

AMERICAN

DIESELECTRIC[®]
LOCOMOTIVE CRANE



**MODEL 7030 DE
SPECIFICATIONS**

AMERICAN MODEL 7030-DE LOCOMOTIVE CRANE

GENERAL SPECIFICATIONS

TRUCKS:

Multiple wear rolled steel 33" wheels standard class U. Cast steel side frames and bolsters. Blocking cams on top of side frames per our standard practice.

Journal boxes cast integral with side frames.

6" x 11" standard journals (Timken roller bearings optional).

Traction type electric motor driving inside axle of each truck, through triple gear reduction, enclosed in heavy cast steel housing, gears running in oil.

Sliding pinion in gear case and rapid gear shifter are standard.

Clearance under travel motor gear case — $4\frac{11}{16}$ ".

Clearance under traction motor — $9\frac{1}{8}$ ".

Standard AAR brasses and axles.

Single air brake cylinder operates brakes on all wheels of both trucks.

6'4" center to center of truck axles.

Cast steel gear box supported on axle with rubber mounted torque arm fastened to bolster.

Motor flange connected to gear box.

Journal pad lubricators instead of waste.

Center line to center line trucks 12'-6".

Track gauge, 56½".

CARBODY:

All welded structural steel.

6¼" x 8" type E couplers with friction draft gear.

Sliding end outriggers, box section welded construction.

Lever operating hand brakes on both trucks is mounted at end of carbody.

Standard steps and grab irons included.

BULLGEAR AND ROLLER PATH:

Bullgear 60.8 pitch diameter.

76 teeth.

Roller path 73½" outside diameter single unit casting with internal teeth — outer surface of bullgear has double tapered roller path, center pivot tube integral.

LOAD AND HOOK ROLLERS:

Load rollers front — quantity — 4 — 9" dia. x 5" wide.

Load rollers rear — quantity — 2 — 9" dia. x 5" wide.

Hook rollers rear — quantity — 4 — 6 $\frac{7}{16}$ " dia. x 3" wide.

Hook rollers front — quantity — 2 — 6 $\frac{7}{16}$ " dia. x 3" wide.

Eccentric shaft adjustment is easy and precise.

Load and hook rollers are antifricition bearing mounted standard equipment.

For duty cycle work — bronze bushed rollers are available.

COUNTERWEIGHT:

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

Purchaser will install approximately 47,500 lbs. (4" x 4" billets) counterweight material in carbody.

As optional, we will furnish and install.

HORIZONTAL SWING:

Internal expanding tandem band clutches 28" diameter x 6" wide. Bands and liners interchangeable and reversible. Swing brake is 24" diameter x 4" wide.

MAIN HOIST:

Drum shaft 6¼" diameter alloy steel, clutches are 36" diameter x 5" wide.

Brakes are 46" diameter x 5" wide. Brake drums have grooved flange for heat dissipation.

TAG LINE WINDER — RUD-O-MATIC: #648.

LINE PULL:

with 21½" dia. lagging . . . 27,000 lbs. SLP @ 165 FPM

with 26" dia. lagging 22,000 lbs. SLP @ 200 FPM

DRUM LAGGING:

For magnet, bucket and grapple work, the 26" lagging will generally be used. This 26" lagging can be used for light hook work. For all heavy lift work, a 21½" diameter lagging must be used.

Crane as standard will be equipped with 26" lagging. Purchaser must state which size lagging is required, and the 21½" lagging may be furnished instead of the 26" lagging.

Each crane as a basic machine will be equipped with one set of lagging (either size). If both size laggings are needed, the second set can be furnished as an optional extra.

L. H. Lagging — Crane

Grooved 21½" dia. x 12½" wide, capacity 712 ft. of ⅞" rope on 8 layers (last layer for storage only).

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L. H. Lagging — Magnet — Bucket

Grooved 26" dia. x 12½" wide, capacity 482 ft. of ⅞" rope on 5 layers (last layer for storage only).

R. H. Lagging — Crane

Grooved 21½" dia. x 17½" wide capacity 1017 ft. of ⅞" rope on 8 layers (last layer for storage only).

