AMERICAN DIESEL HYDRAULIC LOCOMOTIVE CRANE

MODEL 7030 DH

MEETS OR EXCEEDS OSHA B30.5 REQUIREMENTS

Illustrated with elevated cab which gives unrestricted visibility. (optional feature)

FORM NO. 7030DH-LOS-1

SPECIFICATIONS

AMERICAN HOIST
& DERRICK COMPANY
ST. PAUL, MINNESOTA 55107

MODEL 7030 DH LOCOMOTIVE CRANE RATINGS

Boom Length (Feet)	Radius in Feet	Boom Angle (Degrees)	Free Over Side (Lb.)	With Outriggers Set (Lb.)	Duty Cycle Ratings Magnet or Clamshell Work (Lb.)	Ft. From Boom Pt. To Grd.
50 feet	12	81.0	60000	80000	17350	56
	13	79.8	54170	80000	17350	56
	15	77.4	45170	80000	17350	56
	20	71.5	31650	58850	17350	54
	25	65.3	24120	43790	17350	52
	30	58.8	19330	34110	15400	50
	35	51.9	16000	27150	12800	46
	40	44.2	13560	21690	10850	42
	45	35.2	11690	17030	9350	36
	50	23.4	10210	12510	8150	27
55 feet	15	78.6	44990	80000	17350	61
	20	73.2	31480	58560	17350	60
	25	67.7	23950	43800	17350	58
	30	61.9	19150	34390	15300	56
	35	55.8	15830	27700	14150	53
	40	49.3	13390	22550	10700	49
	45	42.0	11520	18310	9200	44
	50	33.5	10040	14540	8000	37
	55	22.3	8850	10760	7070	28
60 feet	15	79.6	44970	80000	17350	66
	20	74.7	31450	58300	17350	65
	25	69.6	23920	43790	17350	63
	30	64.5	19120	34590	15300	61
	35	59.0	15800	28110	12650	58
	40	53.3	13360	23180	10700	55
	45	47.1	11490	19190	9200	51
	50	40.1	10010	15790	8000	46
	55	32.0	8820	12660	7050	39
	60	21.4	7830	9440	6250	29
65 feet	16	79.5	41290	77570	17350	71
	20	75.9	31280	57830	17350	70
	25	71.3	23750	43520	17350	69
	30	66.5	18960	34500	15100	67
	35	61.6	15630	28170	12500	64
	40	56.5	13200	23410	10500	61
	45	51.0	11330	19610	9050	58
	50	45.1	9850	16420	7850	53
	55	38.5	8660	13610	6900	47
	60	30.7	7670	10970	6100	40
	65	20.5	6840	8190	5470	30
70 feet	17	79.4	38170	70950	17350	76
	20	76.9	31170	57390	17350	75
	25	72.6	23650	43250	17350	74
	30	68.3	18850	34370	15100	72
	35	63.8	15530	28170	12400	70
	40	59.2	13090	23530	10500	67
	45	54.3	11220	19870	8950	64
	50	49.1	9750	16830	7800	60
	55	43.4	8550	14220	6850	55
	60	37.0	7560	11850	6050	49
	65	29.6	6730	9590	5350	42
	70	19.8	6020	7150	4800	31

Boom Length (Feet)	Radius In Feet	Boom Angle (Degrees)	Free Over Side (Lb.)	With Outriggers Set (Lb.)	Duty Cycle Ratings Magnet or Clamshell Work (Lb.)	Ft. From Boom Pt. To Grd.
75 feet	18	79.3	35370	65220	Duty	81
	20	77.8	31000	56890	cycle	80
	25	73.8	23480	42890	limited	79
	30	69.8	18690	34110	to 70 ft.	77
	35	65.7	15370	28020	boom	75
	40	61.4	12930	23490	–	73
	45	57.0	11060	19930	–	70
	50	52.3	9590	17010	–	66
	55	47.3	8390	14530	–	62
	60	41.8	7410	12330	–	57
	65	35.7	6580	10310	–	51
	70	28.6	5870	8340	–	43
	75	19.1	5250	6190	–	32
80 feet	19	79.3	32970	60330	–	86
	20	78.6	30920	56460	–	85
	25	74.9	23400	42580	–	84
	30	71.1	18600	33910	–	83
	35	67.3	15280	27910	–	81
	40	63.4	12840	23450	–	78
	45	59.3	10980	19980	–	76
	50	55.0	9500	17150	–	73
	55	50.5	8310	14760	–	69
	60	45.7	7320	12680	–	64
	65	40.5	6490	10810	–	59
	70	34.6	5780	9060	–	52
	75	27.6	5170	7330	–	44
	80	18.5	4640	5410	–	32
85 feet	19	79.9	32810	59810	–	91
	20	79.2	30760	55970	–	90
	25	75.8	23240	42190	–	89
	30	72.3	18450	33600	–	88
	35	68.7	15120	27670	–	86
	40	65.0	12690	23290	–	84
	45	61.3	10820	19880	–	82
	50	57.3	9350	17120	–	79
	55	53.2	8150	14810		75
	60	48.9	7170	12820	–	71
	65	44.3	6340	11050	–	66
	70	39.2	5630	9430	–	61
	75	33.5	5020	7900	–	54
	80	26.8	4490	6360	–	45
	85	17.9	4020	4640	–	33
90 feet	20	79.8	30650	55530	–	96
	25	76.6	23130	41840	–	95
	30	73.3	18330	33320	–	93
	35	69.9	15010	27450	–	92
	40	66.5	12570	23130	–	90
	45	63.0	10710	19780	–	87
	50	59.4	9240	17080	–	84
	55	55.6	8040	14830	–	81
	60	51.6	7060	12900	–	78
	65	47.4	6230	11210	–	73

(For crane rating data, see page 3)

MODEL 7030 DH LOCOMOTIVE CRANE RATINGS (cont.)

