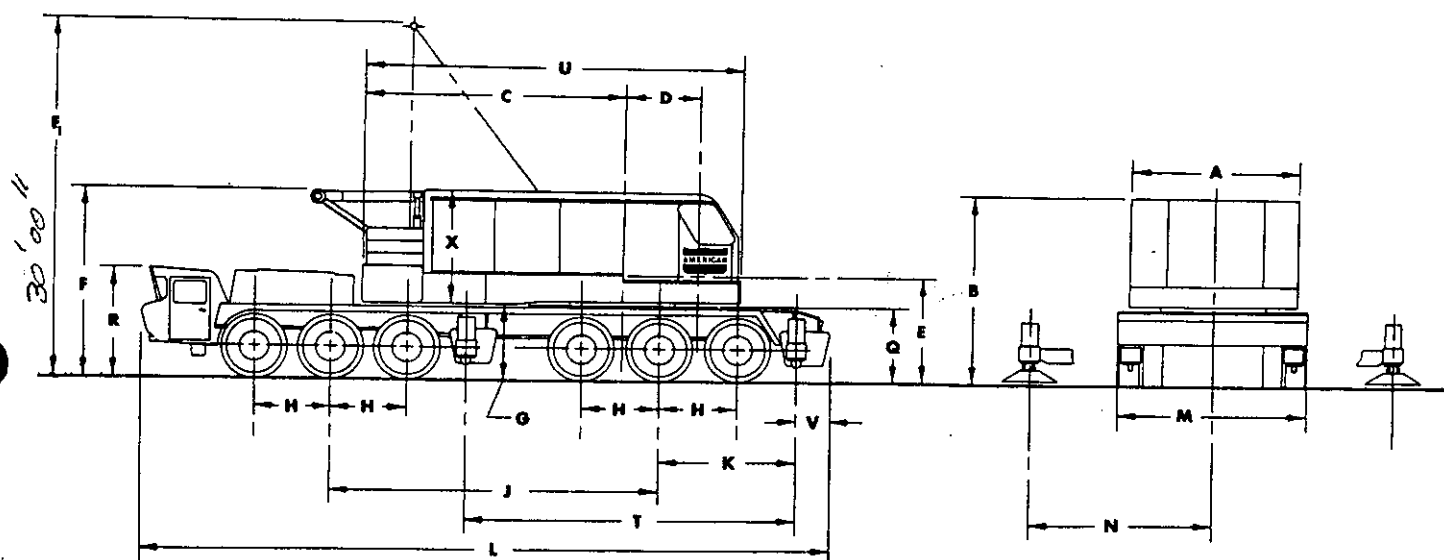


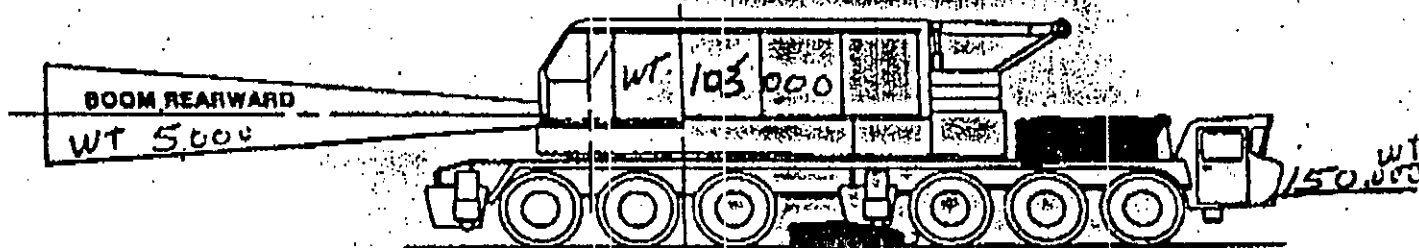


# 9530 CARRIER SPECIFICATIONS



## GENERAL DIMENSIONS

A.	Width of Cab .....		L.	Overall Length of Carrier .....	47'7"
B.	Height to Top of Cab .....	13'5"	M.	Overall Width of Carrier .....	13'
C.	Tail Swing .....	17'7"	N.	Centerline of Carrier to Centerline of Outrigger .....	11'6"
D.	Centerline of Rotation to Centerline of Boom Foot .....	5'0-3/4"	Q.	Top of Mounting Plate to Ground .....	5'3"
E.	Ground to Centerline of Boom Foot .....	7'7-3/4"	R.	Top of Carrier Cab to Ground .....	7'7"
F.	Height Over A-Frame (Lowered) .....	13'6-1/2"	T.	Centerline Front Outrigger to Center Line Rear Outrigger .....	22'5"
F.	Height Over A-Frame (Raised) .....	30' 00"	U.	Rear of Counterweight to Front of Cab .....	25'9"
G.	Ground to Bottom of Counterweight .....	5'7"	V.	Centerline of Rear Outrigger to End of Carrier .....	2'3"
H.	Distance Between Axles .....	5'4"	X.	Bottom of Machinery Deck to Top of Cab ....	7'-10"
I.	Centerline of Rotation to Centerline of Rear Bogie .....	2'7-1/4"		Turning Radius .....	66'
J.	Wheel Base .....	23'2-1/4"		Clearance Under Raised Outrigger Float .....	4-1/2"
K.	Centerline Rear Bogie to Centerline Rear Outrigger .....	9'4"		Clearance Under Equalizer Beam .....	12"

**9530 TRAVELING WEIGHTS (IN POUNDS)**

X = IN PLACE  
O = REMOVED

**Boom Rearward\***

92" INNER BOOM	77" INNER BOOM	COUNTER-WEIGHT	FRONT OUT-RIGGER	REAR OUT-RIGGER	FRONT TRIDEM	REAR TRIDEM	GROSS WEIGHTS
O	X	X	X	X	137,750	155,330	293,080
O	X	O	X	X	67,880	135,200	203,090
O	X	O	O	X	62,990	131,100	194,090
O	X	O	X	O	71,680	122,430	194,090
O	X	O	O	O	66,760	118,330	185,090
X	O	X	X	X	134,630	162,530	297,160
X	O	O	X	X	64,760	142,390	207,150
X	O	O	O	X	69,870	138,290	198,160
X	O	O	X	O	68,530	129,620	198,150
X	O	O	O	O	63,640	125,520	189,160
O	O	X	X	X	140,660	148,130	288,790
O	O	O	X	X	70,800	128,000	198,800
O	O	O	O	X	65,900	123,900	189,800
O	O	O	X	O	74,570	115,230	189,800
O	O	O	O	O	69,670	111,130	180,800

NOTE: Because of variable manufacturing tolerances a variance of  $\pm 3\%$  should be allowed on these weights.

SEE OPERATOR'S MANUAL FOR MAXIMUM MPH TRAVEL SPEED RESTRICTIONS AS LIMITED BY TIRE LOADS.

Carrier - 104,150 lbs  
Upperworks w/ boom ft. - 103,000 lbs  
Boom ft - 5,000 lbs

**IMPORTANT**

The full counterweight cannot be swung over the side or rear of the machine when the outriggers are not set, due to back stability.

\*In all conditions, the weight distribution between the front and rear tridem is more equally balanced when the boom foot is facing the rear of the carrier (boom rearward). Therefore, we have not charted the boom forward condition.



