

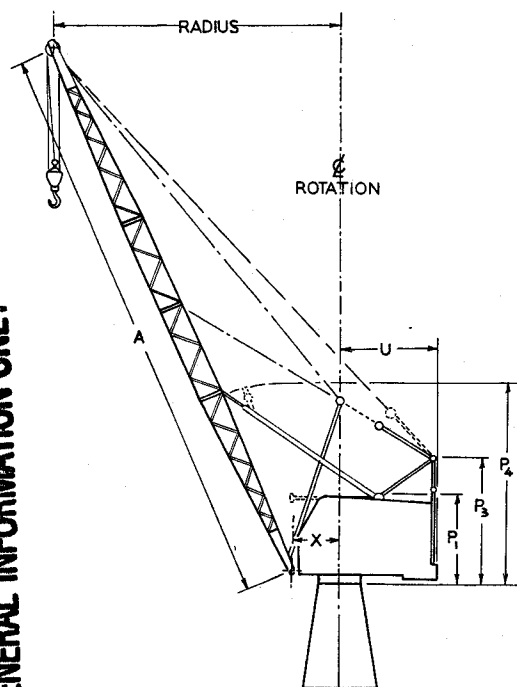


# Link-Belt "TC" PEDESTAL MOUNTED CRANES

SPECIFICATIONS APPLICABLE TO "TC" MODELS  
48A—78B—108C—138—218—238  
318—338—418A—518



GENERAL INFORMATION ONLY



## LIFTING CRANE RATINGS

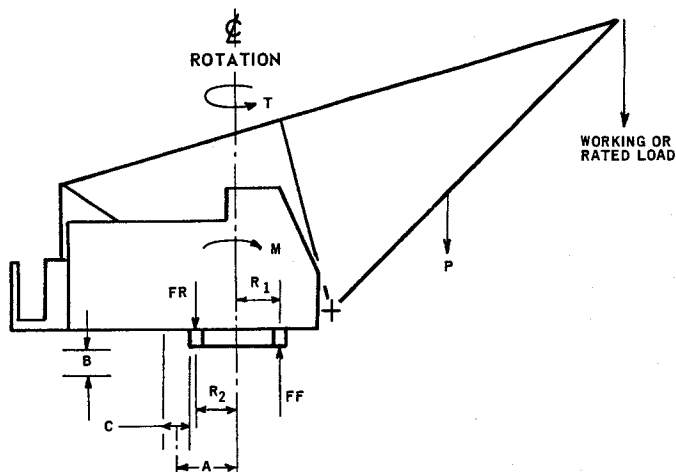
|                |                    |
|----------------|--------------------|
| 48A — 20 Tons  | 238 — 115/125 Tons |
| 78B — 35 Tons  | 318 — 75 Tons      |
| 108C — 50 Tons | 338 — 100 Tons     |
| 138 — 65 Tons  | 418A — 110 Tons    |
| 218 — 82 Tons  | 518 — 150 Tons     |

| GENERAL DIMENSIONS                           |                |        |        |        |         |        |        |        |        |        |        |
|----------------------------------------------|----------------|--------|--------|--------|---------|--------|--------|--------|--------|--------|--------|
|                                              |                | 48A    | 78B    | 108C   | 138     | 218    | 238    | 318    | 338    | 418A   | 518    |
| Basic boom length — Angle                    | A              | 25'    | 35'    | 40'    | NA      | NA     | NA     | 50'    | 50'    | 50'    | NA     |
| Basic boom length — Tubular                  | A              | NA     | NA     | NA     | 40'     | 40'    | 50'    | 50'    | 50'    | 50'    | 60'    |
| Over-all height, low gantry ①                | P <sub>1</sub> | 7' 1"  | 8' 2"  | 8' 6"  | 7' 6"   | 7' 11" | 8' 2"  | 9' 5"  | 9' 5"  | 9' 7"  | 9' 6"  |
| Over-all height, retractable gantry raised ① | P <sub>3</sub> | —      | 11' 4" | 12' 0" | —       | —      | —      | —      | —      | —      | —      |
| Over-all height, boom live mast vertical ①   | P <sub>4</sub> | 14' 4" | 26' 6" | NA     | 27' 10" | 28' 2" | 34' 9" | 31' 5" | 31' 5" | 35' 8" | 35' 9" |
| Radius of boom hinge pin                     | X              | 2' 8"  | 3' 1"  | 3' 2"  | 3' 2"   | 3' 6"  | 3' 6"  | 4' 7"  | 4' 7"  | 4' 7"  | 4' 8"  |

① Measured from bottom of roller path mounting plate (78B, 108C, 418A) or from bottom of turntable bearing mounting base (138, 218, 238) or turntable bearing mounting plate (48A, 318, 338, 518).

**MAXIMUM LOAD VALUES & REACTION LOCATIONS — "TC" Models Only**

|                                  |                | 48A     | 78B     | 108C    | 138       | 218       | 238       | 318       | 338       | 418A      | 518       |
|----------------------------------|----------------|---------|---------|---------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| Front reaction (lbs.)            | FF             | 137,950 | 240,000 | 273,200 | 437,000   | 503,100   | 740,900   | 512,200   | 563,100   | 564,000   | 768,000   |
| Rear reaction (lbs.)             | FR             | 88,300  | 155,000 | 183,000 | 306,000   | 344,900   | 542,400   | 300,000   | 300,000   | 210,000   | 338,800   |
| Moment @ C/L rotation (ft. lbs.) | M              | 362,000 | 706,600 | 944,700 | 1,473,000 | 1,761,000 | 2,566,100 | 1,963,000 | 2,053,500 | 2,104,500 | 3,271,600 |
| Torsional load (ft. lbs.)        | T              | 27,600  | 41,500  | 59,600  | 73,500    | 97,900    | 125,700   | 117,200   | 117,200   | 140,000   | 145,800   |
| Thrust (lbs.)                    | P              | 62,700  | 119,500 | 151,400 | 189,000   | 228,400   | 313,730   | 240,500   | 311,600   | 357,100   | 468,900   |
| Reaction location (ft.)          | R <sub>1</sub> | 1.6     | 1.82    | 2.08    | 2.0       | 2.09      | 2.0       | 2.417     | 2.417     | 2.73      | 2.974     |
| Reaction location (ft.)          | R <sub>2</sub> | 1.6     | 1.82    | 2.08    | 2.0       | 2.09      | 2.0       | 2.417     | 2.417     | 2.73      | 2.974     |



"Proper construction of — and connection of mounting plate and/or mounting base to — supporting structure shall be the responsibility of the owner."

**Note:** Direction of arrows at "FF" and "FR" denotes reaction for support of revolving superstructure.

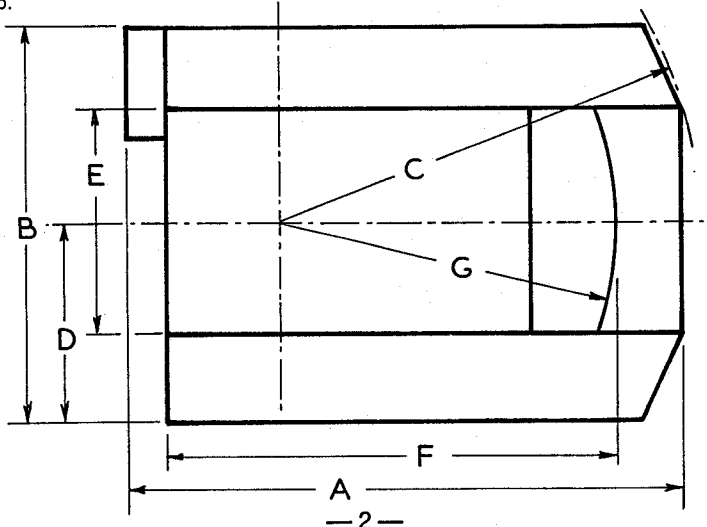
**MINIMUM CLEARANCE DIMENSIONS — For removing vertical swing shaft**

|                                                                        |   | 48A     | 78B     | 108C    | 138     | 218     | 238     | 318     | 338     | 418A | 518 |
|------------------------------------------------------------------------|---|---------|---------|---------|---------|---------|---------|---------|---------|------|-----|
| C/L rotation to C/L vertical swing shaft                               | A | 16"     | 19 1/2" | 21 1/2" | 38"     | 41"     | 41"     | 41 1/4" | 41 1/4" | 28"  | 28" |
| Clearance under mounting plate required to remove vertical swing shaft | B | 21 1/2" | 26"     | 32"     | 12 1/2" | 12 3/4" | 15 3/4" | 22"     | 22"     | 36"  | 36" |
| Diameter of swing pinion                                               | C | 8"      | 10 1/2" | 10"     | 10"     | 10"     | 9 1/4"  | 12"     | 12"     | 13"  | 13" |

**DIMENSIONS OF REVOLVING CRANE UPPER LESS BOOM**

|                                    |   | 48A         | 78B       | 108C      | 138        | 218       | 238       | 318    | 338    | 418A      | 518        |
|------------------------------------|---|-------------|-----------|-----------|------------|-----------|-----------|--------|--------|-----------|------------|
| Over-all length with catwalk       | A | 13'10"      | 16'10"    | 18'3"     | 21'1 1/8"  | 21'5"     | 21'6"     | 17'3"  | 17'3"  | 20'4 1/8" | 20'11 7/8" |
| Over-all width with catwalk ①      | B | 12'3"       | 13'0"     | 13'2 1/4" | 15'8"      | 15'8"     | 15'8"     | 15'1"  | 15'1"  | 15'2 1/4" | 16'9 1/8"  |
| Tailswing of catwalk at rear       | C | 11'6"       | 13'3"     | 14'2"     | 16'5"      | 16'11"    | 16'11"    | NA     | NA     | NA        | NA         |
| C/L rotation to outside of catwalk | D | 6'1 1/2"    | 6'6"      | 6'7 1/8"  | 8'1"       | 8'1"      | 8'1"      | 7'6"   | 7'6"   | 7'7 1/8"  | 8'4 1/8"   |
| Over-all width without catwalk     | E | 7'6"        | 7'10"     | 8'0"      | 10'6"      | 10'6"     | 10'6"     | 10'10" | 10'10" | 11'0"     | 11'0"      |
| Over-all length without catwalk    | F | 11'8 13/16" | 14'3 1/8" | 15'1 1/8" | 17'11 5/8" | 18'3 1/2" | 18'6 1/2" | 17'3"  | 17'3"  | 20'1 3/4" | 20'11 1/2" |
| Tailswing of counterweight only    | G | 8'9"        | 10'6 1/2" | 11'5"     | 13'5"      | 14'0"     | 14'4"     | 14'5"  | 14'11" | 15'2"     | 15'10"     |

① Catwalks along both sides of cab.