R. H. Lagging — Bucket

Grooved 26" dia. x 17½" wide capacity 692 ft. of ⅞" rope on 8 layers (last layer for storage only).

BOOM:

Will be 46" in cross section, with alloy steel chord angles and tubular lacing, two sheave open throat boom point. Splices will be pin connected. Standard boom will consist of 20 ft. inner, 10 ft. center, and 20 ft. outer section. Maximum length of boom work will be 100 ft. For duty cycle work boom is limited to 70 ft.

Three sheave boom point is optional (extra).

BOOM LINE REEVING:

Boom up to and including 100 ft. have continuous reeving. 8 part — ¾" rope to boom point.

Pendants are optional (extra).

BOOM HOIST:

Single boom hoist drum has 13½" diameter barrel, 23" diameter flanges, and is 9" wide between flanges. Boom hoist cable is ¾" diameter. Boom hoist clutch is 17" diameter x 2½" wide. Brake is 23½" diameter x 2½" wide, spring set air released. Brake sets with valve in neutral position. (No foot brake.)

Boom hoist line speed varies from 71 FPM on the first layer to 110 FPM on the 7th layer; with 8 parts of hoist line, time required to raise a 50 ft. boom with 50 ft. radius is 65 seconds. Controlled boom lowering is standard equipment.

ENGINE DRIVE:

The diesel engine is direct connected to a traction type generator to run at 1600 RPM. A disc type master clutch is coupled to generator. A sprocket is mounted on outer end of clutch shaft driving a silent chain which in turn drives the main drive shaft.

ENGINES:

As standard, a General Motors Model 6-71 diesel engine is furnished. 6 cyl., 4¼" x 5" rated 145 HP @ 1600 RPM.

As optional a Cummins HR6-IP diesel engine can be furnished. 6 cyl., 5⅛" x 6" rated 150 HP @ 1600 RPM.

As optional a Caterpillar D33CT diesel engine can be furnished. 6 cyl., 4¾" x 6" rated 150 HP @ 1600 RPM.

ENGINE STARTER:

A 24 volt D.C. electric starter is furnished on each of the engines offered.

LIGHTING EQUIPMENT:

24 volt battery belt driven alternator 75 amp (1800 watts).

24 volt lights.

2-150 watt floodlights on cab.

2-150 watt lights on boom.

2-25 watt tail lights.

4-25 watt lights in cab.

AIR COMPRESSOR:

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

ELECTRIC TRACTION EQUIPMENT:

Generator—traction type protected self-ventilated Class B insulation. General Electric Model 1519 Variable voltage used.

Traction Motors — 2 on each crane — one on inside axle of each truck rate 60 HP — 60 minute each based on 120 degree rise by resistance. Motors are series wound, axle hung, protected, self-ventilated and drive the axle through triple reduction gearing. (General Electric Model 1244A2.)

MINIMUM CLEARANCE:

From bottom of gear case to top of rail with new wheels — 4⅝".

TRACTION REVERSER:

Is of the air-operated type remotely controlled by the master switch at operator's stand.

MASTER SWITCH:

Is of the cam type, 5 point mounted on lever stand.

7030-DE GENERAL SPECIFICATION(Continued)

BATTERIES:

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

CONTACT RINGS:

Rings carry current to the travel motors from the rotating deck of the crane.

SPEED AND PULL:

Starting draw bar pull	12,000 lbs.
2 MPH	10,000 lbs.
6.0 MPH	3,200 lbs.
10.75 MPH	0 lbs.

TRAVEL BRAKES:

Railroad — air-operated.

Class I — Formerly known as CBG.

This consists of straight air brakes on the crane trucks, operated from the operator's position. A through pipe or train line is provided.

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).

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.

BLOCKS:

For magnet work, because of the impact loading to reduce maintenance on the block, the sheaves are provided with bronze bushings and plain bearing hook. A safety latch is provided on the hook. These are Hi-Lift Series 340.

For hook work, roller bearings are provided on the sheaves and on the hook. Safety latch and non-rotating lock provided. These are De Luxe Series 330.

