



## GENERAL INFORMATION ONLY



# FLYSHEET

# YC-48

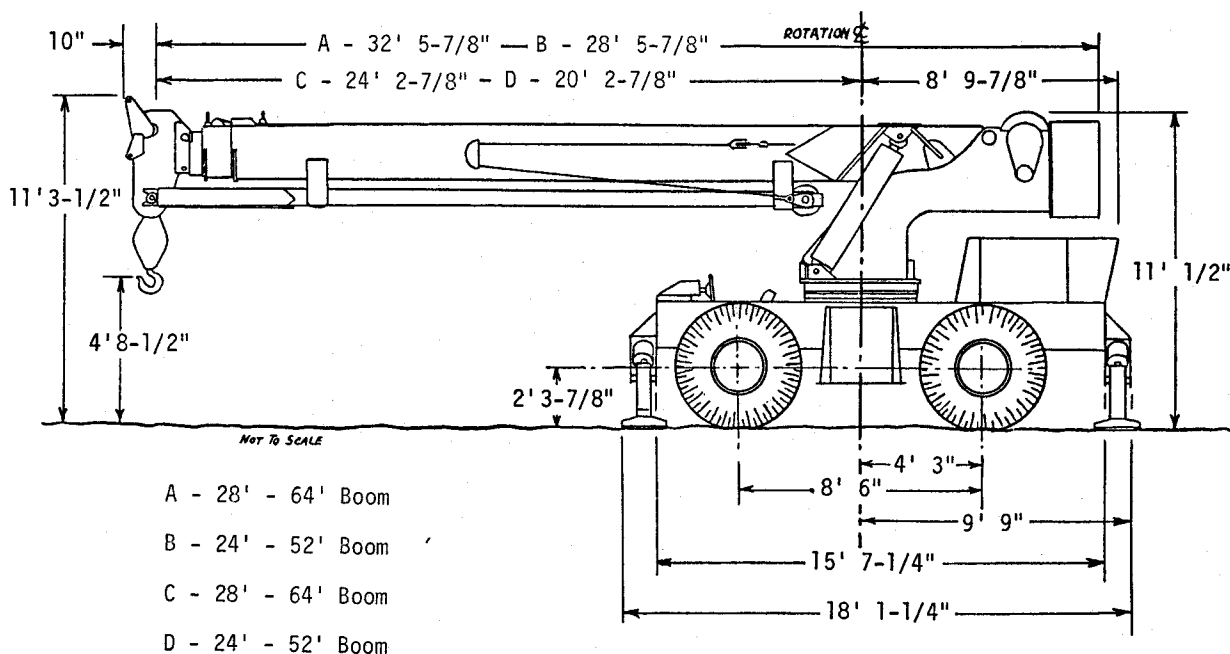
# 18½ TON

## HYDRAULIC

## SELF-PROPELLED

## CRANE

28'-64' THREE SECTION POWER BOOM  
24'-52' THREE SECTION POWER BOOM — OPTIONAL



### DIMENSIONS AND WORKING RANGES

CARRIER — 4 x 4, 8' 0" WIDE

#### BOOM HORIZONTAL OVER FRONT

|                                                   |            |
|---------------------------------------------------|------------|
| Overall length — std. boom retracted              | 34' 10"    |
| Overall length — std. boom extended               | 70' 10"    |
| Overall length — opt. boom retracted              | 30' 10"    |
| Overall length — opt. boom extended               | 58' 10"    |
| Overall width — outriggers retracted (over tires) | 8' 0"      |
| Overall width — outriggers extended               | 14' 7"     |
| Wheelbase (97½")                                  | 8' 6"      |
| Tailswing of counterweight                        | 8' 3"      |
| Minimum ground clearance — rear axle (std. tires) | 1' 4½"     |
| Track — center to center front tires              | 6' 8½"     |
| Travel speed                                      | 18 m.p.h.  |
| Swing speed                                       | 2.9 r.p.m. |
| Approx. working weight — with std. boom           | 47,518#    |
| Approx. working weight — with opt. boom           | 46,607#    |



