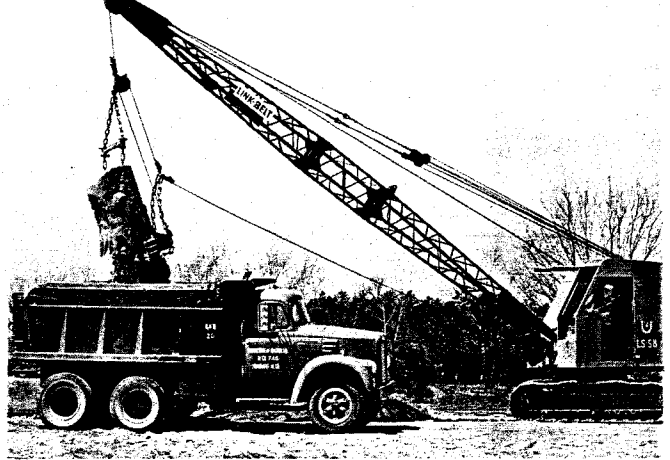




# FLYSHEET LS-58

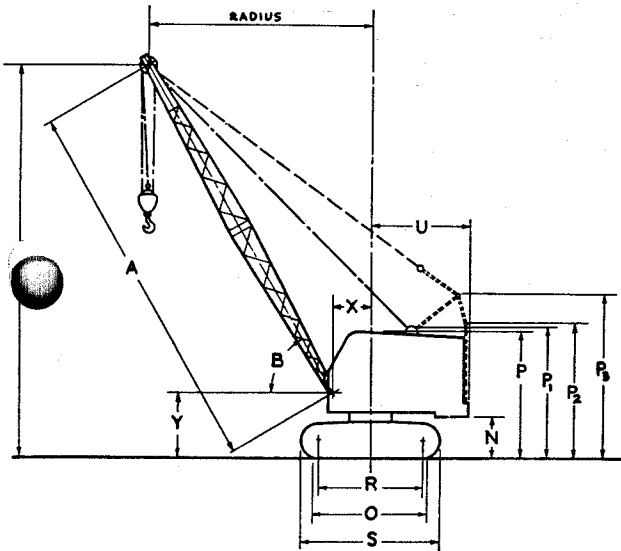
## CRAWLER MOUNTED CRANE

*Dimensions  
Working Ranges  
Lifting Capacities  
Specifications*



**GENERAL INFORMATION ONLY**

**DIMENSIONS AND WORKING RANGES**  
 Standard — 6' 8" Gauge, 10' 3" Long Overall  
 CRAWLERS Intermediate — 7' 2" Gauge, 11' 0" Long Overall  
 Long-Wide — 7' 7" Gauge, 12' 1" Long Overall



		Standard Lower	Intermediate Lower	Long-Wide Lower
Basic boom length	A	30' 0"	30' 0"	30' 0"
Boom angle	B			
Height of boom hinge pin	Y	5' 0"	5' 1"	5' 2"
Radius of boom hinge pin	X	3' 1"	3' 1"	3' 1"
Overall cab height	P	10' 2"	10' 3"	10' 4"
Overall height, low gantry	P <sub>1</sub>	10' 2"	10' 3"	10' 4"
Overall height, retractable gantry lowered	P <sub>2</sub>	10' 11"	10' 11"	11' 0"
Overall height, retractable gantry raised	P <sub>3</sub>	13' 1"	13' 2"	13' 3"
Tailswing of counterweight "AB"	U	8' 3"	8' 3"	8' 3"
Tailswing of counterweight "ABC"	U	8' 9"	8' 9"	8' 9"
Ground clearance under counterweight "AB"	N	3' 4"	3' 5"	3' 6"
Ground clearance under counterweight "ABC"	N	3' 1"	3' 2"	3' 3"
Crawler ground bearing length	O	8' 8"	9' 5"	10' 6"
Center to center of track drive sprocket and idler roller	R	7' 9"	8' 6"	9' 7"
Overall crawler length	S	10' 3"	11' 0"	12' 1"
Overall width				
with 16" wide track shoes		8' 0"	—	—
with 24" wide track shoes		8' 8"	9' 2"	9' 7"
with 30" wide track shoes		—	9' 8"	10' 1"
with 36" wide track shoes		—	—	10' 7"
Overall cab width		7' 10"	7' 10"	7' 10"
Minimum ground clearance		1' 0"	1' 1"	1' 2"
<b>Miscellaneous:</b>				
Swing speed ..... 4.9 r.p.m.				
Travel speed ..... Low .96, High 2.1 m.p.h.				
Approximate working weights with 30' lifting crane attachment, low gantry, 24" wide track shoes, but no bucket, hook block or tagline winder;				
Counterweight "AB" .....		29,000#	30,300#	32,000#
Counterweight "ABC" .....		32,600#	33,900#	35,600#