# CRANE RATING DATA

Load ratings are in pounds and do not exceed 85% of the load which would cause tipping with crane standing level on firm uniformly supporting surface. Safe loads depend on ground conditions, boom length, radius of operation, and proper handling, all of which must be taken into consideration by user.

Tire inflation pressure for "Free Ratings" is 100 P.S.I. Free ratings do not exceed maximum permissible tire load. Tire pressure shall be reduced for over-the-road travel.

Approved working areas "Free Over Side" and "Free Over Rear" are shown under Diagram No. 1. Approved working areas "Outriggers Extended and Set Over Side or Rear" are shown under Diagram No. 2.

"Radius in feet" is the horizontal distance at crane base level from center of rotation to a vertical line through the center of gravity of the suspended load.

Lifting is approved only in those areas for which ratings are shown in the rating chart. Blocks, slings, buckets, and other load carrying devices are considered part of the load. The weight of the hoisting line has been deducted from these capacities. Retractable A-frame must be in fully raised position for all ratings. Ratings in shaded areas are limited by strength of material or factors other than stability.

Main load line is 1-1/8 inch diameter with a minimum breaking strength of 130,000 pounds. Boom suspension line is 7/8 inch diameter with a minimum breaking strength of 79,600 pounds. Boom suspension pendants are 1-3/8 inch diameter with a minimum breaking strength of 211,000 pounds.

Boom and jib erection is over the rear of the machine with outriggers extended and set and with "Lift Rating" counterweight. A-frame must be fully raised and blocks, slings and other load carrying devices must be on the ground.

Compliance to B30.5 based on AMERICAN® carrier mounting.

Designed and rated to comply with ANSI Code B30.5.

## LOAD HOISTING DATA \*

Maximum Lifting Capacity - Lbs.	Min. Pts. of Line	Main (Rear) Drum With Controlled Load Lowering	Auxiliary (Front) Drum With Controlled Load Lowering
440,000	12	182	85
408,570	11	177	93
371,420	10	195	102
334,280	9	216	113
297,140	8	244	128
260,000	7	278	146
222,850	6	325	170
185,710	5	390	204
148,570	4	488	256
111,420	3	650	341
74,280	2	976	512
37,140	1	1952	1024

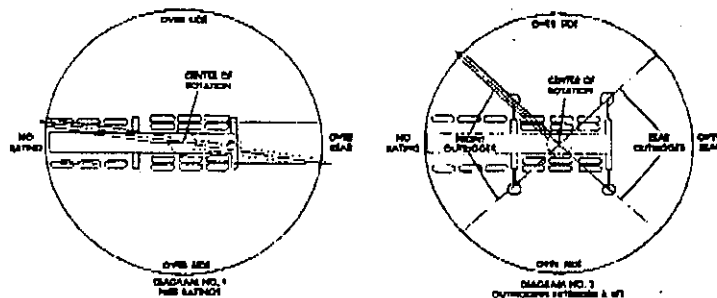
\*With 1-1/8 inch dia. rope on main drum and 1 inch dia. rope on aux. drum.

## MAX BOOM AND JIB ERECTION WITH 90,000# CTWT.

77H Tubular Boom	No. 16 HL Jib
250' Hammerhead	100' No. 16 HL Jib
260' Hammerhead	80' No. 16 HL Jib
260' Hammerhead	100' No. 16 HL Jib
290' Tapered Tip	100' No. 16 HL Jib

†With 10,000 lb front bumper counterweight and boom erection assistor.

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.



## 77H HAMMERHEAD BOOM COMPOSITION

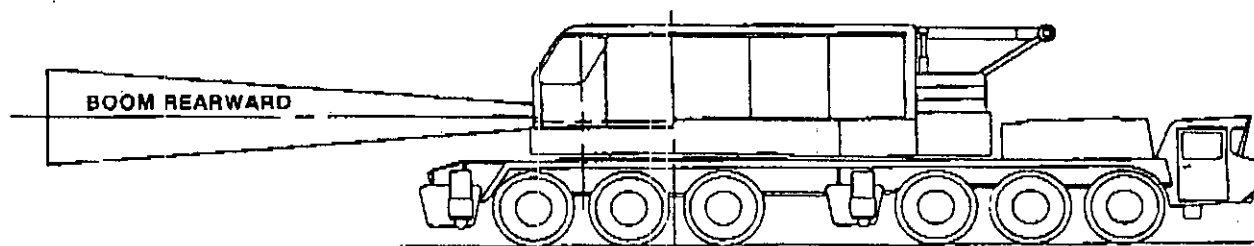
Boom Length (In Feet)	30 Ft. 77S Inner	10 Ft. 77S Center	20 Ft. 77S Center	50 Ft. 77S Center	40 Ft. 77H Outer Base	Hammer-Head Tip
70'	1	-	-	-	1	1
80'	1	1	-	-	1	1
90'	1	-	1	-	1	1
100'	1	1	1	-	1	1
110'	1	-	2	-	1	1
120'	1	-	-	1	1	1
130'	1	1	-	1	1	1
140'	1	-	1	1	1	1
150'	1	1	1	1	1	1
160'	1	-	2	1	1	1
170'	1	-	-	2	1	1
180'	1	1	-	2	1	1
190'	1	-	1	2	1	1
200'	1	1	1	2	1	1
210'	1	-	2	2	1	1
220'	1	-	-	3	1	1
230'	1	1	-	3	1	1
240'	1	-	1	3	1	1
250'	1	1	1	3	1	1
260'	1	-	2	3	1	1

## 77H TAPERED TIP BOOM COMPOSITION

Boom Length (In Feet)	30 Ft. 77S Inner	10 Ft. 77S Center	20 Ft. 77S Center	50 Ft. 77S Center	40 Ft. 77H Outer Base	30 Ft. 77H Tapered Tip
100'	1	-	-	-	1	1
110'	1	1	-	-	1	1
120'	1	-	1	-	1	1
130'	1	1	1	-	1	1
140'	1	-	2	-	1	1
150'	1	-	-	1	1	1
160'	1	1	-	1	1	1
170'	1	-	1	1	1	1
180'	1	1	1	1	1	1
190'	1	-	2	1	1	1
200'	1	-	-	2	1	1
210'	1	1	-	2	1	1
220'	1	-	1	2	1	1
230'	1	1	1	2	1	1
240'	1	-	2	2	1	1
250'	1	-	-	3	1	1
260'	1	1	-	3	1	1
270'	1	-	1	3	1	1
280'	1	1	1	3	1	1
290'	1	-	2	3	1	1



## 9530 TRAVELING WEIGHTS IN POUNDS



X = IN PLACE  
0 = REMOVED

### BOOM REARWARD\*

92" INNER BOOM	77" INNER BOOM	COUNTER-WEIGHT	FRONT OUT-RIGGER	REAR OUT-RIGGER	FRONT TRIDEM	REAR TRIDEM	GROSS WEIGHTS
0	X	X	X	X	141,190	173,610	314,800
0	X	0	X	X	71,350	153,450	224,800
0	X	0	0	X	63,060	146,470	209,530
0	X	0	X	0	77,820	131,700	209,520
0	X	0	0	0	69,540	124,720	194,260
X	0	X	X	X	137,920	181,150	319,070
X	0	0	X	X	68,080	160,990	229,070
X	0	0	0	X	59,790	154,000	213,790
X	0	0	X	0	74,560	139,240	213,800
X	0	0	0	0	66,270	132,260	198,530
0	0	X	X	X	144,100	166,410	301,510
0	0	0	X	X	74,260	146,250	220,510
0	0	0	0	X	65,970	139,270	205,240
0	0	0	X	0	80,730	124,500	205,230
0	0	0	0	0	72,450	117,520	189,970

NOTE: Because of variable manufacturing tolerances a variance of  $\pm 3\%$  should be allowed on these weights.