Boom Length (Feet)	Radius In Feet	Boom Angle (Degrees)	Free Over Side (Lb.)	With Outriggers Set (Lb.)	Duty Cycle Ratings Magnet or Clamshell Work (Lb.)	Ft. From Boom Pt. To Grd.
90 feet cont.	70	43.0	5520	9690	–	68
	75	38.0	4910	8270	–	62
	80	32.5	4380	6910	–	55
	85	26.0	3910	5540	–	46
	90	17.4	3490	3980	–	34
95 feet	21	79.8	28660	51710	–	100
	25	77.3	22970	41450	–	100
	30	74.2	18170	32990	–	98
	35	71.0	14850	27180	–	97
	40	67.8	12420	22900	–	95
	45	64.5	10550	19600	–	93
	50	61.1	9080	16940	–	90
	55	57.6	7890	14740	–	87
	60	54.0	6900	12870	–	84
	65	50.1	6070	11240	–	80
	70	46.1	5370	9780	–	75
	75	41.8	4760	8450	–	70
	80	37.0	4220	7200	–	64

Boom Length (Feet)	Radius In Feet	Boom Angle (Degrees)	Free Over Side (Lb.)	With Outriggers Set (Lb.)	Duty Cycle Ratings Magnet or Clamshell Work (Lb.)	Ft. From Boom Pt. To Grd.
95 feet cont.	85	31.6	3760	5990	–	57
	90	25.3	3340	4750	–	48
	95	16.9	2970	3330	–	35
100 feet	22	79.7	26950	48390	–	105
	25	78.0	22900	41150	–	105
	30	75.0	18110	32750	–	104
	35	72.0	14790	26980	–	102
	40	69.0	12350	22750	–	100
	45	65.9	10480	19480	–	98
	50	62.7	9010	16870	–	96
	55	59.4	7820	14710	–	93
	60	56.0	6830	12880	–	90
	65	52.5	6000	11300	–	86
	70	48.8	5290	9890	–	82
	75	44.9	4680	8620	–	78
	80	40.6	4150	7450	–	72
	85	36.0	3680	6340	–	66
	90	30.8	3270	5250	–	58
	95	24.7	2900	4120	–	49
	100	16.5	2560	2830	–	35

CRANE RATING DATA

Free crane ratings do not exceed 85% of tipping load. Outrigged crane ratings do not exceed 80% of tipping load. Clamshell and magnet ratings are in accordance with recommended industry standards and should not be exceeded. Safe loads depend on track condition, boom length, radius of operation, and proper handling, all of which must be taken into consideration by user.

"Radius in feet" is the horizontal distance at crane base level from center pin to a vertical line through the center of gravity of the suspended load. Blocks, slings, buckets and other load carrying devices are considered part of the load. Maximum recommended boom length is 100 ft. for lift cranes and 70 ft. for magnet and clamshell service.

Outrigged ratings apply to machine equipped with standard manual outriggers fully extended.

Ratings in shaded areas are based on structural limitations rather than stability.