OPTIONAL ITEMS

ELEVATED CAB:

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

CAB HEATER:

Hot water Evans ES 17.

WINDSHIELD WIPER:

Air operated.

BOOM:

Additional boom sections can be provided — 5 ft., 10 ft., or 20 ft., in length. As previously stated, for duty cycle work, booms to 70 ft. long can be used. For lift work, booms can be furnished to 100 ft. long.

Similar to the 830 DE Loco Crane, the following items can be furnished:

Hand grabs and foot boards.

Air-operated track sanders.

Four manually operated track clamps.

Timken roller bearings on truck axle.

Counterweight in carbody furnished and installed.

Chain drive to make all 8 wheels drivers.

Radius indicator.

Shipping jacks and clamps.

Guide sheaves can be provided in the boom for inhaul service.

MAGNET ARRANGEMENT:

Machine will be arranged for handling 55" diameter lifting magnet, including the following:

21 KW magnet generator, belt driven from main engine and arranged for constant voltage operation.

Spring operating cable reel with magnet cable to reach track level. (Gleason SHO 101A.)

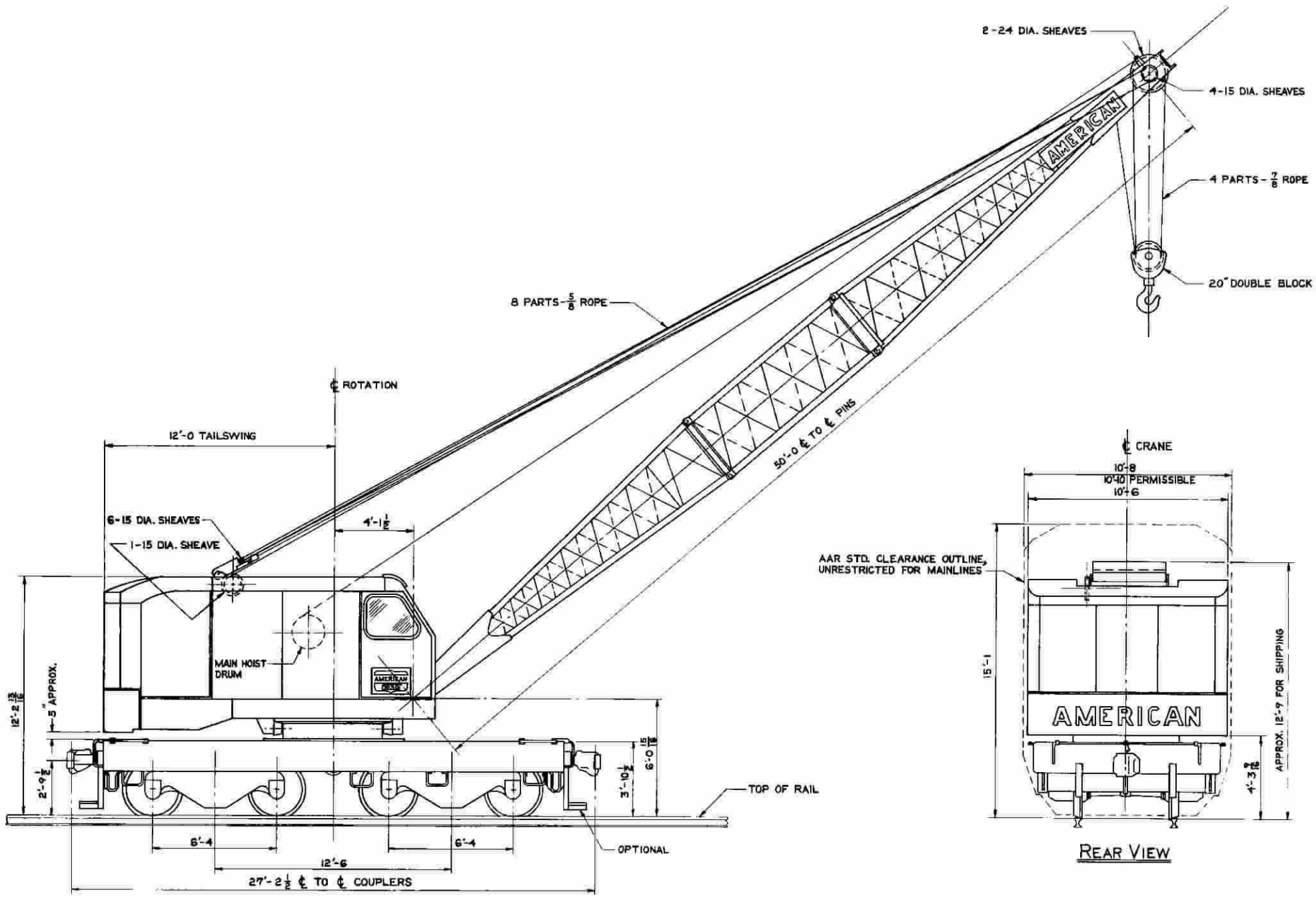
Two part magnet hoist line.