SEE OPERATOR'S MANUAL FOR MAXIMUM MPH TRAVEL SPEED RESTRICTIONS AS LIMITED BY TIRE LOADS.

### IMPORTANT

The full counterweight cannot be swung over the side or rear of the machine when the outriggers are not set, due to back stability.

\*In all conditions, the weight distribution between the front and rear tridem is more equally balanced when the boom foot is facing the rear of the carrier (boom rearward). Therefore, we have not charted the boom forward condition.



## 9530 GENERAL SPECIFICATIONS (cont.)

**CAB:** Fully enclosed with glazed doors and windows; all safety glass windows mounted in rubber; removable windows in operator's cab; operator's compartment totally enclosed, shielding him from engine and machinery noise; door at rear of operator's compartment provides direct access to machinery; sliding doors on sides and rear; overhead window in operator's cab roof for unobstructed vision; ladder to roof at left front.

### ATTACHMENTS:

**GUY DERRICK ATTACHMENT:** Increases load handling capacity to 600,000 pounds; modified 77" crane boom is fitted with 50 ft. mast tip with anti-friction bearing guy cap and becomes guy derrick mast; derrick boom is 92" heavy duty with six sheave boom point; auxiliary hoist drum becomes guy derrick boom hoist drum with special single lever control; main hoist drum is guy derrick load drum; included are required guide sheaves, boom suspension and 300 ton load tackle; 77" crane boom center sections and pendants are interchangeable in guy derrick mast; 92" crane boom sections are interchangeable in guy derrick boom; maximum mast height is 240 ft.; maximum boom length is 220 ft. with full 360° swing under the guy lines or up to 350 ft. with limited swing between guy lines.

**CONTAINER HANDLING MODIFICATION:** Consists of an alteration to the main drum, lagging to permit reeving both load lines on the main hoist drum permitting the two load lines to spool evenly and run at the same line speed; a special double fall hammerhead permitting one load line to be reeved over the boom point through the crane block deadending on the machinery deck and the second load line to be reeved over the boom point through a second crane block deadending on the auxiliary drum; this line being used to raise or lower the second load block to equalize the load.

### GENERAL:

**CONTROLS:** Graduated air controls, pioneered by AMERICAN, put "feel" at every operator's fingertips.

insure higher production, more accurate control; air line alcohol dispenser absorbs excess moisture in air system due to condensation. 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; cut teeth on all gears except rotating ring gear which has accurately moulded teeth.

Involute splines are used throughout machine for maximum tooth strength through minimum diameter where needed; self centering; equalized bearing and stresses among all teeth, smooth tooth surface; easy interchangeability of parts.

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

**LUBRICATION:** All anti-friction bearings and bronze bushings requiring short period lubrication are provided with pressure grease fittings; swing deck gears are provided with oil bath lubrication; drum gear train and the swing bullgear are arranged for grease lubrication.

### PERFORMANCE:

Rated Swing Speed .....	2.28 rpm
Single Line Speed	
Main Hoist Drum .....	186 FPM
Auxiliary Hoist Drum .....	189 FPM
Single Line Pull:	
Main Hoist Drum .....	40,000 lbs. SLP
Auxiliary Hoist Drum .....	30,000 lbs. SLP

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

**CARRIER:** For details and general dimensions see separate specification.

**NOTE:** In accordance with our established policy of constant product improvement and varying material situations, these specifications are subject to change without notice and without incurring responsibility for machines previously sold.

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R807

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**AMERICAN HOIST & DERRICK COMPANY**  
AN EQUAL OPPORTUNITY EMPLOYER





# 9530 CARRIER SPECIFICATIONS

**CARRIER:** Six axle, 12 x 6 drive carrier with a gross vehicle weight (dynamic) rating of 270,000 lbs., 13 ft. wide over fenders with hydraulic outriggers retracted; 23'2-1/4" wheelbase; 47' overall length.

**FRAME:** Triple box fabricated design, manufactured from high tensile strength steel 100,000 lb. yield; alloy cast steel integral tooth bullgear with integral double tapered roller path is accurately located and welded to carrier frame; dropout hole is provided for removal of swing pinion; heavy duty front bumper; front and rear towing loops.

**STANDARD ENGINE:** GM. Diesel. Model 8V92TAC, 8 cylinder, 405 SAE BHP at 2100 RPM, 4.84" bore, 5" stroke, 736 cu. in. displacement; 1120 ft. lbs. torque at 1400 RPM; fuel injection; "Full-Flow" oil filter and oil cooler.

**OPTIONAL ENGINE:** Cummins diesel Model KT-450 six cylinder, 450 SAE BHP at 2100 RPM, 6-1/4" bore, 6-1/4" stroke, 1150 cu. in. displacement, 1350 ft. lbs. torque at 1500 RPM, turbo-charged and aftercooled.

**TRANSMISSION:** Allison Powershift Model CLBT 5960, six speeds forward, one reverse fitted with single stage torque converter ratio at stall 2.6:1. Cotta transfer box 1863C with ratio low 1.26 and high 1 has shift control located at the side of Carrier.

**PROPEL SHAFTS:** Mechanics 8LN and 9LN.

**BRAKES:** Bendix Westinghouse, internal expanding brake system on all wheels, two 12 cfm engine driven air compressors, four service reservoirs, spring set, air released parking and emergency brakes on three rear axles, two air reservoirs for release of spring set chambers, control lever mounted on dash panel, front brakes 20-1/4" x 5", rear brakes 20-1/4" x 7". Cummins engine has a single Cummins 30 cfm compressor.

**RETARDER:** Allison Hydro-Dynamic retarder brake fitted integrally into the power shift transmission to permit braking on long grades. Retarder offers 1200 ft. lbs. torque resistance at 2000 RPM, converter oil is radiator cooled through a GM two stage oil cooler in the engine.

**FRONT AXLES:** Rockwell FU-910 tubular tridem axle assembly, 90,000 lbs. total capacity, 129" track.

**REAR AXLES:** Clark BD 101000 planetary tridem assembly, 180,000 lbs. total capacity, 117" track, ratio 16.187:1. Fitted with heavy-duty carrier assembly in front rear axle to accommodate high through-drive torque converter conditions.

**SUSPENSION: FRONT:** Hendrickson tridem walking beam type solid mounted to frame and fitted with rubber bushed torque rods. **REAR:** Hendrickson tridem walking beam under-slung type; solid mounted; fitted with three tubular rubber bushed torque rods and cast steel hanger brackets.

**STEERING:** Ross TE-71 cam and lever gear; U-joint flex drive to column; 20" dia. steering wheel; self cancelling directional signal switch column mounted. Power steering with three independent Garrison rams mounted on axles; Vickers 25 gpm hydraulic pump direct coupled; hydraulic oil filter; flow control valve and pressure relief.