### DRUM ROPE CAPACITIES LINE SPEEDS AND LINE PULL

Attachment	Wire Rope Dia.	FRONT DRUM						REAR DRUM						BOOMHOIST DRUM						Wire Rope Dia.
		Standard Lagging		Single Line Pull and Speed		Drum Capacities		Standard Lagging		Single Line Pull and Speed		Drum Capacities		Standard Lagging		Single Line Pull and Speed		Drum Capacities		
		Root Dia.	Groove	F.P.M. 1st Layer	Pull lbs. 1st Layer	1st Layer Cap.	Total Cap.	Root Dia.	Groove	F.P.M. 1st Layer	Pull lbs. 1st Layer	1st Layer Cap.	Total Cap.	Root Dia.	Groove	F.P.M. 1st Layer	Pull lbs. 1st Layer	1st Layer Cap.	Total Cap.	
Crane	1/2"	9"	1/2"	135	14,200	34'	422'	9"	1/2"	135	13,300	34'	422'	9"	5/8"	135	13,300	20'	183'	1/2"
Clamshell	5/8"	11"	5/8"	164	11,700	42'	208'	11"	5/8"	164	11,000	42'	208'	<b>THIRD DRUM</b> 9" 1/2" 136 13,750 35 422' 11" 1/2" 164 11,350 42' 320'						1/2"
Dragline	3/4"	10"	3/4"	154	12,500	31'	170'	11"	5/8"	164	11,000	42'	208'							11"

# LS-58 CAPACITIES WITH LOW GANTRY Standard Lower — PCSA CLASS 10-28

(Retractable gantry required for booms over 40' long.)

Intermediate Lower — PCSA CLASS 10-31

Long-Wide Lower — PCSA CLASS 10-34

Refer to all NOTES Page 3

Length	BOOM		Point Ht. W	STANDARD LOWER		Point Ht. W	INTERMEDIATE LOWER		Point Ht. W	LONG-WIDE LOWER	
	Radius	Angle		Ctwt. "AB"	Ctwt. "ABC"		Ctwt. "AB"	Ctwt. "ABC"		Ctwt. "AB"	Ctwt. "ABC"
30'	10'	77°	34' 2"	16,400	20,800	34' 3"	18,200	23,000	34' 4"	20,000	25,000
	12'	73°	33' 7"	12,300	15,700	33' 8"	13,700	17,400	33' 9"	15,300	19,100
	15'	67°	32' 5"	9,000	11,500	32' 6"	9,900	12,600	32' 7"	10,800	13,600
	20'	56°	29' 9"	6,000	7,800	29' 10"	6,600	8,500	29' 11"	7,300	9,300
	25'	43°	25' 5"	4,400	5,800	25' 6"	4,900	6,400	25' 7"	5,400	6,900
	30'	26°	18' 1"	3,500	4,600	18' 2"	3,800	5,000	18' 3"	4,200	5,400
35'	10'	79°	39' 2"	16,300	20,700	39' 3"	18,100	22,900	39' 4"	19,900	24,900
	12'	75°	38' 9"	12,200	15,600	38' 10"	13,600	17,300	38' 11"	15,200	19,000
	15'	70°	37' 11"	8,900	11,400	38' 0"	9,800	12,500	38' 1"	10,700	13,500
	20'	61°	35' 7"	5,900	7,700	35' 8"	6,500	8,400	35' 9"	7,200	9,200
	25'	51°	32' 3"	4,300	5,700	32' 4"	4,800	6,300	32' 5"	5,300	6,800
	30'	40°	27' 3"	3,400	4,500	27' 4"	3,700	4,900	27' 5"	4,100	5,300
35'	24°	19' 2"	2,700	3,700	19' 3"	3,100	4,100	19' 4"	3,500	4,500	
40'	10'	80°	44' 4"	16,200	20,600	44' 5"	18,000	22,800	44' 6"	19,800	24,800
	12'	77°	43' 11"	12,100	15,500	44' 0"	13,500	17,200	44' 1"	15,100	18,900
	15'	73°	43' 2"	8,800	11,300	43' 3"	9,700	12,400	43' 4"	10,600	13,400
	20'	65°	41' 2"	5,800	7,600	41' 3"	6,400	8,300	41' 4"	7,100	9,100
	25'	57°	38' 4"	4,200	5,600	38' 5"	4,700	6,200	38' 6"	5,200	6,700
	30'	48°	34' 6"	3,300	4,400	34' 7"	3,600	4,800	34' 8"	4,000	5,200
35'	37°	29' 0"	2,600	3,600	29' 1"	3,000	4,000	29' 2"	3,400	4,400	
40'	23°	20' 3"	2,200	3,000	20' 4"	2,400	3,300	20' 5"	2,700	3,600	
45'	12'	79°	49' 1"	12,000	15,400	49' 2"	13,400	17,100	49' 3"	15,000	18,800
	15'	75°	48' 5"	8,700	11,200	48' 6"	9,600	12,300	48' 7"	10,500	13,300
	20'	68°	46' 9"	5,700	7,500	46' 10"	6,300	8,200	46' 11"	7,000	9,000
	25'	61°	44' 4"	4,100	5,500	44' 5"	4,600	6,100	44' 6"	5,100	6,600
	30'	53°	41' 1"	3,200	4,300	41' 2"	3,500	4,700	41' 3"	3,900	5,100
	35'	45°	36' 9"	2,500	3,500	36' 10"	2,900	3,900	36' 11"	3,300	4,300
40'	35°	30' 9"	2,100	2,900	30' 10"	2,300	3,200	30' 11"	2,600	3,500	
45'	21°	21' 5"	1,700	2,400	21' 6"	1,900	2,700	21' 7"	2,200	3,000	
50'	12'	80°	54' 0"	11,900	15,300	54' 1"	13,300	17,000	54' 2"	14,900	18,700
	15'	76°	53' 7"	8,600	11,100	53' 8"	9,500	12,200	53' 9"	10,400	13,200
	20'	70°	52' 0"	5,600	7,400	52' 1"	6,200	8,100	52' 2"	6,900	8,900
	25'	64°	49' 11"	4,000	5,400	50' 0"	4,500	6,000	50' 1"	5,000	6,500
	30'	57°	47' 1"	3,100	4,200	47' 2"	3,400	4,600	47' 3"	3,800	5,000
	35'	50°	43' 5"	2,400	3,400	43' 6"	2,800	3,800	43' 7"	3,200	4,200
40'	43°	38' 8"	2,000	2,800	38' 9"	2,200	3,100	38' 10"	2,500	3,400	
45'	33°	32' 2"	1,600	2,300	32' 3"	1,800	2,600	32' 4"	2,100	2,900	
50'	20°	22' 3"	1,300	2,000	22' 4"	1,500	2,200	22' 5"	1,800	2,500	
60'	15'	79°	63' 8"	—	10,900	63' 9"	—	12,000	63' 10"	—	13,000
	20'	74°	62' 6"	—	7,200	62' 7"	—	7,900	62' 8"	—	8,700
	25'	69°	60' 9"	—	5,200	60' 10"	—	5,800	60' 11"	—	6,300
	30'	63°	58' 8"	—	4,000	58' 9"	—	4,400	58' 10"	—	4,800
	35'	58°	55' 9"	—	3,200	55' 10"	—	3,600	55' 11"	—	4,000
	40'	52°	52' 2"	—	2,600	52' 3"	—	2,900	52' 4"	—	3,200
45'	46°	47' 9"	—	2,100	47' 10"	—	2,400	47' 11"	—	2,700	
50'	39°	42' 4"	—	1,800	42' 5"	—	2,000	42' 6"	—	2,300	
55'	30°	35' 1"	—	1,500	35' 2"	—	1,700	35' 3"	—	1,900	
60'	19°	24' 3"	—	1,200	24' 4"	—	1,400	24' 5"	—	1,600	
70'	20'	76°	72' 10"	—	7,000	72' 11"	—	7,700	73' 0"	—	8,500
	25'	72°	72' 5"	—	5,000	72' 6"	—	5,600	72' 7"	—	6,100
	30'	67°	69' 7"	—	3,800	69' 8"	—	4,200	69' 9"	—	4,600
	35'	64°	67' 10"	—	3,000	67' 11"	—	3,400	68' 0"	—	3,800
	40'	58°	64' 6"	—	2,400	64' 7"	—	2,700	64' 8"	—	3,000
	45'	53°	61' 1"	—	1,900	61' 2"	—	2,200	61' 3"	—	2,500
50'	48°	57' 0"	—	1,600	57' 1"	—	1,800	57' 2"	—	2,100	
55'	42°	52' 0"	—	1,300	52' 1"	—	1,500	52' 2"	—	1,700	
60'	36°	45' 10"	—	1,000	45' 11"	—	1,200	46' 0"	—	1,400	
65'	28°	37' 10"	—	800	37' 11"	—	1,000	38' 0"	—	1,200	
70'	17°	25' 6"	—	600	25' 7"	—	800	25' 8"	—	1,000	

