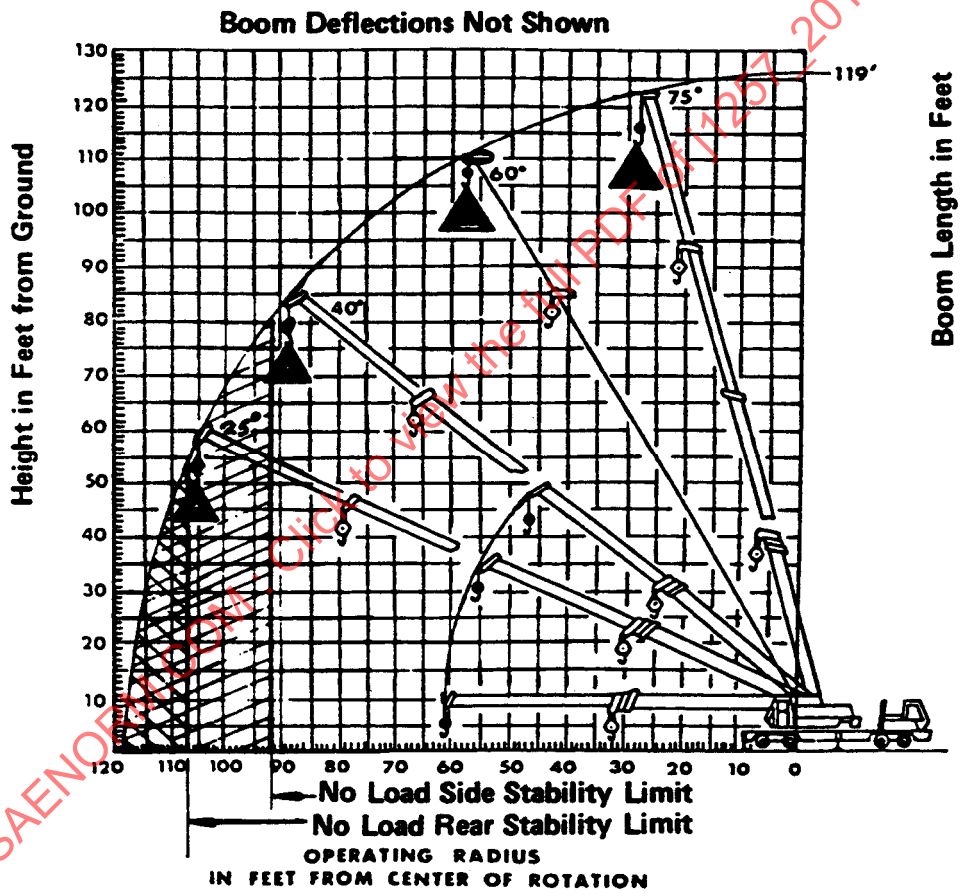

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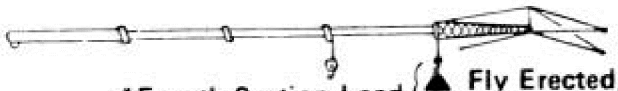
FIGURE A17—



*Fourth Section Load (Includes slings and block)

Fly Erected, Jib Stored or Erected

*Rated Loads on Outriggers			
Load Radius (ft) (For 119 ft Boom)	Loaded Boom Angle (deg)	Over Side (lb)	Over Rear (lb)
Boom Length 119 ft or Less (See Operation Note 1)			
33	75	10 000	10 000
35	74	8000	8000
38	72	8000	8000
43	70	7000	7000
47	68	6800	6800
51	66	5500	5500
55	64	4400	4400
59	62	3800	3800
62	60	2500	3000

Model T 17A Rating Chart

READ AND UNDERSTAND WARNING NOTES BEFORE OPERATING

*All other blocks and equipment shown have been dedcuted from ratings using values shown in Add-On capacity chart

Set-Up:

1 Fully extended outriggers and level crane turntable.
2 Fully extended counterweight.
3 Erect fly and jib in sequence given on 20 ft jib rating shart to prevent tipping.