**WHEELS:** Dayton 25" spoke wheel assemblies mounted on front axles; rear wheels cast integrally with planetary hub assemblies. Rims 11.25, three piece demountable type.

**FUEL SYSTEM:** Fuel injection system; engine driven fuel pump; 150 gal. fuel tank; fuel filter engine mounted; large diameter suction and return lines, vents and 3" dia. filler neck with gauze filter.

**TIRES:** Eighteen 16.00 x 25-24 ply rating NDMS.

**OPTIONAL TIRES:** Michelin 1600 x 25 XRP two star.

**CAB AND SHEET METAL:** All steel full forward two man low profile cab; front and rear continuous fenders from #10 non-skid tread plate. Separate engine compartment; radiator grill; lock-up hood covers; rear air vents and side mounted tool and storage lockers.

**ELECTRICAL:** 12/24 volt system negative ground; 500 watt alternator with regulator; 24 volt starter; sealed beam dual headlights; front and rear directional signals; combination stop and tail lights; clearance lights on cab side and top; also on rear corners and on center decks; rotating amber flasher mounted on cab; cab dome light.

**OUTRIGGERS:** Front and rear hydraulic outriggers with 12" dia. vertical jacks operated from right and left hand consoles; 42" float assemblies; sliding beams to extend to a maximum of 11'6" from center of carrier to center line of hydraulic jack; overall width retracted with vertical jacks in place 13'0".

**STANDARD EQUIPMENT:** Bostrom Viking driver's seat; RH and LH West Coast mirrors with lights air windshield wipers; heater and defroster; hand throttle control; lock-up side mounted sling boxes; dry type "Cyclopac" engine air filters; front boom rest; four way flasher system; four alternating flashers on rear fenders, two rotating flashers on front; access step into cab, engine compartment and rear deck; tool kit comprising wheel wrench and bar, air chuck and pressure gauge, 50' air hose.

**INSTRUMENTS:** Indirectly lighted instrument panel with speedometer, engine oil pressure gauge, charge indicator, water temp. gauge, air pressure gauge, converter oil temp. gauge, engine tachometer, low air pressure warning, hi/low beam indicators, brake-lock and emergency air controls.

**OPTIONAL FRONT BUMPER COUNTERWEIGHT:** 10,000 lb., pin connected; required for maximum boom and jib erection.

## PERFORMANCE:

Maximum governed speed (high-high): ..... 31 MPH  
Minimum governed speed (low-low): ..... 1.6 MPH  
Maximum gradeability based on torque converter stall (low-low):  
On Highway ..... 35%  
Off Highway ..... 28%

**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.



## 9530 GENERAL SPECIFICATIONS (cont.)

booms, is capable of holding the rated load indefinitely without attention from the operator, and will function under all conditions of brake temperature and lining wear, provided the brake mechanism receives proper adjustment.

**AUXILIARY DRUM ASSEMBLY:** Drum shaft is mounted on anti-friction bearings forward of main hoist drum; alloy cast iron friction drum with integral brake and clutch surfaces is mounted in anti-friction bearings on the drum shaft; drum is skeleton type with full width split steel lagging bolted in place; drum has storage capacity of 1534 ft. of 1" dia. rope; dual, synchronized, air controlled clutches with tandem external contracting bands; dual, synchronized, external contracting band brakes with air assist; cooling flange on brake drums to dissipate heat, brake shafts and pins mounted on anti-friction bearings for positive, effortless response; brake and clutch surface stress relieved. Spring set, air released brake mechanism is similar to main drum brake.

**CONTROLLED LOAD LOWERING FOR MAIN HOIST DRUM:** Roller chain sprocket is bolt connected to drum lagging; heavy duty roller chain drives sprocket on auxiliary clutch shaft mounted below and between main and auxiliary drums; air operated internal expanding tandem band clutch; loads are lowered through overrunning friction torque of engine and converter; capable of lowering rated loads at stable speeds without brake assistance; included as standard equipment on main hoist drum; controlled load lowering is completely independent of all other operations.

**CONTROLLED LOAD LOWERING FOR AUXILIARY HOIST DRUM:** A second clutch and chain sprocket are mounted on auxiliary clutch shaft; lowering is controlled through roller chain driven from chain sprocket on auxiliary hoist drum; clutch and clutch shaft mounted on anti-friction bearings; loads are lowered through overrunning friction torque of engine and torque converter.

**STANDARD BOOM:** Pin connected deep section crane boom has chords of tubular T-1 steel and tubular lattice; boom is 77" cross section and can be extended to 290 ft.; the basic inner section is 30 ft. long; a 40 ft. long tapered intermediate section can be fitted either with a six sheave pin connected hammerhead or with a 30 ft. two sheave pin connected outer section; the hammerhead is for heavy lifts; the tapered outer section is for long boom operations and has a second sheave for an auxiliary load line or for occasional clamshell service; tapered tip is closed throat design, center sections are available in 10, 20 and 50 ft. lengths, pin connected; the maximum 290 ft. length is made up of three 50 ft. and two 20 ft. center sections; boom suspension arrangement consists of two double 1-3/8" diameter pendant suspension cables extending from

the outer bail to the boom point; pendants are premium grade wire rope with swaged pendant fittings; pendants are added or removed for boom length changes; boom hoist line is 14 parts.

**OPTIONAL 92" TUBULAR CHORD BOOM:** Pin connected deep section crane boom has chords of tubular T-1 steel and tubular lattice; boom is 70 ft., 2 piece, 92" cross section, and can be extended to 260 ft., the basic inner section is 30 ft. long; outer section is 40 ft. long with six 36" diameter sheaves mounted on anti-friction bearings in offset boom point; center sections are available in 10, 20, and 50 ft. lengths, boom suspension arrangement consists of two double 1-3/8" diameter pendant suspension cables extending from the outer bail to the boom point; pendants are premium grade wire rope with swaged pendant fittings, pendants are added or removed for boom length changes; boom sections and pendants are pin connected for quick, easy removal or replacement; boom hoist line is 14 parts. Maximum boom length can be increased to 350 ft. with the addition of lightweight 50 ft. transition section, 50 ft. tapered intermediate section, and 50 ft. 2-sheave tapered tip outer section. Boom suspension arrangement consists of two double 1-3/8" diameter pendant suspension cables, the lower set extending from the outer bail to approximately mid point on the boom and the upper set extending from the outer bail to the boom point.

**BOOM STOPS:** Telescoping tubular boom stops restrain the boom from overtopping in the event of hoist line or hoisting tackle failure; standard on all machines furnished with crane boom.

**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 pre-set high limit; standard on all machines sold with crane boom.

**RETRACTABLE A-FRAME:** Is raised or lowered by means of bail rigging with hydraulic cylinder assist from fully retracted position; standard on all machines.

**JIB:** Lightweight No. 16HL jib is constructed with T-1 tubular chords and tubular lattice; basic length is 40 ft. two piece; length extendable to 100 ft. maximum with 10 ft. and 20 ft. center sections; front stay and back stay lines are included on 77" boom.

Jib back stay ears are located on the 40 ft. outer base section; jib back stay length must equal or exceed jib length, for longer jibs the back stay line is attached at boom inner section or optional ears on center boom section. On 92" boom jib back stay line is attached at boom inner section or on 50 ft. center sections which have back stay ears as standard equipment.