## NOTES

### Lifting Crane

1. For lifting 25,000 pounds with  $\frac{1}{2}$ " rope, six parts of  $\frac{1}{2}$ " type "A" hoist rope is required.
2. Capacities shown are in pounds and are based on 75% of minimum tipping loads, with machine standing on firm level ground. Deduction must be made for weight of hookblock, hook, sling, grapple, etc.
3. Retractable gantry required for booms over 40 feet long.

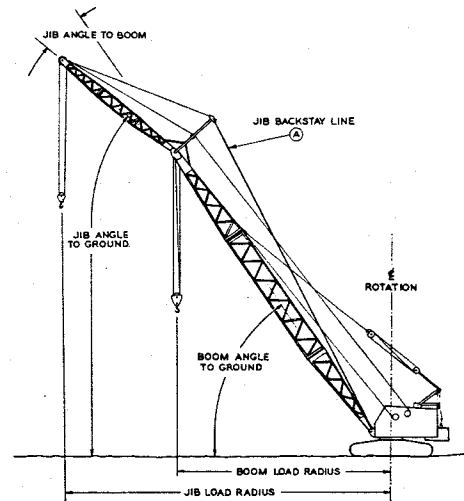
### Dragline, clamshell and magnet

1. Dragline capacities are equal to the crane capacities with counterweight "AB", **except** limited to a maximum of 6,000 pounds.
2. Clamshell and magnet capacities are equal to 90% of the crane capacities with counterweight "AB", **except** limited to a maximum of 7,000 pounds.
3. All dragline, clamshell and magnet capacities are for ideal conditions. The user must make allowances for rapid cycle operation, soft or uneven supporting surfaces, etc.
4. Dragline, clamshell and magnet capacities include weight of bucket or magnet plus load.
5. Boom length should not exceed 40 feet.
6. Dragline operation with boom angle less than  $35^\circ$  is seldom advisable.