Single sheave block with swivel hook. 15 ton capacity.

Magnet controller with operating pushbuttons in levers.

Arrangement for over-excitation of magnet which will increase pickup capacity 20 to 25 percent. 275 volts for picking up load — 200 volts to hold load. Note — Magnet is not included.

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.



AMERICAN 7030-DE LOCOMOTIVE CRANE RATINGS

Free crane ratings do not exceed 85% of tipping load.

Outrigged crane ratings do not exceed 80% of tipping load.

Duty cycle ratings do not exceed 75% of free tipping load.

Magnet ratings limited to 70 ft. boom and duty cycle capacity.

Boom Length	Radius Ft.	Boom Angle Degrees	Free Over Side lb.	Outriggers Set lb.	Duty Cycle lb.
50'	12	81	60,000	80,000	15,000
	15	77	45,700	76,400	15,000
	20	71	32,100	70,700	15,000
	25	65	24,500	51,200	15,000
	30	59	19,600	39,900	15,000
	35	52	16,300	32,600	14,400
	40	44	13,800	27,500	12,200
	45	35	11,900	23,700	10,500
	50	23	10,400	19,100	9,200
55'	15	79	45,600	76,300	15,000
	20	73	31,900	70,600	15,000
	25	68	24,300	51,100	15,000
	30	62	19,500	39,800	15,000
	35	56	16,100	32,500	14,200
	40	49	13,700	27,400	12,100
	45	42	11,800	23,600	10,400
	50	33	10,300	20,600	9,100
	55	22	9,100	16,800	8,000
60'	15	80	45,500	76,300	15,000
	20	75	31,800	70,500	15,000
	25	70	24,200	51,000	15,000
	30	64	19,400	39,700	15,000
	35	59	16,000	32,400	14,100
	40	53	13,600	27,300	12,000
	45	47	11,700	23,500	10,300
	50	40	10,200	20,500	9,000
	55	32	9,000	18,200	8,000
	60	21	8,000	14,800	7,000
65'	15	80	45,300	76,200	15,000
	20	76	31,700	70,400	15,000
	25	71	24,100	50,900	15,000