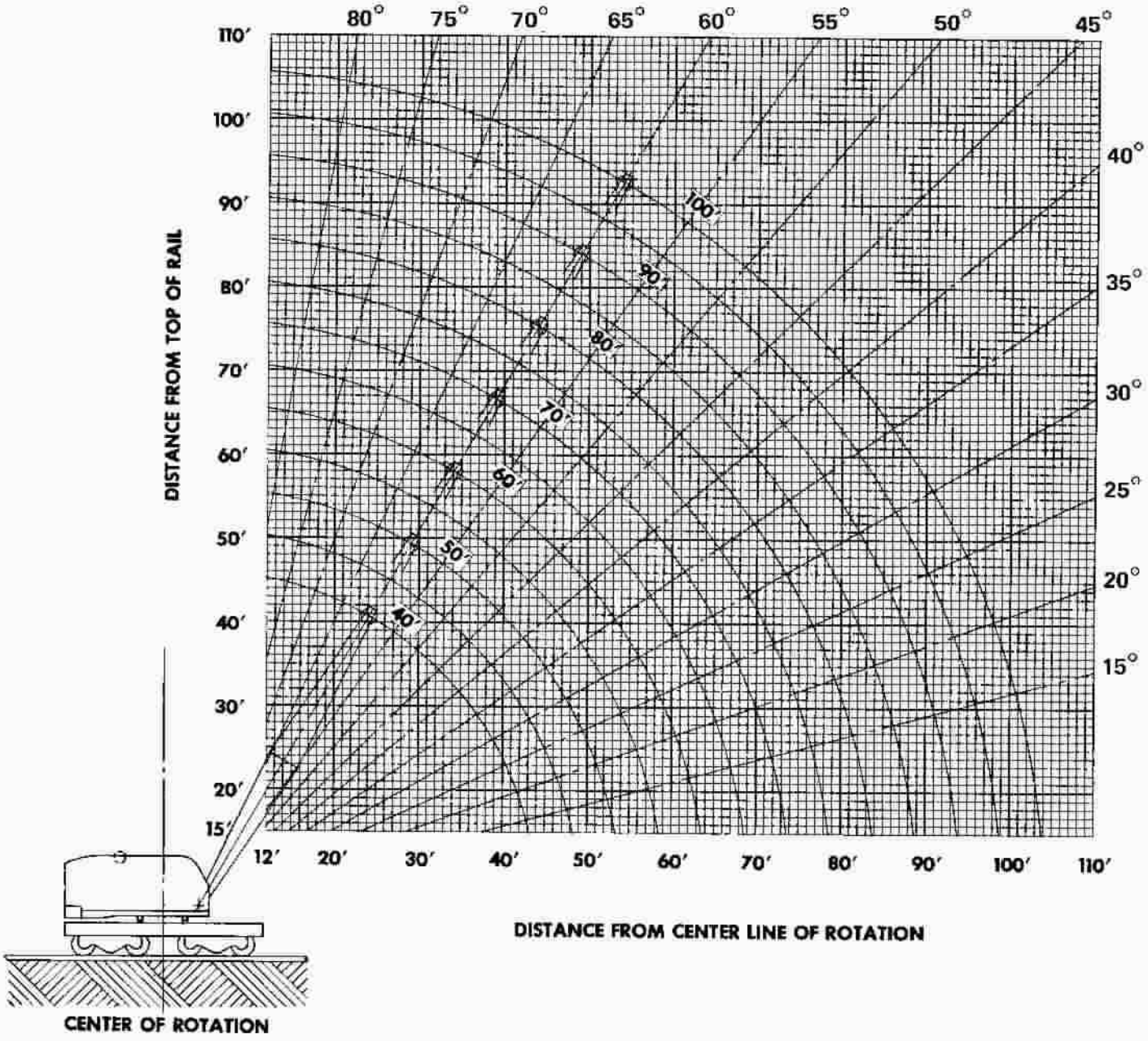
Maximum Lifting Capacity – Lbs.	Minimum Parts Of Line
80,000	5
79,000	4
59,300	3
39,500	2
19,700	1

Bail load line is 3/4" diameter 6 x 26, WS, LAL, P, EIPS, IWRC wire rope with a breaking strength of not less than 58,000 pounds.

Main load line is 7/8" diameter 6 x 25, F, RRL, IPS, IWRC wire rope with a breaking strength of not less than 69,200 pounds.

Designed and rated to comply with ANSI B30.5

BOOM ANGLE DIAGRAM



AMERICAN MODEL 7030 DH

GENERAL SPECIFICATIONS

LOWER MACHINERY:

TRUCKS:

Multi-wear rolled steel 33" wheels standard. Class U.
Cast steel side frames and bolsters. Blocking cams on top of side frames.
Cast steel journal boxes integral with side frames, 6" x 11" journals.
Standard AAR brasses and axles. (Timken roller bearing journals, optional.)
Journal pad lubricators instead of waste.
Single air brake cylinder operates brakes on all wheels of both trucks.
Hydraulic traction motor driving inside axle of each truck, through triple gear reduction, enclosed and running in oil.
Steel spur gears with cut teeth (triple reduction) drive truck axles from hydraulic motors. Gears enclosed in oil tight case. Rapid gear shifter is standard equipment.
Gear box cast steel supported on axle with rubber mounted torque arm fastened to bolster.
Motor flange attached to gear box.
Clearance under hydraulic motor gear case 4-5/8.
Clearance under hydraulic motor 8-1/2".
6'-4" center to center of truck axles.
Center line to center line of trucks 12'-6".
Track gauge 56-1/2".

CARBODY:

All welded, strucutral steel.
Fully cover plated, for safety.
6-1/4" x 8" type E couplers with friction draft gear.
Sliding end outriggers, box section welded construction are standard.
Lever operating hand brakes on both trucks is mounted at end of carbody.
Standard AAR steps and grab irons included.

BULLGEAR AND ROLLER PATH:

Roller path and bullgear are a single unit casting; internal tooth bullgear; outer surface of the bullgear has double tapered roller paths accurately machined to roller contour, welded to top of carbody with suitable reinforcement and bracing.

Bullgear 76 tooth, 60.8" pitch diameter. Roller path 73-1/2" outside diameter.

CENTER PIVOT TUBE:

Center pivot tube cast integral with roller path and bullgear, pressure grease lubricated bronze pivot bushings in rotating machinery base; horizontal loads only — no uplift.

UPPER MACHINERY:

POWER:

Standard: Detroit Diesel (GM) 6-71-N Model 1063-5000 diesel engine with PTO, 6 cylinder, 5-1/4" bore, 5" stroke, 426 cu. in. displacement, rated 208 HP at 2100 RPM, 24 volt electric starting.

Alternate Engine with Plate Clutch Power Take-Off:
Detroit Diesel (GM) 8V-71-N Model 7083-7000 diesel engine, 8 cylinder, 4-1/4" bore, 5" stroke, 568 cu. in . displacement, rated 240 HP at 2100 RPM, 24 volt electric starting.

Caterpillar Model D-333C-T diesel engine, 6 cylinder, turbocharged, 4-3/4 bore, 6" stroke, 638 cu. in. displacement, rate 208 HP at 2100 RPM, 24 volt electric starting.