## LS-58 JIB CAPACITIES

Jib Angle To Ground	JIB LENGTH	
	20'	30'
$80^\circ$	8,000	6,000
$65^\circ$	7,000	5,000
$50^\circ$	6,000	4,000
$35^\circ$	4,500	3,000
$20^\circ$	4,000	2,500

1. Capacities shown are in pounds and are based on a Link-Belt Speeder jib with a cross section 16" wide by 16" deep and used with a 7' 0" high jib mast in the proper working position.
2. To determine jib angle to ground, deduct jib angle to boom from the boom angle to ground.
3. The jib backstay line (A) is anchored to the boom base section.
4. The jib angle to boom must not exceed  $30^\circ$ .
5. Determining machine jib capacities
  - a. Add the length of boom plus length of jib used.
  - b. Determine the jib load radius.
  - c. 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).
    - (1) The jib capacity is equal to the lifting crane capacity unless restricted by the maximum jib capacities shown above.



- d. If the total length of boom and jib exceeds the longest boom length listed in the lifting capacity chart deduct 250 lbs. from the capacity shown for the longest boom length for the radius required in (b).
    - (1) The jib capacity is the resulting figure unless restricted by the maximum jib capacities shown above.
6. Determining lifting crane capacities with jib on boom:
    - a. 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 — 1,000 lbs.
      - (2) 30' jib — 1,300 lbs.

## MAXIMUM BOOM-JIB MACHINE CAN LIFT OFF GROUND UNASSISTED

LIFT OFF GROUND	Counterweight "AB"		Counterweight "ABC"	
	Boom	Boom + Jib	Boom	Boom + Jib
Standard Lower				
Over ends	50'	50' + 30'	70'	60' + 30'
Over sides	50'	50' + 30'	70'	55' + 30'
Intermediate Lower				
Over ends	50'	50' + 30'	70'	65' + 30'
Over sides	50'	50' + 30'	70'	60' + 30'
Long-Wide Lower				
Over ends	50'	50' + 30'	70'	70' + 30'
Over sides	50'	50' + 30'	70'	65' + 30'

GENERAL INFORMATION ONLY

# GENERAL SPECIFICATIONS

## CRAWLER MOUNTINGS—

**LOWER FRAME** — All-welded, stress relieved, precision machined; line bored for travel shaft.

**ROLLER PATH WITH INTEGRAL RING GEAR** — Double-flanged, machined roller path. Swing pinion meshes with internal ring gear.

**TRACTION SHAFT** — Mounted in line bore in bronze bushings. Two-piece, joined with involute splined couplings; powered through bevel gears, enclosed in oil; sprockets on end of shaft chain drive the track chain sprocket inside of frames; travel-steer jaw clutches splined to shaft. All shaft components are mounted within the lower frames.

**POWER HYDRAULIC TRAVEL-STEER** — For travel or steer, jaw clutches splined to traction shaft are power hydraulically engaged with jaws on brake drums, releasing the spring applied steer-digging brakes. Brake drums are splined to shaft. Jaw clutches and brakes are interconnected so that brakes are not released until jaw clutches are preloaded or fully engaged.

**SIDE FRAMES** — Side frames are welded to cross axles.

## UPPER

**UPPER FRAME** — All-welded, stress relieved, precision machined unit. Side housings bolted to upper frame.

**TURNTABLE ROLLERS** — Four adjustable, heat-treated, conical, hook-type rollers mounted on bronze bushings or optional anti-friction bearings. Two individual pair mounted both front and rear. Six rollers optional, two equalized pair in front and two individual rollers in rear, available with bronze bushings or anti-friction bearings.

**TRANSMISSION** — Link-Belt quadruple roller chain enclosed in oil tight chain case with oil drip lubrication. Engine pinion and chain wheel have machine-cut teeth.

**REDUCTION SHAFT** — Two-piece shaft, joined by an involute splined coupling mounted in side housings on anti-friction bearings.

**Two Drive Pinions** — Heat-treated, machine cut teeth, involute splined to reduction shaft. Pinions mounted outside side housings.

**CLUTCHES** — Speed-o-Matic power hydraulic actuated for swing, travel, operating drums, boomhoist and optional load lowering. Internal expanding two-shoe type, aluminum alloy shoes; 17 $\frac{1}{4}$ " diameter, 4" face width. Load lowering drum clutch 11" diameter, 3" face width. Load lowering clutches not available with gear-driven two-speed hoist.

**Spiders** — Involute splined to horizontal shafts.

**DRUMS** — Front, rear, and third operating drums (optional).

**Shafts** — Mounted in line bores on anti-friction bearings. Rear drum shaft only extended to accommodate optional load lowering clutches. Special shaft required to accommodate two-speed drums.

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

**Clutch Drums** — Bolted to spur gears.

One-piece track-chain drive sprocket mounted on bronze bushings. Chain driven from sprocket on traction shaft; one per side frame. Track sprocket lugs mesh with shoe lugs; track sprocket axle adjusted for chain take-up. Track idler roller mounted on bronze bushings; one per side frame; axle adjusted for track take-up.

**TRACKS** — Sixty shoes on standard lower; sixty-four shoes on intermediate lower; seventy shoes on long-wide lower; heat-treated, self-cleaning, multiple-hinged shoes. Track shoes joined by full floating pin. Ground contact area: Standard lower — 16 in. shoes, 3,300 sq. in.; 24 in. shoes, 5,000 sq. in.; Intermediate lower — 24 in. shoes, 5,400 sq. in.; 30 in. shoes, 6,750 sq. in.; Long-Wide lower — 24 in. shoes, 6,100 sq. in.; 30 in. shoes, 7,550 sq. in.; 36 in. shoes, 9,100 sq. in.