# 9530 GENERAL SPECIFICATIONS

## UPPER MACHINERY:

**ENGINE:** Detroit Diesel (GM) 8V-71-N Model No. 7083-7000 diesel engine, eight cylinder, 4-1/4" bore, 5" stroke, 568 cu. in. displacement, net rated 268 h.p. (304 gross h.p.) @ 2100 rpm converter input; Twin Disc three stage hydraulic torque converter; mechanical limiting speed engine governor with variable speed tail shaft governor; 24 volt electric starting.

**POWER TRANSMISSION:** Power is transmitted from engine to operating machinery by multiple strand roller chain, enclosed and running in oil.

**FUEL TANK:** 184 gallon capacity.

**ROTATING MACHINERY BASE:** Electric welded steel plate and alloy steel casting unit; tapered deep girder construction with integral walkways; accurate milling, boring and drilling with modern computer controlled machine tools using jigs and heavy duty fixtures insures proper alignment of machinery under the most severe operating conditions and provides accurate fit of replacement parts.

## COUNTERWEIGHT:

Model	Type Ct. Wt.	45,000# Basic Casting	2,525# L.H. Corner Overlay	8,950# Center Overlay	2,525# R.H. Center Overlay	Total Weight
9530	T-L-R-R	1	3	3	3	80,000#

After removal of the top layer (15,000 lbs) of overlays, the remaining 75,000 lbs of counterweight is removed, without assistance, through use of counterweight removal attachment; two cast alloy steel arms are pivoted from rear of machinery deck; alloy steel links suspend the counterweight from these arms and machined cast steel latches secure the arms; counterweight is further secured by two over-center locking arms; no bolts are employed; counterweight is lowered and raised by hydraulic cylinders.

**LOAD AND HOOK ROLLERS:** Tapered load rollers transmit downward loads to machined upper roller path on carrier; tapered hook rollers transmit uplift loads to lower path; two sets double equalizing anti-friction bearing load rollers and two sets double equalizing bronze bushed hook rollers in front; two sets anti-friction bearings double equalizing hook rollers and two single bronze bushed load rollers in rear; hook rollers easily adjustable by eccentric hook roller axle.

**DRIVE SHAFT ASSEMBLY:** Independent primary drive shaft consists of alloy steel shaft with cut steel pinion and ductile iron roller chain sprocket with steel hub insert splined to shaft; shaft mounted in pressure grease lubricated anti-friction bearings. This shaft assembly has a single purpose of speed reduction and is not compromised by mounting clutches for other functions.

**SWING ASSEMBLY:** Variable displacement piston pump is direct driven off the front of the engine; two constant displacement piston motors are geared to

swing turntable through spur gear reduction; closed hydraulic circuit between pump motors; operator has direct control of the pressure exerted on the motors for swinging in either direction; swing motion is substantially independent of engine speed; swing brake on vertical swing shaft is spring set, air released; brake control valve on lever stand permits variable pressure from "released" to "set"; in addition, side motion of swing clutch lever applies variable air pressure to swing brake.

**INDEPENDENT BOOM HOIST:** Cast steel drum and integral cut steel spur gear operate on bronze bushings; boom hoist drum shaft is high carbon steel, mounted in bored holes in machinery base; auxiliary drum provided for take up of boom hoist line required for raising "A" frame and outer bail to working position; jaw clutch shifter with positive interlocks between main and auxiliary drums; spring set, air released locking pawl provided to hold boom during operation or when machine is standing idle; integral cut tooth spur gear and clutch ring are mounted on anti-friction bearings on clutch shaft; shaft is high carbon steel and operates in bronze bushings pressed into machinery deck; clutch spider and pinion splined to clutch shaft. Boom hoist clutch is air controlled, internal expanding band; cast alloy iron brake wheel is keyed to shaft to facilitate removal; brake is spring set and air released with single valve control for both hoisting and lowering.

**CONTROLLING BOOM LOWERING:** Boom lowering speed limited by speed of engine; rapid boom handling is possible; overrunning sprag clutch mechanism mounted on independent shaft engages positively and smoothly; disconnect provided for reversed gear operations; shifter inter-locked with boom brake to prevent "live boom."

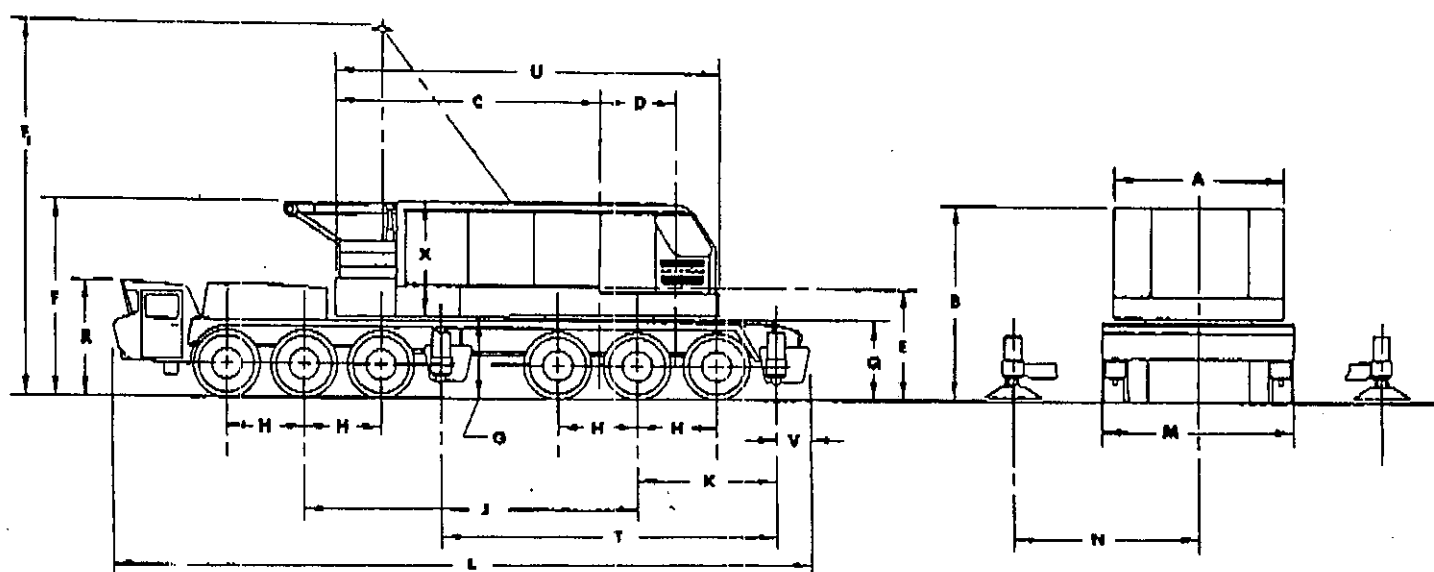
**MAIN DRUM ASSEMBLY:** Main hoist drum shaft is mounted on anti-friction bearings in machinery base; alloy cast iron friction drum with integral brake and clutch surfaces; drum mounted on anti-friction bearings; split steel lagging runs full width between friction drums for greater rope capacity; drum storage capacity is 2560 ft. of 1-1/8" dia. rope; dual, synchronized, air controlled clutches with tandem external contracting bands; dual synchronized brakes are large, external contracting bands with air assist, for smooth operation; extra thick moulded liners; raised cooling flanges on brake drums dissipate heat; brake and clutch surfaces are stress relieved for smooth operation without scoring; brake shafts and pins are mounted on anti-friction bearings for responsive operation with minimum effort.