Alternate Engines with Single Stage Torque Converter:
Detroit Diesel (GM) 6-71-N Model 1063-5000 diesel engine, 6 cylinder, 4-1/4" bore, 5" stroke, 426 cu. in. displacement; rated 208 HP at 2100 RPM converter input; 24 volt electric starting.

Detroit Diesel (GM) 8V-71-N Model 7083-7000 diesel engine, 8 cylinder, 4-1/4" bore, 5" stroke, 568 cu. in. displacement, rated 220 HP at 1850 RPM converter unit, 24 volt electric starting.

Caterpillar Model D-333C-T diesel engine, 6 cylinder, turbocharged, 4-3/4" bore, 6" stroke, 638 cu. in. displacement, rated 208 HP at 2100 RPM converter input, 24 volt electric starting.

Alternate Engines with Three Stage Hydraulic Torque Converter:
Detroit Diesel (GM) 6-71-N Model 1063-5000 diesel engine, 6 cylinder, 4-1/4" bore, 5" stroke, 426 cu. in. displacement, rated 208 HP at 2100 RPM converter input, 24 volt electric starting.

Detroit Diesel (GM) 8V-71-N Model 7083-7000 diesel engine, 8 cylinder, 4-1/4" bore, 6" stroke, 568 cu. in. displacement, rated 220 HP at 1850 RPM converter input, 24 volt electric starting.

Caterpillar Model D-333C-T diesel engine, 6 cylinder turbocharged, 4-3/4" bore, 6" stroke, 638 cu. in. displacement, rated 208 HP at 2100 RPM converter input, 24 volt electric starting.

ENGINE DRIVE:

The diesel engine is direct connected to a gear box on which a PTO or torque converter is mounted. Accessory drives on the gear box are provided to direct drive travel and swing pumps. Power to the pumps is also available when the PTO is disengaged.

Gear box is totally enclosed and gears are oil bath lubricated.

PTO and pumps run engine speed.

A sprocket is mounted on the PTO or converter shaft driving a roller chain which in turn drives the main machinery drive shaft.

AIR COMPRESSOR:

Belt driven—Quincy Model 325—25 cu. ft. capacity.

ROTATING MACHINERY BASE:

Rotating machinery base is an electric welded steel fabrication with tapered deep girder construction and attached walkways. Accurate milling, boring and drilling, with modern computer controlled machines and precise jigs and heavy duty fixtures, insure accurate alignment of machinery under the most severe operating conditions and provide proper fit of replacement parts.

COUNTERWEIGHT:

The basic casting (bolted to crane) weights approximately 11,300 lbs.

GENERAL SPECIFICATIONS (continued)

Purchaser will install approximately 40,000 lbs. of counterweight material in carbody.
As optional, we will furnish and install.

FUEL TANK:
117 gallons capacity.

LOAD AND HOOK ROLLERS:
Large tapered load rollers transmit downward loads to machined upper roller path on carbody; tapered hook rollers transmit uplift loads to lower roller path on carbody; all rollers mounted on anti-friction bearings; easy and precise adjustment for wear by means of eccentric hook roller axle.
Load rollers front—quantity—4—9.35" dia. 5" wide.
Load rollers rear—quantity—2—9.35" dia. 5" wide.
Hook rollers rear—quantity—4—6.75" dia. 3" wide.
Hook rollers front—quantity—2—6.75" dia. 3" wide.

MAIN HOIST DRUM ASSEMBLY:
Twin ductile iron drums, with stress relieved brake and clutch surfaces, are mounted on anti-friction bearings on the main drum shaft. The main drum shaft is also mounted in anti-friction bearing pillow blocks.

Lagging options are available to obtain various line pulls and speeds. Split steel laggings are bolted to drums for quick replacement.

Internal expanding clutches are activated by highly responsive variable air controls. Cooling fins on brake and clutch rings assure maximum dissipation of heat. Brake shafts and pins are mounted in anti-friction bearings for responsive operation with minimum foot pressure from the operator.

Clutches are 36" diameter x 5" wide.

Brakes are 46" diameter x 5" wide.

A spring set, air released brake mechanism on each drum, controllable from the operator's lever stand, actuates automatically in the event there is a loss of air during crane operation. These external contracting brakes are capable of suspending a rated load indefinitely without further effort from the operator, and will function under all conditions of brake temperature and lining wear, provided the brake mechanisms receive proper adjustment.

DRUM LAGGING:
Standard drum laggings are 26" diameter for hook, magnet, clamshell, or grapple service.

Optional laggings are 21-1/2" diameter for lift crane service, or controlled load lowering.

713923 — L.H. Lagging — Magnet, Clamshell, or Grapple.
Grooved. 26" dia. x 14-3/4" wide.
Working Capacity: 340 ft. of 7/8" Rope on 3 layers.
Storage Capacity: 465 ft. of 7/8" Rope on 4 layers.

713897 — L.H. Lagging — Lift Crane.
Smooth. 21-1/2" dia. x 14-3/4" wide.
Working Capacity: 625 ft. of 7/8" Rope on 6 layers.
Storage Capacity: 750 ft. of 7/8" Rope on 7 layers.

713712 — L.H. Lagging — Controlled Load Lowering.
Smooth. 21-1/2" dia. by 12-19/64" wide.
Working Capacity: 515 ft. of 7/8" Rope on 6 layers.
Storage Capacity: 620 ft. of 7/8" Rope on 7 layers.

713922 — R.H. Lagging — Magnet, Clamshell, or Grapple.
Grooved. 26" x 19-3/4" wide.
Working Capacity: 455 ft. of 7/8" Rope on 3 layers.
Storage Capacity: 625 ft. of 7/8" Rope on 4 layers.