**TRACK ROLLERS** — Standard lower, six rollers; Intermediate lower, seven rollers; Long-Wide lower, eight rollers; heat-treated, mounted on sintered iron bushings per side frame. Optional track rollers with dirt seals for increased protection of bushings and axles available. Two track carrier rollers per side frame.

**Brakes** — Two-piece, external contracting band, mechanically foot pedal operated, front, rear drum 18" diameter, 3" face width.

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

**Drum Laggings** — Two-piece, removable; bolted to brake drum.

**DRUM ROTATION INDICATOR (Optional)** — Mounted on control stand. Dial actuated by flexible shaft from front and rear main operating drum shafts.

**TWO-SPEED FRONT AND REAR DRUMS (Optional):**

**Gear-Driven Hoist Only** — Intermediate gears installed in side housings convert two-shoe load lowering clutches to high-speed hoist clutches; hoist rope speed increased 100% over standard speeds.

**HORIZONTAL SWING-TRAVEL 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 to shaft.

**INDEPENDENT SWING-TRAVEL SHAFT (Optional)** — Mounted in line bore on anti-friction bearings.

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

**Bevel Gear** — Involute splined to shaft.

**INDEPENDENT BOOMHOIST** — Spur gear driven with precision boom raising and lowering through optional lowering clutch or ratchet. A rope drum locking pawl, manually controlled from operator's position, is provided.

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

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

# GENERAL INFORMATION ONLY

**Rope and Brake Drum** — Involute splined to shaft. Ratchet wheel and 16" diameter 3 1/4" face width brake drum are cast integral.

**Brake** — External contracting band, 16" diameter, 3" face width; spring applied and power hydraulically released.

**BOOMHOIST LIMITING DEVICE** — When the boom approaches minimum radius, it actuates a diverter valve located in front of the control console, releasing the boom raising clutch, and automatically applying the spring applied boomhoist brake.

**VERTICAL SWING SHAFT** — Mounted in line bore on bronze bushings.

**Spur Gear** — Involute splined to shaft; machine-cut teeth.

**Swing Pinion** — Involute splined to shaft; teeth mesh with internal teeth of ring gear.

**SWING BRAKE (Optional)** — Mounted on the right hand platform inside cab. Two-directional, external contracting band; spring-applied and power hydraulically released. Vertical shaft, with swing brake drum splined to the top and a standard swing pinion splined to the bottom.

**SWING LOCK** — Mechanically controlled pawl engages with internal teeth of ring gear.

**GANTRY** — Mounted to upper to support bail, boom suspension system, and two rope guides.

**Low Gantry** — Standard.

**Retractable Gantry** — Optional — Required for booms over 40 feet long.

**Bail** — Pinned to gantry frame. Contains two sheaves with bronze bushings for 6-part boomhoist (low gantry), and three sheaves with bronze bushings for 8-part boomhoist (retractable gantry). 4-part boomhoist for hoe and shovel.

**CAB** — Operator's door, rear doors and front window slide on ball bearing rollers. Full-vision operator's compartment with safety glass panels. A 5 lb. dry chemical fire extinguisher and electric horn warning device are furnished as standard.

**COUNTERWEIGHTS** — Counterweight "A" is not removable. Counterweights "B" and "C" are removable and held in position by bolts.

Cwt. "A" — Standard for shovel.

Cwt. "AB" — Standard for hoe, crane, dragline and clamshell.

Cwt. "ABC" — Optional for lifting crane only.

2,900 lb. Cwt. "A"  
6,000 lb. Cwt. "AB"  
9,600 lb. Cwt. "ABC" } Waukesha 195GK

2,100 lb. Cwt. "A"  
5,200 lb. Cwt. "AB"  
8,800 lb. Cwt. "ABC" } General Motors 3030C (3-71)

**CONTROL SYSTEM** — Speed-o-Matic power hydraulics;

an open system. Operating pressure is transmitted through oil to all operating two-shoe clutch cylinders, swing brake power steer, 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 the cylinders.

**Pump** — Vickers; rated at 4.7 g.p.m. at 1,200 r.p.m.

**Oil Filter** — Link-Belt Speeder; replaceable Skinner ribbon-type filter element.

**Relief Valve** — Link-Belt Speeder; set to operate at 1,250 p.s.i.

**Unloader Valve** — Link-Belt Speeder; 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** — Link-Belt Speeder; piston-type, pre-charged with nitrogen gas to 650 p.s.i.

**Sump Tank** — Link-Belt Speeder; 7 gal. capacity with filter and strainer assembly.

**Control Valves** — Link-Belt Speeder; variable pressure type.

**ENGINES** — Full pressure lubrication, oil filter, air cleaner, hour meter. 36 gallon capacity fuel tank with fuel gauge, and flame arrester fill unit.