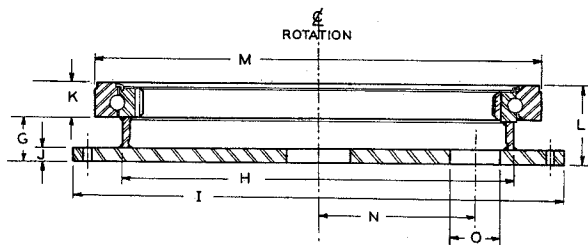
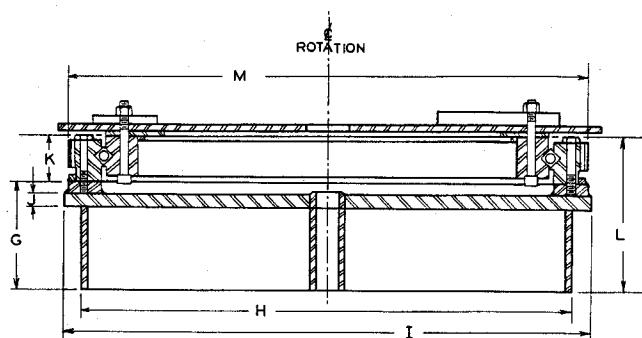
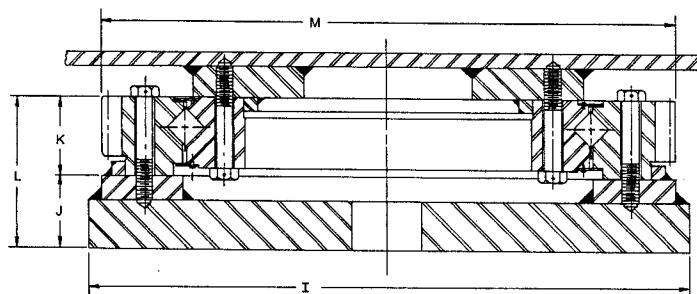
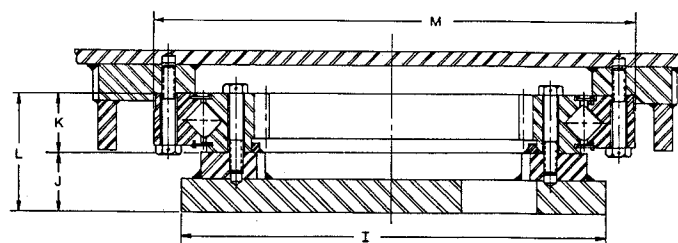
**TURNTABLE BEARING MOUNTING DIMENSIONS**

|                                                 |   | 48A                               | 78B ①                            | 138                              | 218                              | 238                              | 318                               | 338                               | 518                              |
|-------------------------------------------------|---|-----------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|-----------------------------------|-----------------------------------|----------------------------------|
| Over-all height turntable bearing mounting base | G | 4 <sup>3</sup> / <sub>4</sub> "   | 16 <sup>1</sup> / <sub>2</sub> " | 15 <sup>3</sup> / <sub>4</sub> " | 15 <sup>3</sup> / <sub>4</sub> " | 15 <sup>3</sup> / <sub>4</sub> " | NA                                | NA                                | NA                               |
| Diameter turntable bearing mounting base        | H | 42 <sup>1</sup> / <sub>16</sub> " | 50 <sup>5</sup> / <sub>8</sub> " | 65 <sup>1</sup> / <sub>4</sub> " | 71"                              | 71"                              | NA                                | NA                                | NA                               |
| Diameter turntable bearing mounting plate       | I | 53"                               | 56"                              | 70"                              | 76 <sup>1</sup> / <sub>2</sub> " | 76 <sup>1</sup> / <sub>2</sub> " | 77"                               | 77"                               | 84"                              |
| Thickness turntable bearing mounting plate      | J | 1 <sup>1</sup> / <sub>2</sub> "   | 1 <sup>1</sup> / <sub>2</sub> "  | 2"                               | 2"                               | 2"                               | 5 <sup>1</sup> / <sub>4</sub> " ② | 5 <sup>1</sup> / <sub>4</sub> " ② | 7" ②                             |
| Over-all height — turntable bearing only        | K | 3 <sup>3</sup> / <sub>4</sub> "   | 5 <sup>5</sup> / <sub>16</sub> " | 5 <sup>3</sup> / <sub>4</sub> "  | 6 <sup>1</sup> / <sub>2</sub> "  | 6 <sup>1</sup> / <sub>2</sub> "  | 5 <sup>5</sup> / <sub>8</sub> "   | 5 <sup>5</sup> / <sub>8</sub> "   | 6 <sup>1</sup> / <sub>4</sub> "  |
| Over-all height — turntable bearing & mounting  | L | 8 <sup>1</sup> / <sub>2</sub> "   | 21 <sup>3</sup> / <sub>8</sub> " | 21 <sup>1</sup> / <sub>2</sub> " | 22 <sup>1</sup> / <sub>4</sub> " | 22 <sup>1</sup> / <sub>4</sub> " | 10 <sup>7</sup> / <sub>8</sub> "  | 10 <sup>7</sup> / <sub>8</sub> "  | 13 <sup>3</sup> / <sub>4</sub> " |
| Diameter turntable bearing                      | M | 48 <sup>1</sup> / <sub>8</sub> "  | 54"                              | 69"                              | 75 <sup>1</sup> / <sub>4</sub> " | 75 <sup>1</sup> / <sub>4</sub> " | 75"                               | 75"                               | 90"                              |
| C/L rotation to C/L swing pinion access hole    | N | 16"                               | 19 <sup>1</sup> / <sub>2</sub> " | NA ③                             | NA ③                             | NA ③                             | NA ③                              | NA ③                              | 28"                              |
| Diameter swing pinion access hole               | O | 8"                                | 10 <sup>1</sup> / <sub>2</sub> " | NA ③                             | NA ③                             | NA ③                             | NA ③                              | NA ③                              | 13"                              |

① Turntable bearing optional on TC-78B.

② Dimension includes thickness of mounting plate plus spacer block between plate and bearing.

③ Equipped with external ring gear and swing pinion.

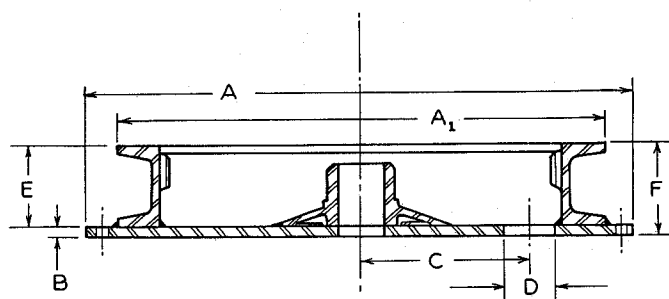
**TC-48A****TC-78B, 138, 218, 238****TC-318, 338****TC-518**



## HOOK ROLLER PATH MOUNTING DIMENSIONS

|                                                         |    | 78B                                    | 108C                             | 418A                             |
|---------------------------------------------------------|----|----------------------------------------|----------------------------------|----------------------------------|
| Length & width hook roller path mounting plate (welded) | A, | 59" / 67 <sup>3</sup> / <sub>4</sub> " | 65" / 74"                        | 84" / 84"                        |
| Length & width hook roller path mounting plate (bolted) | A  | 65 <sup>1</sup> / <sub>4</sub> " dia.  | 72" dia.                         | NA                               |
| Thickness hook roller path mounting plate               | B  | 1 <sup>1</sup> / <sub>4</sub> "        | 1 <sup>1</sup> / <sub>4</sub> "  | 3 <sup>1</sup> / <sub>2</sub> "  |
| C/L rotation to C/L swing pinion access hole            | C  | 19 <sup>1</sup> / <sub>2</sub> "       | 21 <sup>1</sup> / <sub>2</sub> " | 28"                              |
| Diameter of swing pinion access hole                    | D  | 10 <sup>1</sup> / <sub>2</sub> "       | 10"                              | 13"                              |
| Over-all height of roller path only                     | E  | 9 2 <sup>1</sup> / <sub>32</sub> "     | 10 <sup>3</sup> / <sub>4</sub> " | 15 <sup>1</sup> / <sub>2</sub> " |
| Over-all height of roller path & mounting plate         | F  | 10 2 <sup>9</sup> / <sub>32</sub> "    | 12"                              | 19"                              |

TC-78B, 108C, 418A

**GENERAL SPECIFICATIONS** — Applicable to all models unless specifically noted otherwise.**UPPER**

**UPPER FRAME** — All-welded, stress relieved, precision machined.

**MACHINERY SIDE HOUSINGS** — All-welded, stress relieved, and line bored for positive shaft and gear alignment. Depending on specific model, side housings may be either fabricated integrally with upper frame or as separate units which bolt on machined surfaces on upper frame.

**MOUNTING OF UPPER ON SUPPORTING STRUCTURE—**

**ROLLER PATH WITH INTEGRAL RING (SWING) GEAR** — Double-flanged, machined roller path welded to mounting plate which is fixed to supporting structure. Internal ring (swing) gear cast integral with roller path, and swing pinion meshes with this ring (swing) gear. Standard on TC-78B, 108C, and 418A.

**Turntable Rollers** — Heat treated, conical, hook-type rollers mounted on anti-friction bearings; shim adjusted to compensate for roller path or roller wear. Eight rollers mounted in four equalized pairs — two front and two rear. Standard on TC-78B, 108C, and 418A.

**TURNTABLE BEARING WITH INTEGRAL RING (SWING) GEAR** — Outer race of bearing bolted to upper revolving frame; inner race bolted to mounting plate which is either fixed to supporting structure or to mounting base which is fixed to supporting structure. Integral ring (swing) gear may be either internal or external of bearing, depending on model, and swing pinion meshes with this ring gear. Standard on TC-48A, 138, 218, 238, 318, 338, and 518. Optional on TC-78B.

**TRANSMISSION** — Link-Belt roller chain enclosed in chain case; pump-driven oil stream lubrication. Engine pinion and chain wheel have machine-cut teeth.

**REDUCTION SHAFT** — Mounted in side housings on anti-friction bearings.

**Drive Pinions** — Two heat treated, machine-cut teeth pinions; involute splined to reduction shaft.

**CLUTCHES** — Speed-o-Matic power hydraulic actuated for all functions (other than engine master clutch). Internal expanding, 2-shoe type, aluminum alloy shoes. Clutch drums bolted to spur gears.

**DRUMS** — Front and rear main, and optional (depending on machine model) third, operating drums.

**Shafts** — Mounted in line bores on anti-friction bearings. Front and rear drum shafts (only) extended to accommodate power load lowering clutches.

**TC-78B and 108C** — Special front and rear drum shafts furnished with optional planetary drive units; not furnished as standard equipment on basic machine.

**TC-138, 218, 238, 318, 338, and 518** — Extended front and rear drum shafts standard to accommodate planetary drive units.

**TC-418A** — Optional extended rear drum shaft required to accommodate field installation of load lowering clutch or auxiliary hoist brake; not furnished as standard equipment on basic machine.

**Spur Gears** — Machine-cut teeth; mounted on anti-friction bearings on shafts.



**Brakes** — Two-piece, external contracting band; mechanically foot pedal operated on front, rear, and optional third operating drums. Mechanical latch on each brake foot pedal permits locking drum brakes in applied position.

**Brake Drums** — Involute splined to shaft.

**Drum Laggings** — (For main operating drums). Smooth laggings on front and rear drums — standard on all models for crane application.

**TC-48A, 78B, and 108C** — Two-piece, removable laggings bolted to brake drums and clamped to shafts.

**TC-138, 218, and 238** — One-piece laggings, involute splined to shaft.

**TC-318, 338, 418A, and 518** — Two-piece, removable laggings bolted to lagging adaptors which are splined on the shafts.

**Drum Rotation Indicators** — Standard for both front and rear main operating drums on all models. Dials mounted on front of control stand actuated by flexible shaft drives attached to drum shafts.

**TWO-SPEED FRONT AND REAR DRUMS** — Gear driven (for hoist only). Intermediate gears installed in side housings convert 2-shoe load lowering clutches to high-speed hoist clutches; hoist rope speed increased 100% over standard speeds. Optional on TC-78B and 108C only; but not available if machine is equipped with power load lowering clutches or auxiliary rear drum brake.

