

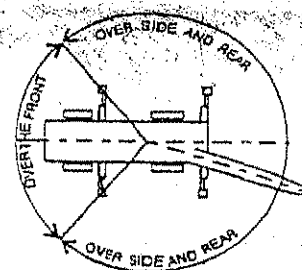
# ROUGH TERRAIN CRANE

**TR-160M-3-00101**

**TADANO TR-160M-3-00101**  
**HYDRAULIC ROUGH TERRAIN CRANE**  
**TOTAL RATED LOAD IN KILOGRAMS**  
 THIS DOCUMENT SHOULD BE READ IN CONJUNCTION WITH THE A.M.L.

**WITH OUTRIGGERS SET - BOOM**

OUTRIGGERS FULLY EXTENDED (5.2m): 360°						
A (m) B (m)	6.5m	10.7m	14.9m	19.1m	23.3m	27.5m
2.5	16.00	12.00	9.00	7.00		
3.0	16.00	12.00	9.00	7.00		
3.5	14.00	12.00	9.00	7.00	5.00	3.50
4.0	12.50	12.00	9.00	7.00	5.00	3.50
4.5	11.50	11.10	9.00	7.00	5.00	3.50
5.0		10.25	8.90	7.00	5.00	3.50
5.5		9.40	8.20	7.00	5.00	3.50
6.0		8.80	7.60	6.60	5.00	3.50
7.0		6.75	6.40	5.80	4.70	3.50
8.0		5.30	5.00	5.00	4.15	3.35
9.0		4.30	4.00	4.25	3.70	3.00
10.0		(8.7m)	3.25	3.50	3.30	2.75
11.0			2.65	2.95	3.00	2.50
12.0			2.15	2.45	2.70	2.30
13.0			1.80	2.05	2.30	2.10
14.0			(12.9m)	1.75	2.00	1.95
15.0				1.45	1.70	1.75
16.0				1.25	1.45	1.50
17.0				1.05	1.25	1.30
18.0					1.05	1.10
19.0					0.90	0.95
20.0					0.75	0.80
22.0					0.60	0.60
24.0					(21.3m)	0.45
a (°)	0 ~ 82					



WORKING RADIUS DIAGRAM

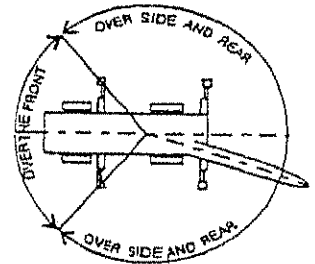
A : BOOM LENGTH (m)  
 B : WORKING RADIUS (m)  
 a : Boom angle range  
 (for unladen condition)

**TADANO TR-160M-3-00101**  
**HYDRAULIC ROUGH TERRAIN CRANE**  
**TOTAL RATED LOAD IN KILOGRAMS**

THIS DOCUMENT SHOULD BE READ IN CONJUNCTION WITH THE A.M.L.

**WITH OUTRIGGERS SET – BOOM**

OUTRIGGERS MIDDLE EXTENDED (4.8m): Over sides						
A (m) B (m)	6.5m	10.7m	14.9m	19.1m	23.3m	27.5m
2.5	16.00	12.00	9.00	7.00		
3.0	16.00	12.00	9.00	7.00		
3.5	14.00	12.00	9.00	7.00	5.00	3.50
4.0	12.50	12.00	9.00	7.00	5.00	3.50
4.5	11.50	11.10	9.00	7.00	5.00	3.50
5.0		10.25	8.90	7.00	5.00	3.50
5.5		9.20	8.20	7.00	5.00	3.50
6.0		7.90	7.60	6.60	5.00	3.50
7.0		5.85	5.85	5.80	4.70	3.50
8.0		4.55	4.50	4.85	4.15	3.35
9.0		3.80	3.55	3.90	3.70	3.00
10.0		(8.7m)	2.85	3.15	3.30	2.75
11.0			2.30	2.60	2.80	2.50
12.0			1.85	2.15	2.35	2.30
13.0			1.50	1.75	1.95	2.10
14.0			(12.9m)	1.45	1.65	1.75
15.0				1.20	1.40	1.50
16.0				1.00	1.20	1.25
17.0				0.85	1.00	1.05
18.0					0.85	0.90
19.0					0.70	0.75
20.0					0.55	0.60
22.0						0.40
a (°)	0~82			22~82		32~82