Operation:

1 Operate with fourth section by boom angle. With a 119 ft fully extended boom, do not exceed loaded radius for boom angles given in chart, and if necessary, increase boom angle to maintain loaded radius. Ratings are based on structural strength at the main boom angles given regardless of main boom length.
2 Rated loads shown should not be exceeded since tipping with fly and jib erected occurs rapidly and without warning.
3 DO NOT EXTEND UNLOADED BOOM WITH BLOCKS BEYOND NO LOAD STABILITY LIMIT RADII SHOWN ON RANGE DIAGRAM AS LOSS OF STABILITY MAY OCCUR. A 920 lb main block and a 400 lb whip block have been allowed for.
4 To lower boom to ground, fully retract the 3 powered boom sections.

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FIGURE A18—

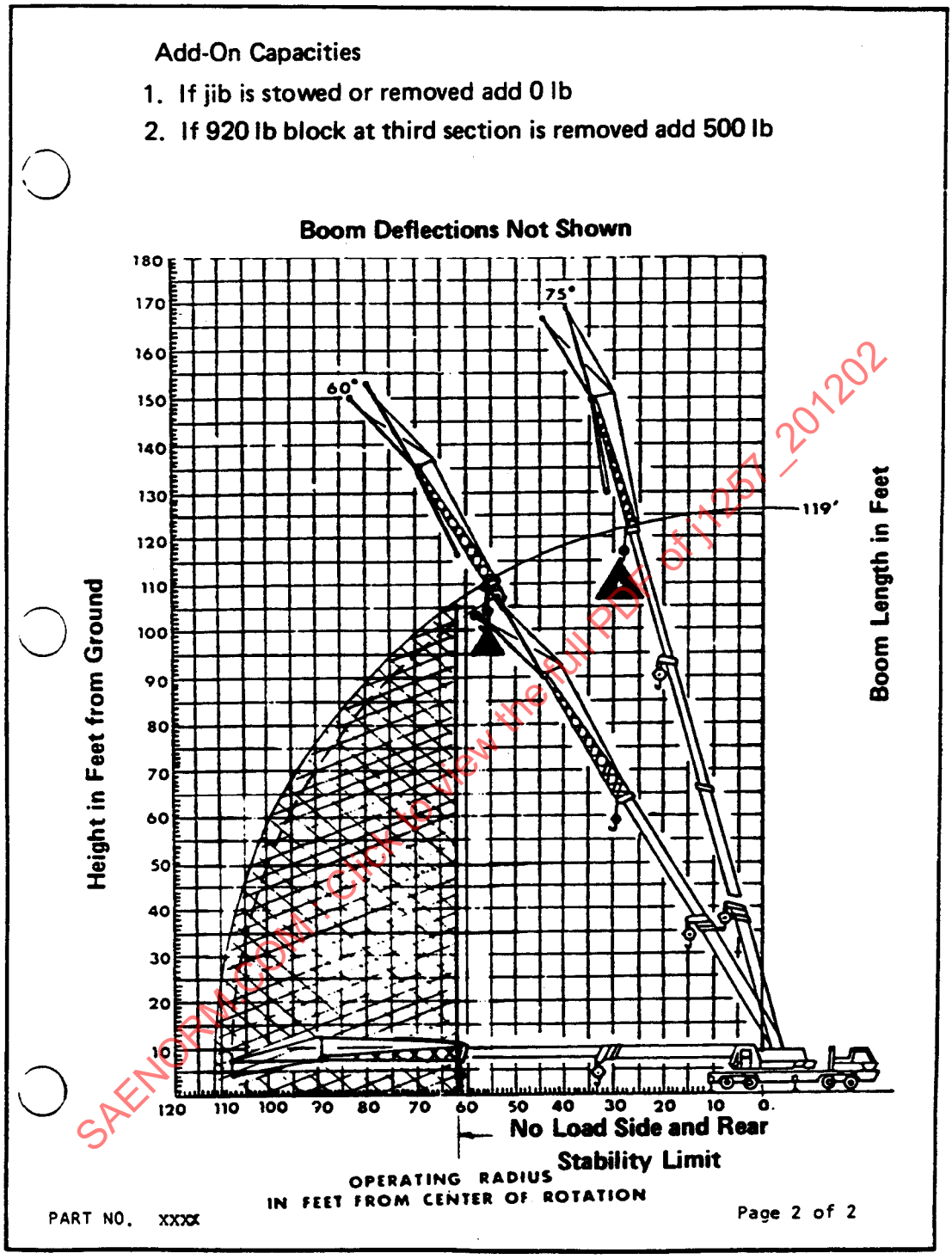


FIGURE A19—

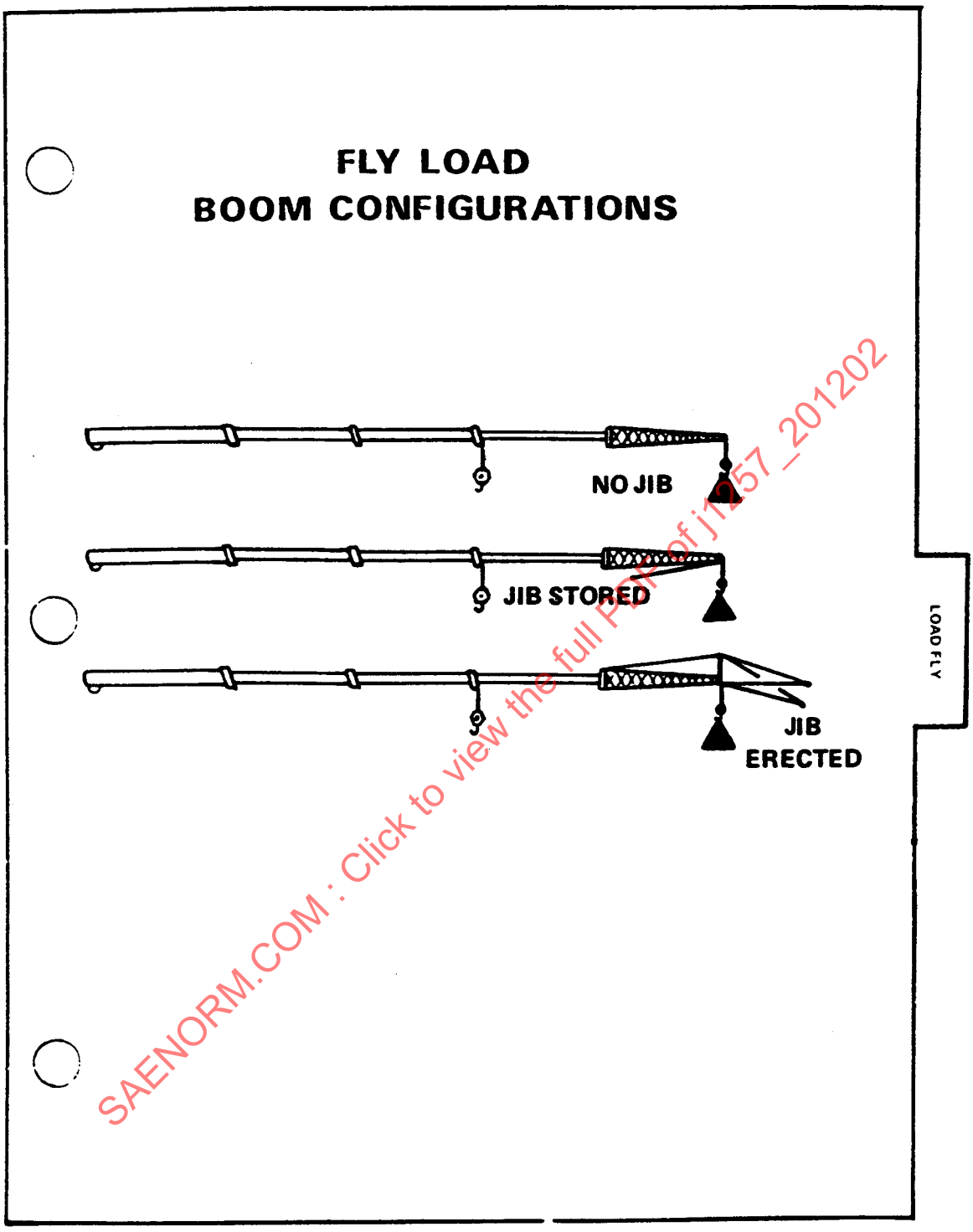
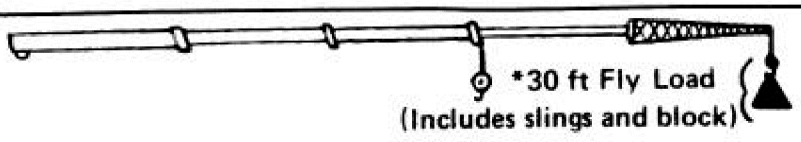