**PLANETARY DRIVE UNITS FOR FRONT AND REAR DRUMS** — For hoist and/or lowering. Planetary drive unit mounts between spur gear and 2-shoe clutch drum on extended shaft; provides 70% increase or 40% decrease of standard load hoist or lowering rope speeds. Optional on TC-78B, 108C, 138, 218, 238, 318, and 338 (for increased hoist speed only). Not available on TC-78B or 108C when equipped with gear-driven hoist drums or auxiliary rear drum brake, and not available for third operating drum on any TC model.

**AUXILIARY 2-SHOE REAR DRUM BRAKE** — Optional for rear drum only on TC-108C, 418A, and 518. Increases brake lining contact area. Pressure on mechanical brake pedal applies the standard rear drum brake band and the auxiliary 2-shoe brake simultaneously. Mechanical linkage actuates the control mechanism of a variable pressure valve to direct hydraulic pressure to the auxiliary brake cylinder. **Note:** Power load lowering clutch; 2-speed gear-driven hoist, or 2-speed planetary drive unit on lowering (left) side for rear drum not available on machine equipped with auxiliary 2-shoe hoist drum brake.

**INDEPENDENT SWING SHAFT (Horizontal)** — Mounted in line bore on anti-friction bearings. Independent swing and swing brake standard on all TC models.

**Spur Gears** — Machine-cut teeth; mounted on shaft on anti-friction bearings.

**Bevel Gear** — Involute splined to shaft; fully enclosed and running in oil.

**INDEPENDENT BOOMHOIST** — Spur gear, or worm gear, driven, with precision boom raising and lowering controlled through Speed-o-Matic power hydraulic 2-shoe clutches or planetary drive units. A rope drum locking pawl, manually controlled from operator's position, is provided on all boomhoists; permits locking boomhoist wire rope drum to avoid boom's creeping down against brake. Both spur gear and worm gear boomhoists

equipped with automatic, spring applied, hydraulically released brakes.

#### **BOOMHOIST MECHANISMS —**

**INDEPENDENT, SPUR GEAR DRIVEN** — Standard for TC-48A, 78B, 108C, 138, 218, 238, 318, and 338.

**Drum Shaft** — Mounted in line bore on anti-friction bearings.

**Spur Gears** — Machine-cut teeth; mounted on anti-friction bearings.

**Brake** — External contracting band; spring applied, hydraulically released.

**Wire Rope Drums** — Involute splined to shaft. Single drum with grooved lagging standard for 78B and 108C; single drum with smooth lagging standard on 48A; single smooth drum (no lagging) standard for TC-138, 218, and 238; dual smooth drums (no lagging) standard for TC-318, 338, 418A, and 518.

**Planetary Boom Lowering** — Standard for TC-138, 218, and 238 only; not available on other TC models. Unit mounts on outer end of boomhoist drum shaft. Planetary activated by external contracting band brake which is controlled by operator from control stand.

**High-Speed Boom Lowering Clutch** — Optional on TC-138, 218, and 238 only — not available on other TC models. Two-shoe clutch spider splined to shaft outside the planetary unit; clutch drum bolted to outer face of planetary housing.

**INDEPENDENT, WORM GEAR DRIVEN** — Standard for TC-418A and 518. Powered from reverse shaft through bevel gears and vertical propeller shaft into worm gear boomhoist drive. (Description of drum shaft, spur gears, and brake same as spur gear-driven boomhoist.)

**BOOMHOIST LIMITING DEVICE** — Standard. Cab-mounted device which, when it comes in contact with the boom, causes simultaneous engagement of the automatic spring applied boomhoist brake and disengagement of — or relief of pressure to — the boomhoist clutch.

**BOOMHOIST BAIL** — Supports boom suspension system; sheaves mounted on anti-friction bearings.

**BOOMSTOPS** — Dual; rigid or telescoping.

**Angle Booms** — TC-48A, 78B, 108C; mounted on cab top; rigid tubular, spring-loaded bumper ends. TC-318, 338, and 418A; rail-type, telescoping, spring bumpers.

**Tubular Booms** — TC-78B, 108C; telescoping tubular, attached to upper end of boom base section, spring bumpers. TC-138, 218, 238; lever type, rigid, tubular, supported in position by telescoping struts attached near boom base, spring-loaded bumpers. TC-418A and 518; rail type, rigid, tubular, spring bumpers.

**BOOMHOIST BRIDLE** — Serves as connection between boom pendants and boomhoist wire rope reeving to bail.

**BOOM LIVE MAST** — Mounted at base of boom; supports boomhoist bridle and mid-point suspension pendants when required.

**SWING MECHANISM** — Independent swing standard.

**Horizontal Swing Shaft** — Mounted in line bore on anti-friction bearings.

**Spur Gears** — Machine-cut teeth. Mounted on shaft on anti-friction bearings.



**Bevel Gear** — Involute splined on shaft; fully enclosed and running in oil.

**Vertical Drive Shaft** — Mounted in line bore on anti-friction bearings.

**Bevel Gear** — Involute splined on shaft. Fully enclosed and running in oil.

**Spur Gear** — Machine-cut teeth; involute splined on shaft. Fully enclosed and running in oil.

**Vertical Swing Shaft** — Mounted in line bore on anti-friction bearings.

**Spur Gear** — Machine-cut teeth, involute splined to shaft; fully enclosed and running in oil.

**Swing Pinion** — Involute splined to shaft; teeth mesh with teeth of ring (swing) gear which is integral with hook roller path or turntable bearing — depending on specific model.

**Swing Lock** — Mechanically controlled pawl engages with teeth of ring (swing) gear.

**Swing Brake** — Two-directional, external contracting band — spring applied, power hydraulically released; mounted on vertical swing shaft for TC-48A, 78B, 108C, 418A, and 518; mounted on horizontal swing shaft for TC-138, 218, 238, 318, and 338. Brake drums splined on shaft.

**CAB** — Operator's door may be hinged or roll on ball bearing rollers; operator cab door and windows equipped with safety glass panels. Standard equipment includes electric horn warning device, dry chemical fire extinguisher, hand grab rails, roof-top access ladder, and skid-resistant finish on roof. Optional equipment includes cab heater, fan-type defroster, and catwalks.

**CONTROL SYSTEM** — Speed-o-Matic power hydraulics; an open system. Operating pressure is transmitted through oil to all operating 2-shoe clutch cylinders, swing brake, and boomhoist drum brake cylinders. The system includes a pump to provide a constant flow of oil, an accumulator to maintain operating pressure, and variable pressure operator-controlled valves to regulate this pressure to each clutch cylinder.

**Pump** — TC-48A — Lear Siegler; 4 g.p.m. @ 2,000 r.p.m. All other models — Vickers; rated at 4.7 g.p.m. @ 1,200 r.p.m.

**Oil Filter** — FMC; replaceable Skinner ribbon-type filter element.

**Relief Valve** — FMC; set to operate at 1,250 p.s.i.

**Unloader Valve** — FMC; set to unload pump at a maximum 1,050 p.s.i. and to load pump when pressure drops below 900 p.s.i.

**Accumulator** — FMC; piston-type, pre-charged with nitrogen gas to 650 p.s.i.

**Sump Tank** — FMC; equipped with filter and strainer assembly to keep oil clean. TC-48A — 5½-gal. capacity; all other models, 7-gal. capacity.

**Control Valves** — FMC; variable pressure type.

**AUXILIARY CONTROLS** — (In operator's cab)

**Swing Brake** — Std. on all models.

**Foot Throttle** — Std. on all models.

**Hand Throttle** — Std. on all models.

**Optional Hand Throttle** — Mounted on swing control lever. Available on all models.

**ELECTRIC MOTOR DRIVE** — Optional; available only for TC-78B and TC-108C. 50 h.p. motor for TC-78B; 75 h.p. motor for TC-108C.

Open squirrel cage motor; 440 volt A.C., 3-phase, 60-cycle, 1,800 r.p.m. Motor equipped with double-end

shaft — shaft at outer end for installation of chain drive pinion; shaft at inner end for installation of V-belt pulley(s) to drive Speed-o-Matic power hydraulic system pump and optional magnet generator.

Additional equipment includes across-the-line starter, start and stop station (switch) at operator's position, transformer for 220-volt, 110-volt, 12-volt A.C., rectifier for 12-volt D.C.; and 120-ampere, 600-volt, 4-conductor collector ring assembly complete with vertical shaft and enclosure. Collector ring assembly mounts below hook roller path mounting plate and transfers electrical power up to electric motor mounted in revolving crane upper.

**LIFTING MAGNET INSTALLATIONS** — Optional; available only for TC-48A, 78B, and 108C.

**GENERATORS** — V-belt driven from upper diesel engine or electric motor; actuated by master control box usually located at rear of upper machinery. Generator installed in right rear platform recess, in front of engine mounting frame and under chain case on machines equipped with diesel engines; on a platform at rear of cab interior above motor on machines equipped with electric motor drive.

**NOTE:** Generator cannot be installed on machine equipped with optional auxiliary diesel fuel tank since installation area for generator controller and auxiliary tank is identical and space is limited to one or the other. Also, on the TC-78B and TC-108C — where diesel engines with hydraulic coupling drives are available — the slip characteristics of the hydraulic coupling (when any operating clutch is engaged) may cause the generator to slow down. To avoid a voltage drop, which could cause part or all of the magnet load to fall, special operating procedures are required.

**Onan Magnet Generator With Over-Excitation —**

**10 KW** — Suitable for 30" or larger, 230-volt magnets rated at 18.5 to 42 operating amperes. Available for TC-48A and TC-78B.

**15 KW** — Suitable for 39" or larger, 230-volt magnets rated at 18.5 to 63 operating amperes. Available for TC-78B and TC-108C.

**Cadiz-Ohio Magnet Generator With Over-Excitation —**

**20 KW** — Suitable for use with 230-volt magnets only where magnet specification requires 17 to 20 KW. Available for TC-108C.

**CONTROLLER** — E. C. & M. automatic type; mounted on right front corner of platform, just inside door. Rheostat mounted inside door of controller; can be adjusted for speed of load "drop" for light or heavy scrap.

**CONTROLS** — Push button type. "Lift-Hold" button is mounted on swing control lever. "Drop" button is mounted on top of control stand for arm or hand touch control.

**Over-excitation** — When button swing control lever is pushed, it draws 275 volts into the magnet for load "lift". When load is free of pile, button is released and voltage is reduced to 200 for "holding" load. Over-excitation feature permits maximum magnet load lift without excessive magnet over-heating.

**Main Rheostat** — Mounted to right of the operator; provides voltage adjustment for the load "hold" cycle.

**WIRING** — Heavy-duty, 230-volt cable and wire provide exclusive heat assurances, long-lasting performance, reduced electrical maintenance and repair problems.

**Voltmeter** — Included for reading the voltage and setting rheostat.



**TAGLINE & MAGNET REELS** — Optional. Rud-O-Matic combination tagline winder and magnet cable take-up reel. Model #630 for TC-48A; #636 for TC-78B and TC-108C.

**HOOK BLOCK AND MAGNET CABLE** — Optional. 6½-ton, single-sheave hook block and cable from controller to magnet.

**TAGLINE** — Optional for all models for crane, clamshell or grapple applications. Rud-O-Matic spring-wound drum type; mounted on crane boom.