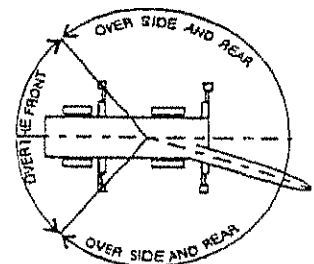
WORKING RADIUS DIAGRAM

A : BOOM LENGTH (m)  
 B : WORKING RADIUS (m)  
 a : Boom angle range  
 (for unladen condition)

**TADANO TR-160M-3-00101**  
**HYDRAULIC ROUGH TERRAIN CRANE**  
**TOTAL RATED LOAD IN KILOGRAMS**  
**THIS DOCUMENT SHOULD BE READ IN CONJUNCTION WITH THE A.M.L.**

**WITH OUTRIGGERS SET – BOOM**

OUTRIGGERS MIDDLE EXTENDED (4.4m): Over sides						
A (m) B (m)	6.5m	10.7m	14.9m	19.1m	23.3m	27.5m
2.5	16.00	12.00	9.00	7.00		
3.0	16.00	12.00	9.00	7.00		
3.5	14.00	12.00	9.00	7.00	5.00	3.50
4.0	12.50	12.00	9.00	7.00	5.00	3.50
4.5	11.50	11.10	9.00	7.00	5.00	3.50
5.0		9.50	8.90	7.00	5.00	3.50
5.5		8.05	7.90	7.00	5.00	3.50
6.0		6.85	6.70	6.60	5.00	3.50
7.0		5.05	5.00	5.35	4.70	3.50
8.0		3.85	3.85	4.15	4.15	3.35
9.0		3.20	3.00	3.30	3.55	3.00
10.0		(8.7m)	2.35	2.65	2.90	2.75
11.0			1.85	2.15	2.35	2.50
12.0			1.45	1.75	1.95	2.10
13.0			1.10	1.40	1.60	1.75
14.0			(12.9m)	1.15	1.35	1.45
15.0				0.95	1.10	1.25
16.0				0.75	0.90	1.05
17.0				0.60	0.75	0.85
18.0					0.60	0.70
19.0						0.55
20.0						0.40
a (°)		0~82		10~82	34~82	40~82



WORKING RADIUS DIAGRAM

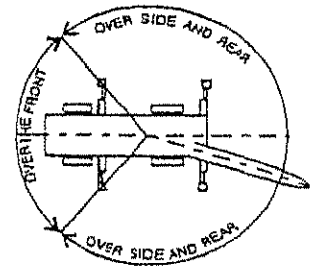
A : BOOM LENGTH (m)  
 B : WORKING RADIUS (m)  
 a : Boom angle range  
 (for unladen condition)

**TADANO TR-160M-3-00101**  
**HYDRAULIC ROUGH TERRAIN CRANE**  
**TOTAL RATED LOAD IN KILOGRAMS**

THIS DOCUMENT SHOULD BE READ IN CONJUNCTION WITH THE A.M.L.

**WITH OUTRIGGERS SET – BOOM**

OUTRIGGERS MINIMUM EXTENDED (3.2m): Over sides						
A (m) B (m)	6.5m	10.7m	14.9m	19.1m	23.3m	27.5m
2.5	16.00	12.00	9.00	7.00		
3.0	14.50	12.00	9.00	7.00		
3.5	10.50	10.40	9.00	7.00	5.00	3.50
4.0	8.00	8.25	7.75	7.00	5.00	3.50
4.5	6.50	6.60	6.30	7.00	5.00	3.50
5.0		5.45	5.30	5.80	5.00	3.50
5.5		4.60	4.40	4.90	5.00	3.50
6.0		3.90	3.75	4.15	4.40	3.50
7.0		2.90	2.75	3.10	3.30	3.25
8.0		2.20	2.05	2.35	2.60	2.70
9.0		1.70	1.50	1.80	2.05	2.15
10.0		(8.7m)	1.10	1.40	1.60	1.70
11.0			0.75	1.05	1.25	1.35
12.0			0.50	0.80	0.95	1.10
13.0				0.55	0.75	0.85
14.0				0.40	0.55	0.65
15.0					0.40	0.50
a (°)	0~82	24~82	36~82	46~82	55~82	



WORKING RADIUS DIAGRAM

A : BOOM LENGTH (m)  
 B : WORKING RADIUS (m)  
 a : Boom angle range  
 (for unladen condition)

**TADANO TR-160M-3-00101**  
**HYDRAULIC ROUGH TERRAIN CRANE**  
**CHART 5: TOTAL RATED LOAD IN KILOGRAMS**  
 THIS DOCUMENT SHOULD BE READ IN CONJUNCTION WITH THE A.M.L.