**AXLE LOADINGS** — Machine equipped with 14:00 x 24, 20-ply rating tires and Cat. D-3145 diesel engine.

| BOOM                                  | Gross Vehicle Weight | Boom Over Front |         | Boom Over Rear* |         |
|---------------------------------------|----------------------|-----------------|---------|-----------------|---------|
|                                       |                      | Front           | Rear    | Front           | Rear    |
| 28' - 64' Power Boom                  | 47,518#              | 22,488#         | 25,030# | 20,587#         | 26,931# |
| 28' - 64' P. B. plus Opt. 18' Section | 48,987#              | 25,319#         | 23,668# | 19,226#         | 29,761# |
| 24' - 52' Power Boom                  | 46,607#              | 19,270#         | 27,337# | 22,895#         | 23,712# |
| 24' - 52' P. B. plus Opt. 14' Section | 47,843#              | 21,406#         | 26,437# | 21,995#         | 25,848# |
| 24' - 52' P. B. plus Opt. 27' Section | 48,600#              | 25,060#         | 23,540# | 19,098#         | 29,502# |

\*Travel with 28' - 64' boom plus 18' manual section and 24' - 52' boom plus 27' section restricted to "over front". Does not apply to 16:00 x 25, 20-ply road lug tires.

## YC-48 CAPACITIES

**PCSA Class 10-56 Std. Boom/10-59 Opt. Boom**  
Refer to ALL notes at bottom of page.

Capacities are based on machine equipped with the 28' - 64' 3-section power boom and 16:00 x 25, 20-ply rating tires, or machine equipped with 24' - 52' 3-section power boom and 14:00 x 24, 20-ply rating tires.

| 28' - 64' POWER BOOM — STANDARD              |               |         |            |         |
|----------------------------------------------|---------------|---------|------------|---------|
| RADIUS                                       | ON OUTRIGGERS |         | ON TIRES   |         |
|                                              | Over Front    | 360°    | Over Front | 360°    |
| 10'                                          | 37,000*       | 37,000* | 26,500*    | 17,820* |
| 12'                                          | 31,800*       | 31,800* | 22,600*    | 14,800* |
| 15'                                          | 25,000*       | 25,000* | 18,400*    | 11,500* |
| 20'                                          | 19,200*       | 19,200* | 11,900     | 7,800   |
| 25'                                          | 15,300*       | 13,100  | 8,200      | 5,000   |
| 30'                                          | 12,500*       | 9,600   | 6,000      | 3,400   |
| 35'                                          | 9,500         | 7,300   | 4,400      | 2,100   |
| 40'                                          | 7,400         | 5,600   | 3,200      | 1,200   |
| 45'                                          | 5,900         | 4,400   | 2,300      | 500     |
| 50'                                          | 4,800         | 3,400   | 1,700      | —       |
| 55'                                          | 3,900         | 2,700   | 1,100      | —       |
| 60'                                          | 3,100         | 2,000   | 700        | —       |
| 28' - 64' POWER BOOM PLUS 18' MANUAL SECTION |               |         |            |         |
| 10'                                          | 32,000*       | 32,000* | 25,700*    | 17,100* |
| 12'                                          | 26,000*       | 26,000* | 21,900*    | 14,100* |
| 15'                                          | 19,600*       | 19,600* | 17,500*    | 10,600* |
| 20'                                          | 15,200*       | 15,200* | 11,400     | 7,000*  |
| 25'                                          | 12,300*       | 12,300* | 7,500      | 4,300   |
| 30'                                          | 9,900*        | 8,800   | 5,000      | 2,500   |
| 35'                                          | 8,100*        | 6,400   | 3,500      | 1,200   |
| 40'                                          | 6,600         | 4,700   | 2,300      | —       |
| 45'                                          | 5,000         | 3,500   | 1,400      | —       |
| 50'                                          | 3,900         | 2,500   | 700        | —       |
| 55'                                          | 2,900         | 1,700   | —          | —       |
| 60'                                          | 2,200         | 1,100   | —          | —       |
| 65'                                          | 2,200         | 1,100   | —          | —       |
| 70'                                          | 1,900         | 1,000   | —          | —       |
| 75'                                          | 1,500         | 600     | —          | —       |
| 78'                                          | 1,200         | —       | —          | —       |
| 24' - 52' POWER BOOM — OPTIONAL              |               |         |            |         |
| 10'                                          | 37,000*       | 37,000* | 26,900*    | 18,200* |
| 12'                                          | 31,100*       | 31,100* | 23,100*    | 15,200* |
| 15'                                          | 26,100*       | 26,100* | 18,800*    | 11,900* |
| 20'                                          | 20,000*       | 19,200  | 12,000     | 7,500*  |
| 25'                                          | 16,000*       | 13,400  | 8,500      | 5,300*  |
| 30'                                          | 12,600        | 9,800   | 6,200      | 3,600   |
| 35'                                          | 9,700         | 7,500   | 4,700      | 2,200   |
| 40'                                          | 7,700         | 5,900   | 3,500      | 1,600   |
| 45'                                          | 6,200         | 4,700   | 2,700      | 900     |
| 48'                                          | 5,500         | 4,100   | 2,200      | 500     |