## DETAIL SPECIFICATIONS

### DRUM WIRE ROPE CAPACITIES, LINE SPEED & LINE PULL — (Available line pull, not based on wire rope strength)

| FRONT DRUM                 | 48A                             | 78B                             |                                 | 108C                             |                                    | 138                             | 218                              | 238                              | 318                             | 338    | 418A                             | 518                              |
|----------------------------|---------------------------------|---------------------------------|---------------------------------|----------------------------------|------------------------------------|---------------------------------|----------------------------------|----------------------------------|---------------------------------|--------|----------------------------------|----------------------------------|
| Root diameter              | 8 <sup>3</sup> / <sub>8</sub> " | 12"                             | 12" ④                           | 13 <sup>1</sup> / <sub>4</sub> " | 13 <sup>1</sup> / <sub>4</sub> " ④ | 14"                             | 17 <sup>1</sup> / <sub>4</sub> " | 17 <sup>1</sup> / <sub>4</sub> " | 20"                             | 20"    | 24 <sup>3</sup> / <sub>8</sub> " | 19 <sup>1</sup> / <sub>8</sub> " |
| Lagging type               | Smooth                          | Smooth                          | Smooth                          | Smooth                           | Smooth                             | Smooth                          | Smooth                           | Smooth                           | Smooth                          | Smooth | Smooth                           | Smooth                           |
| Wire rope diameter         | 1 <sup>1</sup> / <sub>2</sub> " | 5 <sup>5</sup> / <sub>8</sub> " | 5 <sup>5</sup> / <sub>8</sub> " | 3 <sup>3</sup> / <sub>4</sub> "  | 3 <sup>3</sup> / <sub>4</sub> "    | 3 <sup>3</sup> / <sub>4</sub> " | 3 <sup>3</sup> / <sub>4</sub> "  | 1"                               | 7 <sup>7</sup> / <sub>8</sub> " | 1"     | 1"                               | 1 <sup>1</sup> / <sub>8</sub> "  |
| FIRST LAYER WIRE ROPE —    |                                 |                                 |                                 |                                  |                                    |                                 |                                  |                                  |                                 |        |                                  |                                  |
| Line speed — f.p.m. } ①    | 150                             | 147                             | 147                             | 150                              | 150                                | 162                             | 179                              | 171                              | 166                             | 167    | 149                              | 119                              |
| Line pull — lbs. }         | 11,100                          | 17,220                          | 17,240                          | 23,000                           | 23,000                             | 20,200                          | 21,500                           | 26,100                           | 27,400                          | 27,200 | 35,000                           | 45,200                           |
| Line speed — f.p.m. } ②    | —                               | 294                             | 294                             | 300                              | 300                                | —                               | —                                | —                                | —                               | —      | —                                | —                                |
| Line pull — lbs. }         | —                               | 8,080                           | 8,090                           | 11,160                           | 11,160                             | —                               | —                                | —                                | —                               | —      | —                                | —                                |
| Line speed — f.p.m. } ③    | —                               | —                               | —                               | 255                              | 255                                | 276                             | 304                              | 291                              | —                               | —      | —                                | —                                |
| Line pull — lbs. }         | —                               | —                               | —                               | 12,770                           | 12,770                             | 11,200                          | 11,940                           | 14,500                           | —                               | —      | —                                | —                                |
| Wire rope capacity         | 31'                             | 57'                             | 57'                             | 54'                              | 54'                                | 77'                             | 118'                             | 88'                              | 119'                            | 105'   | 107'                             | 75'                              |
| LAST LAYER WIRE ROPE —     |                                 |                                 |                                 |                                  |                                    |                                 |                                  |                                  |                                 |        |                                  |                                  |
| Line speed — f.p.m. } ①    | 248                             | 235                             | 249                             | 247                              | 279                                | 311                             | 268                              | 283                              | 262                             | 261    | 207                              | 211                              |
| Line pull — lbs. }         | 6,742                           | 10,800                          | 10,150                          | 14,000                           | 12,400                             | 10,500                          | 14,300                           | 15,700                           | 17,300                          | 17,300 | 25,100                           | 24,700                           |
| Line speed — f.p.m. } ②    | —                               | 470                             | 498                             | 494                              | 558                                | —                               | —                                | —                                | —                               | —      | —                                | —                                |
| Line pull — lbs. }         | —                               | 5,070                           | 4,760                           | 6,790                            | 6,010                              | —                               | —                                | —                                | —                               | —      | —                                | —                                |
| Line speed — f.p.m. } ③    | —                               | —                               | —                               | 419                              | 474                                | 529                             | 456                              | 481                              | —                               | —      | —                                | —                                |
| Line pull — lbs. }         | —                               | —                               | —                               | 7,770                            | 6,880                              | 5,840                           | 7,940                            | 8,720                            | —                               | —      | —                                | —                                |
| Maximum layers wire rope   | 7                               | 7                               | 8                               | 7                                | 9                                  | 10                              | 7                                | 7                                | 8                               | 7      | 6                                | 8                                |
| Maximum wire rope capacity | 292'                            | 543'                            | 645'                            | 481'                             | 661'                               | 1,071'                          | 1,008'                           | 790'                             | 1,283'                          | 986'   | 812'                             | 895'                             |

① Standard machine — crane lagging.

② Machine equipped with gear-driven high speed drum.

③ Machine equipped with planetary-driven high speed drum.

④ Special high flange, high wire rope capacity crane lagging.

| REAR DRUM                      | 48A    | 78B    | 108C   | 138    | 218    | 238    | 318    | 338    | 418A   | 518    |
|--------------------------------|--------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| Root diameter                  | 8⅜"    | 12"    | 13¼"   | 14"    | 17¼"   | 17¼"   | 20"    | 20"    | 24⅜"   | 27"    |
| Lagging type                   | Smooth | Smooth | Smooth | Smooth | Smooth | Smooth | Smooth | Smooth | Smooth | Smooth |
| Wire rope diameter             | ½"     | ⅝"     | ¾"     | ¾"     | ¾"     | 1"     | 7/8"   | 1"     | 1"     | 1⅜"    |
| <b>FIRST LAYER WIRE ROPE —</b> |        |        |        |        |        |        |        |        |        |        |
| Line speed — f.p.m. } ①        | 150    | 147    | 150    | 162    | 179    | 171    | 166    | 167    | 149    | 155    |
| Line pull — lbs. } ①           | 10,800 | 16,700 | 22,400 | 20,200 | 21,500 | 26,100 | 27,400 | 27,200 | 35,000 | 35,000 |
| Line speed — f.p.m. } ②        | —      | 294    | 300    | —      | —      | —      | —      | —      | 267    | 278    |
| Line pull — lbs. } ②           | —      | 7,840  | 10,870 | —      | —      | —      | —      | —      | 19,300 | 19,300 |
| Line speed — f.p.m. } ③        | —      | —      | 255    | 276    | 304    | 291    | 282    | —      | —      | —      |
| Line pull — lbs. } ③           | —      | —      | 12,440 | 11,200 | 11,940 | 14,500 | 15,222 | —      | —      | —      |
| Wire rope capacity             | 31'    | 57'    | 54'    | 77'    | 118'   | 88'    | 119'   | 105'   | 107'   | 103'   |
| <b>LAST LAYER WIRE ROPE —</b>  |        |        |        |        |        |        |        |        |        |        |
| Line speed — f.p.m. } ①        | 248    | 235    | 246    | 311    | 268    | 283    | 262    | 261    | 207    | 193    |
| Line pull — lbs. } ①           | 6,540  | 10,480 | 13,600 | 10,500 | 14,300 | 15,700 | 17,300 | 17,300 | 25,100 | 28,200 |
| Line speed — f.p.m. } ②        | —      | 470    | 492    | —      | —      | —      | —      | —      | 374    | 346    |
| Line pull — lbs. } ②           | —      | 4,920  | 6,600  | —      | —      | —      | —      | —      | 13,900 | 15,600 |
| Line speed — f.p.m. } ③        | —      | —      | 418    | 529    | 456    | 481    | 445    | —      | —      | —      |
| Line pull — lbs. } ③           | —      | —      | 7,550  | 5,840  | 7,940  | 8,720  | 9,610  | —      | —      | —      |
| Maximum layers wire rope       | 7      | 7      | 7      | 10     | 7      | 7      | 8      | 7      | 6      | 4      |
| Maximum wire rope capacity     | 292'   | 543'   | 481'   | 1,071' | 1,008' | 790'   | 1,283' | 986'   | 812'   | 479'   |

① Standard machine — crane lagging.

② Machine equipped with gear-driven high speed drum.

③ Machine equipped with planetary-driven high speed drum.

**DRUM WIRE ROPE CAPACITIES, LINE SPEED & LINE PULL — (Available line pull, not based on wire rope strength)**

| THIRD DRUM                     | 48A | 78B     | 108C    | 138     | 218     | 238     | 318 | 338 | 418A    | 518     |
|--------------------------------|-----|---------|---------|---------|---------|---------|-----|-----|---------|---------|
| Root diameter                  |     | 9"      | 9"      | 10 1/2" | 11 1/4" | 12 1/4" |     |     | 13 1/4" | 13 1/4" |
| Lagging type                   |     | Grooved | Grooved | Smooth  | Smooth  | Smooth  |     |     | Smooth  | Smooth  |
| Wire rope diameter             | ↓   | 5/8"    | 5/8"    | 3/4"    | 3/4"    | 7/8"    | ↓   | ↓   | 7/8"    | 7/8"    |
| <b>FIRST LAYER WIRE ROPE —</b> |     |         |         |         |         |         |     |     |         |         |
| Line speed — f.p.m.            |     | 113     | 123     | 131     | 132     | 136     |     |     | 135     | 135     |
| Line pull — lbs.               | ↓   | 10,000  | 10,000  | 22,800  | 25,900  | 30,800  | ↓   | ↓   | 22,200  | 22,200  |
| Wire rope capacity             | NA  | 33'     | 35'     | 60'     | 80'     | 74'     | NA  | NA  | 69'     | 69'     |
| <b>LAST LAYER WIRE ROPE —</b>  |     |         |         |         |         |         |     |     |         |         |
| Line speed — f.p.m.            | ↑   | 185     | 202     | 201     | 198     | 208     | ↑   | ↑   | 200     | 200     |
| Line pull — lbs.               |     | 6,000   | 6,000   | 14,800  | 17,200  | 20,100  |     |     | 14,800  | 14,800  |
| Maximum layers wire rope       |     | 6       | 6       | 5       | 5       | 5       |     |     | 5       | 5       |
| Maximum wire rope capacity     |     | 278'    | 297'    | 370'    | 495'    | 460'    |     |     | 451'    | 451'    |

NA — Not available.