**JIB**

OUTRIGGERS FULLY EXTENDED (5.2m): 360°						
C D	27.5m Boom + 3.5m Jib					
	5°		25°		45°	
E (°)	B (m)	M (t)	B (m)	M (t)	B (m)	M (t)
82	4.2	2.00	5.1	1.50	6.1	1.25
75	8.1	2.00	8.8	1.50	9.8	1.25
70	10.8	2.00	11.4	1.50	12.3	1.25
65	13.2	1.60	13.8	1.35	14.6	1.25
60	15.5	1.35	16.1	1.15	16.8	1.15
55	17.7	1.05	18.2	1.10	18.8	1.00
50	19.7	0.85	20.1	0.80	20.7	0.80
45	21.6	0.65	21.9	0.60	22.3	0.60
40	23.2	0.50	23.5	0.45		
35	24.7	0.35	24.9	0.35		
30	26.0	0.25	26.1	0.25		
A (°)	29~82				44~82	

- B = Working radius
- C = Jib length
- D = Jib offset
- E = Boom angle
- M = Total rated loads
- A = Boom angle range (for the unladen condition)

**TADANO TR-160M-3-00101**  
**HYDRAULIC ROUGH TERRAIN CRANE**  
**CHART 5: TOTAL RATED LOAD IN KILOGRAMS**  
**THIS DOCUMENT SHOULD BE READ IN CONJUNCTION WITH THE A.M.L.**

**JIB**

OUTRIGGERS MIDDLE EXTENDED (4.8m): Over sides						
C D	27.5m Boom + 3.5m Jib					
	5°		25°		45°	
E (°)	B (m)	M (t)	B (m)	M (t)	B (m)	M (t)
82	4.2	2.00	5.1	1.50	6.1	1.25
75	8.1	2.00	8.8	1.50	9.8	1.25
70	10.8	2.00	11.4	1.50	12.3	1.25
65	13.2	1.60	13.8	1.35	14.6	1.25
60	15.5	1.25	16.1	1.15	16.8	1.15
55	17.7	0.90	18.2	0.85	18.8	0.85
50	19.7	0.65	20.1	0.65	20.7	0.60
45	21.5	0.45	21.9	0.50	22.3	0.45
40	23.2	0.35	23.5	0.35		
A (°)	39~82				44~82	

- B = Working radius
- C = Jib length
- D = Jib offset
- E = Boom angle
- M = Total rated loads
- A = Boom angle range (for the unladen condition)

**TADANO TR-160M-3-00101**  
**HYDRAULIC ROUGH TERRAIN CRANE**  
**CHART 5: TOTAL RATED LOAD IN KILOGRAMS**  
**THIS DOCUMENT SHOULD BE READ IN CONJUNCTION WITH THE A.M.L.**

**JIB**

OUTRIGGERS MIDDLE EXTENDED (4.4m): Over sides						
C D	27.5m Boom + 3.5m Jib					
	5°		25°		45°	
E (°)	B (m)	M (t)	B (m)	M (t)	B (m)	M (t)
82	4.2	2.00	5.1	1.50	6.1	1.25
75	8.1	2.00	8.8	1.50	9.8	1.25
70	10.8	2.00	11.4	1.50	12.3	1.25
65	13.1	1.45	13.8	1.35	14.6	1.25
60	15.4	1.00	16.0	1.00	16.8	0.90
55	17.6	0.70	18.1	0.70	18.7	0.65
50	19.6	0.50	20.1	0.50	20.6	0.45
45	21.5	0.30	21.9	0.30	22.2	0.30
A (°)	44 ~ 82					

- B = Working radius
- C = Jib length
- D = Jib offset
- E = Boom angle
- M = Total rated loads
- A = Boom angle range (for the unladen condition)