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 operations. This brake, furnished as standard equipment on all machines sold with crane





# 9530 CARRIER SPECIFICATIONS



## GENERAL DIMENSIONS

A.	Width of Cab .....	11'9"	L.	Overall Length of Carrier.....	47'7"
B.	Height to Top of Cab .....	13'5"	M.	Overall Width of Carrier.....	13'
C.	Tail Swing .....	17'7"	N.	Centerline of Carrier to Centerline of Outrigger .....	11'6"
D.	Centerline of Rotation to Centerline of Boom Foot .....	5'0-3/4"	Q.	Top of Mounting Plate to Ground .....	5'3"
E.	Ground to Centerline of Boom Foot .....	7'7-3/4"	R.	Top of Carrier Cab to Ground .....	7'7"
F.	Height Over A-Frame (Lowered).....	13'6-1/2"	T.	Centerline Front Outrigger to Center Line Rear Outrigger .....	22'5"
F.	Height Over A-Frame (Raised) .....	29'3"	U.	Rear of Counterweight to Front of Cab .....	25'9"
G.	Ground to Bottom of Counterweight.....	5'7"	V.	Centerline of Rear Outrigger to End of Carrier .....	2'3"
H.	Distance Between Axles .....	5'4"	X.	Bottom of Machinery Deck to Top of Cab....	7'-10"
I.	Centerline of Rotation to Centerline of Rear Bogie .....	2'7-1/4"		Turning Radius .....	66'
J.	Wheel Base .....	23'2-1/4"		Clearance Under Raised Outrigger Float .....	4-1/2"
K.	Centerline Rear Bogie to Centerline Rear Outrigger .....	9'4"		Clearance Under Equalizer Beam.....	12"

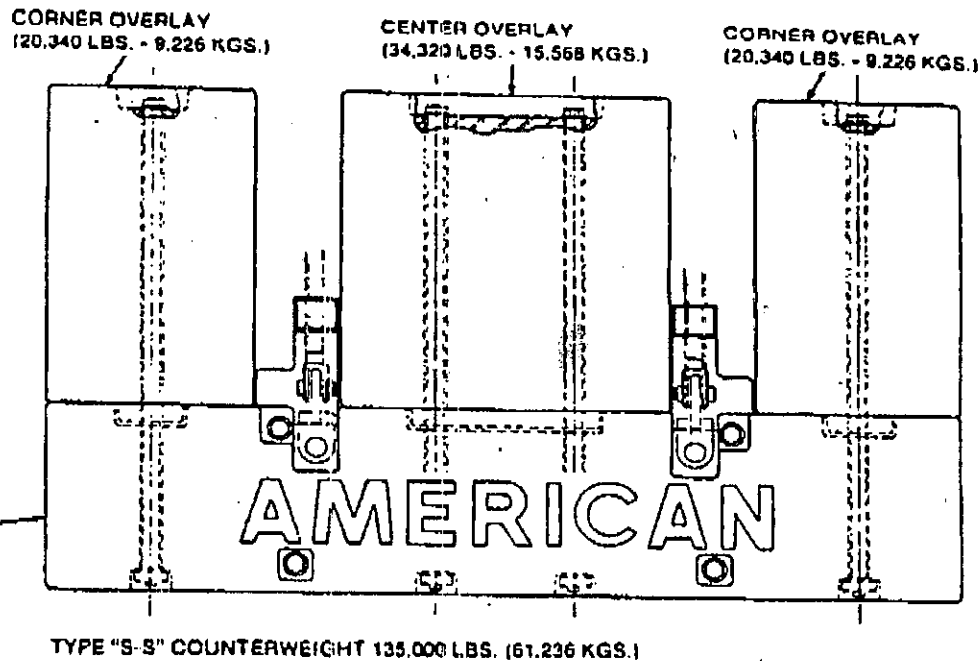


*Bob Craft*

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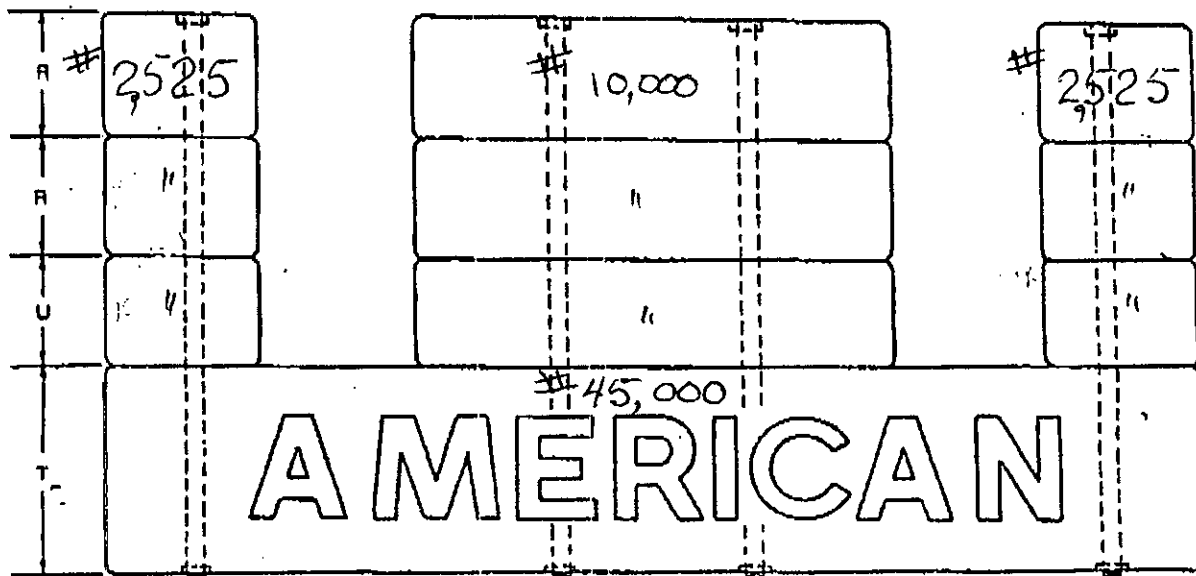


**INSTALLATION**  
900 Series



TM0060001-3

TYPES "T-U-R" AND "T-U-R-R"



"T" Base weighs 44,000 lbs. (19,958 kgs.)  
"U" Layer weighs 15,500 lbs. (7,031 kgs.)  
Each "R" layer weighs 15,500 lbs. (7,031 kgs.)

TM0060001-4

Printed in U.S.A.  
7/75(R1-11/81)

TM0060001



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LUBRICATION  
American Cranes

Lube Item #5 & #7: For enclosed gearing. Apply arctic (shaded column) or temperate lubricant (unshaded column), as conditions require.