**DRUM CLUTCHES —**

| CLUTCH DRUM SIZE                | 48A          | 78B          | 108C       | 138          | 218      | 238      | 318          | 338          | 418A         | 518          |
|---------------------------------|--------------|--------------|------------|--------------|----------|----------|--------------|--------------|--------------|--------------|
| Front drum                      | 14"x3 1/2"   | 18"x4 1/2"   | 20"x5"     | 18"x4 1/2"   | 20"x5"   | 23"x6"   | 30"x6 1/2"   | 30"x6 1/2"   | 37"x5 1/2"   | 37"x5 1/2"   |
| Rear drum                       | 14"x3 1/2"   | 18"x4 1/2"   | 20"x5"     | 18"x4 1/2"   | 20"x5"   | 23"x6"   | 30"x6 1/2"   | 30"x6 1/2"   | 37"x5 1/2"   | 37"x5 1/2"   |
| Front & Rear drum load lowering | ④ 14"x3 1/2" | ⑤ 18"x4 1/2" | 20"x5"     | ⑥ 18"x4 1/2" | ⑥ 20"x5" | ④ 23"x6" | ④ 30"x6 1/2" | ④ 30"x6 1/2" | ④ 30"x6 1/2" | ④ 30"x6 1/2" |
| Swing                           | 14"x3 1/2"   | 18"x4 1/2"   | 20"x5"     | 18"x4 1/2"   | 20"x5"   | 23"x6"   | 30"x6 1/2"   | 30"x6 1/2"   | 30"x6 1/2"   | 30"x6 1/2"   |
| Boom hoist                      | 14"x3 1/2"   | 18"x4 1/2"   | 20"x5"     | 18"x4 1/2"   | 20"x5"   | 23"x6"   | 20"x5"       | 20"x5"       | 17 1/4"x4"   | 17 1/4"x4"   |
| Boom lowering                   | 14"x3 1/2"   | 18"x4 1/2"   | 20"x5"     | ② 18"x4 1/2" | ② 20"x5" | ② 23"x6" | 20"x5"       | 20"x5"       | 17 1/4"x4"   | 17 1/4"x4"   |
| Third drum hoist ①              | NA           | 17 1/4"x4"   | 17 1/4"x4" | ③ 18"x4 1/2" | ③ 20"x5" | ③ 23"x6" | NA           | NA           | 20"x5"       | 20"x5"       |

① Optional.

② Low speed planetary.

③ Optional load lowering clutch of same size available.

④ Optional on front and rear drums.

⑤ Standard on front and rear drums.

⑥ Standard on rear drum; same size optional on front drum.

NA — Not available or not applicable.

**DRUM BRAKES —**

| BRAKE DRUM SIZE | 48A      | 78B          | 108C         | 138          | 218      | 238          | 318          | 338          | 418A         | 518          |
|-----------------|----------|--------------|--------------|--------------|----------|--------------|--------------|--------------|--------------|--------------|
| Front drum      | 18" x 3" | 23" x 4 1/4" | 27" x 4 1/2" | 32" x 4 1/2" | 34" x 5" | 34" x 5 1/2" | 38" x 6"     | 38" x 6"     | 44" x 6"     | 44" x 6"     |
| Rear drum       | 18" x 3" | 23" x 4 1/4" | 27" x 4 1/2" | 32" x 4 1/2" | 34" x 5" | 34" x 5 1/2" | 38" x 6"     | 38" x 6"     | 44" x 6"     | 44" x 6"     |
| Third drum      | 18" x 3" | 18" x 3 1/2" | 18" x 3 1/2" | 26" x 4 1/2" | 28" x 5" | 28" x 5 1/2" | 27" x 4 1/2" | 27" x 4 1/2" | 27" x 4 1/2" | 27" x 4 1/2" |

**BOOMHOIST —**

| BOOMHOIST TYPE               | 48A  | 78B  | 108C | 138    | 218    | 238    | 318  | 338  | 418A | 518  |
|------------------------------|------|------|------|--------|--------|--------|------|------|------|------|
| Spur gear driven             | Std. | Std. | Std. | Std.   | Std.   | Std.   | Std. | Std. | —    | —    |
| Worm gear driven             | —    | —    | —    | —      | —      | —      | —    | —    | Std. | Std. |
| <b>DRUM STYLE</b>            |      |      |      |        |        |        |      |      |      |      |
| Single                       | Std. | Std. | Std. | Std.   | Std.   | Std.   | —    | —    | —    | —    |
| Dual                         | —    | —    | —    | —      | —      | —      | Std. | Std. | Std. | Std. |
| <b>BOOM LOWERING CONTROL</b> |      |      |      |        |        |        |      |      |      |      |
| Power hydraulic clutch       | Std. | Std. | Std. | —      | —      | —      | Std. | Std. | Std. | Std. |
| Planetary drive unit ①       | —    | —    | —    | Std. ② | Std. ② | Std. ② | —    | —    | —    | —    |

① Low speed standard.

② High speed available as option.

**CRANE BOOMS —**

| ANGLE BOOMS                       | 48A                 | 78B            | 108C       | 138 | 218 | 238 | 318             | 338 | 418A           | 518            |
|-----------------------------------|---------------------|----------------|------------|-----|-----|-----|-----------------|-----|----------------|----------------|
| Basic length                      | 25'                 | 35'            | 40'        |     |     |     | 50'             |     | 50'            | 50'            |
| Top section                       | 11'6"               | 15'            | 20'        |     |     |     | 25'             |     | 25'            | 25'            |
| Base section                      | 13'6"               | 20'            | 20'        |     |     |     | 25'             |     | 25'            | 25'            |
| Main chord angles (inches)        | 2 1/2 x 2 1/2 x 1/4 | ①              | ①          |     |     |     | 4x4x3/8         |     | 4x4x3/8        | 4x4x3/8        |
| Dimensions at connections         | 26"x29 1/2"         | 34"x34"        | 34"x34"    |     |     |     | 48"x48"         |     | 54"x60"        | 54"x60"        |
| Type connections                  | Pinned ②            | Pinned ②       | Pinned ②   |     |     |     | Bolted          |     | Pinned         | Pinned         |
| Boomfoot—Width & Centers          | 1 1/2"/29"          | 1 5/8"/35"     | 1 5/8"/38" | NA  | NA  | NA  | 2 3/4"/54 1/2"  | NA  | 2 3/4"/54 1/2" | 2 3/4"/54 1/2" |
| Boomfoot pin diameter             | 2 1/2"              | 2 3/4"         | 3"         | NA  | NA  | NA  | 4"              | NA  | 4"             | 5"             |
| Extensions available              | 5'-10'-20'          | 5'-10'-15'-20' | 5'-10'-20' | NA  | NA  | NA  | 10'-15'-20'-30' | NA  | 10'-20'-30'    | 10'-20'-30'    |
| Pendants—Size & Type              | 7/8"-“N”            | 1 1/8"-“N”     | 1 1/4"-“N” |     |     |     | 1 1/2"-“N” ③    |     | 1 1/2"-“N” ③   | 1 3/8"-“N”     |
| Number boompoint sheaves          | 3                   | 3              | 3          |     |     |     | 4               |     | 4              | 5              |
| Boom midpoint suspension pendants | ⑤                   | ⑤              | ⑤          |     |     |     | 7/8"-“N” ④      |     | 7/8"-“N” ④     | 7/8"-“N” ④     |
| Boom live mast                    | ⑤                   | ⑤              | ⑤          |     |     |     | ④               |     | ④              | Standard       |
| Boompoint roller guards           | NA                  | Optional       | Optional   |     |     |     | Standard        |     | Standard       | Standard       |

① 3"x3"x3/8" base section; 3"x3"x3/8" top section.

② Bolted connections optional.

③ 1 1/4" required with boom live mast.

④ Required for specific boom lengths.

⑤ Not required.

NA — Not available.

| TUBULAR BOOMS                       | 48A | 78B | 108C | 138             | 218                 | 238             | 318 | 338             | 418A            | 518             |
|-------------------------------------|-----|-----|------|-----------------|---------------------|-----------------|-----|-----------------|-----------------|-----------------|
| Basic length                        |     |     |      | 40'             | 40'                 | 50'             |     | 50'             | 50'             | 60'             |
| Top section                         |     |     |      | 20'             | 20'                 | 25'             |     | 25'             | 25'             | 30'             |
| Base section                        |     |     |      | 20'             | 20'                 | 25'             |     | 25'             | 25'             | 30'             |
| Main chord tubes (inches)           |     |     |      | 3" round        | 3" round            | 3 5/8" round    |     | 3 5/8" round    | 3 5/8" round    | 4" round        |
| Dimensions at connections           |     |     |      | 54"x44"         | 60"x50"             | 60"x54"         |     | 60"x54"         | 60"x54"         | 70"x62"         |
| Type connections                    |     |     |      | Pinned          | Pinned              | Pinned          |     | Pinned          | Pinned          | Pinned          |
| Style lugs                          | NA  | NA  | NA   | In-line         | In-line             | In-line         | NA  | In-line         | In-line         | In-line         |
| Boomfoot—Width & Centers            | NA  | NA  | NA   | 2 3/8"/54"      | 2 1/2"/60"          | 2 3/4"/60"      | NA  | 2 3/4"/54 1/2"  | 2 3/4"/54 1/2"  | 2 3/4"/54 1/2"  |
| Boomfoot pin diameter               | NA  | NA  | NA   | 3 1/4"          | 3 1/2"              | 4"              | NA  | 4"              | 4"              | 5"              |
| Extensions available                |     |     |      | 10'-15'-20'-30' | 10'-15'-20'-30'-40' | 10'-20'-30'-40' |     | 10'-20'-30'-40' | 10'-20'-30'-40' | 10'-20'-30'-40' |
| Pendants—Size & Type                |     |     |      | 1 1/4"-“N”      | 1 1/4"-“N”          | 1 3/8"-“N”      |     | 1 1/2"-“N” ①    | 1 3/8"-“N”      | 1 1/2"-“N” ①    |
| Number boompoint sheaves            |     |     |      | 5               | 5                   | 5               |     | 5               | 4               | 5               |
| Boom midpoint suspension pendants ② |     |     |      | 7/8"-“N”        | 7/8"-“N”            | 7/8"-“N”        |     | 7/8"-“N”        | 7/8"-“N”        | 7/8"-“N”        |
| Boompoint roller guards             |     |     |      | NA              | NA                  | NA              |     | NA              | NA              | NA              |

NA — Not available.

① 1 1/4" pendants required with boom live mast.

② Required for specific boom lengths.

**BOOMHOIST BRIDLE — Serves as connection between boom pendants and boomhoist wire rope reeving to bail.**

|                    | 48A | 78B | 108C | 138 | 218 | 238 | 318 | 338 | 418A | 518 |
|--------------------|-----|-----|------|-----|-----|-----|-----|-----|------|-----|
| No. bridle sheaves | 5   | 5   | 5    | 7   | 7   | 7   | 5   | 7   | 4    | 10  |

**BOOM LIVE MAST — Supports boomhoist bridle — required as follows:**

| 48A  | 78B | 108C | 138  | 218  | 238  | 318 | 338 | 418A | 518  |
|------|-----|------|------|------|------|-----|-----|------|------|
| Std. | ①   | ①    | Std. | Std. | Std. | ②   | ②   | ③    | Std. |

① Retractable high gantry only — standard.

② Required for maximum lift crane service and for boom lengths exceeding 100'.

③ Required for maximum lift crane service and for angle boom lengths exceeding 100' or for tubular boom lengths exceeding 120'.

NOTE: Boom live mast also required for angle or tubular boom lengths exceeding 50' when equipped with a jib.

**BAIL — Supports boom suspension system; sheaves mounted on anti-friction bearings.**

|                | 48A | 78B | 108C | 138 | 218 | 238 | 318 | 338 | 418A | 518 |
|----------------|-----|-----|------|-----|-----|-----|-----|-----|------|-----|
| Number sheaves | 5   | 5   | 5    | 6   | 7   | 7   | 4   | 4   | 4    | 8   |
| Bail mounting  | ①   | ②   | ②    | ①   | ①   | ①   | ①   | ①   | ①    | ①   |

① Pinned to upper frame.

② Pinned to retractable gantry.

