



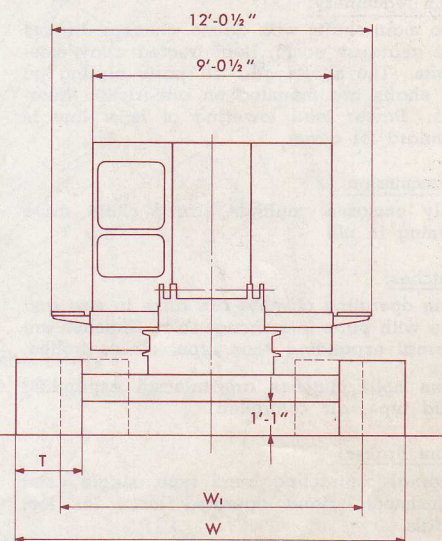
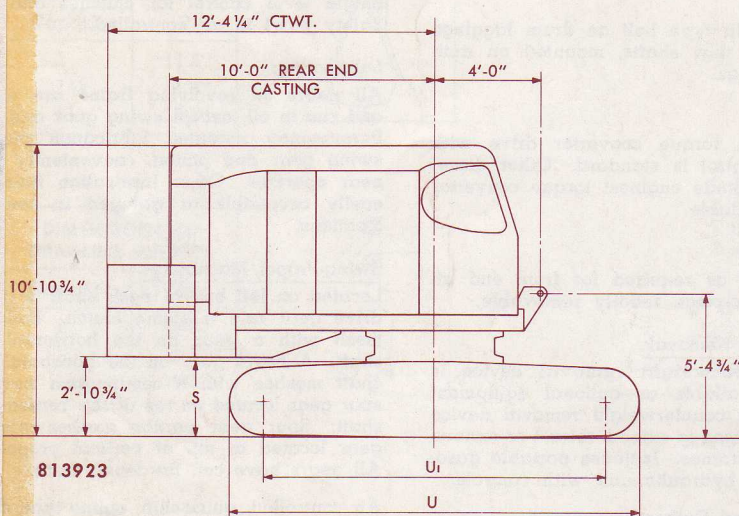
## BUCYRUS-ERIE



# 30-B

## SERIES FOUR

## SUPER CRAWLER MACHINE SPECIFICATIONS



## CRANE

|                                                   |              |
|---------------------------------------------------|--------------|
| Aux. hoisting drum,<br>grooved (rear shaft) ..... | 18½" P. Dia. |
| Aux. hoist rope .....                             | ¾" Dia.      |
| Hoisting drum,<br>plain (front shaft) .....       | 17½" P. Dia. |
| Hoist rope .....                                  | 7/8" Dia.    |
| Boom point sheaves (3) .....                      | 18½" P. Dia. |

## CRAWLER MOUNTINGS

| Crawler Mountings | Height<br>Tread<br>Belts<br>S | Width<br>Treads<br>T | Overall<br>Length<br>U | C. to C.<br>Tumblers<br>U <sub>1</sub> | Overall<br>Width<br>Extended<br>W | Overall<br>Width<br>Retracted<br>W <sub>1</sub> | Approx.<br>Bearing<br>Area<br>Sq. Ft. |
|-------------------|-------------------------------|----------------------|------------------------|----------------------------------------|-----------------------------------|-------------------------------------------------|---------------------------------------|
| 30" treads (Std.) | 2' 10"                        | 30"                  | 16' 8"                 | 14' 1"                                 | 14' 10"                           | 11' 5½"                                         | 72.6                                  |
| 36" treads        | 2' 10"                        | 36"                  | 16' 8"                 | 14' 1"                                 | 15' 4"                            | 11' 11½"                                        | 87.6                                  |

## CLAMSHELL

|                        |                   |
|------------------------|-------------------|
| Holding drum, grooved  | .....18½" P. Dia. |
| Holding rope, 1-part   | .....¾" Dia.      |
| Closing drum, plain    | .....17½" P. Dia. |
| Closing rope, 1-part   | .....¾" Dia.      |
| Boom point sheaves (3) | .....18" P. Dia.  |

## DRAGLINE

|                        |              |
|------------------------|--------------|
| Hoist drum, grooved    | 18½" P. Dia. |
| Hoist rope             | ¾" Dia.      |
| Drag drum, grooved     | 17½" P. Dia. |
| Drag rope              | 1" Dia.      |
| Boom point sheaves (3) | 18" P. Dia.  |

## POWER SPECIFICATIONS

| Make<br>Model<br>Type          | GM*<br>6-71<br>Diesel | CUM.<br>H-743<br>Diesel | Cat*<br>D-333CT<br>Diesel |
|--------------------------------|-----------------------|-------------------------|---------------------------|
| Type of Drive                  | Conv.                 | Conv.                   | Conv.                     |
| Cylinders                      | 6                     | 6                       | 6                         |
| Bore x stroke, inches          | 4 1/4 x 5             | 5 1/8 x 6               | 4 3/4 x 6                 |
| Displacement, cu. in.          | 426                   | 743                     | 638                       |
| Rated for excavator service:   |                       |                         |                           |
| H.P. net @ full load speed     | 122                   | 122                     | 124                       |
| Full load speed output shaft   | 1470                  | 1600                    | 1470                      |
| Fuel tank capacity, gals.      | 70                    | 70                      | 70                        |
| Crankcase capacity, qts.       | 28                    | 32                      | 24                        |
| Cooling system capacity, gals. | 11                    | 21                      | 12                        |
| Starting                       | 12V-Elect.            | 12V-Elect.              | 12V-Elect.                |
| Altitude range, feet           | 0-11,000              | 0-4000                  | 0-12,500                  |

\* Available as direct drive with 2-speed gear box.

## WEIGHTS (LBS.)

| WEIGHTS (LBS.)                                                                                                    |                       |                      |                       |
|-------------------------------------------------------------------------------------------------------------------|-----------------------|----------------------|-----------------------|
|                                                                                                                   | ANGLE OR TUBULAR BOOM |                      |                       |
|                                                                                                                   | Crane<br>40' Boom     | Dragline<br>40' Boom | Clamshell<br>40' Boom |
| Net domestic, approx.                                                                                             | 110,500               | 94,000               | 93,600                |
| Working, approx.                                                                                                  | 110,950               | 96,350               | 96,500                |
| Export shipping, approx.                                                                                          | 111,100               | 96,650               | 96,800                |
| Ships option tons                                                                                                 | 79                    | 72                   | 73                    |
| Hook block and buckets included in the working weight and export shipping weight, but not in domestic net weight. |                       |                      |                       |

## LINE PULLS AND SPEEDS

| LINE PULLS AND SPEEDS |                 |                 |                 |                 |                 |                 |
|-----------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| DRUM<br>PITCH DIA.    | 1-Part Line     |                 | 2-Part Line     |                 | 3-Part Line     |                 |
|                       | Pull<br>In Lbs. | Speed<br>F.P.M. | Pull<br>In Lbs. | Speed<br>F.P.M. | Pull<br>In Lbs. | Speed<br>F.P.M. |
| 17½"                  | 22,400          | 154             | 44,000          | 77              | 65,000          | 51              |
| 18½"                  | 21,200          | 162             | 41,700          | 81              | 61,500          | 54              |
| 22"                   | 17,800          | 193             | 35,000          | 96              | 51,600          | 64              |

Swing Speed 3.9 r.p.m. Propel Speed 1.0 m.p.h.

Speeds and pulls based on engine operating at full load speed; direct drive.

