

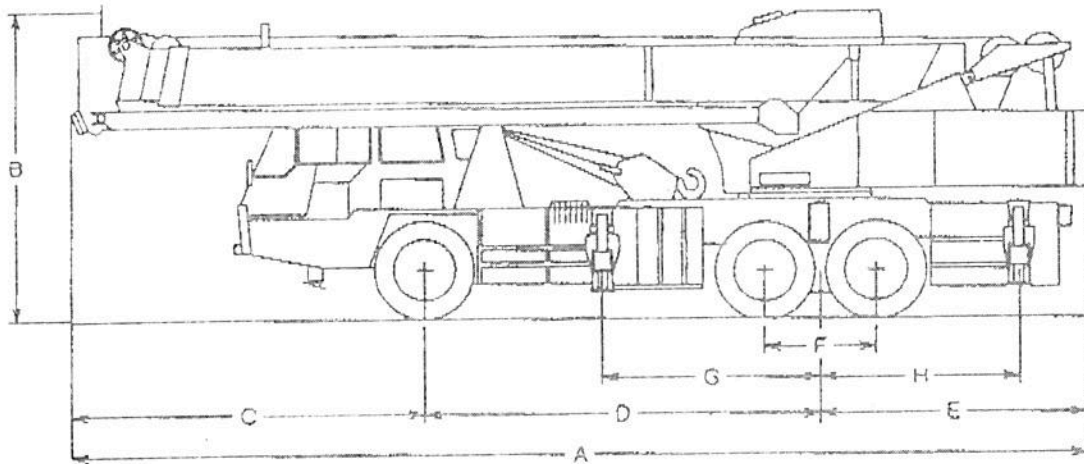
KATO NK-200H-v HYDRAULIC CRANE

AXLE WEIGHT DISTRIBUTION CHART

UNITS IN KILOGRAMS

| Item | Gross | Front | Rear |
|------------------------|--------|-------|--------|
| Basic standard machine | 23,550 | 6,500 | 17,050 |

DIMENSIONS



UNITS IN MILLIMETRES

| | | | | | | | |
|---|--------|---|-------|---|-------|---|-------|
| A | 11,800 | C | 4,130 | E | 3,100 | G | 2,400 |
| B | 3,300 | D | 4,700 | F | 1,300 | H | 2,400 |

Overall width 2,490 mm

Tail swing radius 3,200 mm

NOTE: This drawing is for design purposes only and is not to be used for manufacturing.

| MEASUREMENTS IN MILLIMETRES | | ALL CRANE & HOIST CONSULTING & INSPECTION SERVICES | | CRANE DETAILS | |
|-----------------------------|--------------|--|---------|----------------|--|
| SCALE | NOT TO SCALE | | | KATO NK-200H-v | |
| DATE | 22/03/76 | DRAWING No | BOOKING | | |

KATO NK-200H-v HYDRAULIC CRANE

CHART 1

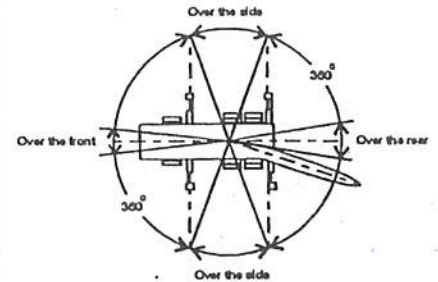
TOTAL RATED LOAD IN KILOGRAMS

THIS DOCUMENT SHOULD BE READ IN CONJUNCTION WITH THE A.C.S.