**COUNTERWEIGHTS — Pounds (For machines equipped with std. diesel engine)**

|                             | 48A        | 78B          |              | 108C         |              |              | 138         | 218         | 238         | 318         | 338         | 418A        | 518         |
|-----------------------------|------------|--------------|--------------|--------------|--------------|--------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| CTWT. "A"<br>Number pieces  | 9,200<br>1 | 13,200①<br>1 | 15,200②<br>1 | 19,200③<br>1 | 13,900④<br>1 | 14,800⑤<br>1 | 18,000<br>1 | 21,000<br>1 | 26,900<br>2 | 15,000<br>1 | 15,000<br>1 | 24,000<br>1 | 20,000<br>1 |
| CTWT. "AB"<br>Number pieces | NA<br>—    | NA<br>—      | NA<br>—      | NA<br>—      | NA<br>—      | NA<br>—      | NA<br>—     | NA<br>—     | 47,300<br>2 | 32,000<br>2 | 52,500<br>2 | 63,000<br>2 | 90,000<br>2 |

① Diesel engine—lifting crane &amp; duty cycle.

② Electric motor—lifting crane &amp; duty cycle and for diesel engine—maximum lifting crane only.

③ Diesel engine—maximum lifting crane only.

④ Diesel engine—lifting crane &amp; duty cycle.

⑤ Electric motor—lifting crane &amp; duty cycle.

NA—Not Available.

**SWING SPEED — Based on std. diesel engine running at full load speed.**

|        | 48A | 78B | 108C | 138  | 218  | 238 | 318  | 338  | 418A | 518 |
|--------|-----|-----|------|------|------|-----|------|------|------|-----|
| R.p.m. | 4.8 | 3.9 | 3.9  | 3.36 | 2.98 | 2.8 | 3.18 | 3.01 | 2.9  | 3.0 |

**ENGINES — Standard diesel; full pressure lubrication, oil filter, air cleaner, hour meter, hand and foot throttles, fuel tank with fuel gauge and self-closing cap with locking eye for padlock.**

| SPECIFICATIONS                  | 48A                                                          | 78B                              | 108C                             | 138                              | 218                                          | 238                                          | 318                                           | 338                                          | 418A                                          | 518                                          |
|---------------------------------|--------------------------------------------------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------------------|----------------------------------------------|-----------------------------------------------|----------------------------------------------|-----------------------------------------------|----------------------------------------------|
| Manufacturer                    | GM                                                           | GM                               | GM                               | GM                               | GM                                           | GM                                           | GM                                            | GM                                           | GM                                            | GM                                           |
| Series                          | 3-53N                                                        | 3-71N                            | 4-71N                            | 4-71N                            | 6-71N ①                                      | 6-71N ①                                      | 6-71N ③                                       | 6-71N ④                                      | 6-71N ③                                       | 8V-71N                                       |
| Number cylinders                | 3                                                            | 3                                | 4                                | 4                                | 6                                            | 6                                            | 6                                             | 6                                            | 6                                             | 8                                            |
| Bore/Stroke (inches)            | 3 <sup>7</sup> / <sub>8</sub> x4 <sup>1</sup> / <sub>2</sub> | 4 <sup>1</sup> / <sub>4</sub> x5 | 4 <sup>1</sup> / <sub>4</sub> x5 | 4 <sup>1</sup> / <sub>4</sub> x5 | 4 <sup>1</sup> / <sub>4</sub> x5             | 4 <sup>1</sup> / <sub>4</sub> x5             | 4 <sup>1</sup> / <sub>4</sub> x5              | 4 <sup>1</sup> / <sub>4</sub> x5             | 4 <sup>1</sup> / <sub>4</sub> x5              | 4 <sup>1</sup> / <sub>4</sub> x5             |
| Piston displacement (cu. in.)   | 159.2                                                        | 212.7                            | 283.7                            | 283.7                            | 425.6                                        | 425.6                                        | 425.6                                         | 425.6                                        | 425.6                                         | 568                                          |
| Pinion high idle speed (r.p.m.) | 2,100                                                        | 1,990                            | 1,990                            | 1,990                            | 1,940                                        | 2,040                                        | 2,065                                         | 1,430                                        | 2,200                                         | 1,465                                        |
| Engine full load speed (r.p.m.) | 1,925                                                        | 1,815                            | 1,850                            | 1,850                            | 1,800                                        | 1,900                                        | 1,925                                         | 1,885                                        | 2,060                                         | 1,895                                        |
| Net engine h.p. @ f.l.s.        | 60                                                           | 84                               | 112                              | 112                              | 165                                          | 171                                          | 171                                           | 170                                          | 190                                           | 230                                          |
| Peak torque (lbs. ft.)          | 164                                                          | 271                              | 351                              | 351                              | 1,400                                        | 1,400                                        | 532                                           | 1,400                                        | 558                                           | 1,665                                        |
| Peak torque (r.p.m.)            | 1,000                                                        | 1,200                            | 1,200                            | 1,200                            | Converter Stall                              | Converter Stall                              | 1,200                                         | Converter Stall                              | 1,200                                         | Converter Stall                              |
| Electrical system               | 12-volt                                                      | 12-volt                          | 12-volt                          | 12-volt                          | 12-volt                                      | 12-volt                                      | 12-volt                                       | 12-volt                                      | 12-volt                                       | 12-volt                                      |
| Batteries                       | 2/6-volt                                                     | 2/6-volt                         | 2/6-volt                         | 2/6-volt                         | 1/12-volt                                    | 1/12-volt                                    | 1/12-volt                                     | 1/12-volt                                    | 1/12-volt                                     | 2/12-volt                                    |
| Clutch — Type                   | Friction                                                     | Friction                         | Friction                         | Friction                         | Disconnect between engine & torque converter | Disconnect between engine & torque converter | Friction Twin Disc SP211-HP-1 w/hyd. coupling | Disconnect between engine & torque converter | Friction Twin Disc SP211-HP-1 w/hyd. coupling | Disconnect between engine & torque converter |
| — Make                          | Twin Disc                                                    | Twin Disc ②                      | Twin Disc                        | Twin Disc                        |                                              |                                              |                                               |                                              |                                               |                                              |
| — Model                         | C108-HF-4                                                    | SP111-HP-1                       | SP111-HP-1                       | SP111-HP-1                       |                                              |                                              |                                               |                                              |                                               |                                              |
| Transmission —                  |                                                              |                                  |                                  |                                  |                                              |                                              |                                               |                                              |                                               |                                              |
| No. chain wheel teeth           | 123                                                          | 161                              | 161                              | 161                              | 161                                          | 171                                          | 93                                            | 93                                           | 164                                           | 164                                          |
| No. engine pinion teeth         | 16                                                           | 17                               | 17                               | 17                               | 28                                           | 21                                           | 18                                            | 26                                           | 20                                            | 30                                           |

① Allison single stage torque converter #TCDO-475.

② Or optional Cotta TSU transmission.

③ Twin Disc hydraulic coupling.

④ Allison single stage torque converter #TCDOA-475.

**GENERAL INFORMATION ONLY**

**WIRE ROPE TYPES**

**Type "C"** — 6 x 25 (6 x 19 class), filler wire, improved plow steel, preformed, independent wire rope center, right lay, regular lay.

**Type "F"** — 6 x 25 (6 x 19 class), filler wire, improved plow steel, preformed, independent wire rope center, right lay, regular lay.

**Type "K"** — 19 x 7 non-rotating, improved plow steel, preformed, wire center core.

**Type "M"** — 6 x 25 (6 x 19 class), filler wire, extra improved plow steel, preformed, independent wire rope center, right lay, lang lay.

**Type "N"** — 6 x 25 (6 x 19 class), filler wire, extra improved plow steel, preformed, independent wire rope center, right lay, regular lay.

**Type "P"** — 19 x 7 non-rotating, extra improved plow steel, preformed, wire center core.

**Type "T"** — Flattened strand, extra improved plow steel, preformed, independent wire rope center, right lay, lang lay.

**Wireco Style "B"** —  $\frac{3}{4}$ " diameter or smaller rope (6x25).

**Wireco Style "G"** —  $\frac{7}{8}$ " diameter or larger rope (6x30).

**WIRE ROPE — Application, Size & Type**

| WIRE ROPE                                             | 48A                   | 78B                   | 108C                  | 138                   | 218                   | 238                   | 318                   | 338                   | 418A                  | 518                   |
|-------------------------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Main load hoist                                       | $\frac{1}{2}$ " - "N" | $\frac{5}{8}$ " - "N" | $\frac{3}{4}$ " - "N" | —                     | —                     | —                     | $\frac{7}{8}$ " - "N" | —                     | 1" - "N"              | $\frac{1}{8}$ " - "N" |
| Jib load hoist (2-part)                               | $\frac{1}{2}$ " - "N" | $\frac{5}{8}$ " - "F" | $\frac{5}{8}$ " - "N" | —                     | —                     | —                     | $\frac{7}{8}$ " - "N" | —                     | $\frac{7}{8}$ " - "N" | $\frac{7}{8}$ " - "N" |
| Jib load hoist (1-part)                               | $\frac{1}{2}$ " - "P" | $\frac{5}{8}$ " - "P" | $\frac{5}{8}$ " - "P" | —                     | —                     | —                     | $\frac{7}{8}$ " - "P" | —                     | $\frac{7}{8}$ " - "P" | $\frac{7}{8}$ " - "P" |
| Boom hoist (without live mast)                        | —                     | $\frac{5}{8}$ " - "N" | $\frac{5}{8}$ " - "N" | —                     | —                     | —                     | $\frac{3}{4}$ " - "T" | —                     | $\frac{3}{4}$ " - "N" | —                     |
| Boom hoist (with live mast)                           | $\frac{1}{2}$ " - "N" | —                     | —                     | —                     | —                     | —                     | $\frac{3}{4}$ " - "T" | —                     | $\frac{3}{4}$ " - "T" | $\frac{3}{4}$ " - "T" |
| Boom pendants (without live mast)                     | —                     | —                     | $\frac{1}{8}$ " - "N" | —                     | —                     | —                     | $\frac{1}{2}$ " - "N" | —                     | $\frac{1}{2}$ " - "N" | —                     |
| Boom pendants (with live mast)                        | $\frac{7}{8}$ " - "N" | $\frac{1}{8}$ " - "N" | $\frac{1}{4}$ " - "N" | —                     | —                     | —                     | $\frac{1}{4}$ " - "N" | —                     | $\frac{1}{4}$ " - "N" | $\frac{1}{8}$ " - "N" |
| Boom midpoint suspension pendants (without live mast) | —                     | —                     | —                     | —                     | —                     | —                     | $\frac{7}{8}$ " - "N" | —                     | $\frac{7}{8}$ " - "N" | —                     |
| Boom midpoint suspension pendants (with live mast)    | —                     | —                     | —                     | $\frac{3}{4}$ " - "F" | $\frac{7}{8}$ " - "N" | $\frac{7}{8}$ " - "N" | $\frac{7}{8}$ " - "N" | $\frac{7}{8}$ " - "N" | $\frac{7}{8}$ " - "N" | $\frac{7}{8}$ " - "N" |
| Jib staylines                                         | $\frac{5}{8}$ " - "F" | $\frac{5}{8}$ " - "F" | $\frac{5}{8}$ " - "F" | —                     | —                     | —                     | —                     | —                     | $\frac{3}{4}$ " - "N" | $\frac{3}{4}$ " - "N" |
| Clamshell (holding)                                   | $\frac{1}{2}$ " - "N" | $\frac{5}{8}$ " - "F" | $\frac{3}{4}$ " - "N" | —                     | —                     | —                     | $\frac{7}{8}$ " - "M" | —                     | $\frac{7}{8}$ " - "M" | $\frac{7}{8}$ " - "M" |
| Clamshell (closing)                                   | $\frac{1}{2}$ " - "N" | $\frac{5}{8}$ " - "F" | $\frac{3}{4}$ " - "N" | —                     | —                     | —                     | $\frac{7}{8}$ " - "M" | —                     | $\frac{7}{8}$ " - "M" | $\frac{7}{8}$ " - "M" |

NOTE: Each category — shaded line is for Angle Boom; clear line is for Tubular Boom.