FIGURE A20—



*Rated Loads on Outriggers			
Load Radius (ft) (For 148 ft Boom)	Loaded Boom Angle (deg)	Over Side (lb)	Over Rear (lb)
Boom Length 148 ft Or Less (See Operation Note 1)			
41	75	7200	7200
44	74	6000	6000
40	72	5700	5700
54	70	5000	5000
59	68	4500	4500
64	66	4000	4000
70	64	3800	3800
73	62	3300	3500
78	60	2800	3300
88	55	2000	2500
97	50	1000	1800
106	45		1400
114	40		1000

Model T 17A Rating Chart

READ AND UNDERSTAND WARNING NOTES BEFORE OPERATING

*Block shown at third section has been deducted from ratings using value shown in Add-On capacity chart

Set-Up:
1 Fully extended outriggers and level crane turntable.
2 Fully extended counterweight.
3 Erect the fly in this sequence to prevent tipping. SEE OPERATOR'S MANUAL.
  a. Position fully retracted boom over side or rear
  b. Erect 30 ft fly section.

Operation:
1 OPERATE FLY BOOM BY ANGLE. With a 148 ft fully extended boom, do not exceed loaded radius for boom angles given in chart and if necessary, increase boom angle to maintain loaded radius. Ratings are based on structural strength at the main boom angles given regardless of main boom length.
2 Ratings are for single line lifting crane service only.
3 Rated loads shown should not be exceeded since tipping with fly occurs rapidly and without warning.
4 DO NOT EXTEND UNLOADED BOOM WITH BLOCKS BEYOND NO LOAD STABILITY LIMIT RADII SHOWN ON RANGE DIAGRAM AS LOSS OF STABILITY MAY OCCUR. A 920 lb main block and a 400 lb whip block have been allowed for.
5 To lower boom to ground, fully retract the powered boom sections.