| OUTRIGGERS FULLY EXTENDED WITH FRONT JACK DOWN (360°) | | | | | | | | |
|---|---|--------|--------|--------|-------|-------|-------|-------|
| OUTRIGGERS FULLY EXTENDED WITHOUT FRONT JACK (OVER REAR & SIDE) | | | | | | | | |
| B(m) | A | 10m | 13.5m | 17m | 20.5m | 24m | 27.5m | 31m |
| *0.4 | | 25,000 | | | | | | |
| 2.5 | | 20,000 | 17,500 | 14,500 | | | | |
| 3.0 | | 20,000 | 17,500 | 14,500 | 9,500 | | | |
| 3.5 | | 20,000 | 17,500 | 14,500 | 9,500 | 7,500 | | |
| 4.0 | | 18,000 | 17,500 | 14,500 | 9,500 | 7,500 | 6,500 | |
| 4.5 | | 16,300 | 15,800 | 14,500 | 9,500 | 7,500 | 6,500 | |
| 5.0 | | 14,850 | 14,400 | 13,250 | 9,500 | 7,500 | 6,500 | 6,000 |
| 5.5 | | 13,650 | 13,250 | 12,200 | 9,500 | 7,500 | 6,500 | 6,000 |
| 6.0 | | 12,300 | 12,200 | 11,300 | 9,500 | 7,500 | 6,500 | 6,000 |
| 6.5 | | 11,200 | 11,100 | 10,500 | 9,500 | 7,500 | 6,500 | 6,000 |
| 7.0 | | 10,250 | 10,000 | 9,800 | 8,850 | 7,500 | 6,500 | 6,000 |
| 7.5 | | 9,400 | 9,200 | 9,100 | 8,350 | 7,500 | 6,500 | 6,000 |
| 8.0 | | 8,650 | 8,450 | 8,350 | 7,900 | 7,050 | 6,150 | 5,650 |
| 8.3 | | 8,250 | 8,050 | 7,950 | 7,550 | 6,850 | 6,000 | 5,450 |
| 9.0 | | | 7,200 | 7,100 | 7,000 | 6,300 | 5,550 | 5,050 |
| 9.5 | | | 6,650 | 6,550 | 6,650 | 6,000 | 5,300 | 4,800 |
| 10.0 | | | 6,100 | 6,050 | 6,350 | 5,700 | 5,100 | 4,600 |
| 11.0 | | | 5,000 | 5,000 | 5,300 | 5,150 | 4,600 | 4,200 |
| 11.8 | | | 4,300 | 4,300 | 4,650 | 4,750 | 4,300 | 3,950 |
| 12.0 | | | | 4,150 | 4,500 | 4,650 | 4,200 | 3,900 |
| 14.0 | | | | 3,000 | 3,300 | 3,450 | 3,600 | 3,350 |
| 15.3 | | | | 2,400 | 2,750 | 2,900 | 3,000 | 3,000 |
| 16.0 | | | | | 2,450 | 2,600 | 2,750 | 2,850 |
| 18.0 | | | | | 1,850 | 2,050 | 2,150 | 2,300 |
| 18.8 | | | | | 1,600 | 1,850 | 1,950 | 2,100 |
| 20.0 | | | | | | 1,550 | 1,700 | 1,800 |
| 22.0 | | | | | | 1,150 | 1,300 | 1,400 |
| 22.3 | | | | | | 1,050 | 1,250 | 1,350 |
| 24.0 | | | | | | | 1,000 | 1,000 |
| 25.8 | | | | | | | 750 | 800 |
| 28.0 | | | | | | | | 550 |
| 29.3 | | | | | | | | 450 |

A : BOOM LENGTHS

B : WORKING RADIUS (m)



Working Radius Diagram

see also chart 772-75025001

NOTES :

- These capacities are based on condition that the crane is set on firm ground horizontally. Those above bold lines are based on the crane strength and those below, on its stability.
- Total rated loads below bold lines do not exceed 75% of tipping load.
- The total rated loads shown are based on the actual working radius which includes any deflection of the boom.
- Boom operations must be related to the working radius. Jib operations are to be related to the working radius while the jib is attached to 31m of boom. For boom lengths other than 31m, jib operation must be related only to the angle of the boom.
- When the length of the boom is shown beyond the prescribed capacity, operate according to the lesser capacity shown on the load rating chart.
- The boom angle must not be reduced to less than the number of degrees set out in the following table. In the event of such a reduction the crane will tip.