Torque Converter Drive:

When torque converter is operating at full stall, line pulls are approximately 220% of those shown in table.



## 30-B SUPER CRAWLER MACHINE

### UPPER WORKS

#### Revolving Frame:

One-piece, heat treated steel casting with integral lugs for boom foot and hook roller mounting brackets. Cast steel machinery side frames are bolted to revolving frame. Shear plugs relieve bolts of shear loads and maintain alignment.

#### Main Machinery:

Two main shafts with drums, clutches, brakes and gears on each. Heat treated alloy steel shafts. The shafts and all parts turning on the shafts are mounted on anti-friction bearings. Power load lowering of hoist line is standard for crane.

#### Transmission:

Fully enclosed, multiple strand chain drive running in oil.

#### Clutches:

Main operating clutches are alike in size and type with parts interchangeable. Clutches are internal expanding shoe type, air controlled.

Boom hoist clutches are internal expanding band type, air controlled.

#### Drum Brakes:

External contracting band type, single point adjustment. Hand operated locks for foot pedals.

#### Controls:

All functions air controlled, except for mechanically operated drum brakes, engine governor, output shaft governor, and swing lock. Main clutches and boom hoist clutches actuated by graduated type control valves, other air controlled motions actuated by poppet type air valves. Foot throttle is standard on crane. Single stick clamshell control standard on clamshell. Air control console is standard. 12 c.f.m. air compressor supplies compressed air for controls.

#### Swing Brake:

Friction type, spring set with air assist and air released, external contracting band type. Brake drum attached to top of vertical swing shaft. Independent positive house lock, mechanically operated, is available in addition to the swing brake.

#### Cable Drums:

Cast steel, split type bolt on drum laggings for front and rear shafts, mounted on anti-friction bearings.

#### Power Unit:

Diesel engine, torque converter drive with twin lever control is standard. Other diesel and diesel altitude engines; torque converter drive are available.

#### Counterweight:

Counterweight as required for front end attachment. Two-piece readily removable.

#### Counterweight Removal:

Manual counterweight removal device is standard. Available as optional equipment is a hydraulic counterweight removal device which is also used to extend, retract or remove crawler side frames. Includes portable gasoline powered hydraulic unit with controls.

#### Third Drum and Cathead:

Air controlled available as optional equipment, mounted at boom foot. Cannot be used with dragline. With standard propel, air controlled clutch turns drum in one direction. Foot pedal operated mechanical brake with lock. When used with independent propel, power controlled lowering of drum is possible. Air controlled jaw clutches to select third drum, cathead or independent propel motions.

An alternate third drum is available as optional equipment, mounted on right side of rear shaft. Air controlled clutch, spring-set air released brake, single lever control. Single

line pull and speed based on engine operating at full load speed is 10,000# @ 162 FPM.

#### Boom Hoist:

Independent boom hoist which provides positive power control of boom both up and down by individual air controlled friction clutches. Boom hoist brake is spring set, air released. Single lever control for clutches and brake. Safety pawl is air controlled.

#### Lubrication:

All gears on revolving frame are enclosed and run in oil, except swing gear and pinion. Permanently mounted lubrication pump for swing gear and pinion, conveniently located near operator. Other lubrication fittings are easily accessible or grouped in centralized locations.

#### Swing-Propel Machinery:

Located on left end of each shaft is a swing drive gear and a swing clutch. Both gears mesh with a gear on the horizontal swing shaft. A bevel gear on the horizontal swing shaft meshes with a combination bevel and spur gear located on top of the vertical swing shaft. Spur gear portion meshes with spur gear located at top of vertical propel shaft. All gears have cut, hardened teeth.

Air controlled, quick-shift, spline type clutches engage either the horizontal swing or propel gear to select either swing or propel motion. Clutches are interlocked so that only one may be engaged at a time.

#### Independent Propel:

Single speed, air controlled, independent propel is available as an option. May be used with all front ends. When used with the third drum mounted forward of the front shaft, an air controlled jaw clutch is used to select either propel or third drum operation. High speed reverse standard. Low speed reverse optional.

### LOWER WORKS

#### Truck Frame:

Single unit, heat treated steel casting with integral double flanged roller path and swing gear. Lower roller path and swing gear teeth are hardened.

#### Hook Rollers:

Eight adjustable conical hook rollers mounted on anti-friction bearings are standard. Two equalized pairs at front and rear, operating between a tapered double flanged roller path.

#### Axles:

Heat treated cast alloy steel "I" section axles with ends machined to permit extending or retracting the crawler side frame assemblies. Axles are bolted to the truck frame. Pins are used to lock the side frames to the axle in the extended or retracted position.

#### Crawler Side Frames:

Deep section welded units, composed of two channels spaced to support lower idler rollers, driving and take-up tumblers.

Side frames are mounted to the axles through tubular sections and secured in either extended or retracted with retaining pins.

Optional hydraulic device used for counterweight removal may also be used to remove, extend, or retract the crawler side frames.

#### Crawler Treads:

Heat treated steel castings with hardened roller path. Single roller path for lateral flexibility. Two full floating pins, widely spaced, connect treads together to form crawler belts. 30" treads are standard, 36" treads are optional.

#### Idler Rollers:

Lower rollers are bushed, heat treated steel castings secured to crawler side frames with U-bolts. Roller pins are hardened. Dust shields are provided, to protect the bearings.

#### Driving and Take-Up Tumblers:

Driving tumblers are heat treated steel castings with driving lugs and are mounted on movable shafts for adjusting tension of propel drive chains. Large screws with spanner locks provided for adjustments.

The portion of the adjusting screws held in reserve for wear take-up are enclosed and packed in grease. Tumblers have bushing type bearings protected by dust shields.

#### Lubrication:

Conveniently located lubrication fittings on crawler unit. All bearings on driving, take-up and lower roller shafts are lubricated through end of the shafts.

#### Propel and Steering:

Swing clutches provide power for propelling after engaging horizontal propel gear through vertical and horizontal propel shafts. Horizontal propel shaft is made up of three parts, which when the jaw clutches are engaged, act as a single unit for driving the tread belts through a heavy chain drive.

Horizontal propel shaft extensions are coupled to the ends of the horizontal propel shaft by splined couplings and are supported by outboard bearings mounted on top of the crawler side frames.

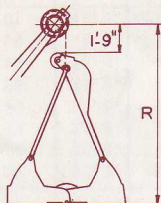
Machine may be propelled with crawlers in retracted position. The driving sprockets are supported by the outboard bearings when crawler side frames are in the retracted position. Propel chains do not have to be disassembled to remove crawler side frames from the axles. Dirt guards are provided for the shaft extensions.

Steering jaw clutches are spring set-air released. An interlock prevents simultaneous disengagement of the steering jaw clutches. Steering brakes are spring set with air assist for extra holding and air released. Brakes are located outboard of steering clutches and also serve as digging brakes.