**TADANO TR-160M-3-00101**  
**HYDRAULIC ROUGH TERRAIN CRANE**  
**CHART 5: TOTAL RATED LOAD IN KILOGRAMS**  
**THIS DOCUMENT SHOULD BE READ IN CONJUNCTION WITH THE A.M.L.**

**JIB**

OUTRIGGERS MINIMUM EXTENDED (3.2m): Over sides						
C D	27.5m Boom + 3.5m Jib					
	5°		25°		45°	
E (°)	B (m)	M (t)	B (m)	M (t)	B (m)	M (t)
82	4.2	2.00	5.1	1.50	6.1	1.25
75	8.1	2.00	8.8	1.50	9.8	1.25
72	9.6	1.50	10.3	1.30	11.3	1.25
70	10.6	1.20	11.3	1.10	12.2	1.05
65	13.0	0.75	13.7	0.70	14.4	0.65
60	15.3	0.40	16.0	0.35	16.6	0.35
A (°)	59 ~ 82					

- B = Working radius
- C = Jib length
- D = Jib offset
- E = Boom angle
- M = Total rated loads
- A = Boom angle range (for the unladen condition)

## PRECAUTIONS TO BE TAKEN WHEN THE OUTRIGGERS ARE EXTENDED

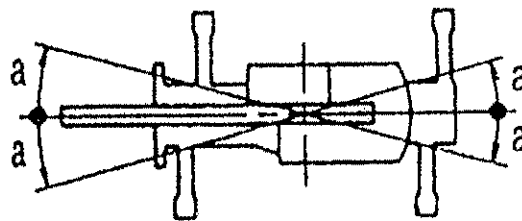
1. The total rated loads shown are for the case where the crane is set horizontally on firm level ground. They include the weights of the slings and hooks (main hook: 160kg, auxiliary hook: 60kg). The values above the bold lines are based on the crane strength while those below are based on the crane stability.  
Total rated loads below bold lines do not exceed 75% of tipping load. Ratings meet the minimum requirement of AS1418 part 5
2. Since the working radii are based on the actual values including the deflection of the boom, operations should be performed in accordance with the working radii.
3. Jib operations should be performed in accordance with the boom angle, irrespective of the boom length. The working radii are reference values for the case where the jib is mounted on a 27.5m boom.
4. The total rated load for the single top shall be the value obtained by subtracting the weight of the hook mounted on the boom from the total rated load of the boom and must not exceed 3.0t.
5. As a rule, free-fall operation should be performed only when lowering the hook alone. If a hoisted load must be lowered by free-fall operation, the load must be kept below 1/5<sup>th</sup> of the total rated load and sudden braking operations must be avoided.
6. The chart below shows the standard number of part lines for each boom length. The load per line should not exceed 26.2kN (2.67tf) for the main winch and 29.4kN (3.0tf) for the auxiliary winch.

<b>A</b>	<b>6.5m</b>	<b>10.7m</b>	<b>14.9m</b>	<b>19.1m</b>	<b>23.3m</b>	<b>27.5m</b>	<b>Single top</b>
<b>H</b>	<b>6</b>	<b>6</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>1</b>

A = Boom length    H = No. of part lines

7. The hoisting performance for the "Over sides" range will differ according to the extended width of the outriggers. Operations should be performed in accordance with the performance corresponding to the extended width. Also, although the hoisting performances for the "Over front" and "Over rear" ranges are equivalent to those of the "outriggers fully extended" condition, the front and rear ranges (angle a) will differ according to the width to which the outriggers are extended in the left and right directions.

Extended width	Middle extended (4.8m)	Middle extended (4.4 m)	Minimum extended (3.2 m)
Angle a°	30	25	15



8. Special weather caution: Refer to the operation and maintenance manual.
9. Refer to the crane manual.

**TADANO TR-160M-3-00101**  
**HYDRAULIC ROUGH TERRAIN CRANE**  
**TOTAL RATED LOAD IN KILOGRAMS**

THIS DOCUMENT SHOULD BE READ IN CONJUNCTION WITH THE A.M.L.

