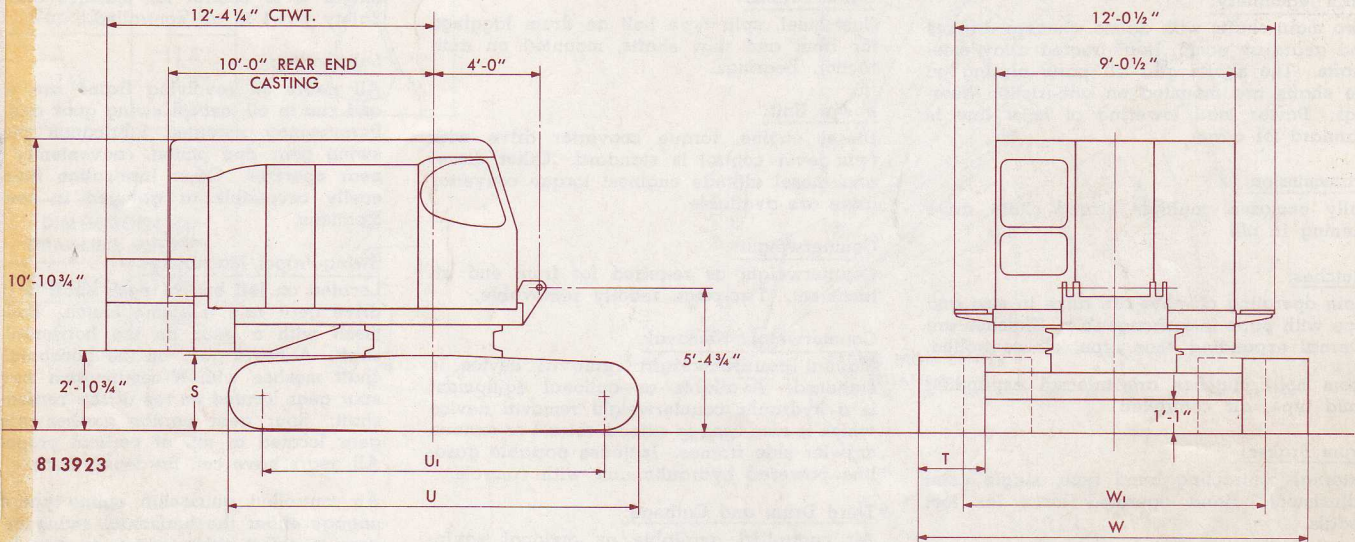


B

BUCYRUS-ERIE

E**30-B**

SERIES FOUR

SUPER CRAWLER MACHINE SPECIFICATIONS

813923

CRANE

Aux. hoisting drum,
grooved (rear shaft)18½" P. Dia.
Aux. hoist rope¾" Dia.
Hoisting drum,
plain (front shaft)17½" P. Dia.
Hoist rope⅞" Dia.
Boom point sheaves (3)18½" P. Dia.

CRAWLER MOUNTINGS

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

CLAMSHELL

Holding drum, grooved18½" P. Dia.
Holding rope, 1-part¾" Dia.
Closing drum, plain17½" P. Dia.
Closing rope, 1-part¾" Dia.
Boom point sheaves (3)18" P. Dia.

POWER SPECIFICATIONS

Make Model Type	GM* 6-71 Diesel	CUM. H-743 Diesel	Cat* D-333CT Diesel
Type of Drive	Conv.	Conv.	Conv.
Cylinders	6	6	6
Bore x stroke, inches	4¼ x 5	5⅜ x 6	4¾ x 6
Displacement, cu. in.	426	743	638
Rated for excavator service:			
H.P. net @ full load speed	122	122	124
Full load speed output shaft	1470	1600	1470
Fuel tank capacity, gals.	70	70	70
Crankcase capacity, qts.	28	32	24
Cooling system capacity, gals.	11	21	12
Starting	12V-Elect.	12V-Elect.	12V-Elect.
Altitude range, feet	0-11,000	0-4000	0-12,500

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

DRAGLINE

Hoist drum, grooved18½" P. Dia.
Hoist rope¾" Dia.
Drag drum, grooved17½" P. Dia.
Drag rope1" Dia.
Boom point sheaves (3)18" P. Dia.

LINE PULLS AND SPEEDS

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

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

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

Torque Converter Drive:

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

WEIGHTS (LBS.)

	ANGLE OR TUBULAR BOOM		
	Crane 40' Boom	Dragline 40' Boom	Clamshell 40' Boom
Net domestic, approx.	110,500	94,000	93,600
Working, approx.	110,950	96,350	96,500
Export shipping, approx.	111,100	96,650	96,800
Ships option tons	79	72	73

Hook block and buckets included in the working weight and export shipping weight, but not in domestic net weight.

30-B SUPER CRAWLER MACHINE

UPPER WORKS

Revolving Frame:

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

Main Machinery:

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

Transmission:

Fully enclosed, multiple strand chain drive running in oil.

Clutches:

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

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

Drum Brakes:

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

Controls:

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

Truck Frame:

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

Hook Rollers:

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

Axles:

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

Crawler Side Frames:

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

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

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

Swing Brake:

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

Cable Drums:

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

Power Unit:

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

Counterweight:

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

Counterweight Removal:

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

Third Drum and Cathead:

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

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

LOWER WORKS

Crawler Treads:

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

Idler Rollers:

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

Driving and Take-Up Tumblers:

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

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

Lubrication:

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

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

Boom Hoist:

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

Lubrication:

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

Swing-Propel Machinery:

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

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

Independent Propel:

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

Propel and Steering:

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

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

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

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