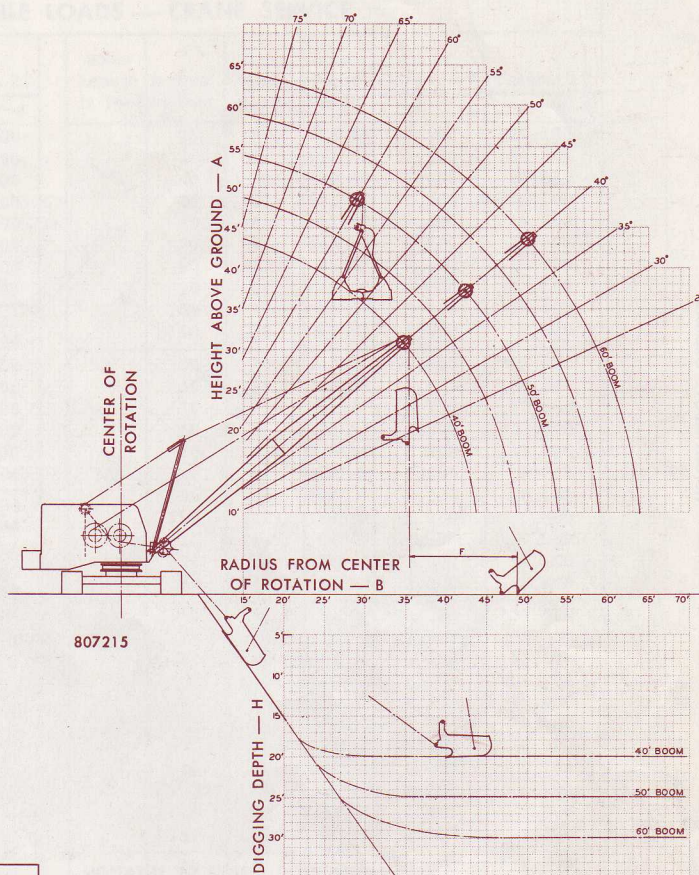
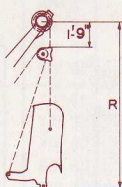


## 30-B SUPER DRAGLINE AND CLAMSHELL ANGLE OR TUBULAR BOOM

| DIMENSIONS OF<br>CLAMSHELL BUCKETS |       |
|------------------------------------|-------|
| Capacity                           | R     |
| 1                                  | 11'5" |
| 1 1/4                              | 11'9" |
| 1 1/2                              | 12'3" |



| DIMENSIONS OF<br>DRAGLINE BUCKETS |       |
|-----------------------------------|-------|
| Capacity                          | R     |
| 1                                 | 14'0" |
| 1 1/4                             | 15'0" |
| 1 1/2                             | 16'0" |



| MAXIMUM ALLOWABLE LOADS |                |                       |                       |                   |                              |
|-------------------------|----------------|-----------------------|-----------------------|-------------------|------------------------------|
| Boom Length Feet        | Radius in Feet | Boom Angle in Degrees | Boom Point Pin Height | DRAGLINE Cwt. W-7 | CLAMSHELL OR MAGNET Cwt. W-7 |
| 40                      | 25             | 58                    | 39'6"                 | 13,400            | 16,300                       |
|                         | 30             | 49                    | 35'9"                 | 13,400            | 16,300                       |
|                         | 35             | 39                    | 30'9"                 | 13,400            | 16,300                       |
| 50                      | 30             | 59                    | 48'0"                 | 13,400            | 16,300                       |
|                         | 35             | 52                    | 44'6"                 | 13,400            | 16,300                       |
|                         | 40             | 44                    | 40'0"                 | 13,300            | 13,300                       |
|                         | 45             | 35                    | 36'9"                 | 9,900             | 9,900                        |
| 60                      | 35             | 59                    | 56'9"                 | 13,400            | 16,300                       |
|                         | 40             | 53                    | 53'6"                 | 13,100            | 13,100                       |
|                         | 45             | 47                    | 49'3"                 | 9,700             | 9,700                        |
|                         | 50             | 40                    | 44'0"                 | 7,250             | 7,250                        |
|                         | 55             | 32                    | 37'0"                 | 5,450             | 5,450                        |
| 70                      | 40             | 59                    | 65'6"                 | 12,700            | 12,700                       |
|                         | 45             | 54                    | 62'3"                 | 9,300             | 9,300                        |
|                         | 50             | 49                    | 58'3"                 | 6,850             | 6,850                        |
|                         | 55             | 43                    | 53'0"                 | 5,050             | 5,050                        |

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Dragline loads do not exceed 75% of tipping loads with the boom in the least stable position and machine on firm level ground. Recommended maximum allowable loads for general dragline service are those shown in the chart, but not to exceed 13,400 lbs. for weight of bucket and contents.

Clamshell or magnet loads do not exceed 66-2/3% of tipping loads with the boom in the least stable position and machine on firm level ground. Recommended maximum allowable loads for general clamshell or magnet service are those shown in the chart, but not to exceed 16,300 lbs. for weight of bucket or magnet and material handled.

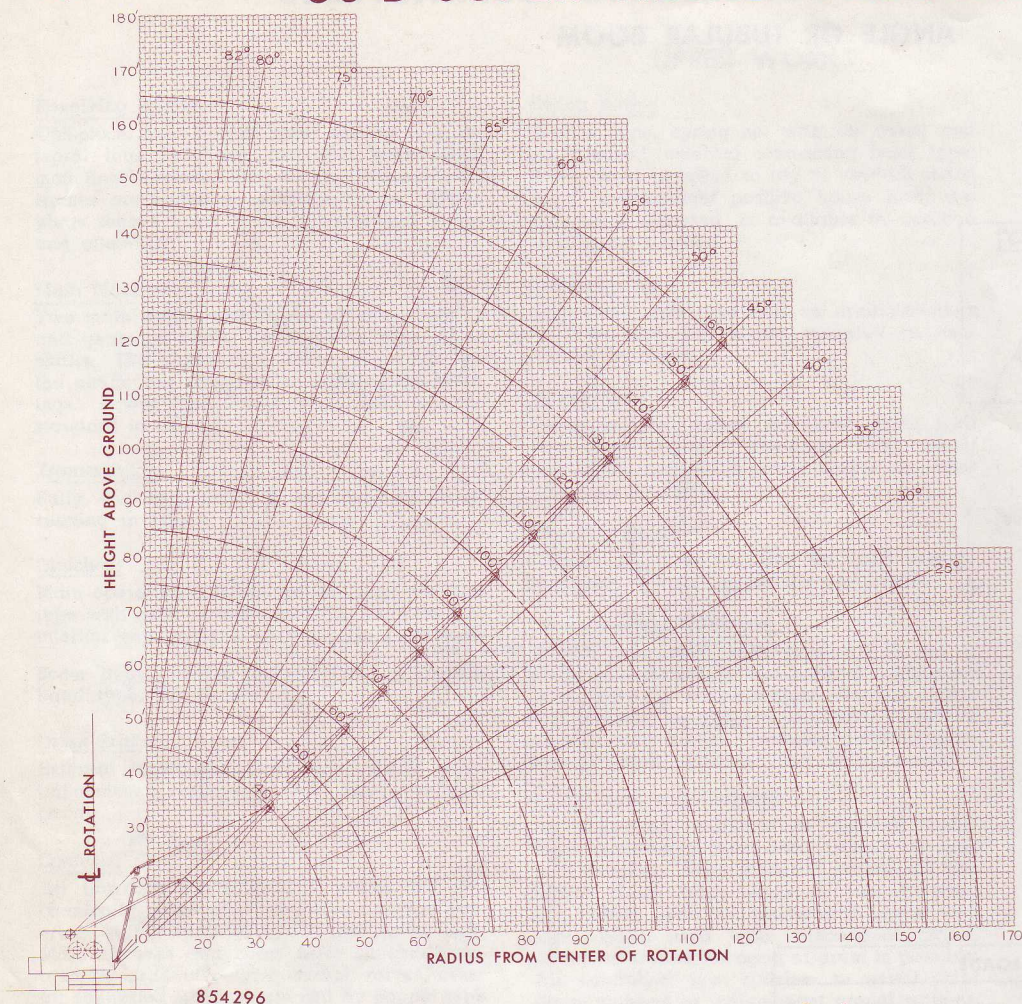
Boom angles less than 30° or greater than 60° are not recommended for dragline or clamshell service.