| HORIZONTAL BOOM RANGE*<br>Three Section Power Boom | STANDARD BOOM                           |                                         | OPTIONAL BOOM                           |                                         |                                         |
|----------------------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|-----------------------------------------|
|                                                    | 28' - 64' Power Boom                    | 28' - 64' P. B. plus 18' Section        | 24' - 52' Power Boom                    | 24' - 52' P. B. plus 14' Section        | 24' - 52' P. B. plus 27' Section        |
| Minimum                                            | 24' - 2 <sup>13</sup> / <sub>16</sub> " | 24' - 7 <sup>13</sup> / <sub>16</sub> " | 20' - 2 <sup>13</sup> / <sub>16</sub> " | 20' - 7 <sup>13</sup> / <sub>16</sub> " | 34' - 7 <sup>13</sup> / <sub>16</sub> " |
| Maximum                                            | 60' - 2 <sup>13</sup> / <sub>16</sub> " | 78' - 7 <sup>13</sup> / <sub>16</sub> " | 48' - 2 <sup>13</sup> / <sub>16</sub> " | 62' - 7 <sup>13</sup> / <sub>16</sub> " | 75' - 7 <sup>13</sup> / <sub>16</sub> " |

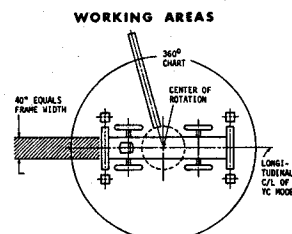
\*Measurement from centerline rotation to center boompont sheaves.