713921 — R.H. Lagging — Lift Crane
Smooth. 21-1/2" dia. x 19-3/4" wide.
Working Capacity: 840 ft. of 7/8" Rope on 6 layers.
Storage Capacity: 1,010 ft. of 7/8" Rope on 7 layers.

713711 — R.H. Lagging — Controlled Load Lowering.
Smooth. 21-1/2" dia. x 19-1/8" wide.
Working Capacity: 815 ft. x 7/8" Rope on 6 layers.
Storage Capacity: 975 ft. of 7/8" Rope on 7 layers.

BOOM HOIST:
The grooved boom hoist drum and its driving gear is a single cast steel unit. The boom hoist driving gear is powered by a pinion splined to the boom hoist clutch shaft. This shaft is mounted in front of the boom hoist drum in bronze bushings and its large anti-friction bearing mounted gear is powered through the gear train. The boom hoist clutch spider is splined to the clutch shaft while the clutch ring is keyed to the gear hub. The air controlled clutch has an external contracting band.

The boom hoist brake is spring set, air release external contracting band located on the right side of the boom hoist drum (side opposite the driving gear).

A hand lever operated air valve with a neutral detent position controls both the raising and lowering of the boom. The boom hoist brake sets automatically when lever is in neutral position. The spring set, air released locking dog, located on the right side of the boom hoist drum, holds the boom during operation or when machine is idle.

CONTROLLED BOOM LOWERING:
An overrunning sprag clutch shaft is mounted above the boom hoist drum. On one end of this shaft a splined pinion mates with the boom hoist driving gear and on the other end a large anti-friction bearing mounted gear mates with the boom hoist clutch shaft gear. A sprag clutch is splined to the shaft and keyed to the gear hub.

Boom lowering speed is proportional to engine speed when controlled by the sprag clutch. This clutch engages the shaft postively and smoothly when lowering the boom.

To lower loads against the optional torque converter, a disconnect shifter is provided for the pinion of the overrunning sprag clutch shaft. The reason for disconnecting this pinion is to prevent the driving gear from raising the boom.

BOOM STOPS:
Telescopic tubular boom stops restrain the boom from overtopping in the event of hoist line or hoisting tackle failure.

GENERAL SPECIFICATIONS (continued)

BOOM HOIST SHUT OFF:

Automatically stops the boom hoist mechanism when the boom reaches a predetermined angle; the adjustable actuator arm, located near the base of the boom, simultaneously disengages the boom hoist clutch and sets the boom hoist brake when the boom reaches the present high limit.

BOOM:

Standard boom is 50 ft., 3-piece, 46" cross-section, with two 24" dia. sheaves mounted on anti-friction bearings in boom point; alloy steel chord angle construction with tubular lacing; full boom reeving is standard; pendant type boom suspension is optional (extra).

Standard boom will consist of 20 ft. inner, 10 ft. center, and 20 ft. outer section. Sections are pin-connected for fast assembly and disassembly. Additional center sections are available in 5 ft., 10 ft., and 20 ft. lengths.

Three sheave boom point is optional (extra).

TAGLINE WINDER:

Rud-O-Matic #648 tagline winder furnished as standard equipment.

CAB:

Fully enclosed steel cab; all shatterproof glass windows mounted in rubber; removable windows in operator's cab; sliding doors on sides and rear; hinged door on operator's cab roof; ladder to roof at left front; operator located at right hand forward corner to provide unobstructed visibility; steel door between operator's cab and machinery compartment; operator's cab is acoustically insulated; elevated operator's cab is optional.

TRAVEL BRAKES:

Railroad Type — Air operated.

Class I (Standard) — Formerly known as CBG.
This consists of straight air brakes on the crane trucks, operated from the operator's poisition. A through pipe or train line is provided. (Includes Quincy Model 325, 25 CFM air compressor.)

Class II (Optional) — Formerly known as ABG.
Includes straight air brakes from the operator's cab applying on the crane and also automatically operated air brakes applying on the crane operated by the engineer from the locomotive when crane is hauled in a train (might be called freight car brakes). (Includes Quincy Model 325, 25 CFM air compressor.)

Class III (Optional) — Formerly known as BBG.
Includes straight air brakes from the operator's cab applying on the crane and also automatically operated air brakes applying on the crane operated by the engineer from the locomotive when crane is hauled in a train, and also automatic air brakes on cars being switched by crane. (Includes Quincy Model 350, 50 CFM air compressor.)

All brake classes have brakes applying on all eight wheels. Hand brakes provided on both trucks.

LIGHTING EQUIPMENT:

1800 watt belt driven alternator. 24 volts.
2—150 watt floodlights on cab.
2—150 watt lights on boom.
2—25 watt tail lights.
4—25 watt lights in cab.

BATTERIES:

Two 3-cell batteries are connected in series and provide power for cranking the engine and for lights.

HYDRAULIC SWING SYSTEM:

The swing system is composed of a torque select closed loop hydrostatic drive system. This rotates the upper on a roller path thru means of a gear reduction to the pinion and bullgear. The basic hydraulic system consists of a variable displacement piston pump and a fixed displacement motor with loop lines between the ports of the pump and motor.