### DRAGLINE AND CLAMSHELL WORKING RANGES

- A - Dumping height; height of boom point sheave minus dimension "R" shown in table above.
- B - Dumping radius; approximately same as operating radius.
- F - Throw of dragline bucket; depends on ability of operator, usually 1/3 to 1/2 of boom length.
- H - Digging depth with dragline bucket; depends on character of material, size and type of dragline bucket and whether end cut or side cut. Because of these variables, digging depths shown cannot be guaranteed. Digging depths with clamshell bucket are approximately 8' greater than for dragline operation when using standard ropes. Tagline equipment has rope of sufficient length to reach depths greater than standard hoist rope allows.

#### Notes:

1. Recommended maximum length of boom for general dragline, clamshell, magnet or similar service is 70 feet.
2. Due to possibility of clamshell bucket or magnet striking the boom, care should be exercised when operating with boom angles greater than 60°.
3. Loads must be reduced when operating on soft or uneven ground, for bucket suction or other unfavorable conditions.

**30-B SUPER CRANE—TUBULAR BOOM****BOOM****Construction:**

Standard boom is 40' long fabricated from alloy steel tubes, all welded construction. Sections connected with single pin type joints. Insert sections 10', 20' and 30' long are available. Three boom point sheaves mounted on anti-friction bearings are standard. Four boom point sheaves optional.

**Suspension:**

Twelve-part tackle with mast and pendant suspension is standard. Intermediate suspension required for booms 140' and longer.

**Maximum Length:**

Maximum length of boom for crane service is 160'. Maximum boom and jib combination is 160' + 50'. Maximum boom or boom and jib combination lengths that can be lifted off the ground unassisted are:

|              | Over Side  | Over End   |
|--------------|------------|------------|
| Boom         | 160'       | 160'       |
| Boom and Jib | 140' + 50' | 160' + 50' |

The maximum boom length that can be propelled with the boom below cab height is 120'. The maximum boom and jib that can be carried over the end of the crawlers when propelling is 120' + 40'. Clearance height of jib mast with boom horizontal and jib in line with boom is 14'6".

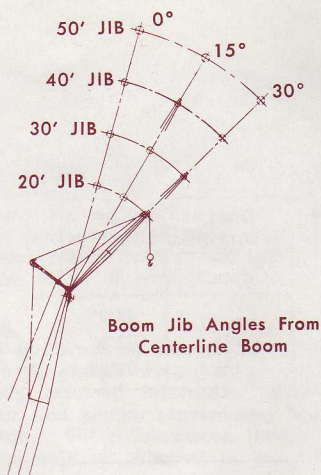
Maximum length of boom to which a jib may be attached is 160'.

**Maximum Angle:**

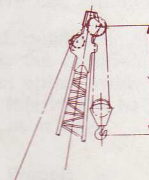
Maximum boom angle is 82°. Telescoping tubular type boom stops are standard on crane.

**JIB****Construction:**

Jibs are fabricated from alloy steel tubes, all welded construction. Jib lengths of 20', 30', 40' or 50' long are available. Point sheave mounted on anti-friction bearing is standard.



| HOOK BLOCKS |           |       |        |
|-------------|-----------|-------|--------|
| Capacity    | No. Parts | Y     | Weight |
| 5 Ton       | 1         | 4'0"  | 375#   |
| 20 Ton      | 2         | 5'6"  | 390#   |
| 35 Ton      | 4         | 16'0" | 580#   |
| 60 Ton      | 6         | 16'0" | 1050#  |

**Loads:**

Use jibs for crane service only. Allowable load on main boom sheave, when jib is attached, must be reduced as follows:

|         |            |
|---------|------------|
| 20' Jib | 900 Lbs.   |
| 30' Jib | 1,000 Lbs. |
| 40' Jib | 1,200 Lbs. |
| 50' Jib | 1,500 Lbs. |

**HOIST TACKLE****Parts:**

Suggested parts of hoist tackle are as follows:

| Loads Over    | 20,000# | 40,000# | 60,000# | 80,000# | 100,000# |
|---------------|---------|---------|---------|---------|----------|
| Parts of Line | 2       | 3       | 4       | 5       | 6        |

Maximum allowable loads apply only to machines that are level and standing on hard level uniform supporting surfaces. Loads must be freely suspended. The radii specified are loaded radii. Ratings include blocks, hooks, slings or other equipment used in handling loads. Proper care must be exercised by the operator at all times to avoid shock or side loadings on the boom. Ratings apply only to machines having booms in first class condition built and recommended by Bucyrus-Erie Company.

\* Indicates that maximum allowable load is limited by factors other than tipping.

1† Loads in column one do not exceed 75% of tipping loads with the boom in the least stable position in accordance with U. S. Department of Commerce Commercial Standard CS90-58.

2‡ Loads in column two do not exceed 85% of tipping loads with the boom in the least stable position.