| 24' - 52' POWER BOOM PLUS 14' MANUAL SECTION |               |         |            |         |
|----------------------------------------------|---------------|---------|------------|---------|
| RADIUS                                       | ON OUTRIGGERS |         | ON TIRES   |         |
|                                              | Over Front    | 360°    | Over Front | 360°    |
| 10'                                          | 29,300*       | 29,300* | 26,400*    | 17,700* |
| 12'                                          | 24,400*       | 24,400* | 22,400*    | 14,500* |
| 15'                                          | 20,600*       | 20,600* | 18,200*    | 11,300* |
| 20'                                          | 16,100*       | 16,100* | 11,700     | 7,600*  |
| 25'                                          | 13,000*       | 12,700  | 7,900      | 4,500*  |
| 30'                                          | 10,500*       | 9,100   | 5,500      | 2,800*  |
| 35'                                          | 8,700*        | 6,800   | 3,900      | 1,600*  |
| 40'                                          | 7,000         | 5,200   | 2,800      | 700*    |
| 45'                                          | 5,500         | 3,900   | 1,900      | —       |
| 50'                                          | 5,100         | 3,700   | 2,000      | —       |
| 55'                                          | 4,200         | 3,000   | 1,400      | —       |
| 60'                                          | 3,400         | 2,400   | 1,000      | —       |
| 62'                                          | 3,200         | 2,100   | 800        | —       |
| 24' - 52' POWER BOOM PLUS 27' MANUAL SECTION |               |         |            |         |
| 10'                                          | 26,500*       | 26,500* | 26,500*    | 18,600* |
| 12'                                          | 22,300*       | 22,300* | 22,300*    | 15,300* |
| 15'                                          | 17,500*       | 17,500* | 17,500*    | 11,600* |
| 20'                                          | 13,400*       | 13,400* | 12,300     | 8,000*  |
| 25'                                          | 10,700*       | 10,700* | 8,400      | 4,900*  |
| 30'                                          | 8,800*        | 8,800*  | 6,000      | 3,200*  |
| 35'                                          | 7,300*        | 7,300   | 4,400      | 2,000*  |
| 40'                                          | 6,200*        | 5,600   | 3,200      | 1,100*  |
| 45'                                          | 5,200*        | 4,400   | 2,300      | 400*    |
| 50'                                          | 4,400*        | 3,400   | 1,600      | —       |
| 55'                                          | 3,800*        | 2,700   | 1,100      | —       |
| 60'                                          | 3,100*        | 2,000   | 600        | —       |
| 65'                                          | 2,800*        | 1,900   | 600        | —       |
| 70'                                          | 2,400         | 1,500   | 300        | —       |
| 75'                                          | 1,700         | 1,000   | —          | —       |

## NOTES

- For lifting 37,000 pounds with 1/2" rope, six parts of 1/2" type "N" hoist rope required.
- Capacities shown are in pounds, and unless indicated by an asterisk (\*), are based on 85% of minimum tipping loads, with machine standing level on firm ground. The user is expected to make allowances for job conditions such as soft or uneven ground, sudden stopping of loads, or other unfavorable job conditions. The operator should be fully acquainted with the "Operator's Manual" furnished by the manufacturer before operating this machine. Deduction must be made for weight of hook block, hook, sling, grapple, etc.
- "Over Front" lifting capacities for rated loads are limited to 20" each side from centerline of machine. (See Working Area Chart).
- When extending boom with load do not exceed the lifting capacity and radius indicated in above chart.
- The maximum load that can be telescoped in or out is not definable. It is permissible to try and telescope a load as long as it is not telescoped out past the radius for that load stated on the capacity chart for the machine operating condition.
- "On Tires" Capacities — require hydraulic axle lock-outs in "lock" position.

**JIB CAPACITIES** — Refer to factory.





# YC-48 GENERAL SPECIFICATIONS

## CARRIER

**FRAME** — Box section, reinforced, with integral outrigger boxes.

**FRONT AXLE** — Clark Model FDS-21000, full floating axle with planetary wheel hubs. 80 $\frac{13}{16}$ " track. Frame mounted. No-spin differential optional.

**REAR AXLE** — Clark Model RDS-21000, full floating axle with planetary wheel hubs. 80 $\frac{13}{16}$ " track. Oscillating mount. No-spin differential optional.

**AXLE DRIVE DISCONNECT** — For over-the-road operation — an operator controlled, pull-type T-handle disconnects rear drive axle.

**AXLE OSCILLATION LOCKOUTS** — Two double-acting cylinders, set by a cam activated valve, locks out rear axle when boom and upper are 15° either side from centerline of machine. Oscillation without lockouts is 10°.

**WHEELS AND RIMS** — Integral. 10" rims with std. tires, and 11 $\frac{1}{4}$ " rims with optional 16:00 x 25, 20-ply rating, tube type, Goodyear Road Lug tires.