**Foot Throttle** — Optional.

**Hand Throttle Control** — Optional — Twist type, mounted on swing control lever.

	Waukesha 195GK	GM 3-71 (3030C)
Number of Cylinders	6	3
Bore and Stroke (inches)	4 1/8 x 4	4 1/4 x 5
Piston Displacement (cubic inches)	320	212.7
High Idle Speed, r.p.m.	1968	1480
Full Load Speed, r.p.m.	1790	1340
Net Engine H.P. at Full Load Speed	62	62
Peak Torque, lbs. ft.	213	246
Peak Torque, r.p.m.	800	1050
Electrical System Batteries	12 volt 2 — 6-volt	12 volt 2 — 6-volt
Clutch-Type	Friction Twin Disc C-110-P2	Friction Twin Disc SP111-HP1
Transmission —		
No. chain wheel teeth	164	123
No. engine pinion teeth	19	19

**FRONT END CRANE BOOM EQUIPMENT**

**BOOM** — Two-piece 30' total length, 15' upper and lower sections; 22" deep and 23<sup>3</sup>/<sub>4</sub>" wide at connections. Chord angles, alloy steel, 2" x 2" x 1<sup>1</sup>/<sub>4</sub>".

**Boomfoot** — 1" wide on 32<sup>1</sup>/<sub>2</sub>" centers.

**Boompoin Machinery** — Three 12" root diameter sheaves mounted on anti-friction bearings on boom-peak shaft. Two sheaves optional.

**Connections** — Bolted with cap screws standard. Pin connections to permit easy removal and addition of extensions, optional.

**BOOM EXTENSIONS** — Available in 5', 10' and 20' lengths with proper length pendants.

**BOOM BACKSTOPS** — Optional — Dual, rigid type with spring-loaded bumpers.

**BOOMHOIST BRIDLE** — Serves as a connection between the pendants and live boomhoist rope. Bridle contains three or four 8" root diameter sheaves mounted on bronze bushings for 6-part or 8-part boomhoist.

**JIB** — 20' two-piece with 10' upper and lower sections; 10' extension available for 30' jib. Jib is 16" wide and 16" deep at the connections; chord angles 2" x 2" x 3<sup>1</sup>/<sub>16</sub>" for lower, upper and extension. Jib and extension are bolted.

**WIRE ROPE**

**TYPE AND SIZE USED**

- Live Boomhoist — Type "A", 1/2" dia.
- Main hoist — Type "A", 1/2" dia.
- Jib Hoistline — Type "K", 1/2" dia.
- Dragline hoist — Type "A", 5/8" dia.
- Dragline inhaul — Type "D", 5/8" dia., 3/4" dia.
- Clamshell holding — Type "A", 5/8" dia.
- Clamshell closing — Type "A", 5/8" dia.
- Tagline — Type "A", 3/8" dia.
- Jib staylines — Type "A", 1/2" dia.
- Boom pendants — Type "F", 3/4" dia.

**WIRE ROPE TYPES**

- Type "A"** — 6 x 25 (6 x 19 class), filler wire, improved plow steel, preformed, fiber center, right lay, regular lay.
- Type "D"** — 6 x 25 (6 x 19 class), filler wire, improved plow steel, preformed, independent wire rope center, right lay, lang 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"** — 18 x 7 non-rotating, improved plow steel, fiber center.

**JIB MAST STAYLINES**

**BACKSTAY**

Boom Length	20' Jib	30' Jib
30'	26'	26'
40'	36'	36'
50'	46'	46'
60'	56'	56'
70'	66'	66'

**FRONTSTAY** — For all booms with 20' jib, 22' long; with 30' jib, 32'.

**Jib Mast** — 7' high, mounted on jib base section; two deflector sheaves mounted on needle bearings for jib hoist line within the mast; two equalizer sheaves for jib frontstay and jib backstay lines mounted to top of mast.

**Jib Backstop** — Wire rope type.

**Peak Sheave** — Mounted on anti-friction bearings.

**Peak Shaft** — Anchor is provided at peak of jib for two-part jib hoist line. Jib frontstay line anchors are suspended from shaft.

**FAIRLEADER** — Full-revolving type with barrel, sheaves and guide rollers mounted on anti-friction bearings.

**TAGLINE WINDER** — Rud-o-Matic Model 630; spring wound drum type mounted on crane boom. Rope pull off drum — 40' to 50' from neutral.

**BOOM ANGLE INDICATOR** — Mounted on boom near base.

**HOIST LINE DEFLECTOR ROLLERS** — To deflect main hoist line over top of boom. Required when third drum rope passes over crane boom. Rollers mounted on anti-friction bearings, following numbers recommended: One through 35'; two through 55'; three through 70'.

**MAIN HOIST LINE LENGTH**

Parts of Line	BOOM LENGTH				
	30'	40'	50'	60'	70'
1	70'	90'	110'	130'	150'
2	110'	140'	170'	200'	230'
3	140'	180'	220'	260'	300'
4	180'	230'	280'	330'	380'
5	220'	280'	340'	400'	460'
6	260'	330'	400'	470'	540'

**LIVE BOOMHOIST ROPE LENGTH**

Low Gantry — 6 pt. Line — 140'
High Gantry — 8 pt. Line — 220'

**JIB HOISTLINE LENGTH**

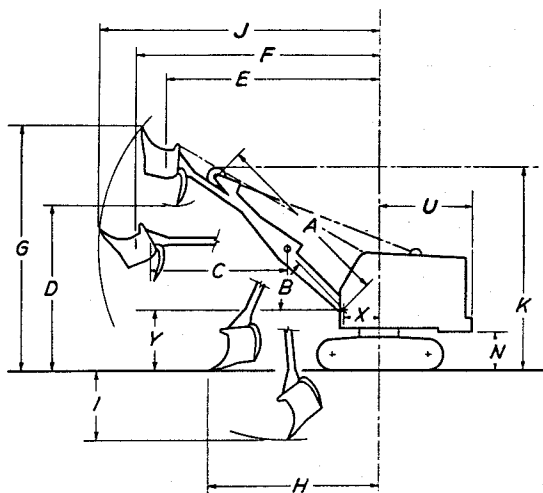
	Parts of Line	BOOM LENGTH				
		30'	40'	50'	60'	70'
20' Jib	1	115'	135'	155'	175'	195'
	2	170'	200'	230'	260'	290'
30' Jib	1	135'	155'	175'	195'	215'
	2	200'	230'	260'	290'	320'