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FIGURE A21—

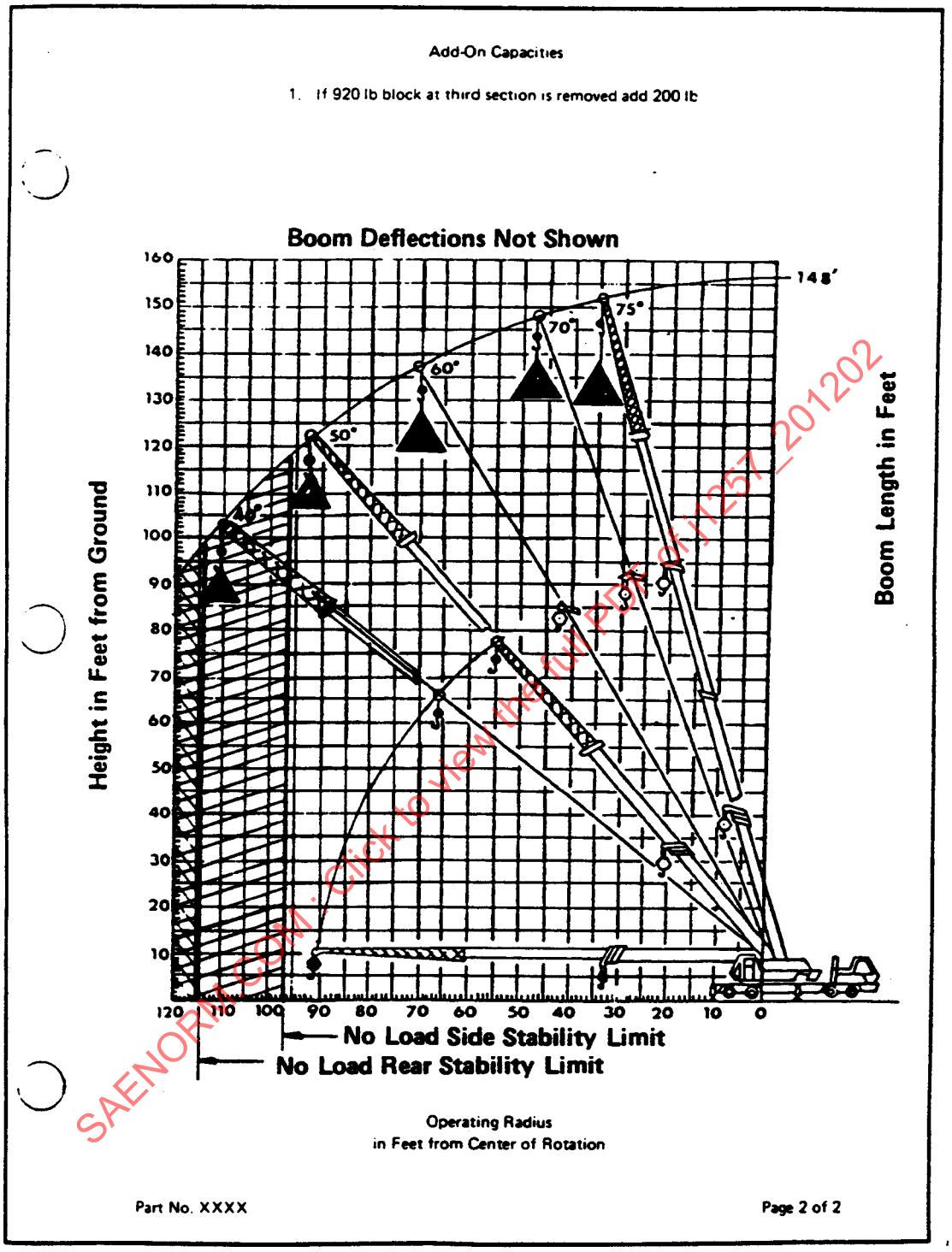
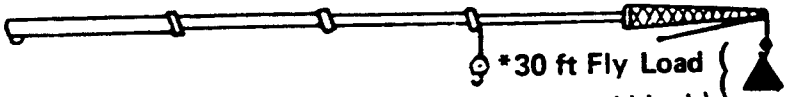


FIGURE A22—



*30 ft Fly Load (Includes sling and block)

Jib Stored

*Rated Loads on Outriggers			
Load Radius (ft) (For 148 ft Boom)	Loaded Boom Angle (deg)	Over Side (lb)	Over Rear (lb)
Boom Length 148 ft or Less (See Operation Note 1)			
42	75		
44	74		
49	72		
54	70		
59	68		
64	66		
68	64		
72	62		
78	60		
87	55	1800	
97	50	1500	
106	45		1000

Model T-17A Rating Chart

READ AND UNDERSTAND WARNING NOTES BEFORE OPERATING.