**TIRES** — Single, front and rear.

**Standard** — 14:00 x 24, 20-ply rating, tube type, Goodyear Super Road Lug.

**Optional** — 16:00 x 25, 20-ply rating, tube type, Goodyear Road Lug.

**OUTRIGGERS** — Boxes integrally welded to main frame; floats swivel mounted to arms; hydraulically power operated double acting cylinders with check valve maintains outrigger set. Control levers and valves conveniently located to right and left of operator.

## BRAKES

**Service** — Four-wheel power hydraulic, internal expanding, foot pedal operated. Hydrovac booster.

### Size and Area

**Front and Rear Wheels** — 17" x 4", 582.8 sq. in. lining area.

**Parking** — Rockwell Standard, 10" x 1 $\frac{1}{2}$ ", internal expanding on front axle drive tube, mechanically applied from operator's cab, locks transmission drive shaft and the front axle for holding the machine.

**Emergency** — Four-wheel service brakes are foot pedal set and held with a Mico brake lock button mounted on dash.

**STEERING** — Power hydraulic. Front wheel steering controlled by steering wheel, rear wheels controlled by lever mounted on dash in front of operator. Front and rear power steering cylinders are interchangeable.

**Turning Radius** — 18' over corner of retracted outriggers.

**CAB** — Optional. One-man cab with tinted overhead glass. Cab doors also optional.

**ELECTRICAL SYSTEM** — 12-volt system.

**FUEL TANK** — Capacity 35 gals. Tank is a combination fuel tank and tool box with filler pipe inside the tool box. Tank cannot be tampered with when tool box lid is closed and locked.

**STANDARD EQUIPMENT** — Front and rear pintle hooks, rear steer lever, horn, and 5 lb. dry chemical fire extinguisher. Instrument panel and dash includes speedometer, ammeter, ignition switch, engine choke, diesel shut-down and gauges for fuel, engine temperature, oil pressure, and torque converter temperature.

**OPTIONAL EQUIPMENT** — Heater and fan-type defroster,

headlights, tail lights, turn signals, electric windshield wiper, no-spin differential.

## ENGINES — POWER TRAIN

**ENGINES** — Diesel, 12-volt alternator, starter, pressure lubrication, radiator, air cleaner. Engine hood doors standard. Heat exchanger for power shift and torque converter oil.

|                                   | Cat. D-3145 Diesel          | GM4-53N (5043) Diesel                 |
|-----------------------------------|-----------------------------|---------------------------------------|
| Cylinder — Cycle                  | 8 - 4                       | 4 - 2                                 |
| Bore — Stroke                     | 4.5" - 4.1"                 | 4 $\frac{1}{2}$ " - 3 $\frac{7}{8}$ " |
| Displacement                      | 522 cu. in.                 | 212 cu. in.                           |
| Max. brake h.p. @ full load speed | 95 @ 2,200 r.p.m.           | 95 @ 2,200 r.p.m.                     |
| Peak torque                       | 217 ft. lbs. @ 2,200 r.p.m. | 222 ft. lbs. @ 2,200 r.p.m.           |

**TORQUE CONVERTER** — Assures smooth transfer of engine power to the transmission and drive tubes in all shift ranges, forward and reverse. Converter cushions engine torque in drive components, virtually eliminates engine stall. Heat exchanger for torque converter and power shift oil is provided in radiator lower tank.

**TRANSMISSION** — Power Shift. Hi-Low and Forward/Reverse. One operating lever power shifts transmission into high or low speed range while traveling — no need to stop machine.\* A separate lever shifts transmission into forward or reverse. Levers conveniently located at the side of the operator.

\*Down shifting (hi to lo) when engine is at, or near, governed engine speed is not recommended.