Must conform to industry standards: 1) Agma 5EP 3) ASTM Gr. 1000 2) ISO 220 4) M11-L-2105 B/C		Must conform to industry standards: 1) M11-L-2105C	
Manufacturer	Brand Name	Manufacture	Brand Name
Amoco	Permagear EP90	Amoco	Multi-Purpose Gear Lubricant No. 90
BP (British Petroleum)	Energrease GG	Conaco	DN-600 Gear Oil
Chevron	NL Gear Cmpnd 220	Emery	Frigid-Go EP 75W-90
Citgo	Citgo EP Compound	Kendall	NS-MP 75W
Conaco	Gear Oil 220	Lubriplate	APG 80
Exxon	Spartan EP220	Mobil	SHC 629
Fina	Giran 220	Whitmore	17-HD
Kendall	Super Three Star 80W/140		
Lubriplate	APG 90		
Mobil	Mobilube 46 SAE 90		
Shell	Spirax 85W/140		
Texaco	Meropa 220		
Whitmore	17-HD		

Lube Item #6A: For open gears. Apply arctic (shaded column) or temperate lubricant (unshaded column), as conditions require.

Must conform to industry standards: 1) AGMA 15R 2) NLGI No. 2,3		Must conform to industry standards:	
Manufacturer	Brand Name	Manufacturer	Brand Name
Amoco	Amovis 10X	Amoco	Amoco Polar Compound
Citgo	Open Gear No. 4A	Conaco	Polar Start DN-600
Chevron	Pinion Grease MS-CB	Exxon	SRI Grease
Exxon	Surett N 26K	Beacon	325
Kendall	Open Gear Compound SR-12K Gear	Kendall	Open Gear Compound SR-12X
Lubriplate	Shield Extra Heavy	Lubriplate	Low Temp Gear Shield
Mobil	Mobiltac E	Mobil	KM TR 147
Shell	Alvania EP2	Whitmore	LGC Sub-zero
Texaco	Crater 5X		
Whitmore	LGC Medium		
The above listed lubricants are for service in TEMPERATE climates, in ambient temperatures from 20°F to 110°F (-7°C to 43°C).		The above listed lubricants are for service in ARCTIC climates, in ambient temperatures from -45°F to 32°F (-43°C to 0°C).	



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LUBRICATION  
American Cranes

Lube Items #13: For railroad journal boxes, axle gear case bearings. Apply arctic (shaded column) or temperate lubricant (unshaded column), as conditions apply.

Manufacturer	Brand Name	Manufacturer	Brand Name
Amoco	Superla AAR All-weather Car Oil	Amoco	Superla AAR All-Weather Car Oil
Getty Oil	Veedol Arvella 82	Getty Oil	Veedol Arvella 70
Gulf	All Year Car Oil 35	Gulf	All Year Car Oil 35
Shell	All Year Car Oil 33	Shell	All Year Car Oil 33
Texaco	Engine Oil No. 30	Texaco	Engine Oil No. 20W
Union	Motoreze 40	Union	Motoreze 20
The above listed lubricants are for service in TEMPERATE climates, in ambient temperatures from 20°F to 110°F (-7°C to 43°C).		The above listed lubricants are for service in ARCTIC climates, in ambient temperatures from -45°F to 32°F (-43°C to 0°C).	

Lube Item #0: For special applications, such as low speed/medium-to-high load flexible gear couplings. Use where specified only. This light viscosity grease may be used in either temperate or arctic ambient temperatures, depending upon specific requirements for lubricant viscosity, adsorption and cohesiveness, as well as bearing load/speed conditions.

Manufacturer	Brand Name
Amoco Oil Company	Rykon Grease #0 EP
Chevron U.S.A., Inc.	Dura-Lith Grease EPO
Exxon Company, USA	Lidok EP-0
Gulf Oil Company	Gulfcrown Grease EP #0
Kendall Refining Co.	Kendall L-406 Grease
Keystone Div. Pennwalt Corp.	Zeniplex #0
Mobil Oil Company	Mobilux EPO
Phillips Petroleum Co.	Philube EP-0
Shell Oil Company	Alvania EP RO
Standard Oil Co. (Ohio)	Bearing Gard LT-0
Sun Oil Co.	Sun Prestige 740 EP
Texaco Oil Company	Multifak EPO
Union Oil Co. (Calif.)	Union Unoba EPO





**American Crane Corporation**  
Wilmington, North Carolina



**LUBRICATION CHECK LIST**  
**900 SERIES CRANES**

**LUBRICATION CHECK LIST**

ASSEMBLY	INTERVAL	DATE AND INITIAL OF OILER							
Crawler Drive Chains	40 Hrs.								
Boom Clutch Pins	40 Hrs.								
Boom Gear Shifter Pins	40 Hrs.								
Boom Hoist Dog	40 Hrs.								
Swing Shaft Clutch Pins	40 Hrs.								
Shaft Bearing-Hydrostatic	40 Hrs.								
Swing Roller Brackets	40 Hrs.								
Vert. Swing Shaft Splines & Jaw Clutch	40 Hrs.								
Swing-Travel Shifter	40 Hrs.								
Drive Shaft Sprocket Bearings	40 Hrs.								
Main Hoist Clutch Pins	40 Hrs.								
Third Drum Clutch Pins	40 Hrs.								
Aux. Shaft Clutch Pins	40 Hrs.								
C. L. L. Sprockets	40 Hrs.								
Steering Shifter Pins and Shafts	40 Hrs.								
Vert. Travel Shaft Splines & Jaw Clutch	40 Hrs.								
Bail, Jib and Boom Point Sheaves (Bearings)	40 Hrs.								
Blocks & Hooks (Bearings)	40 Hrs.								
Shaft Splines/Overrunning Shaft	40 Hrs.								
Inner Bail & A-Frame Axle	40 Hrs.								

ASSEMBLY	INTERVAL	DATE AND INITIAL OF OILER							
Swing Brake	Monthly								
Boom Hoist Brake	Monthly								
Third Drum Brake	Monthly								
Main Hoist Brake	Monthly								
Main & Aux. Hoist Brake (Truck)	Monthly								



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**HYDRAULIC SYSTEMS**  
American Cranes

## HYDRAULIC FLUID RECOMMENDATIONS

Figure 2 (a gear-type design) and Figure 3 (an axial-piston design with the pistons arranged parallel to the center shaft) show the types of pumps that are in widespread use in the majority of hydraulic systems. These designs do not require special fluids with higher viscosity at normal operating temperatures.

### **CAUTION**

WHICHEVER TYPE OF FLUID IS REQUIRED IN THE SYSTEM, IT IS EXTREMELY IMPORTANT FOR THE OPERATOR TO BE AWARE THAT NEGLIGENCE TO EQUIPMENT CAN RESULT FROM OPERATION WITH COLD OIL, JUST AS IT CAN FROM OPERATION IN AN OVERHEATED CONDITION. FOR MAXIMUM SERVICE LIFE AND BEST RESULTS WITH WHATEVER BRAND OF HYDRAULIC FLUID IS USED, ALWAYS STAY WITHIN THE RECOMMENDED OPERATING TEMPERATURE LIMITS.