| | 17m BOOM | 20.5m BOOM | 24m BOOM | 27m BOOM | 31m BOOM | 31m BOOM + 9M JIB OFFSET IN 17° 30' |
|--------------------------------|----------|------------|----------|----------|----------|-------------------------------------|
| OUTRIGGERS FULLY EXTENDED | - | - | - | - | - | 30° |
| OUTRIGGERS AT MEDIAN EXTENSION | 25° | 30° | 40° | 40° | 22° | 60° |

- The weight of the hook (230kg for 20,000kg capacity, 60 kg for 3,000kg capacity), slings and all similarly used load handling devices must be added to the weight of the load.
- Standard number of part lines for each boom length are as shown below. Load per line should not surpass 3,000kg.

| BOOM LENGTH | 10m | 13.5m | 17m | 20.5m | 24m | 27.5m | 31m | SINGLE TOP |
|------------------|-----|-------|-----|-------|-----|-------|-----|------------|
| NL OF PART LINES | 7 | 7 | 7 | 4 | 4 | 4 | 4 | 1 |

- Total rated load of the single top should not exceed 3000kg.
- Free fall operation should be performed only without any load on the hook.
- Deduct 850kg from the rated lifting loads of the main boom, when the jib is attached to the main boom head. The single top must not be used whilst the jib is attached.
- Special weather caution: Refer to the operation and maintenance manual.
- See chart number 772-74008001-C1 for height/ radius operation.

* 14.0 Refer to the crane manual

KATO NK-200H-v HYDRAULIC CRANE

CHART 2

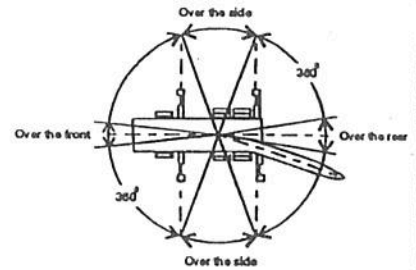
TOTAL RATED LOAD IN KILOGRAMS

THIS DOCUMENT SHOULD BE READ IN CONJUNCTION WITH THE A.C.S.

| OUTRIGGERS AT MEDIUM EXTENSION (360°) OUTRIGGERS FULLY EXTENDED (OVER THE FRONT) | | | | | | | |
|---|--------|--------|--------|-------|-------|-------|-------|
| B(m) \ A | 10m | 13.5m | 17m | 20.5m | 24m | 27.5m | 31m |
| *0.4 | 25,000 | | | | | | |
| 2.5 | 20,000 | 17,500 | 14,500 | | | | |
| 3.0 | 20,000 | 17,500 | 14,500 | 9,500 | | | |
| 3.5 | 17,500 | 17,500 | 14,500 | 9,500 | 7,500 | | |
| 4.0 | 15,000 | 14,900 | 14,500 | 9,500 | 7,500 | 6,500 | |
| 4.5 | 12,750 | 12,450 | 12,000 | 9,500 | 7,500 | 6,500 | |
| 5.0 | 9,950 | 9,700 | 9,450 | 9,500 | 7,500 | 6,500 | 6,000 |
| 5.5 | 8,050 | 7,800 | 7,600 | 7,900 | 7,500 | 6,500 | 6,000 |
| 6.0 | 6,650 | 6,450 | 6,250 | 6,700 | 6,700 | 6,500 | 6,000 |
| 6.5 | 5,600 | 5,400 | 5,200 | 5,650 | 5,900 | 5,850 | 6,000 |
| 7.0 | 4,750 | 4,550 | 4,400 | 4,800 | 5,050 | 5,250 | 5,400 |
| 8.3 | 3,200 | 3,100 | 2,950 | 3,300 | 3,550 | 3,700 | 3,800 |
| 9.0 | | 2,550 | 2,350 | 2,750 | 2,950 | 3,150 | 3,250 |
| 10.0 | | 1,850 | 1,650 | 2,100 | 2,300 | 2,500 | 2,550 |
| 11.0 | | 1,300 | 1,150 | 1,500 | 1,800 | 2,000 | 2,050 |
| 11.8 | | 950 | 800 | 1,150 | 1,400 | 1,600 | 1,700 |
| 12.5 | | | 450 | 900 | 1,150 | 1,350 | 1,450 |
| 14.0 | | | | 450 | 700 | 850 | 950 |
| 15.0 | | | | | 400 | 600 | 700 |
| 16.0 | | | | | | 400 | 500 |
| 16.5 | | | | | | | 400 |