**TRANSMISSION** — Manual. One mechanically controlled lever easily pre-selects the high-low range. Then, with the foot pedal and shift lever, the operator smoothly shifts the synchro-mesh transmission gears into 1st or 2nd speed. The combination of high-low range and synchro-mesh 2-speed offers three speeds. These three speeds, combined with the power shift transmission high-low range, provide a total of six speeds forward and reverse. Shift levers conveniently located at operator's side.

**UNIVERSALS** — Mechanics needle bearing.

## HYDRAULIC SYSTEM

**SUMP TANK** — All-welded unit, sand blasted and sealed; baffled for strength, maximum deaeration and heat rejection; mounted to left side of machine; pressurized up to 10 p.s.i.; capacity 75 gallons. Total system capacity 145 gallons.

**FILTERS** — 2 replaceable 10 micron filters; a 100-mesh suction line strainer, and 6 strategically located magnetic wands to assist in maintaining a clean hydraulic system.

**PUMP** — Tandem gear-type, driven by universal shaft from front of engine providing 81.6 g.p.m. total capacity at 2,200 r.p.m. full load speed. 58 g.p.m. section powers boomhoist, hoist, extend and retract of boom; 23.6 g.p.m. section powers hydraulic swing motor, outriggers and front and rear steering.

## CONTROL VALVES

**Single Spool** — Actuated by hand control through mechanical linkage; directs oil flow to swing motor.

**Double Spool** — Hand lever control through mechanical linkage; directs oil flow to outrigger cylinders.

**Three Spool** — Hand lever control through mechanical linkage; directs oil flow to hoist, boom hoist, and boom extend-retract circuits.

## RELIEF VALVES

**Main Hydraulic System** — Provided to maintain maximum system operating pressures. Boomhoist, wire rope hoist, extend-retract circuits set for 2,200 p.s.i.; swing, outrigger and power steering circuits set for 2,000 p.s.i.

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#### HOLDING VALVES —

**Wire Rope Hoist Mechanism** — Located between main control valve and motor. Provides control of high line pull loads.

**Boom Hoist** — Located between main control valve and boomhoist cylinders. Provides controlled lowering of boom.

**Boom Telescope/Retract** — "Holds" load and boom.

### UPPER REVOLVING FRAME

**BOOM SUPPORT** — All-welded, stress relieved and jig line bored.

**TURNABLE BEARING WITH INTEGRAL SWING GEAR** — Ball bearing type; outer race is bolted to boom support. Inner race with integral internal swing gear is bolted to carrier.

**SWING SYSTEM** — 360° continuous rotation. Consists of a control valve, a cross-over relief valve, hydraulic motor, spring applied and hydraulically released brake, speed reducer, and swing pinion.

**Swing Pinion** — Heat treated, machine-cut teeth.

**Swing Motor** — Gear type, flange-mounted to speed reducer.

**Speed Reducer** — Link-Belt Speeder; three shaft, spur gear; anti-friction bearings throughout. Interchangeable with wire rope hoist system speed reducer.

**Swing Brake** — 2 shoe external contracting. Spring-applied, hydraulically released.

**Swing Speed** — 2.9 r.p.m.

**COUNTERWEIGHT** — 9,185 lbs., bolted to rear of boom support.

### BOOM ATTACHMENT

**BOOMHOIST** — Two double acting hydraulic cylinders with integral check valves. Self-aligning steel bushings in each cylinder end. Cylinder bore — 10" dia.; rod diameter 4 1/2", stroke 45 1/4". Boomhoist speed to 75° — 31.8 seconds.

**WIRE ROPE HOIST SYSTEM** — Consists of a control valve, manually operated through mechanical linkage; a hydraulic gear motor, spur gear reducer, spring applied and hydraulically released brake, wire rope drum with rope, and a holding valve for power controlled load lowering.

**Hoist Motor** — Gear type, flange mounted to speed reducer.

**Speed Reducer** — Link-Belt Speeder; three shaft, spur gear; anti-friction bearings throughout. Interchangeable with swing system speed reducer.