**WITHOUT OUTRIGGERS**

B (m)	Stationary											
	6.5m Boom		10.7m Boom		14.9m Boom		19.1m Boom					
	F	G	F	G	F	G	F	G				
3.0	8.00	4.40	7.50	4.50	7.00	4.65	5.50	5.00				
3.5	7.70	3.50	7.50	3.65	7.00	3.70	5.50	4.00				
4.0	7.30	2.80	7.30	2.90	6.80	3.00	5.50	3.15				
4.5	6.60	2.20	6.40	2.40	5.75	2.40	5.35	2.50				
5.0			5.45	1.90	4.85	1.85	5.00	2.00				
5.5			4.60	1.50	4.15	1.40	4.45	1.65				
6.0			3.95	1.15	3.70	1.05	3.90	1.35				
7.0			3.00	0.60	3.00	0.50	3.00	0.85				
8.0			2.30		2.30		2.45	0.45				
9.0					1.70		1.90					
10.0					1.25		1.45					
11.0					0.95		1.15					
12.0					0.65		0.85					
13.0							0.60					
14.0							0.40					
A (°)	0~82		38~82		24~82		57~82		36~82		62~82	

B (m)	Creep (travelling at 1.6km/h or less)											
	6.5m Boom		10.7m Boom		14.9m Boom		19.1m Boom					
	F	G	F	G	F	G	F	G				
3.0	6.70	3.70	6.30	3.80	5.90	3.80	4.60	4.20				
3.5	6.50	2.95	6.30	3.00	5.90	3.10	4.60	3.35				
4.0	6.10	2.35	6.00	2.45	5.75	2.50	4.60	2.65				
4.5	5.50	1.85	5.40	2.00	4.85	2.00	4.50	2.10				
5.0			4.60	1.60	4.10	1.55	4.20	1.65				
5.5			3.85	1.25	3.50	1.15	3.70	1.35				
6.0			3.00	0.95	3.10	0.85	3.50	1.10				
7.0			2.50	0.50	2.50	0.40	2.50	0.70				
8.0			1.90		1.90		2.05					
9.0					1.40		1.60					
10.0					1.05		1.20					
11.0					0.80		0.95					
12.0					0.55		0.70					
13.0							0.50					
A (°)	0~82		38~82		24~82		57~82		42~82		65~82	

B = Working radius    F = Front    G = 360°  
a = Boom angle range (for the unladen condition)

## PRECAUTIONS TO BE TAKEN WHEN THE OUTRIGGERS ARE NOT MOUNTED

1. The total rated loads shown are for the case where the tyre air pressure on firm level ground is as specified 900kPa (9.00kgf/cm<sup>2</sup>) and the crane is completely spring-locked. They include the weights of the slings and hooks (main hook: 160kg, auxiliary hook: 60kg).

The values above the bold lines are based on the crane strength while those below are based on the crane stability. The foundation, working conditions, etc. should be taken into consideration for actual work.

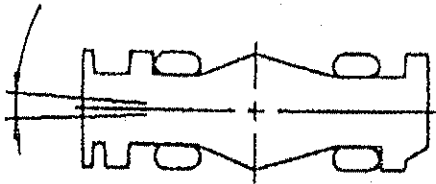
2. Since the working radii are based on the actual values including the deflection of the boom, operations should be performed in accordance with the working radii.
3. The chart below shows the standard number of part lines for each boom length. The load per line should not exceed 26.2kN (2.67tf) for the main winch and 29.4kN (3.0tf) for the auxiliary winch.

<b>A</b>	<b>6.5m</b>	<b>10.7m</b>	<b>14.9m</b>	<b>19.1m</b>	<b>Single top</b>
<b>H</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>4</b>	<b>1</b>