A : BOOM LENGTHS

B : WORKING RADIUS (m)



Working Radius Diagram

see also chart 772-75025001

- NOTES :**
- 1.0 These capacities are based on condition that the crane is set on firm ground horizontally. Those above bold lines are based on the crane strength and those below, on its stability.
 - 2.0 Total rated loads below bold lines do not exceed 75% of tipping load.
 - 3.0 The total rated loads shown are based on the actual working radius which includes any deflection of the boom.
 - 4.0 Boom operations must be related to the working radius. Jib operations are to be related to the working radius while the jib is attached to 31m of boom. For boom lengths other than 31m, jib operation must be related only to the angle of the boom.
 - 5.0 When the length of the boom is shown beyond the prescribed capacity, operate according to the lesser capacity shown on the load rating chart.
 - 6.0 The boom angle must not be reduced to less than the number of degrees set out in the following table. In the event of such a reduction the crane will tip.

| | 17m BOOM | 20.5m BOOM | 24m BOOM | 27m BOOM | 31m BOOM | 31m BOOM + 6M JIB OFFSET 15.17M |
|--------------------------------|----------|------------|----------|----------|----------|------------------------------------|
| OUTRIGGERS FULLY EXTENDED | - | - | - | - | - | 30° |
| OUTRIGGERS AT MEDIUM EXTENSION | 22° | 30° | 44° | 40° | 52° | 60° |

- 7.0 The weight of the hook (230kg for 20,000kg capacity, 60 kg for 3,000kg capacity), slings and all similarly used load handling devices must be added to the weight of the load.
- 8.0 Standard number of part lines for each boom length are as shown below. Load per line should not surpass 3,000kg.

| BOOM LENGTH | 10m | 13.5m | 17m | 20.5m | 24m | 27.5m | 31m | SINGLE TOP |
|-------------------|-----|-------|-----|-------|-----|-------|-----|------------|
| NOL OF PART LINES | 7 | 7 | 7 | 4 | 4 | 4 | 4 | 1 |

- 9.0 Total rated load of the single top should not exceed 3000kg.
- 10.0 Free fall operation should be performed only without any load on the hook.
- 11.0 Deduct 850kg from the rated lifting loads of the main boom, when the jib is attached to the main boom head. The single top must not be used whilst the jib is attached.
- 12.0 Special weather caution: Refer to the operation and maintenance manual.
- 13.0 See chart number 772-74008001-C1 for height/ radius operation.
- * 14.0 Refer to the crane manual

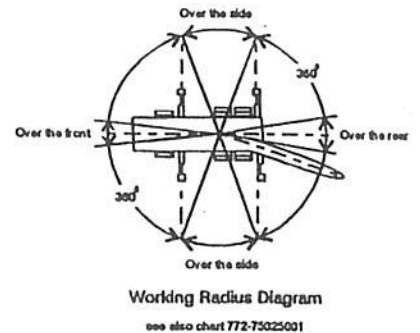
KATO NK-200H-v HYDRAULIC CRANE

CHART 3

TOTAL RATED LOAD IN KILOGRAMS

THIS DOCUMENT SHOULD BE READ IN CONJUNCTION WITH THE A.C.B.