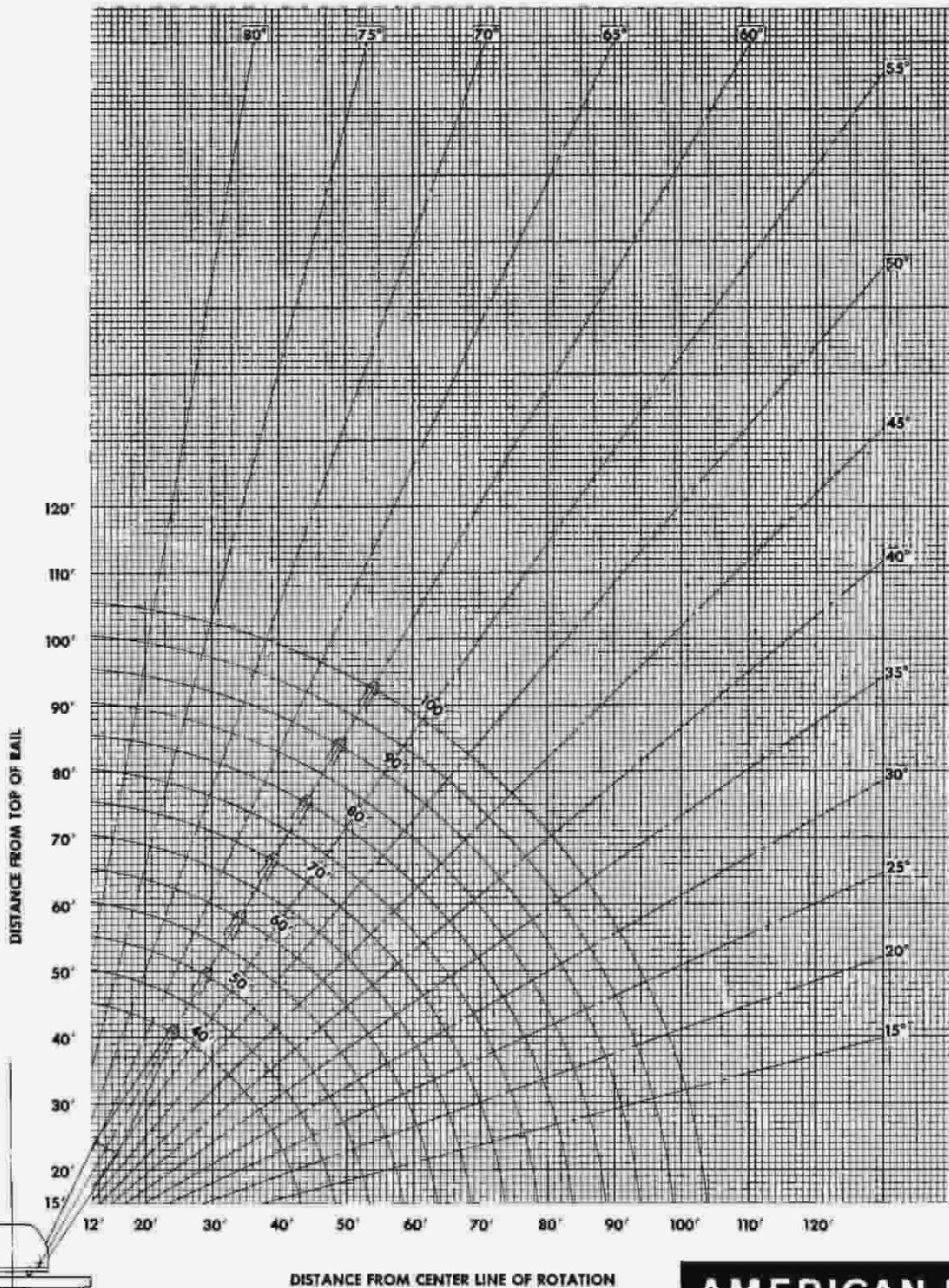
Boom Length	Radius Ft.	Boom Angle Degrees	Free Over Side lb.	Outriggers Set lb.	Duty Cycle lb.
65'	30	67	19,300	39,600	15,000
	35	62	15,900	32,300	14,000
	40	57	12,300	27,200	12,000
	45	51	11,500	23,400	10,100
	50	45	10,000	20,400	8,800
	55	38	8,800	18,100	7,700
	60	31	7,800	16,200	6,900
70'	16	80	41,700	75,000	15,000
	20	77	31,500	70,300	15,000
	25	73	24,000	50,800	15,000
	30	68	19,100	39,500	15,000
	35	64	15,800	32,200	14,000
	40	59	13,300	27,100	11,700
	45	54	11,400	23,300	10,000
	50	49	9,900	20,300	8,700
	55	43	8,700	18,000	7,700
	60	37	7,700	16,100	6,700
	65	30	6,900	15,200	6,100
	70	20	6,200	11,700	5,500
75'	16	81	41,500	74,900	Duty Cycle limited to 70 ft. boom
	20	78	31,400	70,200	—
	25	74	23,800	50,700	—
	30	70	19,000	39,400	—
	35	66	15,600	32,100	—
	40	61	13,200	27,000	—
	45	57	11,300	23,200	—
	50	52	9,800	20,200	—
	55	47	8,600	17,900	—
	60	42	7,600	16,000	—
	65	36	6,800	14,400	—
	70	29	6,000	13,000	—
	75	19	5,400	10,400	—