A = Boom Length H = No. of part lines

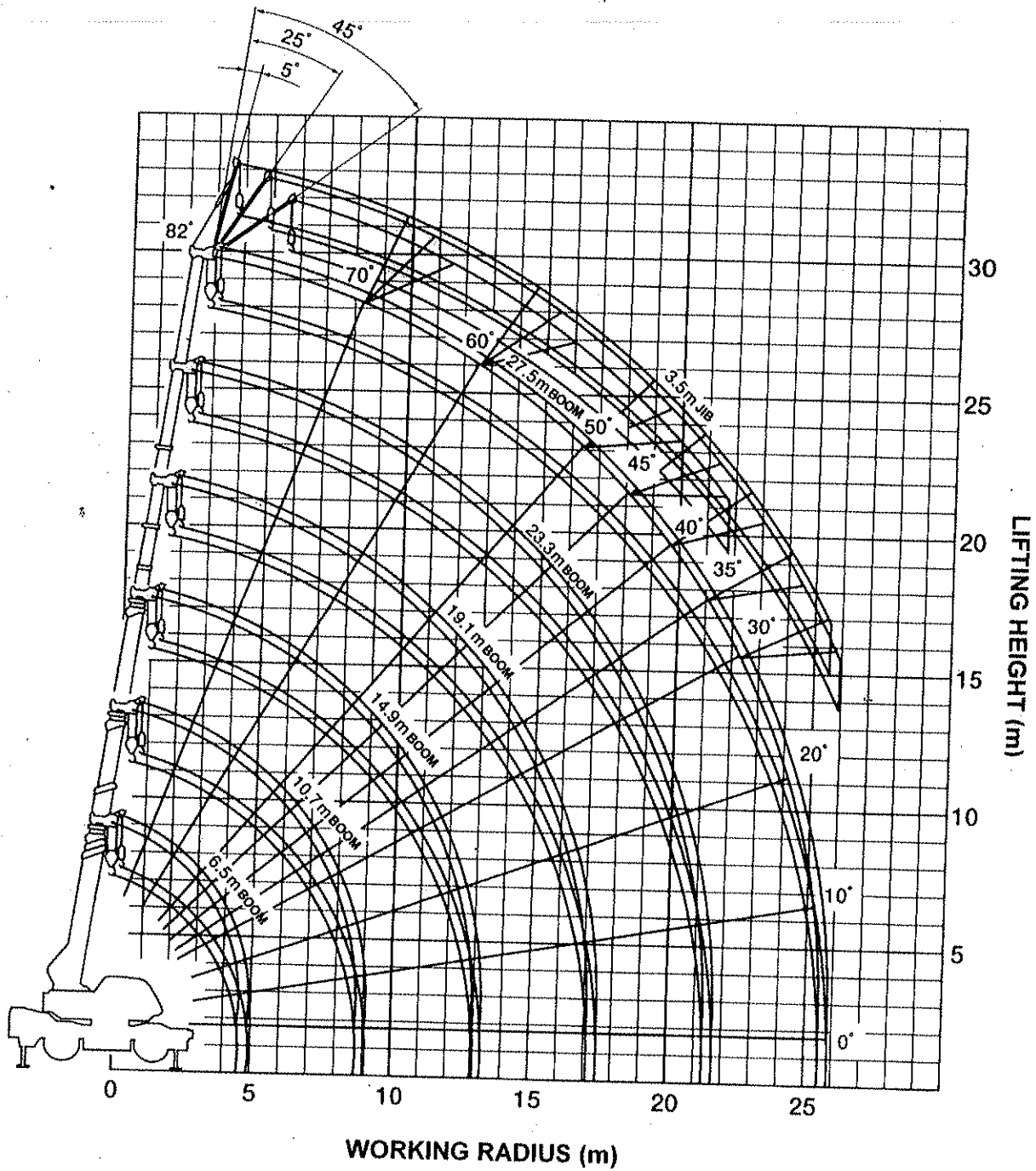
4. "Over front" crane operations should be performed only when the AML "Over-front area indicator lamp" is lit. The boom must be kept inside a 2° area over front of the carrier when performing "Over front" crane operations without the outriggers.

Approx. 2°



5. The total rated load for the single top shall be the value obtained by subtracting the weight of the hook mounted on the boom from the total rated load of the boom and must not exceed 3.0t.
6. Free-fall operations should not be performed without outriggers. Booms over 19.1m in length and jibs should not be used without outriggers.
7. The "Drive Mode Selection" switch should be set to "4-wheel / Lo" for creeping while hoisting a load and the shift lever should be set to first.
8. When creeping while hoisting a load, the swing brake should be applied, the load should be kept as close to the ground as possible but not touching the ground and the speed should be kept at 1.6km/h or less. In particular, any abrupt steering, starting or braking must be avoided.
9. Crane operations should not be performed when creeping while hoisting a load.
10. Special weather caution: Refer to the operation and maintenance manual.
11. Refer to the crane manual.

## WORKING RADIUS – LIFTING HEIGHT



### Notes

1. The deflection of the boom is not incorporated in the figure above.
2. The figure above is for the case where the outriggers are fully extended (360°)