**Brake** — Two shoe external contracting, spring applied and hydraulically released.

**Brake Drum** — Mounted on speed reducer input shaft.

**Wire Rope Drum** — 11 1/2" root dia. by 18" long; mounted on shaft which is mounted on anti-friction bearings. Capacity — 360' 1/2" diameter wire rope.

**Wire Rope** — Standard 6 part, 1/2" dia., Type "N".

**Single Line Pull and Speed** —

**1st layer rope** — 7,180 lbs. pull maximum.

**1st layer rope** — 212 f.p.m. line speed.

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

**BOOM TELESCOPE SYSTEM** — Link-Belt Speeder exclusive design. Three section power hydraulic boom telescopes via twin double-acting cylinders — mounted one above the other within the boom. The power boom sections are identified as follows — base section; #2, the lower power boom section, and #1, the tip power boom section. The lower cylinder rod end is pinned to the boom base section, and its cylinder is pinned to the top end of the #2 section. The upper cylinder rod end is pinned to the lower end of the #2 section, and its cylinder is pinned to the lower end of the #1 section. The rods remain stationary, the cylinders extend and retract the power boom sections. Eliminates need for complicated hoses and hose reels. The system allows the #1 section to completely extend before the #2 section starts to extend. This is accomplished by means of a locking system which unlatches at the end of the tip boom section stroke. When unlatched, the #2 section can then be extended completely. When retracting the boom, mechanically actuated safety check/sequencing valves hold each power boom section in such a manner that sections retract in reverse order. Design maintains the boom center of gravity close to the centerline of rotation for optimum stability.

**Interlock** — To extend boom, operator must simultaneously actuate the crane hoist mechanism thus releasing the hoist rope drum brake and paying out the hoist rope to avoid "two-blocking" while extending boom. Boom retract is independent of the interlock.

#### BOOM TELESCOPE SPEEDS —

**Retract** — 44 f.p.m.

**Extend** — 59 f.p.m.

**3 SECTION POWER BOOM** — 28'-64' long. Sections, standard and optional, are box type construction, high strength, low alloy steel. Power sections are supported by, and slide on, Teflon impregnated shoes. Base section attached to boom support with 4 1/2" dia. heat treated steel pin. Boom consists of 5 basic parts — base section, #2 power boom section, #1 (tip) power boom section, and 2 double-acting (extend-retract) telescoping cylinders.

**Optional Boom Sections** — 18' long. The manually inserted optional sections pin to, and are powered by, the #1 (tip) power boom section.

**3 SECTION POWER BOOM** — 24'-52' long. Optional. Construction of boom and optional sections same as standard boom. Boom consists of 5 basic parts — base section, #2 power boom section, #1 (tip) power boom section and 2 double-acting (extend-retract) telescoping cylinders.

**Option Boom Sections** — 14' long and 27' long are available. The manually inserted optional sections pin to, and are powered by, the #1 (tip) power boom section. Only one manual section can be used at any one time.

**Boompoint Machinery** — Standard, 2 top idler and 3 lower hoist sheaves. Optional boom, 1 top idler and 2 lower hoist sheaves. Machinery is self-contained, and can be pinned to either the power boom tip section or a manually inserted boom tip section.

**Rope Guide Rollers** — 2 furnished, one at top end of boom base section, and one at top end of #2 power boom section.

**Hook Block** — Optional, 18-ton capacity, 3 sheave.\*

**Weighted Ball with Swivel Hook** — Optional, 8 1/2-ton capacity.\*

\*Must not be loaded beyond machine's rated capacity.

We are constantly improving our products and therefore reserve the right to change designs and specifications. For certified dimensions, consult factory.

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## Link-Belt Speeder

DIVISION OF FMC CORPORATION

Cedar Rapids, Iowa • Woodstock, Ontario, Canada • Queretaro, Mexico • Milan, Italy