**GENERAL INFORMATION ONLY**



**JIBS** — Optional. Equipped with single peak sheave mounted on anti-friction bearings, equalizer sheaves, and telescoping jib mast stops. Jib mast stops pinned from mast to jib lower section and from mast to boom top section.

| Specifications                                 | 48A                     | 78B           | 108C          | 138         | 218       | 238         | 318                     | 338         | 418A                    | 518                     |
|------------------------------------------------|-------------------------|---------------|---------------|-------------|-----------|-------------|-------------------------|-------------|-------------------------|-------------------------|
| Type offered —                                 | —                       | —             | —             | —           | —         | —           | —                       | —           | —                       | —                       |
| Angle                                          | YES                     | YES           | YES           | NA          | NA        | NA          | YES                     | NA          | YES                     | YES                     |
| Tubular                                        | NA                      | NA            | NA            | YES         | YES       | YES         | NA                      | YES         | YES                     | YES                     |
| Effective over-all length                      | 20'0"                   | 20'0"         | 20'0"         | —           | —         | —           | 20'0"                   | —           | 20'0"                   | 20'0"                   |
|                                                | —                       | —             | —             | 20'0"       | 30'0"     | 30'0"       | —                       | 30'0"       | 30'0"                   | 30'0"                   |
| Upper section                                  | 10'0"                   | 10'0"         | 10'0"         | —           | —         | —           | 10'0"                   | —           | 10'0"                   | 10'0"                   |
|                                                | —                       | —             | —             | 10'0"       | 15'0"     | 15'0"       | —                       | 15'0"       | 15'0"                   | 15'0"                   |
| Lower section                                  | 10'0"                   | 10'0"         | 10'0"         | —           | —         | —           | 10'0"                   | —           | 10'0"                   | 10'0"                   |
|                                                | —                       | —             | —             | 10'0"       | 15'0"     | 13'3"       | —                       | 15'0"       | 15'0"                   | 15'0"                   |
| Extensions available                           | 10'0"                   | 10'0"         | 10'0"         | —           | —         | —           | 10'-15'                 | —           | 10'-15'                 | 10'-15'                 |
|                                                | —                       | —             | —             | 10'0"       | 15'0"     | 15'0"       | —                       | 10'-15'     | 10'-15'                 | 10'-15'                 |
| Main chord dimensions (in.)                    | 1 1/2" x 1 1/2" x 3/16" | ①             | ②             | —           | —         | —           | 2 1/2" x 2 1/2" x 3/16" | —           | 2 1/2" x 2 1/2" x 3/16" | 2 1/2" x 2 1/2" x 3/16" |
|                                                | —                       | —             | —             | 1 1/2" O.D. | 2" O.D.   | 2 1/4" O.D. | —                       | 2 1/4" O.D. | 2 1/4" O.D.             | 2 1/4" O.D.             |
| Dimensions at connections                      | 16" x 16"               | 18" x 22 3/4" | 18" x 22 3/4" | —           | —         | —           | 20" x 24"               | —           | 20" x 24"               | 20" x 24"               |
|                                                | —                       | —             | —             | 24" x 30"   | 24" x 32" | 30" x 36"   | —                       | 30" x 36"   | 30" x 36"               | 30" x 36"               |
| Type connections                               | bolted                  | bolted        | bolted        | —           | —         | —           | bolted                  | —           | bolted                  | bolted                  |
|                                                | —                       | —             | —             | pinned      | pinned    | pinned      | —                       | pinned      | pinned                  | pinned                  |
| Jib mast height                                | 7'0"                    | 10'0"         | 10'0"         | —           | —         | —           | 10'0"                   | —           | 10'0"                   | 10'0"                   |
|                                                | —                       | —             | —             | 10'0"       | 12'1"     | 13'6"       | —                       | 13'6"       | 13'6"                   | 13'6"                   |
| Equalizer sheaves                              | Std.                    | Std.          | Std.          | —           | —         | —           | Std.                    | —           | Std.                    | Std.                    |
|                                                | —                       | —             | —             | Std.        | Std.      | Std.        | —                       | Std.        | Std.                    | Std.                    |
| Backstay line anchor —                         | —                       | —             | —             | —           | —         | —           | —                       | —           | —                       | —                       |
| Base of boom top section                       | Std.                    | Std.          | Std.          | —           | —         | —           | NA                      | —           | NA                      | NA                      |
|                                                | —                       | —             | —             | Std.        | Std.      | NA          | —                       | Std.        | Std.                    | Std.                    |
| Base of first boom extension below top section | NA                      | NA            | NA            | —           | —         | —           | NA                      | —           | NA                      | NA                      |
|                                                | —                       | —             | —             | NA          | NA        | Std.        | —                       | NA          | NA                      | NA                      |
| On base section of boom                        | NA                      | NA            | NA            | —           | —         | —           | Std.                    | —           | Std.                    | Std.                    |
|                                                | —                       | —             | —             | NA          | NA        | NA          | —                       | NA          | NA                      | NA                      |
| Max. jib length permitted                      | 30'0"                   | 40'0"         | 50'0"         | —           | —         | —           | 40'0"                   | —           | 40'0"                   | 40'0"                   |
|                                                | —                       | —             | —             | 50'0"       | 60'0"     | 60'0"       | —                       | 60'0"       | 60'0"                   | 70'0"                   |

① Lower section chord angles are 2" x 2" x 1/4".  
Upper section chord angles are 2" x 2" x 3/16".

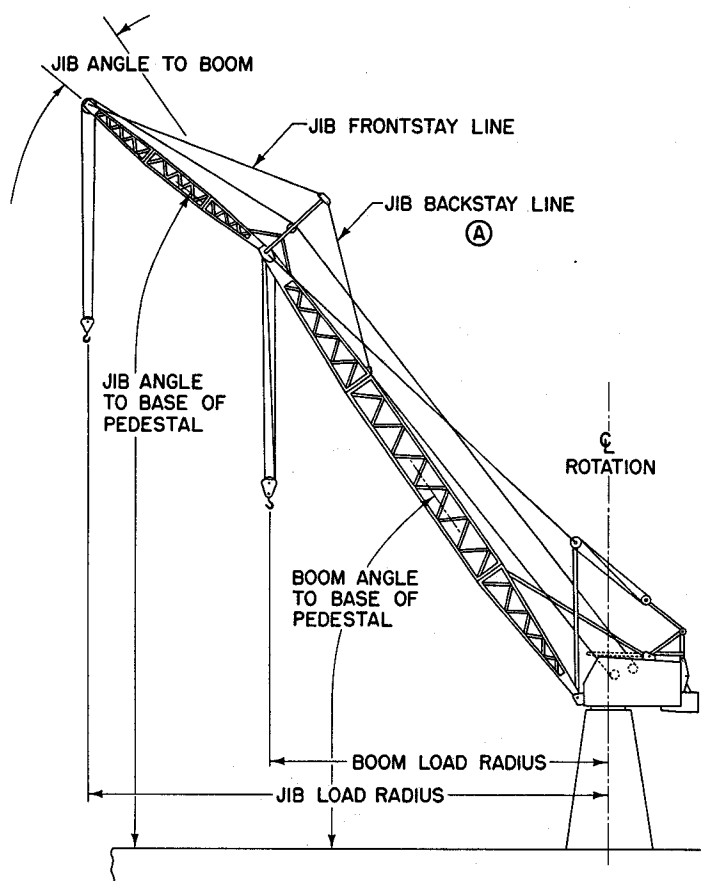
② Lower section chord angles are 3 1/2" x 3 1/2" x 3/16".  
Upper section chord angles are 3 1/2" x 3 1/2" x 3/16".

NOTE: Each category — shaded line is for Angle Boom; clear line is for Tubular Boom.

**GENERAL INFORMATION ONLY**

**"TC" PEDESTAL MOUNTED CRANE JIB CAPACITIES — Pounds**

Refer to all NOTES accompanying each jib capacity chart as well as GENERAL NOTES on page 15.

**GENERAL INFORMATION ONLY****TC-48A**

| Jib Angle To Ground | ANGLE JIB LENGTH |       |
|---------------------|------------------|-------|
|                     | 20'              | 30'   |
| 80°                 | 10,000           | 8,000 |
| 65°                 | 8,000            | 6,000 |
| 50°                 | 6,000            | 4,500 |
| 35°                 | 4,500            | 3,500 |
| 20°                 | 4,000            | 2,500 |

- Capacities shown are in pounds and are based on an FMC jib with a cross section 16" wide by 16" deep and used with a 7'0" high jib strut in the proper working position.
- The jib backstay line (A) is anchored to lower end of boom top section.
- If the total length of boom and jib exceeds the longest boom length listed in the lifting capacity chart deduct 350 lbs. from the capacity shown for the longest boom length for the radius required in note 3b. on page 15 under "GENERAL NOTES".
  - The jib capacity is the resulting figure unless restricted by the maximum jib capacities shown above.
- Determining lifting crane capacities with jib on boom:
  - When operating off the main boom peak sheaves with a jib on the boom, the following reductions in machine lifting capacities must be made:
    - 20' jib — 1,100 lbs.
    - 30' jib — 1,300 lbs.

**TC-78B & TC-108C**

| Jib Angle To Ground | ANGLE JIB LENGTH |        |       |
|---------------------|------------------|--------|-------|
|                     | 20'              | 30'    | 40'   |
| 80°                 | 12,000           | 10,000 | 8,000 |
| 65°                 | 10,000           | 8,000  | 6,000 |
| 50°                 | 8,000            | 6,000  | 4,000 |
| 35°                 | 7,500            | 5,500  | 3,500 |
| 20°                 | 7,500            | 5,500  | 3,500 |

- Capacities shown are in pounds and are based on an FMC jib with a cross section 22<sup>3</sup>/<sub>4</sub>" wide by 18" deep and used with a 10'0" high jib strut in the proper working position.
- The jib backstay line (A) is anchored to lower end of boom top section.
- If the total length of boom and jib exceeds the longest boom length listed in the lifting capacity chart deduct 300 lbs. from the capacity shown for the longest boom length for the radius required in note 3b. on page 15 under "GENERAL NOTES".
  - The jib capacity is the resulting figure unless restricted by the maximum jib capacities shown above.
- Determining lifting crane capacities with jib on boom:
  - When operating off the main boom peak sheaves with a jib on the boom, the following reductions in machine lifting capacities must be made:
 

|                          |                          |
|--------------------------|--------------------------|
| (1) 20' jib — 1,600 lbs. | (3) 40' jib — 2,200 lbs. |
| (2) 30' jib — 1,900 lbs. |                          |



## GENERAL INFORMATION ONLY

## TC-138

| Jib Angle<br>To Ground | TUBULAR JIB LENGTH |        |        |       |
|------------------------|--------------------|--------|--------|-------|
|                        | 20'                | 30'    | 40'    | 50'   |
| 80°                    | 20,000             | 16,000 | 12,000 | 8,000 |
| 65°                    | 16,000             | 13,000 | 10,000 | 6,000 |
| 50°                    | 13,000             | 10,000 | 8,000  | 5,000 |
| 35°                    | 10,500             | 8,000  | 6,000  | 4,000 |
| 20°                    | 9,500              | 7,000  | 5,000  | 3,000 |