To swing the machine to the right, the operator must pull on the control lever. To swing left, he must push forward on the lever. The pump has a built-in torque select valve. When you move the swing lever, the select lever on the pump linkage moves. This, in turn, produces swing torque. As you pull the handle the torque is increased until the torque requirement to swing the load is reached; then the machine starts to swing. As the machine swing speed increases the required torque drops off and the volume of oil delivery increases until the desired speed is obtained. You may then coast along with the load or you may hydrostatically brake to a stop. Full torque braking may be applied if so desired by stroking the lever over center to full stroke or partial stroke over center for partial braking.

Speed and torque may be varied regardless of engine speed within the limits of the engine capability.

The pump has a pressure limit stop which limits the pressure to 4000 psi. It also has a built-in relief valve set at 4300 psi. This relief valve is only used to release pressure surges caused from shock loading.

In addition to the standard air swing house brake, there is an air-holding brake equipped with this system. By moving the swing lever to the side, the air swing brake is applied for holding against outside forces, such as when in a neutral position during high winds, or when the machine is on a sloping plane.

HYDRAULIC TRAVEL SYSTEM:

The travel system is composed of a speed control Hydro-Transmission which drives two driving axles with two driving wheels on the rail per axle. The axles are driven thru gear reduction boxes mounted on the drive axles. A variable displacement hydraulic piston motor which can be stroked to high or low range is mounted on each gear box. Each motor is supplied with oil thru a swivel joint from a separate variable displacement piston pump.

The pumps have a flow select control valve with a pressure limiter built into it. This means that when you stroke the lever to a certain position you are selecting a speed. The pump will stroke to a displacement within the limits of the pressure control until that speed is reached, and then hold that speed provided the capability of the engine is not exceeded.

Maximum handle travel represents maximum speed. As you return the handle back toward center, you will get a speed reduction. The pump will brake at a rate within the limits of the pressure control and friction horsepower of the engine.

GENERAL SPECIFICATIONS (continued)

The pressure limits in the control valve, limit the hydraulic pressure to 5000 psi. A 5500 psi relief valve is used to release pressure surges caused from shock loading.

GENERAL:

CONTROLS:

Graduated air controls, pioneered by AMERICAN, put "Feel" at every operator's finger tips, insure higher production and more accurate control. Air line alcohol dispenser provided in air system. American has designed its control system to conform with ANSI code B30.5. requirements of standard control arrangement and control functions, which allows operators to easily shift from one machine to another.

MATERIALS:

Gears and pinions are heat-treated alloy or high carbon steel. Smooth cut teeth on all gears except bullgear which has accurately molded teeth.

Involute splines are used throughout machine for maximum strength through minimum diameter where needed.

Anti-friction bearings are used on all main or high speed shafts and wherever practical to provide friction-free, smooth operation with minimum maintenance.

LUBRICATION:

All anti-friction bearings and bronze bearings requiring short period lubrication are provided with pressure grease fittings. Swing deck gears are provided with oil bath lubrication. Gear train arranged for grease lubrication. Semi-automatic swing pinion lubrication system is standard.

PERFORMANCE DATA:

Swing speed . . . . . variable from 0 to 3 RPM

Line Pull:

with 21-1/2" dia. lagging	29,600 lbs. SLP @ 165 FPM
with 26" dia. lagging	24,800 lbs. SLP @ 200 FPM

TRAVEL SPEEDS AND DRAW BAR PULLS:

With optional low speed gearing (19.96:1 ratio):

Starting draw bar pull	31,000 lbs.
1 MPH	32,500 lbs.
2 MPH	25,000 lbs.
4 MPH	12,000 lbs.
8 MPH	4,000 lbs.
14 MPH	0 lbs.

NOTE: Optional chain drive should be selected for use with above ratio.

With standard gearing (14.45:1 ratio):

Starting draw bar pull	22,000 lbs.
2 MPH	23,000 lbs.
4 MPH	12,000 lbs.
8 MPH	4,500 lbs.
16 MPH	0 lbs.

With optional high speed gearing (8.19:1 ratio):

Starting draw bar pull	11,000 lbs.
2 MPH	12,500 lbs.
4 MPH	10,000 lbs.
8 MPH	5,000 lbs.
14 MPH	1,600 lbs.
20 MPH	0 lbs.

NOTE: Other gear ratios are available for special applications; consult factory.

Maximum grade (no load) (with std. gearing) 10%

Performance figures are based on machine equipped with standard engine.

WEIGHTS:

Approximate shipping weight	126,000 lbs.
Approximate amount of counterweight to be furnished by purchaser	40,000 lbs.
Total working weight of crane	166,000 Lbs.

OPTIONAL ATTACHMENTS & ACCESSORIES:

CLAMSHELL ATTACHMENT:

For clamshell or grapple work, 7/8" holding line and 7/8" closing line furnished to reach track level.

CONTROLLED LOAD LOWERING:

The controlled load lowering shaft is mounted behind and above the main drum shaft; shaft is alloy steel mounted in anti-friction bearings in the standard A-frame; roller chain sprocket is bolted to a special drum lagging: a mating drive sprocket is provided on the load lowering shaft; clutch is internal expanding band type. Controlled load lowering can be provided for either the right hand or left hand drum, but not both simultaneously; the large driven sprocket is bolted to the special lagging and can be bolted to either right or left lagging as desired.

Loads are lowered through the chain drive to the lowering shaft, then through the lowering clutch to the gear train and back to the engine where they are resisted by the overrunning friction torque of the engine.