| OUTRIGGERS FULLY EXTENDED WITH FRONT JACK DOWN (360°) OUTRIGGERS FULLY EXTENDED WITHOUT FRONT JACK (OVER REAR & SIDE) | | | | | | |
|--|---------------------|----------------------|---------------------|----------------------|---------------------|----------------------|
| 31m BOOM + 8m JIB | | | | | | |
| JIB OFFSET | 5° | | 17° | | 30° | |
| BOOM ANGLE α | WORKING RADIUS m | PERMITTED LOAD kg | WORKING RADIUS m | PERMITTED LOAD kg | WORKING RADIUS m | PERMITTED LOAD kg |
| 80 | 7.70 | 2,750 | 9.35 | 1,950 | 10.40 | 1,350 |
| 78.4 | 10.10 | 2,750 | 11.50 | 1,950 | 12.35 | 1,350 |
| 76 | 10.50 | 2,750 | 11.80 | 1,920 | 13.00 | 1,350 |
| 75 | 11.20 | 2,750 | 12.40 | 1,890 | 13.70 | 1,340 |
| 70 | 14.40 | 2,280 | 15.70 | 1,530 | 16.80 | 1,300 |
| 65 | 17.60 | 2,000 | 18.70 | 1,330 | 19.75 | 1,250 |
| 60 | 20.40 | 1,620 | 21.50 | 1,160 | 22.60 | 1,190 |
| 55 | 23.00 | 1,320 | 24.10 | 1,040 | 25.10 | 980 |
| 50 | 25.40 | 980 | 26.50 | 920 | 27.30 | 830 |
| 45 | 27.80 | 680 | 28.70 | 640 | 29.30 | 620 |
| 40 | 29.90 | 450 | 30.70 | 420 | 31.10 | 420 |
| 37 | 31.00 | 340 | 31.70 | 320 | 32.00 | 330 |



- NOTES :**
- These capacities are based on condition that the crane is set on firm ground horizontally. Those above bold lines are based on the crane strength and those below, on its stability.
 - Total rated loads below bold lines do not exceed 75% of tipping load.
 - The total rated loads shown are based on the actual working radius which includes any deflection of the boom.
 - Boom operations must be related to the working radius. Jib operations are to be related to the working radius while the jib is attached to 31m of boom. For boom lengths other than 31m, jib operation must be related only to the angle of the boom.
 - When the length of the boom is shown beyond the prescribed capacity, operate according to the lesser capacity shown on the load rating chart.
 - The boom angle must not be reduced to less than the number of degrees set out in the following table. In the event of such a reduction the crane will tip.

| | 17m BOOM | 20.5m BOOM | 24m BOOM | 27m BOOM | 31m BOOM | 31m BOOM + 8m JIB OFFSET 5°/17°/30° |
|--------------------------------|----------|------------|----------|----------|----------|--|
| OUTRIGGERS - FULLY EXTENDED | - | - | - | - | - | 30° |
| OUTRIGGERS AT MEDIAN EXTENSION | 25° | 30° | 44° | 40° | 32° | 60° |

- The weight of the hook (230kg for 20,000kg capacity, 80 kg for 5,000kg capacity), slings and all similarly used load handling devices must be added to the weight of the load.
- Standard number of part lines for each boom length are as shown below. Load per line should not surpass 3,000kg.

| BOOM LENGTH | 10m | 13.5m | 17m | 20.5m | 24m | 27.5m | 31m | SINGLE TOP |
|-------------------|-----|-------|-----|-------|-----|-------|-----|------------|
| NO. OF PART LINES | 7 | 7 | 7 | 4 | 4 | 4 | 4 | 1 |

- Total rated load of the single top should not exceed 3000kg.
- Free fall operation should be performed only without any load on the hook.
- Deduct 850kg from the rated lifting loads of the main boom, when the jib is attached to the main boom head. The single top must not be used whilst the jib is attached.
- Special weather caution: Refer to the operation and maintenance manual.
- See chart number 772-74008001-C1 for height/ radius operation.
- Refer to the crane manual

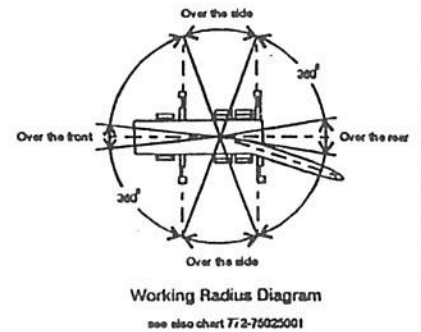
KATO NK-200H-v HYDRAULIC CRANE

CHART 4

TOTAL RATED LOAD IN KILOGRAMS

THIS DOCUMENT SHOULD BE READ IN CONJUNCTION WITH THE A.C.S.