**30-B SUPER CRANE—TUBULAR BOOM****60-TON CRAWLER CRANE (P.C. & S.A. CLASS 12-230)**

| MAXIMUM ALLOWABLE LOADS — CRANE SERVICE |                   |                      |                      |           |           |                        |                   |                      |                      |           |           |
|-----------------------------------------|-------------------|----------------------|----------------------|-----------|-----------|------------------------|-------------------|----------------------|----------------------|-----------|-----------|
| Boom Length<br>In Feet                  | Radius<br>In Feet | Boom Angle<br>In Deg | Boom Point<br>Pin Ht | Column 1† |           | Boom Length<br>In Feet | Radius<br>In Feet | Boom Angle<br>In Deg | Boom Point<br>Pin Ht | Column 2‡ |           |
|                                         |                   |                      |                      | Ctwt. W-8 | Ctwt. W-8 |                        |                   |                      |                      | Ctwt. W-8 | Ctwt. W-8 |
| 40                                      | 10                | 81                   | 45' 0"               | *120,000  | *120,000  | 120                    | 25                | 80                   | 123' 6"              | 41,500    | 47,100    |
|                                         | 12                | 78                   | 44' 6"               | *120,000  | *120,000  |                        | 30                | 77                   | 122' 6"              | 32,100    | 36,400    |
|                                         | 15                | 74                   | 43' 9"               | 94,100    | 106,600   |                        | 40                | 73                   | 119' 9"              | 21,600    | 24,500    |
|                                         | 20                | 66                   | 42' 0"               | 59,300    | 67,200    |                        | 50                | 67                   | 116' 3"              | 15,900    | 18,100    |
|                                         | 25                | 58                   | 39' 6"               | 43,100    | 48,800    |                        | 60                | 62                   | 111' 6"              | 12,400    | 14,000    |
|                                         | 30                | 49                   | 35' 9"               | 33,700    | 38,200    |                        | 70                | 57                   | 105' 6"              | 9,900     | 11,200    |
|                                         | 35                | 39                   | 30' 9"               | 27,600    | 31,200    |                        | 80                | 51                   | 98' 3"               | 8,100     | 9,200     |
|                                         | 40                | 26                   | 22' 9"               | 23,300    | 26,400    |                        | 90                | 44                   | 89' 0"               | 6,700     | 7,600     |
| 50                                      | 12                | 81                   | 54' 9"               | *110,000  | *110,000  | 140                    | 100               | 37                   | 77' 6"               | 5,700     | 6,400     |
|                                         | 15                | 77                   | 54' 3"               | 93,900    | 106,400   |                        | 110               | 28                   | 61' 9"               | 4,800     | 5,500     |
|                                         | 20                | 71                   | 52' 9"               | 59,100    | 67,000    |                        | 30                | 79                   | 143' 0"              | 31,600    | *32,000   |
|                                         | 25                | 65                   | 50' 9"               | 42,900    | 48,600    |                        | 40                | 75                   | 140' 9"              | 21,200    | 24,000    |
|                                         | 30                | 59                   | 48' 0"               | 33,400    | 37,900    |                        | 50                | 71                   | 137' 9"              | 15,500    | 17,500    |
|                                         | 35                | 52                   | 44' 9"               | 27,300    | 30,900    |                        | 60                | 66                   | 133' 9"              | 11,900    | 13,500    |
|                                         | 40                | 44                   | 40' 0"               | 23,000    | 26,100    |                        | 70                | 62                   | 129' 9"              | 9,400     | 10,700    |
|                                         | 50                | 23                   | 25' 0"               | 17,300    | 19,600    |                        | 80                | 57                   | 123' 0"              | 7,600     | 8,700     |
| 70                                      | 20                | 77                   | 73' 6"               | 58,700    | 66,600    | 150                    | 90                | 52                   | 115' 9"              | 6,200     | 7,100     |
|                                         | 25                | 73                   | 72' 3"               | 42,500    | 48,200    |                        | 100               | 47                   | 107' 3"              | 5,200     | 5,900     |
|                                         | 30                | 68                   | 70' 6"               | 33,000    | 37,500    |                        | 110               | 41                   | 96' 9"               | 4,300     | 4,900     |
|                                         | 40                | 59                   | 65' 6"               | 22,600    | 25,600    |                        | 120               | 34                   | 83' 9"               | 3,600     | 4,100     |
|                                         | 50                | 49                   | 58' 3"               | 16,900    | 19,200    |                        | 130               | 26                   | 66' 6"               | 3,000     | 3,400     |
|                                         | 60                | 37                   | 47' 6"               | 13,400    | 15,200    |                        | 30                | 80                   | 153' 3"              | *29,000   | *29,000   |
|                                         | 70                | 19                   | 28' 9"               | 10,900    | 12,400    |                        | 40                | 76                   | 151' 0"              | 21,000    | 23,800    |
|                                         |                   |                      |                      |           |           |                        | 50                | 72                   | 148' 3"              | 15,300    | 17,300    |
| 80                                      | 20                | 78                   | 83' 9"               | 58,500    | 66,300    | 160                    | 60                | 68                   | 144' 6"              | 11,700    | 13,300    |
|                                         | 25                | 75                   | 82' 6"               | 42,300    | 47,900    |                        | 70                | 64                   | 140' 0"              | 9,200     | 10,500    |
|                                         | 30                | 71                   | 81' 9"               | 32,800    | 37,200    |                        | 80                | 60                   | 134' 9"              | 7,400     | 8,400     |
|                                         | 40                | 63                   | 76' 9"               | 22,400    | 25,400    |                        | 90                | 55                   | 128' 3"              | 6,100     | 6,900     |
|                                         | 50                | 55                   | 70' 9"               | 16,700    | 18,900    |                        | 100               | 50                   | 120' 9"              | 5,000     | 5,700     |
|                                         | 60                | 46                   | 62' 6"               | 13,100    | 14,900    |                        | 110               | 45                   | 111' 6"              | 4,100     | 4,700     |
|                                         | 70                | 34                   | 50' 6"               | 10,700    | 12,100    |                        | 120               | 39                   | 100' 6"              | 3,400     | 3,900     |
|                                         |                   |                      |                      |           |           |                        | 130               | 33                   | 86' 9"               | 2,800     | 3,200     |
| 100                                     | 25                | 78                   | 103' 3"              | 41,900    | 47,500    | 160                    | 40                | 77                   | 161' 3"              | 20,800    | *21,900   |
|                                         | 30                | 75                   | 102' 0"              | 32,500    | 36,800    |                        | 50                | 73                   | 158' 9"              | 15,100    | 17,100    |
|                                         | 40                | 69                   | 98' 9"               | 22,000    | 25,000    |                        | 60                | 70                   | 155' 3"              | 11,500    | 13,000    |
|                                         | 50                | 63                   | 94' 3"               | 16,300    | 18,500    |                        | 70                | 66                   | 151' 3"              | 9,000     | 10,200    |
|                                         | 60                | 56                   | 88' 3"               | 12,700    | 14,500    |                        | 80                | 62                   | 146' 3"              | 7,200     | 8,200     |
|                                         | 70                | 49                   | 80' 6"               | 10,300    | 11,700    |                        | 90                | 57                   | 140' 3"              | 5,900     | 6,700     |
|                                         | 80                | 41                   | 70' 6"               | 8,500     | 9,600     |                        | 100               | 53                   | 133' 6"              | 4,800     | 5,400     |
|                                         | 90                | 31                   | 56' 6"               | 7,100     | 8,100     |                        | 110               | 49                   | 125' 3"              | 3,900     | 4,500     |
| 110                                     | 25                | 79                   | 113' 3"              | 41,700    | 47,300    | 160                    | 120               | 44                   | 115' 6"              | 3,200     | 3,000     |
|                                         | 30                | 76                   | 112' 3"              | 32,300    | 36,600    |                        |                   |                      |                      |           |           |
|                                         | 40                | 71                   | 109' 3"              | 21,800    | 24,700    |                        |                   |                      |                      |           |           |
|                                         | 50                | 65                   | 105' 3"              | 16,100    | 18,300    |                        |                   |                      |                      |           |           |
|                                         | 60                | 59                   | 100' 0"              | 12,500    | 14,200    |                        |                   |                      |                      |           |           |
|                                         | 70                | 53                   | 93' 6"               | 10,100    | 11,400    |                        |                   |                      |                      |           |           |
|                                         | 80                | 46                   | 85' 0"               | 8,300     | 9,400     |                        |                   |                      |                      |           |           |
|                                         | 90                | 39                   | 74' 0"               | 6,900     | 7,800     |                        |                   |                      |                      |           |           |
|                                         | 100               | 29                   | 59' 0"               | 5,900     | 6,600     |                        |                   |                      |                      |           |           |