*All other blocks and equipment shown have been deducted from ratings using values shown in Add-On Capacity chart.

Set-Up:

1. Fully extend outriggers and level crane turntable.
2. Fully extend counterweight.
3. Erect the fly in this sequence to prevent tipping. SEE OPERATOR'S MANUAL.
   a. Position fully retracted boom over side or rear.
   b. Erect 30 ft fly section.
4. DO NOT EXTEND THE POWERED BOOM SECTION OVER THE SIDE UNLESS BOOM ANGLE IS 50 DEG OR GREATER. At boom angles less than 50 deg over the side loss of stability will occur causing a tipping condition with a fully or partially extended main boom.
5. Repeat 4 except use 45 deg for over the rear condition.

Operation:

1. Operate fly by boom angle. With a 148 ft fully extended boom, do not exceed loaded radius for boom angles given in chart and if necessary, increase boom angle to maintain loaded radius. Ratings are based on structural strength at the main boom angles given regardless of main boom length.
2. Ratings are for single line lifting crane service only.
3. Rated loads shown should not be exceeded since tipping with fly occurs rapidly and without warning.
4. DO NOT EXTEND UNLOADED BOOM WITH BLOCKS BEYOND NO LOAD STABILITY LIMIT RADII SHOWN ON RANGE DIAGRAM AS LOSS OF STABILITY MAY OCCUR. A 920 lb main block and a 400 lb whip block have been allowed for.
5. To lower boom to ground, fully retract the 3 powered boom sections.

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FIGURE A23—

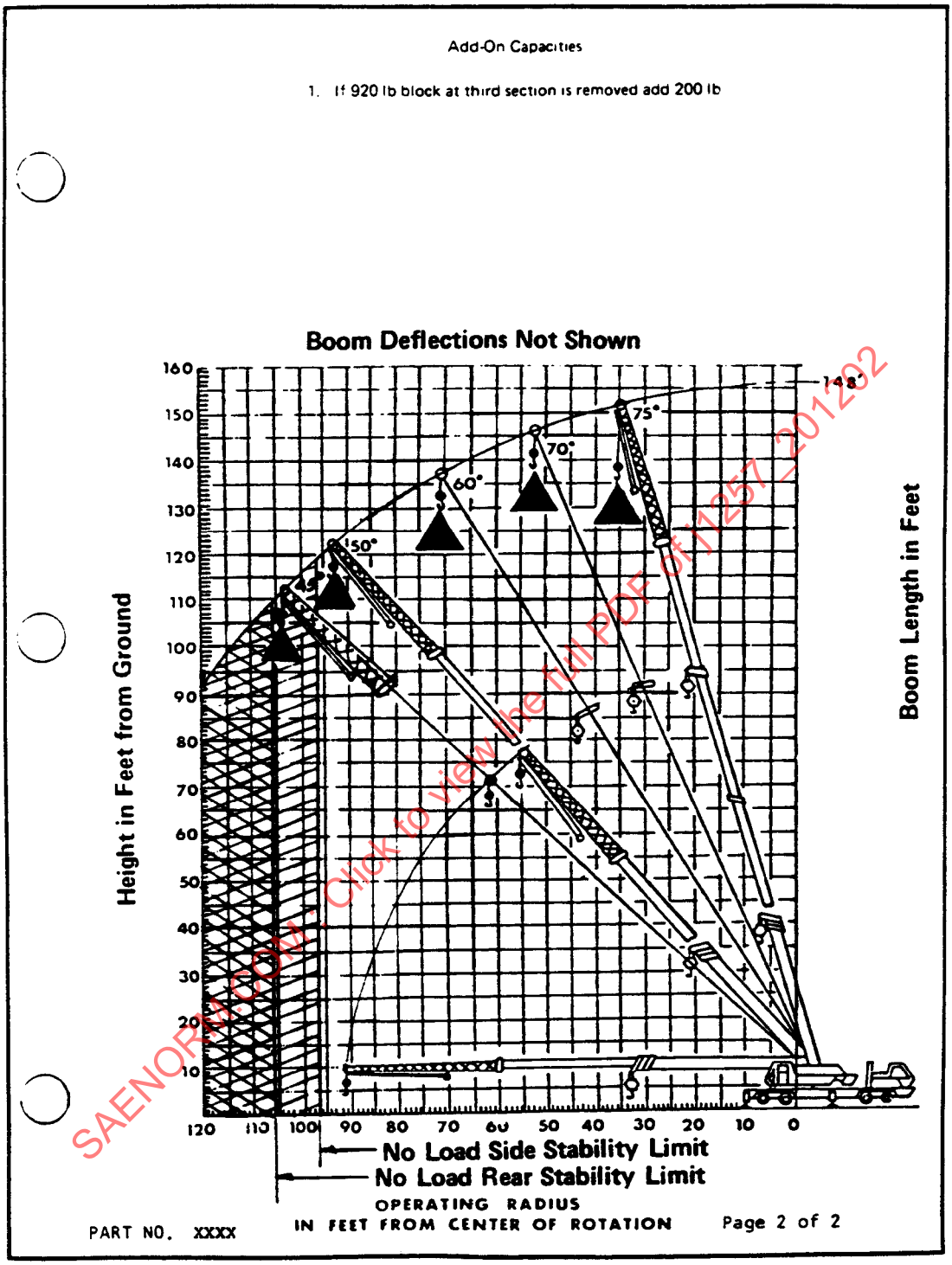
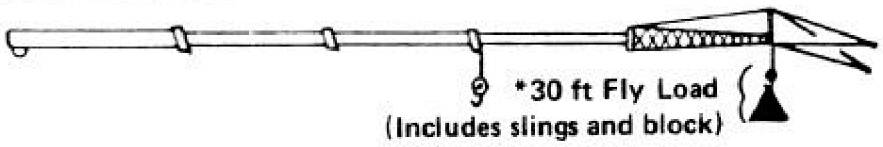