Also available as an option is controlled load lowering for second drum; a second chain sprocket is mounted on the controlled load lowering clutch shaft and connected by roller chain to sprocket on drum lagging; single clutch is utilized for lowering of either drum as selected by jaw clutch shifter; cannot lower under control on both drums simultaneously.

A single air valve controls both hoisting and lowering. The foot brake stops the load.

The controlled load lowering is completely independent of all other operations.

When ordered on machines equipped with PTO or Single Stage Torque Converter, an engine brake is included.

MAGNET ARRANGEMENT:

21 KW magnet generator is belt driven from main engine, eliminating extra fuel costs and maintenance of second engine; magnet controller mounted on operator's cab wall; push-

GENERAL SPECIFICATIONS (continued)

buttons mounted in operating levers so operator need not release control lever while operating magnet.

Over-excitation arrangement increases magnet pick-up to 20%, increasing daily output; when magnet is dropped on pile of material the operator pushes "LIFT" button on hoist lever which raises generator voltage to 275, materially increasing magnet pick-up capacity; when free from pile the button is released and voltage drops to 200, which is ample to hold the load; to release the load the operator pushes the "DROP" button on the swing lever.

Included with magnet arrangement are Gleason Magnet cable reel including power cable, single sheave crane block with bronze bushed sheave, and two-part magnet hoist line to reach track level.

NOTE: **Not available on machines equipped with Torque Converter.**

OPERATOR'S CAB COMPARISON:

Cab:	Top of Rail to Eye Level (Operator seated)	Top of Rail to Roof Outside Operator's Cab:
Standard	10'10"	12'5-1/8"
2 ft.	12'10"	14'5-1/8"
3 ft.	13'10"	15'5-1/8"
5 ft.	15'10"	17'5-1/8"
10 ft.	20'10"	22'5-1/8"

ELEVATED CAB:

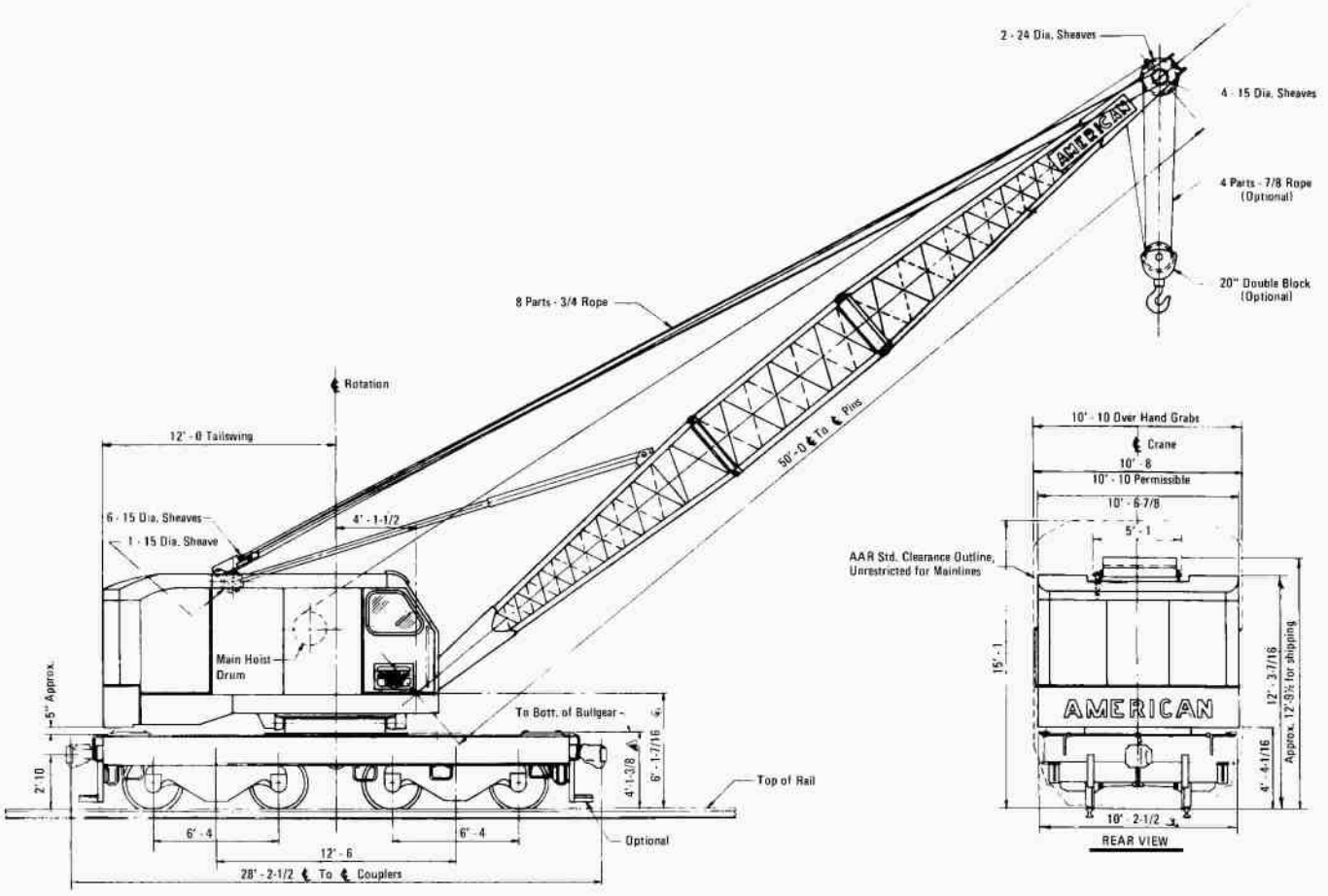
For greater vision, the operator's cab can be elevated 2 ft., 3 ft., 5 ft., or 10 ft., above standard.