725677K1

| MAXIMUM ALLOWABLE LOADS — JIB (LBS.) |                          |                |        |        |                |        |       |                |        |       |                |       |       |
|--------------------------------------|--------------------------|----------------|--------|--------|----------------|--------|-------|----------------|--------|-------|----------------|-------|-------|
| Boom Length<br>In Feet               | Boom Angle<br>In Degrees | Jib Length     |        |        |                |        |       |                |        |       |                |       |       |
|                                      |                          | 20' Jib        |        |        | 30' Jib        |        |       | 40' Jib        |        |       | 50' Jib        |       |       |
|                                      |                          | Offset Angle † |        |        | Offset Angle † |        |       | Offset Angle † |        |       | Offset Angle † |       |       |
|                                      |                          | 0°             | 15°    | 30°    | 0°             | 15°    | 30°   | 0°             | 15°    | 30°   | 0°             | 15°   | 30°   |
| 40<br>to<br>100                      | 78                       | 20,000         | 20,000 | 12,000 | 16,000         | 12,000 | 7,000 | 16,000         | 10,000 | 5,000 | 14,000         | 8,000 | 3,000 |
|                                      | 75                       | 20,000         | 18,000 | 12,000 | 16,000         | 12,000 | 6,000 | 16,000         | 9,000  | 5,000 | 13,000         | 6,000 | 3,000 |
|                                      | 69                       | 17,000         | 15,000 | 10,000 | 12,000         | 10,000 | 6,000 | 12,000         | 7,000  | 4,000 | 10,000         | 5,000 | 3,000 |
|                                      | 63                       | 12,800         | 11,700 | 10,000 | 9,000          | 8,000  | 6,000 | 8,000          | 5,000  | 4,000 | 6,000          | 4,000 | 3,000 |
|                                      | 56                       | 9,600          | 9,200  | 8,800  | 8,000          | 7,000  | 5,500 | 7,500          | 4,500  | 3,500 | 5,500          | 3,500 | —     |
|                                      | 49                       | 7,600          | 7,400  | 7,300  | 7,000          | 6,000  | 5,000 | 6,200          | 4,000  | 3,000 | 5,000          | 3,000 | —     |
|                                      | 41                       | 6,200          | 6,000  | 6,000  | 5,600          | 5,000  | 5,000 | 5,000          | —      | —     | 4,000          | —     | —     |
|                                      | 31                       | 5,000          | 5,000  | 5,000  | —              | —      | —     | —              | —      | —     | —              | —     | —     |
| 110<br>to<br>160                     | 77                       | 14,000         | 14,000 | 12,000 | 14,000         | 12,000 | 6,000 | 10,000         | 8,000  | 4,500 | 5,000          | 4,000 | 3,000 |
|                                      | 73                       | 12,000         | 11,000 | 10,000 | 10,000         | 9,800  | 6,000 | 9,000          | 7,000  | 4,500 | 5,000          | 4,000 | 3,000 |
|                                      | 70                       | 9,500          | 8,500  | 8,000  | 8,000          | 8,000  | 6,000 | 8,000          | 6,000  | 4,500 | 5,000          | 4,000 | 3,000 |
|                                      | 66                       | 7,200          | 6,700  | 6,500  | 6,700          | 6,000  | 5,700 | 6,000          | 5,000  | 4,500 | 5,000          | 3,000 | —     |
|                                      | 62                       | 5,600          | 5,400  | 5,200  | 5,000          | 4,700  | 4,500 | 4,500          | 4,300  | 4,000 | 4,000          | 3,000 | —     |
|                                      | 57                       | 4,200          | 4,000  | 3,800  | 3,800          | 3,600  | 3,400 | 3,000          | 3,000  | 3,000 | 3,000          | —     | —     |
|                                      | 53                       | 3,400          | 3,200  | 3,100  | 3,000          | 3,000  | —     | —              | —      | —     | —              | —     | —     |
|                                      |                          |                |        |        |                |        |       |                |        |       |                |       |       |

The above jib loads are based on factors other than stability.

†Maximum offset (Angular) from centerline of boom to centerline of jib.

Machine equipped with super crawlers 30" or 36" links and counterweight W-8.



# 30-B SUPER CRANE — ANGLE BOOM

## 60 TON CRAWLER CRANE (P. C. & S. A. CLASS 12-227)

| MAXIMUM ALLOWABLE LOADS — CRANE SERVICE |                   |                      |                      |           |           |
|-----------------------------------------|-------------------|----------------------|----------------------|-----------|-----------|
| Boom Length<br>In Feet                  | Radius<br>In Feet | Boom Angle<br>In Deg | Boom Point<br>Pin Ht | Column 1† | Column 2‡ |
|                                         |                   |                      |                      | Ctwt. W-8 | Ctwt. W-8 |
| 40                                      | 10                | 82                   | 45' 0"               | *120,000  | *120,000  |
|                                         | 12                | 79                   | 44' 9"               | *120,000  | *120,000  |
|                                         | 15                | 74                   | 43' 9"               | 93,800    | *106,300  |
|                                         | 20                | 67                   | 42' 0"               | 59,100    | 67,000    |
|                                         | 25                | 58                   | 39' 6"               | 42,800    | 48,600    |
|                                         | 30                | 50                   | 35' 9"               | 33,400    | 37,900    |
|                                         | 35                | 39                   | 30' 9"               | 27,300    | 31,000    |
|                                         | 40                | 26                   | 22' 9"               | 23,000    | 26,000    |
| 50                                      | 12                | 81                   | 54' 9"               | *110,000  | *110,000  |
|                                         | 15                | 77                   | 54' 3"               | 93,600    | *100,000  |
|                                         | 20                | 71                   | 52' 9"               | 58,800    | 66,600    |
|                                         | 25                | 65                   | 50' 9"               | 42,500    | 48,200    |
|                                         | 30                | 59                   | 48' 0"               | 33,100    | 37,500    |
|                                         | 35                | 52                   | 44' 9"               | 27,000    | 30,600    |
|                                         | 40                | 44                   | 40' 0"               | 22,700    | 25,700    |
|                                         | 50                | 23                   | 25' 0"               | 17,000    | 19,300    |
| 60                                      | 15                | 79                   | 64' 6"               | 93,400    | * 94,000  |
|                                         | 20                | 74                   | 63' 3"               | 58,600    | 66,400    |
|                                         | 25                | 70                   | 61' 9"               | 42,400    | 48,000    |
|                                         | 30                | 64                   | 59' 6"               | 33,000    | 37,300    |
|                                         | 40                | 53                   | 53' 6"               | 22,500    | 25,500    |
|                                         | 50                | 40                   | 44' 0"               | 16,800    | 19,000    |
|                                         | 60                | 21                   | 27' 0"               | 13,200    | 15,000    |
| 70                                      | 20                | 77                   | 73' 6"               | 58,400    | 66,100    |
|                                         | 25                | 73                   | 72' 3"               | 42,100    | 47,700    |
|                                         | 30                | 68                   | 70' 3"               | 32,700    | 37,000    |
|                                         | 40                | 59                   | 65' 6"               | 22,200    | 25,200    |
|                                         | 50                | 49                   | 58' 3"               | 16,500    | 18,700    |
|                                         | 60                | 37                   | 47' 6"               | 12,900    | 14,700    |
|                                         | 70                | 19                   | 28' 9"               | 10,500    | 11,900    |
| 80                                      | 20                | 78                   | 83' 9"               | 58,100    | 65,000    |
|                                         | 25                | 75                   | 82' 6"               | 41,800    | 47,400    |
|                                         | 30                | 71                   | 81' 0"               | 32,400    | 36,700    |
|                                         | 40                | 63                   | 76' 9"               | 21,900    | 24,900    |
|                                         | 50                | 55                   | 70' 9"               | 16,300    | 18,400    |
|                                         | 60                | 46                   | 62' 6"               | 12,700    | 14,400    |
|                                         | 70                | 34                   | 50' 6"               | 10,200    | 11,600    |
| 100                                     | 30                | 75                   | 102' 0"              | 32,000    | 36,200    |
|                                         | 40                | 69                   | 98' 9"               | 21,500    | 24,300    |
|                                         | 50                | 63                   | 94' 3"               | 15,800    | 17,900    |
|                                         | 60                | 56                   | 88' 3"               | 12,200    | 13,800    |
|                                         | 70                | 49                   | 80' 6"               | 9,700     | 11,000    |
|                                         | 80                | 41                   | 70' 6"               | 7,900     | 9,000     |
|                                         | 90                | 31                   | 56' 6"               | 6,600     | 7,500     |
| 120                                     | 30                | 77                   | 122' 6"              | 31,500    | * 32,500  |
|                                         | 40                | 73                   | 120' 0"              | 21,000    | 23,800    |
|                                         | 50                | 67                   | 116' 3"              | 15,300    | 17,300    |
|                                         | 60                | 62                   | 111' 6"              | 11,700    | 13,300    |
|                                         | 70                | 57                   | 105' 6"              | 9,300     | 10,500    |
|                                         | 80                | 51                   | 98' 3"               | 7,500     | 8,500     |
|                                         | 90                | 44                   | 89' 0"               | 6,100     | 6,900     |
|                                         | 100               | 37                   | 77' 6"               | 5,000     | 5,700     |
| 130                                     | 110               | 28                   | 61' 9"               | 4,200     | 4,700     |
|                                         | 30                | 78                   | 132' 9"              | * 29,000  | * 29,000  |
|                                         | 40                | 74                   | 130' 3"              | 20,700    | 23,200    |
|                                         | 50                | 69                   | 127' 0"              | 15,000    | 17,000    |
|                                         | 60                | 64                   | 122' 9"              | 11,400    | 12,900    |
|                                         | 70                | 59                   | 117' 6"              | 9,000     | 10,200    |
|                                         | 80                | 54                   | 110' 9"              | 7,200     | 8,100     |
|                                         | 90                | 49                   | 103' 0"              | 5,800     | 6,600     |
| 120                                     | 100               | 42                   | 93' 0"               | 4,700     | 5,400     |
|                                         | 110               | 35                   | 80' 9"               | 3,900     | 4,400     |
|                                         | 120               | 27                   | 64' 0"               | 3,100     | 3,600     |