FIGURE A24—



*Rated Loads on Outriggers			
Load Radius (ft) (For 148 ft Boom)	Loaded Boom Angle (deg)	Over Side (lb)	Over Rear (lb)
Boom Length 148 ft or Less (See Operation Note 1)			
17	75	7000	7000
41	74	8100	8100
46	72	5000	5000
52	70	4000	4000
55	68	3800	3800
61	66	3400	3400
66	64	2800	2800
71	62	2500	2500
77	60	3000	3000

Model T-17A Raing Chart
READ AND UNDERSTAND WARNING NOTES BEFORE OPERATING

*All other blocks and equipment shown have been deducted from ratings using values shown in Add-On Capacity chart.

Set-Up:

1 Fully extended outriggers and level crane turntable.
2 Fully extended counterweight.
3 Erect fly and jib in sequence given on 20 ft jib rating to prevent tipping.

Operation:
1 OPERATE FLY BOOM BY ANGLE. With a 148 ft fully extended boom, do not exceed loaded radius for boom angles given in chart and if necessary, increase boom angle to maintain loaded radius. Ratings are based on structural strength at the main boom angles given regardless of main boom length.
2 Ratings are for single line lifting crane service only.
3 Rated loads shown should not be exceeded since tipping with fly occurs rapidly and without warning.
4 DO NOT EXTEND UNLOADED BOOM WITH BLOCKS BEYOND NO LOAD STABILITY LIMIT RADII SHOWN ON RANGE DIAGRAM AS LOSS OF STABILITY MAY OCCUR. A 920 lb main block and a 400 lb whip block have been allowed for.
5 To lower boom to ground, fully retract the powered boom sections.

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FIGURE A25—