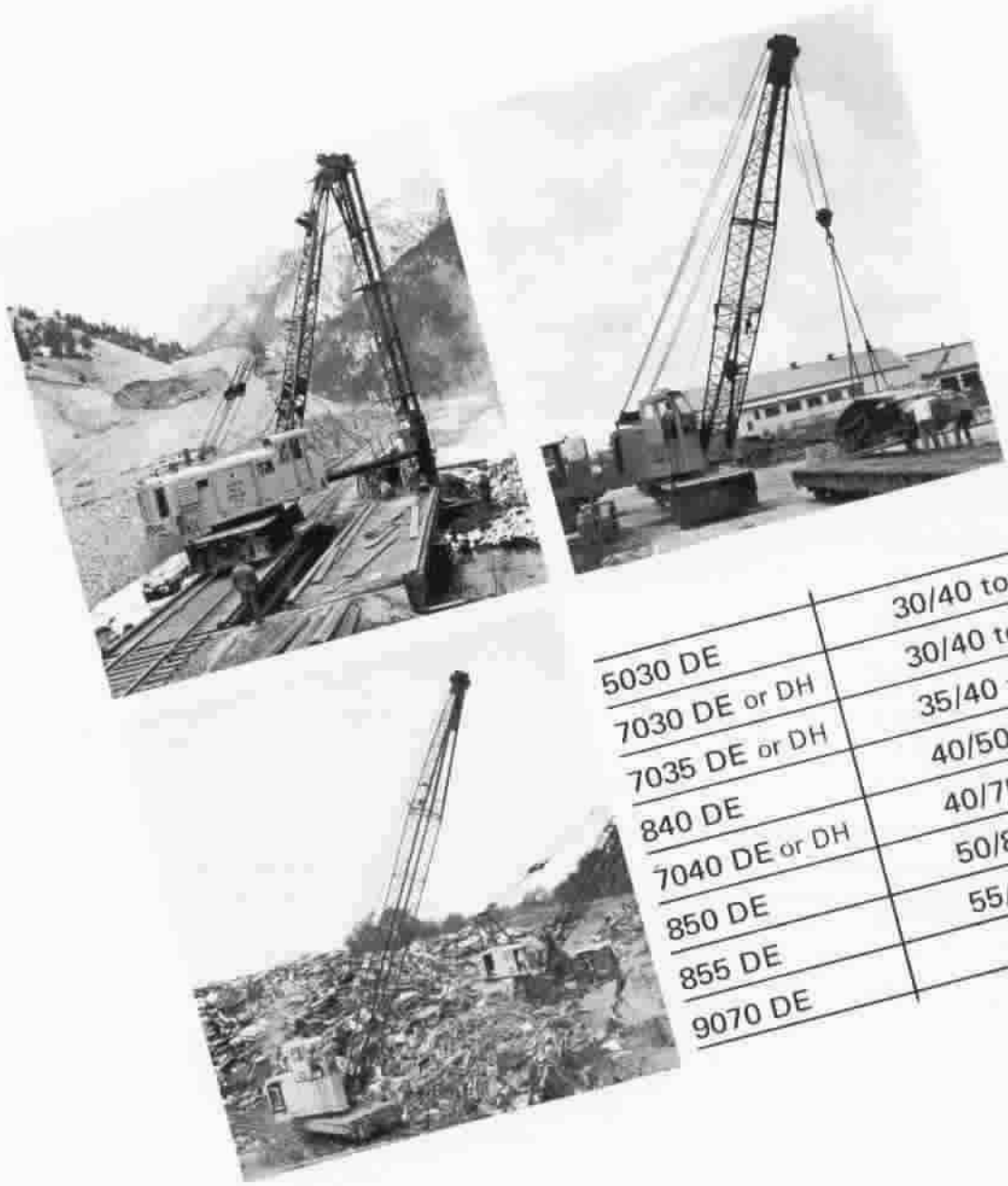
MISCELLANEOUS OPTIONS:

Hot water Cab heater.
Air-operated windshield wiper.
Hand grabs and foot boards.
Air-operated track sanders.
Four manually operated track clamps.
Timken roller bearing truck journals.
Counterweight in carbody furnished and installed.
Chain drive to make all 8 wheels drivers.
Boom angle indicator.
Shipping jacks and clamps.
Guide sheaves can be provided in the boom for magnet inhaul service.
Fire extinguisher.
Fan in Cab for cooling or defrosting.
Automatic warning bell and ringer.
Protecto seal fuel tank cap.
Gyrating, flashing light on top of cab.
High temperature, low oil pressure engine warning system.

DESIGNED AND RATED TO COMPLY WITH (ANSI) CODE B30.5

NOTE: In accordance with varying material situations, and the Company's policy of constant product improvement, these specifications subject to change without notice and without incurring responsibility to units previously sold.





5030 DE	30/40 tons
7030 DE or DH	30/40 tons
7035 DE or DH	35/40 tons
840 DE	40/50 tons
7040 DE or DH	40/75 tons
850 DE	50/80 tons
855 DE	55/88 tons
9070 DE	150 tons

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