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The above ratings apply only to machines that are level and standing on hard level uniform supporting surfaces. Loads must be freely suspended. The radii specified are loaded radii. Ratings include blocks, hooks, slings or other equipment used in handling loads. Proper care must be exercised by the operator at all times to avoid shock or side loadings on the boom. Ratings apply only to machines having booms in first class condition built and recommended by Bucyrus-Erie Company.

\* Indicates that maximum allowable load is limited by factors other than tipping.

1† Loads in column one do not exceed 75% of tipping loads with the boom in the least stable position in accordance with U.S. Department of Commerce Commercial Standard CS90-58.

2‡ Loads in column two do not exceed 85% of tipping loads with the boom in the least stable position.

## BOOM

### Construction:

Standard boom is 40' long fabricated from alloy steel angles, all-welded construction. Sections connected with single bolt, butt type, machined joints. Insert sections 10', 20' and 30' long are available. Three boom point sheaves mounted on anti-friction bearings are standard. Four boom point sheaves optional.

### Suspension:

Twelve-part tackle with mast and pendant suspension is standard.

### Maximum Length:

Maximum length of boom for crane service is 130'. Maximum boom and jib combination is 130' + 50'. Maximum boom or boom and jib combination lengths that can be lifted off the ground unassisted are:

| Boom                                  | Butt Type Joint          | Pin Type Joint           |
|---------------------------------------|--------------------------|--------------------------|
| Over Side<br>Over End                 | 130'<br>130'             | 130'<br>130'             |
| Boom and Jib<br>Over Side<br>Over End | 120' + 50'<br>130' + 50' | 120' + 50'<br>130' + 50' |

The maximum boom length that can be carried with the boom and mast below cab height, over the end, when traveling is 120'. The maximum boom and jib that can be carried over the end of the crawlers when propelling is 120' + 40' clearance height of jib mast with boom horizontal and jib in line with boom is 13'4".

Maximum length of boom to which a jib may be attached is 130'.

### Maximum Angle:

Maximum boom angle is 82°. Telescoping tubular type boom stops are standard on crane.

## JIB

### Construction:

Jibs are fabricated from alloy steel angles, all-welded construction. Jib lengths of 10', 20', 30', 40' or 50' long are available. Point sheaves mounted on anti-friction bearing is standard.

### Loads:

Use jibs for crane service only. Allowable load on main boom sheave, when jib is attached, must be reduced as follows:

|         |                 |
|---------|-----------------|
| 10' Jib | .....1,300 Lbs. |
| 20' Jib | .....1,600 Lbs. |
| 30' Jib | .....1,800 Lbs. |
| 40' Jib | .....2,100 Lbs. |
| 50' Jib | .....2,300 Lbs. |

## HOIST TACKLE

### Parts:

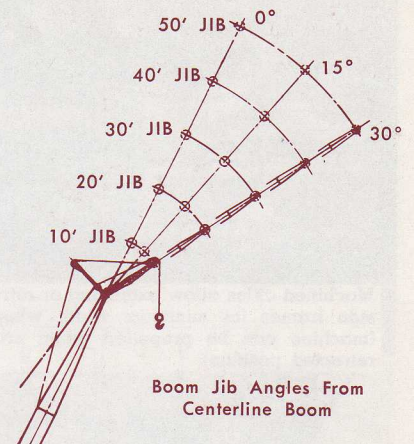
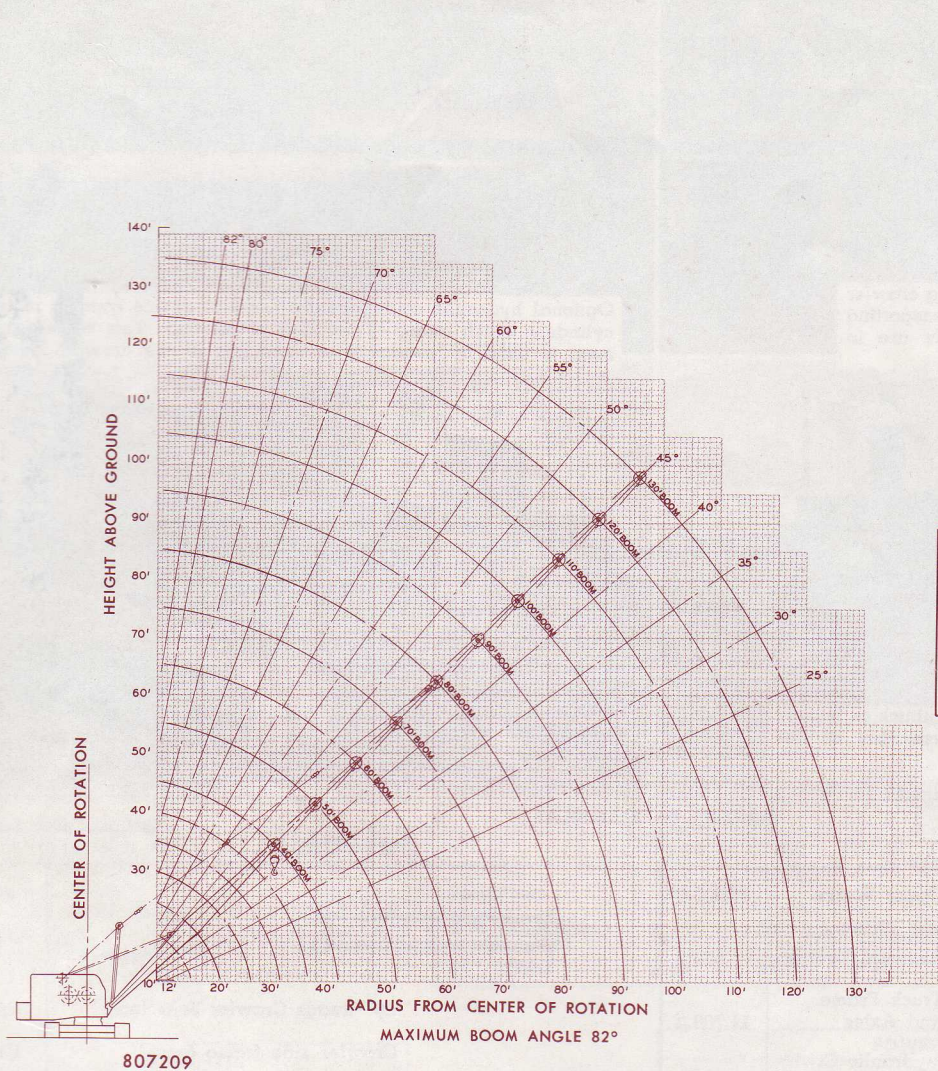
Suggested parts of hoist tackle are as follows:

| Loads Over    | 20,000 # | 40,000 # | 60,000 # | 80,000 # | 100,000 # |
|---------------|----------|----------|----------|----------|-----------|
| Parts of Line | 2        | 3        | 4        | 5        | 6         |

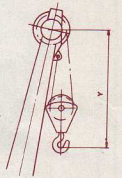


## 30-B SUPER CRANE — ANGLE BOOM

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| HOOK BLOCKS |           |       |        |
|-------------|-----------|-------|--------|
| Capacity    | No. Parts | Y     | Weight |
| 5 Ton       | 1         | 4'0"  | 220#   |
| 20 Ton      | 2         | 5'6"  | 390#   |
| 35 Ton      | 4         | 16'0" | 580#   |
| 60 Ton      | 6         | 16'0" | 1050#  |



| MAXIMUM ALLOWABLE LOADS — JIB (LBS.) |                       |                |        |        |                |        |        |                |        |       |                |        |       |                |       |       |
|--------------------------------------|-----------------------|----------------|--------|--------|----------------|--------|--------|----------------|--------|-------|----------------|--------|-------|----------------|-------|-------|
| Boom Length In Feet                  | Boom Angle In Degrees | Jib Length     |        |        |                |        |        |                |        |       |                |        |       |                |       |       |
|                                      |                       | 10' Jib        |        |        | 20' Jib        |        |        | 30' Jib        |        |       | 40' Jib        |        |       | 50' Jib        |       |       |
|                                      |                       | Offset Angle † |        |        | Offset Angle † |        |        | Offset Angle † |        |       | Offset Angle † |        |       | Offset Angle † |       |       |
|                                      |                       | 0°             | 20°    | 40°    | 0°             | 15°    | 30°    | 0°             | 15°    | 30°   | 0°             | 15°    | 30°   | 0°             | 15°   | 30°   |
| 40' to 90'                           | 77                    | 20,000         | 20,000 | 14,000 | 20,000         | 20,000 | 12,000 | 16,000         | 12,000 | 7,000 | 15,800         | 10,000 | 5,000 | 11,200         | 8,000 | 3,000 |
|                                      | 73                    | 20,000         | 20,000 | 12,000 | 20,000         | 18,000 | 12,000 | 16,000         | 10,000 | 6,000 | 14,500         | 8,000  | 5,000 | 10,500         | 6,000 | 3,000 |
|                                      | 66                    | 18,000         | 18,000 | 10,000 | 16,000         | 14,000 | 10,000 | 10,000         | 9,000  | 6,000 | 10,000         | 6,000  | 4,000 | 8,000          | 4,000 | 3,000 |
|                                      | 59                    | 15,000         | 14,000 | 9,000  | 12,000         | 12,000 | 9,000  | 9,000          | 8,000  | 6,000 | 8,000          | 5,000  | 4,000 | 6,000          | 4,000 | 3,000 |
|                                      | 52                    | 11,500         | 11,000 | 8,000  | 10,000         | 9,500  | 8,000  | 8,000          | 6,000  | 5,000 | 7,000          | 4,000  | 3,500 | 5,000          | 3,500 | —     |
|                                      | 43                    | 9,300          | 9,000  | 7,000  | 8,000          | 7,500  | 7,000  | 6,000          | 5,500  | 5,000 | 5,500          | 4,000  | 3,000 | 4,000          | 3,000 | —     |
| 100' to 130'                         | 32                    | 7,300          | 7,000  | —      | 6,000          | 6,000  | —      | 5,500          | 4,000  | —     | 5,000          | 4,000  | —     | 3,000          | —     | —     |
|                                      | 78                    | 14,000         | 14,000 | 12,000 | 14,000         | 14,000 | 12,000 | 14,000         | 12,000 | 6,000 | 12,000         | 10,000 | 5,000 | 10,000         | 3,000 | 3,000 |
|                                      | 74                    | 13,000         | 13,000 | 12,000 | 13,000         | 13,000 | 12,000 | 12,000         | 12,000 | 6,000 | 12,000         | 9,000  | 5,000 | 10,000         | 3,000 | 3,000 |
|                                      | 69                    | 11,000         | 11,000 | 10,000 | 11,000         | 11,000 | 10,000 | 8,000          | 8,000  | 6,000 | 9,000          | 7,000  | 4,000 | 9,000          | 3,000 | 3,000 |
|                                      | 64                    | 8,000          | 8,000  | 8,000  | 8,000          | 8,000  | 8,000  | 7,000          | 7,000  | 6,000 | 7,000          | 6,000  | 4,000 | 7,000          | 3,000 | 3,000 |
|                                      | 59                    | 6,000          | 6,000  | 6,000  | 6,000          | 6,000  | 6,000  | 6,000          | 6,000  | 6,000 | 6,000          | 5,000  | 4,000 | 6,500          | —     | —     |
|                                      | 54                    | 5,000          | 5,000  | 5,000  | 5,000          | 5,000  | 5,000  | 5,000          | 5,000  | 4,700 | 4,700          | 4,200  | 4,000 | 4,200          | —     | —     |
|                                      | 49                    | 4,000          | 4,000  | 4,000  | 4,000          | 4,000  | 4,000  | 4,000          | 4,000  | 3,700 | 3,700          | 3,200  | 3,000 | 3,000          | —     | —     |
|                                      | 42                    | 3,000          | 3,000  | 3,000  | 3,000          | 3,000  | 3,000  | 3,000          | 3,000  | —     | —              | —      | —     | —              | —     | —     |

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The above loads are based on factors other than stability.

†Maximum offset (Angular) from centerline of boom to centerline of jib.

Machine equipped with super crawlers 30" or 36" links and counterweight W-8.

Machined axles allow extending or retracting crawler side frames for minimum width when transporting (machine can be propelled when crawlers are in

Optional hydraulic counterweight removal device consists of two cylinders which attach to the rear of the cab. This same equip-

A large crawler-mounted crane is shown in a retracted position on a construction site. The crane has a white cab with a sign that reads "30-B" and a large counterweight at the rear with the "BUCHYRUS EXIB" logo. The crane is mounted on a heavy-duty crawler track. The background shows a dirt construction area with some structures in the distance.



**B**  
BUCYRUS-ERIE  
**E**



MEMBER  
PCSA  
POWER CRANE AND  
SHOVEL ASSOCIATION