**DRAGLINE ROPE LENGTH**

	BOOM LENGTH		
	30'	35'	40'
Hoist	80'	88'	94'
Inhaul	38'	43'	48'

**CLAMHELL ROPE LENGTH**

	BOOM LENGTH		
	30'	35'	40'
Holding	76'	86'	96'
Closing	106'	116'	126'
Tagline	Furnished with Rud-O-Matic		



## SHOVEL ATTACHMENT (Independent chain crowd)

**BOOM** — All-welded, box type construction, 16' from center of boomfoot pin to center of head shaft. Boomfoot machinery supports welded integral with boom. Boom mounts in upper frame lugs in bronze bushings.

**Boomfoot and Boomfoot Machinery** — Boomfoot is 1" wide on 32 1/2" centers; double sprocket, mounted on bronze bushing, on shaft, in line bore, at base of boom, carries crowd and retract chains. Chain tightener assembly is mounted on top of boom at the base.

**Boomhead Machinery** — One 16" root diameter sheave mounted on bronze bushing on headshaft; bail with two 6 1/2" root diameter boomhoist sheaves mounted to head shaft.

**Shipper Shaft Machinery** — Shaft is mounted on bronze bushings in boom hubs; chain sprocket and crowd pinions are involute splined to shaft; dipper trip drum and sheave are mounted on bronze bushings on shipper shaft.

**Saddle Block** — Mounted to shipper shaft on bronze bushings; two rollers mounted on bronze bushings guide dipper stick on each side.

**DIPPER STICK** — All-welded, box type construction; effective working length 12' 3"; pitch brace and bucket connections have steel, heat treated bushings.

**PADLOCK ASSEMBLY** — Cast steel side frames with one 16" root diameter sheave mounted on bronze bushing; padlock assembly pinned to dipper.

**DIPPER** — 5/8 cubic yard L-BS welded high-strength steel; four all manganese steel replaceable teeth.

**DIPPER TRIP** — Speed-o-Matic power hydraulic cylinder mounted near base of boom actuates a wire rope running over a sheave on the shipper shaft to a latch on the dipper door. Dipper is dumped by a slight side movement of the hoist lever on the control console.

**CROWD AND RETRACT** — A split sprocket on the front drum shaft, through utilization of hoist and lowering clutches, provides the crowd and retract action. A heavy-duty chain with provisions for tightening runs from the split sprocket on the drum shaft to a double sprocket at the base of the boom. A second heavy-duty chain goes from the double sprocket over a chain tightener to drive the shipper shaft. The shipper shaft has two pinions that mesh with the racks on the dipper stick to power move the dipper stick for crowd and retract. Crowd and retract action is actuated by one lever on the control console.