| OUTRIGGERS AT MEDIUM EXTENSION (OVER REAR & SIDE) OUTRIGGERS FULLY EXTENDED WITHOUT FRONT JACK (OVER THE FRONT) | | | | | | |
|--|-----------------------|---------------------|-----------------------|---------------------|-----------------------|---------------------|
| 31m BOOM + 8m JIB | | | | | | |
| LENGTH OF BOOM & JIB | 5° | | 17° | | 30° | |
| JIB OFFSET | 5° | | 17° | | 30° | |
| BOOM ANGLE ↙ | HORIZONTAL RADIUS (m) | PERMITTED LOAD (kg) | HORIZONTAL RADIUS (m) | PERMITTED LOAD (kg) | HORIZONTAL RADIUS (m) | PERMITTED LOAD (kg) |
| 80 | 7.70 | 2,750 | 9.35 | 1,950 | 10.40 | 1,350 |
| 76.4 | 10.10 | 2,750 | 11.50 | 1,950 | 12.35 | 1,350 |
| 76 | 10.50 | 2,600 | 11.80 | 1,920 | 13.00 | 1,350 |
| 75.5 | 10.80 | 2,500 | 12.10 | 1,910 | 13.40 | 1,350 |
| 72 | 12.90 | 1,690 | 14.20 | 1,510 | 15.50 | 1,320 |
| 70 | 14.00 | 1,340 | 15.40 | 1,150 | 16.60 | 1,040 |
| 65 | 16.80 | 640 | 18.20 | 560 | 19.30 | 510 |
| 62 | 18.40 | 350 | 19.40 | 360 | | |



- NOTES :**
- 1.0 These capacities are based on condition that the crane is set on firm ground horizontally. Those above bold lines are based on the crane strength and those below, on its stability.
 - 2.0 Total rated loads below bold lines do not exceed 75% of tipping load.
 - 3.0 The total rated loads shown are based on the actual working radius which includes any deflection of the boom.
 - 4.0 Boom operations must be related to the working radius. Jib operations are to be related to the working radius while the jib is attached to 31m of boom. For boom lengths other than 31m, jib operation must be related only to the angle of the boom.
 - 5.0 When the length of the boom is shown beyond the prescribed capacity, operate according to the lesser capacity shown on the load rating chart.
 - 6.0 The boom angle must not be reduced to less than the number of degrees set out in the following table. In the event of such a reduction the crane will tip.

| | 17m BOOM | 20.5m BOOM | 24m BOOM | 27m BOOM | 31m BOOM | 31m BOOM + 8m JIB OFFSET 17:30° |
|--------------------------------|----------|------------|----------|----------|----------|------------------------------------|
| OUTRIGGERS FULLY EXTENDED | - | - | - | - | - | 30° |
| OUTRIGGERS AT MEDIUM EXTENSION | 23° | 30° | 44° | 40° | 52° | 60° |