- Capacities shown are in pounds and are based on an FMC jib with a cross section 30" wide by 24" deep and used with a 10' 0" high jib mast in the proper working position.
- The jib backstay line ④ is anchored to lower end of boom top section.
- If the total length of boom and jib exceeds the longest boom length listed in the lifting capacity chart deduct 600 lbs. from the capacity shown for the longest boom length for the radius required in note 3b. on page 15 under "GENERAL NOTES".
  - The jib capacity is the resulting figure unless restricted by the maximum jib capacities shown above.
- Determining lifting crane capacities with jib on boom:
  - When operating off the main boom peak sheaves with a jib on the boom, the following reductions in machine lifting capacities must be made:
 

|                          |                          |
|--------------------------|--------------------------|
| (1) 20' jib — 1,600 lbs. | (3) 40' jib — 2,200 lbs. |
| (2) 30' jib — 1,900 lbs. | (4) 50' jib — 2,500 lbs. |

## TC-238

| Jib Angle<br>To Ground | TUBULAR JIB LENGTH |        |        |
|------------------------|--------------------|--------|--------|
|                        | 30'                | 45'    | 60'    |
| 80°                    | 30,000             | 24,000 | 20,000 |
| 65°                    | 26,000             | 20,000 | 16,000 |
| 50°                    | 22,000             | 14,000 | 9,000  |
| 35°                    | 16,000             | 10,000 | 6,000  |
| 20°                    | 15,000             | 8,000  | 5,000  |

- Capacities shown are in pounds and are based on an FMC jib with a cross section 36" wide by 30" deep and used with a 13' 6" high jib mast in proper working position.
- The jib backstay line ④ is anchored to lower end of the first boom section below the top section.
- If the total length of boom and jib exceeds the longest boom length listed in the lifting capacity chart deduct 200 lbs. from the capacity shown for the longest boom length for the radius required in note 3b. on page 15 under "GENERAL NOTES".
  - The jib capacity is the resulting figure unless restricted by the maximum jib capacities shown above.
- Determining lifting crane capacities with jib on boom:
  - When handling loads off the main boom peak sheaves with a jib on the boom, the following reductions in machine lifting capacities must be made:
 

|                                 |
|---------------------------------|
| (1) 30' jib — deduct 2,200 lbs. |
| (2) 45' jib — deduct 2,700 lbs. |
| (3) 60' jib — deduct 3,200 lbs. |

## TC-218

| Jib Angle<br>To Ground | TUBULAR JIB LENGTH |        |        |
|------------------------|--------------------|--------|--------|
|                        | 30'                | 45'    | 60'    |
| 80°                    | 24,000             | 17,000 | 14,000 |
| 65°                    | 17,000             | 13,000 | 10,000 |
| 50°                    | 13,000             | 8,000  | 6,000  |
| 35°                    | 11,500             | 7,000  | 5,000  |
| 20°                    | 10,000             | 5,000  | 3,000  |

- Capacities shown are in pounds and are based on an FMC jib with a cross section 32" wide by 24" deep and used with a 12' 1" high jib mast in proper working position.
- The jib backstay line ④ is anchored to lower end of boom top section.
- If the total length of boom and jib exceeds the longest boom length listed in the lifting capacity chart deduct 100 lbs. from the capacity shown for the longest boom length for the radius required in note 3b. on page 15 under "GENERAL NOTES".
  - The jib capacity is the resulting figure unless restricted by the maximum jib capacities shown above.
- Determining lifting crane capacities with jib on boom:
  - When handling loads off the main boom peak sheaves with a jib on the boom, the following reductions in machine lifting capacities must be made:
 

|                                 |
|---------------------------------|
| (1) 30' jib — deduct 2,000 lbs. |
| (2) 45' jib — deduct 2,400 lbs. |
| (3) 60' jib — deduct 3,200 lbs. |

## TC-318

| Jib Angle<br>To Ground | ANGLE JIB LENGTH |        |        |
|------------------------|------------------|--------|--------|
|                        | 20'              | 30'    | 40'    |
| 80°                    | 20,000           | 17,000 | 14,000 |
| 65°                    | 17,500           | 14,500 | 11,500 |
| 50°                    | 15,000           | 12,000 | 9,000  |
| 35°                    | 12,500           | 9,500  | 6,500  |
| 20°                    | 10,000           | 7,000  | 5,000  |

- Capacities shown are in pounds and are based on an FMC jib with a cross section 24" wide by 20" deep and used with a 10' 0" high jib strut in the proper working position.
- The jib backstay line ④ is anchored to lower end of boom base section.
- If the total length of boom and jib exceeds the longest boom length listed in the lifting capacity chart deduct 500 lbs. from the capacity shown for the longest boom length for the radius required in note 3b. on page 15 under "GENERAL NOTES".
  - The jib capacity is the resulting figure unless restricted by the maximum jib capacities shown above.
- Determining lifting crane capacities with jib on boom:
  - When operating off the main boom peak sheaves with a jib on the boom, the following reductions in machine lifting capacities must be made:
 

|                          |                          |
|--------------------------|--------------------------|
| (1) 20' jib — 2,000 lbs. | (3) 40' jib — 2,800 lbs. |
| (2) 30' jib — 2,400 lbs. |                          |

**TC-338**

| Jib Angle<br>To Ground | TUBULAR JIB LENGTH |        |        |
|------------------------|--------------------|--------|--------|
|                        | 30'                | 45'    | 60'    |
| 80°                    | 30,000             | 26,000 | 22,000 |
| 65°                    | 26,000             | 22,000 | 18,000 |
| 50°                    | 22,000             | 14,000 | 9,000  |
| 35°                    | 16,000             | 10,000 | 6,000  |
| 20°                    | 15,000             | 8,000  | 5,000  |

- Capacities shown are in pounds and are based on an FMC jib with a cross section 36" wide by 30" deep and used with a 13' 6" high jib mast in the proper working position.
- The jib backstay line ④ is anchored to lower end of boom top section.
- If the total length of boom and jib exceeds the longest boom length listed in the lifting capacity chart deduct 600 lbs. from the capacity shown for the longest boom length for the radius required in note 3b. on page 15 under "GENERAL NOTES".
  - The jib capacity is the resulting figure unless restricted by the maximum jib capacities shown above.
- Determining lifting crane capacities with jib on boom:
  - When operating off the main boom peak sheaves with a jib on the boom, the following reductions in machine lifting capacities must be made:
    - 30' jib — deduct 2,200 lbs.
    - 45' jib — deduct 2,700 lbs.
    - 60' jib — deduct 3,200 lbs.

**TC-518**

| Jib Angle<br>To Ground | ANGLE JIB LENGTH |        |        | TUBULAR JIB LENGTH |        |        |        |
|------------------------|------------------|--------|--------|--------------------|--------|--------|--------|
|                        | 20'              | 30'    | 40'    | 30'                | 45'    | 60'    | 70'    |
| 80°                    | 20,000           | 17,000 | 14,000 | 30,000             | 26,000 | 22,000 | 19,000 |
| 65°                    | 17,500           | 14,500 | 11,500 | 26,000             | 22,000 | 18,000 | 15,000 |
| 50°                    | 15,000           | 12,000 | 9,000  | 22,000             | 14,000 | 9,000  | 8,000  |
| 35°                    | 12,500           | 9,500  | 6,500  | 16,000             | 10,000 | 6,000  | 5,000  |
| 20°                    | 10,000           | 7,000  | 5,000  | 15,000             | 8,000  | 5,000  | 4,000  |

- Capacities shown are in pounds and are based on FMC jibs. Jib cross-section; Angle, 24" wide by 20" deep. Tubular, 36" wide by 30" deep. Use jibs with a 10' 0" high (Angle), or 13' 6" high (Tubular) jib mast in the proper working position.
- The jib backstay line ④ is anchored to lower end of boom top section (tubular), or to lower end of boom base section (angle).
- If the total length of boom and jib exceeds the longest boom length listed in the lifting capacity chart deduct 500 lbs. from the angle boom and 600 lbs. from the tubular boom capacities shown on the respective lifting crane capacity charts for the longest boom length for the radius required in note 3b. on page 15 under "GENERAL NOTES".
  - The jib capacity is the resulting figure unless restricted by the maximum jib capacities shown above.
- Determining lifting crane capacities with jib on boom:
  - When operating off the main boom peak sheaves with a jib on the boom, the following reductions in machine lifting capacities must be made:

**ANGLE JIB**

- 20' jib — 2,000 lbs.
- 30' jib — 2,400 lbs.
- 40' jib — 2,800 lbs.

**TUBULAR JIB**

- 30' jib — 2,200 lbs.
- 45' jib — 2,700 lbs.
- 60' jib — 3,200 lbs.
- 70' jib — 3,540 lbs.

**TC-418A**

| Jib Angle<br>To Ground | ANGLE JIB LENGTH |        |        | TUBULAR JIB LENGTH |        |        |
|------------------------|------------------|--------|--------|--------------------|--------|--------|
|                        | 20'              | 30'    | 40'    | 30'                | 45'    | 60'    |
| 80°                    | 20,000           | 17,000 | 14,000 | 30,000             | 26,000 | 22,000 |
| 65°                    | 17,500           | 14,500 | 11,500 | 26,000             | 22,000 | 18,000 |
| 50°                    | 15,000           | 12,000 | 9,000  | 22,000             | 14,000 | 9,000  |
| 35°                    | 12,500           | 9,500  | 6,500  | 16,000             | 10,000 | 6,000  |
| 20°                    | 10,000           | 7,000  | 5,000  | 15,000             | 8,000  | 5,000  |

- Capacities shown are in pounds and are based on FMC jibs. Jib cross-section; Angle, 24" wide by 20" deep. Tubular, 36" wide by 30" deep. Use jibs with a 10' 0" high (Angle), or 13' 6" high (Tubular) jib mast in the proper working position.
- The jib backstay line ④ is anchored to lower end of boom top section (tubular), or to lower end of boom base section (angle).
- If the total length of boom and jib exceeds the longest boom length listed in the lifting capacity chart deduct 500 lbs. from the angle boom and 600 lbs. from the tubular boom capacities shown on the respective lifting crane capacity charts for the longest boom length for the radius required in note 3b. on page 15 under "GENERAL NOTES".
  - The jib capacity is the resulting figure unless restricted by the maximum jib capacities shown above.
- Determining lifting crane capacities with jib on boom:
  - When operating off the main boom peak sheaves with a jib on the boom, the following reductions in machine lifting capacities must be made:

**ANGLE JIB**

- 20' jib — 2,000 lbs.
- 30' jib — 2,400 lbs.
- 40' jib — 2,800 lbs.

**TUBULAR JIB**

- 30' jib — 2,200 lbs.
- 45' jib — 2,700 lbs.
- 60' jib — 3,200 lbs.

**GENERAL NOTES**

- For jib angle to ground, deduct jib angle to boom from the boom angle to ground.
- The jib angle to boom must not exceed 30°.
- Determining machine jib capacities
  - Add the length of boom plus length of jib used.
  - Determine the jib load radius.
  - Refer to lifting crane capacity chart and select the boom length that corresponds to the total length of boom and jib in (a) and the radius in (b).
    - The jib capacity is equal to the lifting crane capacity unless restricted by the maximum jib capacities shown above.

**GENERAL INFORMATION ONLY**