### WIRE ROPE

**Boomhoist** — 4 part line, 1/2" diameter, Type A 100 ft.

**Hoist** — 2 part line, 5/8" diameter, Type A 62 ft.

**Dipper Trip** — 5/16" diameter, Type B 25 ft.

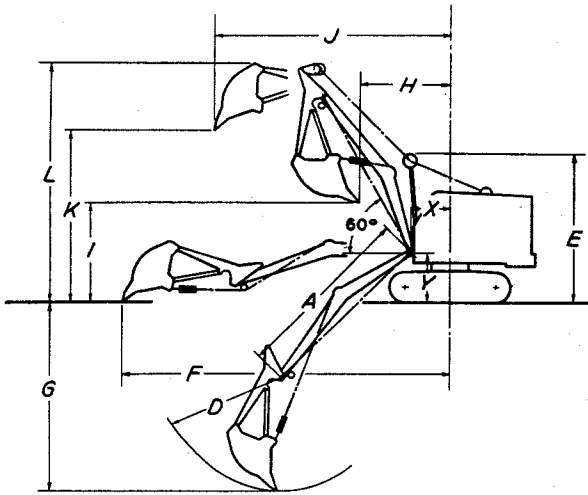
### SHOVEL WORKING RANGES\*

		Standard Lower	Intermediate Lower		
Dipper capacity, cubic yards (struck measure)		5/8	5/8		
Boom length, center to center of pins	A	16' 0"	16' 0"		
Effective boom length (center of boomfoot pin to rope pitch line of peak sheave)		16' 9"	16' 9"		
Dipper stick length, effective	C	12' 3"	12' 3"		
Dipper stick length, overall		13' 0"	13' 0"		
Ground clearance under counterweight "A"	N	3' 5"	3' 6"		
Tailswing of counterweight "A"	U	7' 8"	7' 8"		
Radius of boom hinge pin	X	3' 1"	3' 1"		
Height of boom hinge pin	Y	5' 0"	5' 1"		
		Standard Lower		Intermediate Lower	
Boom Angle	B	60°	40°	60°	40°
Maximum dumping height	D	17' 6"	12' 11"	17' 7"	13' 0"
Dumping radius maximum height	E	16' 0"	20' 6"	16' 0"	20' 6"
Maximum dumping radius	F	19' 11"	21' 11"	19' 11"	21' 11"
Maximum cutting height	G	24' 8"	19' 6"	24' 9"	19' 7"
Maximum clean-up radius	H	13' 5"	14' 9"	13' 5"	14' 9"
Maximum digging depth	I	5' 0"	6' 7"	4' 11"	6' 6"
Maximum cutting radius	J	22' 11"	24' 10"	22' 11"	24' 10"
Boom clearance height	K	19' 8"	16' 2"	19' 9"	16' 3"
<b>Miscellaneous:</b>					
Swing Speed		4.9 r.p.m.			
Approximate working weight with 24" wide track shoes, low gantry, counterweight "A":					
Standard Lower		29,300 lbs.			
Intermediate Lower		30,650 lbs.			

\*Long-Wide Lower not recommended for shovel.

GENERAL INFORMATION ONLY

## HOE ATTACHMENT



## HOE WORKING RANGES

		Standard Lower	Intermediate Lower	Long-Wide Lower
Bucket capacity, cubic yards		5/8	5/8	5/8
Bucket cutting width		32 1/2"	32 1/2"	32 1/2"
Boom length	A	16' 6"	16' 6"	16' 6"
Average sweep radius	D	9' 10"	9' 10"	9' 10"
Height of hoe mast	E	13' 7"	13' 8"	13' 9"
Maximum digging radius	F	29' 7"	29' 7"	29' 7"
Maximum digging depth (with boom at 55°) (1)	G	19' 0"	18' 11"	18' 10"
Maximum digging depth (with boom at 45°) (1)	G <sup>1</sup>	17' 2"	17' 1"	17' 0"
Radius beginning of dump	H	8' 8"	8' 8"	8' 8"
Ground clearance, dumping cycle	I	9' 3"	9' 4"	9' 5"
Clearance radius, end of dump	J	21' 2"	21' 2"	21' 2"
Ground clearance, end of dump	K	15' 6"	15' 7"	15' 8"
Overall height, end of dump	L	20' 6"	20' 7"	20' 8"
Radius of boom hinge pin	X	3' 7"	3' 7"	3' 7"
Height of boom hinge pin	Y	4' 4"	4' 5"	4' 6"
Overall height, attachment in travel position		10' 5"	10' 6"	10' 7"
Overall length, attachment in travel position		31' 7"	31' 7"	31' 7"
Miscellaneous				
Swing speed				4.9 r.p.m.
Approximate working weight with 24" wide track shoes, low gantry, cwt. "AB"		lbs.	lbs.	lbs.
		32,500	33,850	35,500

(1) Maximum effective digging depth will vary with the type of soil and excavation.

## HOE LIFTING CAPACITIES

These are maximum lifting capacities for hoe when used for laying pipe. Two part hoist line used.

BOOM RADIUS <sup>②</sup>	LIFTING CAPACITIES
12'	9,300 lbs.
15'	7,600 lbs.
20'	4,700 lbs.

② Radius is measured from machine centerline of rotation to centerline of boom peak shaft. Capacities are based upon the arm being in a vertical position.

**BOOM** — All-welded construction of steel plates; goose-neck design. Boom mounts in upper frame lugs in bronze bushings.

**Boomfoot Idler Roller and Pin** — Boomfoot idler roller rotates on boomfoot pin that is bolted in fixed position to brackets mounted on front of upper frame.

**Inhaul Rope Sheaves** — 13 1/2" root diameter, mounted on shaft through boom; live sheave mounted on bronze bushing.

**Boompeak Shaft** — Secured from turning by pin through peak of boom.

**Deflector Rollers** — 6 1/2" root diameter, pinned to boom near head.

**ARM** — All-welded box section design; oscillates on bronze bushings.

**Arm Machinery** — Bridle frame of welded plate construction pinned to arm on bronze bushings, contains 11 5/8" root diameter hoist sheave mounted on bronze bushing.

**BUCKET AND CONNECTIONS** — ESCO 5/8 cubic yard with side cutters for 37" cutting width. Arm pins to rear of bucket.

**Pitch Brace** — All-welded steel construction, pins to arm and lugs on bucket.

**Bucket Bail** — Horizontal sheave type, 13 1/2" root diameter sheave, mounted on bronze bushing. Bail connected to bucket with 2 cast-steel links on each side.

**MAST** — 7' 8" long from peakshaft to foot pin. Pipe and steel plate construction pinned to lugs of upper frame.

**Mast Machinery For Two-Part Hoist** — 13 1/2" root diameter sheave, mounted on bronze bushings, on peakshaft.

**Mast Machinery For Four-Part Boomhoist** — Two 6 1/2" root diameter sheaves, mounted on bronze bushings, mounted on peakshaft.

**MAST BACKSTOPS** — Optional telescoping type; permits mast to be lowered by operator from vertical position to 5° or 10° forward.

## WIRE ROPE

Mast — 4 part line, 1/2" diameter, Type A ..... 69 ft.

Hoist — 2 part line, 5/8" diameter, Type A ..... 69 ft.

Inhaul — optional — 2 part line, 5/8" diameter, Type D ..... 58 ft.

Inhaul — standard — 2 part line, 3/4" diameter, Type D ..... 58 ft.

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



# Link-Belt Speeder

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