AMERICAN 7030-DE LOCOMOTIVE CRANE RATINGS

Boom Length	Radius Ft.	Boom Angle Degrees	Free Over Side lb.	Outriggers Set lb.	Duty Cycle lb.
80'	17	81	38,400	73,600	—
	20	79	31,300	70,100	—
	25	75	23,700	50,600	—
	30	71	18,900	30,300	—
	35	67	15,500	32,000	—
	40	63	13,000	26,900	—
	45	59	11,200	23,100	—
	50	55	9,700	20,100	—
	55	51	8,500	17,800	—
	60	46	7,500	15,900	—
	65	40	6,600	14,300	—
	70	35	5,900	12,900	—
	75	28	5,300	11,800	—
80	18	4,800	9,300	—	
85'	18	81	35,600	72,400	—
	20	79	31,200	70,000	—
	25	76	23,600	50,500	—
	30	72	18,700	39,200	—
	35	69	15,400	31,900	—
	40	65	12,900	26,800	—
	45	61	11,000	23,000	—
	50	57	9,500	20,000	—
	55	53	8,300	17,700	—
	60	49	7,300	15,800	—
	65	44	6,500	14,200	—
	70	39	5,800	12,800	—
	75	34	5,200	11,700	—
80	27	4,600	10,700	—	
85	18	4,200	8,300	—	
90'	19	80	33,100	71,100	—
	20	80	31,000	60,900	—
	25	77	23,500	50,400	—
	30	73	18,600	39,100	—
	35	70	15,300	31,800	—
	40	67	12,800	26,700	—
	45	63	10,900	22,900	—
	50	59	9,400	19,900	—
	55	56	8,200	17,600	—
	60	52	7,200	15,700	—

Boom Length	Radius Ft.	Boom Angle Degrees	Free Over Side lb.	Outriggers Set lb.	Duty Cycle lb.
90'	65	47	6,400	14,100	—
	70	43	5,700	12,700	—
	75	38	5,100	11,600	—
	80	33	4,500	10,600	—
	85	26	4,000	9,600	—
	90	17	3,600	7,400	—
95'	19	81	33,000	71,000	—
	20	80	30,900	69,800	—
	25	77	23,300	50,300	—
	30	74	18,500	39,000	—
	35	71	15,100	31,700	—
	40	68	12,700	26,600	—
	45	65	10,800	22,800	—
	50	61	9,300	19,800	—
	55	58	8,100	17,500	—
	60	54	7,100	15,600	—
	65	50	6,200	14,000	—
	70	46	5,500	12,600	—
	75	42	4,900	11,500	—
	80	37	4,400	10,500	—
85	32	3,900	9,500	—	
90	25	3,500	8,600	—	
95	17	3,100	6,600	—	
100'	20	81	30,800	69,700	—
	25	78	23,200	50,200	—
	30	75	18,400	38,900	—
	35	72	15,000	31,600	—
	40	69	12,500	26,500	—
	45	66	10,700	22,700	—
	50	63	9,200	19,700	—
	55	59	8,000	17,400	—
	60	56	7,000	15,500	—
	65	53	6,100	13,900	—
	70	49	5,400	12,500	—
	75	45	4,800	11,400	—
	80	41	4,200	10,400	—
	85	36	3,800	9,400	—
90	31	3,400	8,500	—	
95	25	3,000	6,500	—	
100	17	2,600	5,800	—	

BOOM ANGLE DIAGRAM



CENTER OF ROTATION

Model 7030DE

AMERICAN HOIST
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 ST. PAUL, MINNESOTA 55107

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American & Ohio Locomotive Crane Co.

811 Hopley Ave. ~ P.O. Box 511
 Bucyrus, Ohio 44820

Toll Free: 800-993-6446

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www.aolcrane.com

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