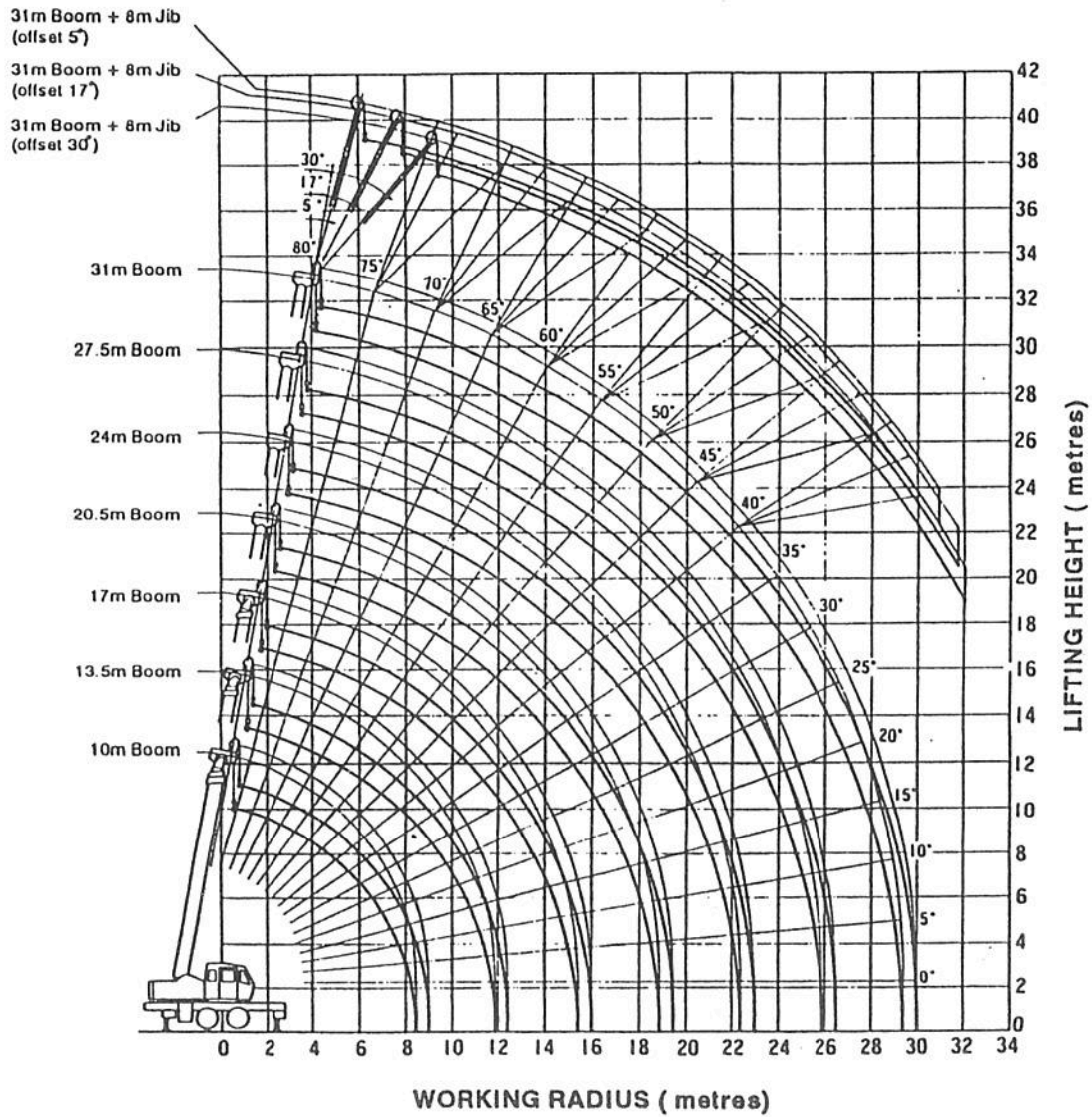
- 7.0 The weight of the hook (230kg for 20,000kg capacity, 60 kg for 3,000kg capacity), slings and all similarly used load handling devices must be added to the weight of the load.
- 8.0 Standard number of part lines for each boom length are as shown below. Load per line should not surpass 3,000kg.

| BOOM LENGTH | 10m | 13.5m | 17m | 20.5m | 24m | 27.5m | 31m | SINGLE TOP |
|-------------------|-----|-------|-----|-------|-----|-------|-----|------------|
| NO. OF PART LINES | 7 | 7 | 7 | 4 | 4 | 4 | 4 | 1 |

- 9.0 Total rated load of the single top should not exceed 3000kg.
- 10.0 Free fall operation should be performed only without any load on the hook.
- 11.0 Deduct 650kg from the rated lifting loads of the main boom, when the jib is attached to the main boom head. The single top must not be used whilst the jib is attached.
- 12.0 Special weather caution: Refer to the operation and maintenance manual.
- 13.0 See chart number 772-7400001-C1 for height/ radius operation.
- * 14.0 Refer to the crane manual

KATO NK-200H-v

WORKING RADIUS - LIFTING HEIGHT DIAGRAM



NOTES

(1) The above lifting heights and boom angles are based on a straight (unladen) boom, and allowance should be made for boom deflection obtained under laden conditions.

(2) The diagram is shown as with the outriggers fully extended.