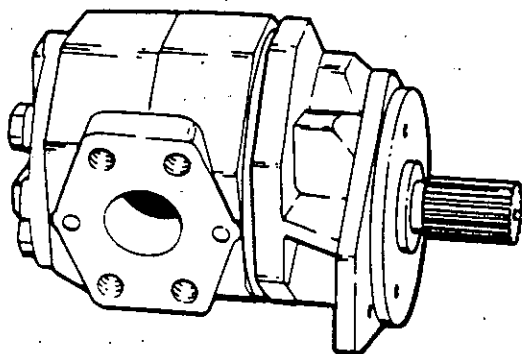


Figure 2

If duty cycling or other prolonged, repeated operation causes reservoir temperatures to exceed the recommended maximum, use a numerically higher ISO grade fluid, or change brands. To ensure adequate lubrication during start-up,

precautions such as tank heaters or heated enclosures should be used to warm oil to minimum start-up temperature, whenever required.

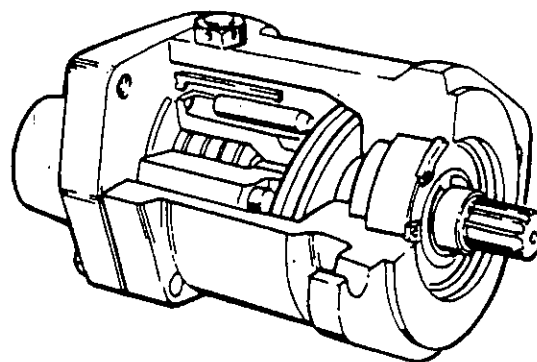


Figure 3

### **CAUTION**

CONTAMINATED OR DIRTY OIL ACCOUNTS FOR THE LARGEST SHARE OF HYDRAULIC EQUIPMENT FAILURES. TO PREVENT PREMATURE WEAR AND RESULTING SERVICE PROBLEMS, IT IS ESSENTIAL THAT ALL NEW HYDRAULIC FLUID BE PRE-FILTERED BEFORE BEING PUT INTO ANY AMERICAN CRANE MACHINE. IN TOO MANY CASES IT HAS BEEN FOUND THAT THE CONTAMINATION LEVEL OF NEW HYDRAULIC FLUID (AS RECEIVED) IS NOT ACCEPTABLE IN OUR HYDRAULIC SYSTEMS. IT IS RECOMMENDED THAT ALL FLUID BE PUMPED THROUGH A  $B_{10}=2$  NON-BYPASS FILTER, BEFORE IT IS INTRODUCED INTO THE HYDRAULIC SYSTEM RESERVOIR.

NOTE: "BETA" values or ratios for filtering media are derived from efficiency tests which compare the number of particles (of a given size X) upstream of the filter, against the number of particles downstream, according to



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HYDRAULIC SYSTEMS  
American Cranes

### HYDRAULIC FLUID RECOMMENDATIONS

ANSI spec B93.31-1973 and ISO DIS 4572.  
A filter with a  $B_{10}=2$  rating is 50% efficient for 10 micron or larger particles.

Drums should be stored in a clean, dry location. Never allow water to collect around bungs—store all drums with the bungs down or horizontal, and clean around bungs thoroughly prior to opening.

All oils used must satisfy the following performance requirements.

- 1.) Specify Gravity - .84 to .90
- 2.) Viscosity Index - 90 or greater
- 3.) Anti-foam and Rust - must pass ASTM standards D665 and D892. No foam allowable after 10 minutes.
- 4.) Fluid must meet military specification MIL-H-24459 including the following viscosity range:

Axial Piston  
or Gear      Radial  
Piston

Start-up, SSU Max	7,500	48,000
Full Power SSU Max.	750	750
Full Power, SSU Min.	60	142



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**HYDRAULIC SYSTEMS**  
American Cranes

TABLE OF APPROVED FLUID APPLICATIONS

	TROPICAL	SUMMER	WINTER	ARCTIC
Minimum Reservoir Temperature (Coldest Start-up Oil Temp Allowed)	60°F (15°C)	30°F (-1°C)	0°F (-18°C)	-30°F (-34°C)
Maximum Ambient Air Temperature	120°F (49°C)	90°F (32°C)	60°F (16°C)	30°F (-1°C)
Maximum Reservoir Temperature -Axial/Gear Equipment	200°F (93°C)	170°F (77°C)	140°F (60°C)	110°F (43°C)
Maximum Reservoir Temperature -Radial Piston Equipment	150°F (65°C)	140°F (60°C)	100°F (38°C)	70°F (21°C)

MANUFACTURER/BRAND NAME		TEMPERATURE/APPLICATION			
Autoline	Super Blue Hyd. Oil 32			[**]	
	Super Blue Hyd. Oil 46		**	[**] [●]	
	Super Blue Hyd. Oil 68		** [●]		
	Super Blue Hyd. Oil 100	**			
	Super Blue Hyd. Oil 150	** ●			
British	Energol HLP 32			[**]	
Petroleum	Energol HLP 46		**		
	Energol HLP 68	**	** [●]		
	Energol HLP 100	**	** ●		
	Energol HLP 150	** ●			
	Energol SHF 22			**	**
	Energol SHF 32			**	
	Energol SHF 46		**	** ●	
	Energol SHF 68	**	** [●]		
	Energol SHF 100	**	** ●		
Chevron	AW 32			**	
	AW 46		**		
	AW 68		** ●		
Conoco	Super Hyd. Oil 32			**	
	Super Hyd. Oil 46		**		

KEY: \*\* - APPROVED FOR GEAR/AXIAL PISTON EQUIPMENT  
 ● - APPROVED FOR RADIAL PISTON EQUIPMENT  
 [\*\*] and [●] - APPROVED FOR USE ONLY IF MINIMUM ALLOWABLE (COLD START-UP)  
 RESERVOIR TEMPERATURE IS INCREASED BY 10°F [Summer conditions  
 to 40°F (4°C), winter conditions to 10°F (-12°C), and arctic  
 conditions to -20°F (-23°C)]. PREHEAT WHEN REQUIRED.





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**LUBRICATION**  
American Cranes

## MAINTENANCE

1. Maintain oil level at one half full. (See illustration for location of oil ports.)
2. Change oil every 6 months.
3. Flush clutch in the Spring and in the Fall of the year... when oil is changed.
4. It is recommended that clutches which have been out of service or on machines being switched to booming operation be flushed to remove any wax or gum formation resulting from vaporization of the oil in the unit and recoiled prior to committing the crane to operation.

## FLUSHING PROCEDURE

1. Drain clutch, then fill clutch 3/4 full with suitable mineral spirits, such as ESSO "Varsol No. 1" or Shell "Sol No. 340". Kerosene may be used as a substitute.
2. Run clutch for 15-20 minutes to break up and dissolve oily residue which may have formed inside.
3. Drain clutch completely and relubricate with any of the lubricants recommended on Page 230.

## PREVENTATIVE MAINTENANCE

It is recommended that after two (2) years or five thousand hours (5,000) of machine operation, whichever comes first, this clutch be replaced. Contact the nearest American Crane distributor for all replacement clutch requirements.

## CLUTCH RECONDITIONING SERVICE

Some clutches may be reconditioned by the manufacturer while others may not. Contact an American Crane distributor for information concerning clutch reconditioning services available. Reconditioned clutches carry a new clutch warranty.

## NOTE:

*These instructions cannot cover all details nor provide every possible contingency which may be met in installation, operation or maintenance. Should further information be needed, contact American Crane Corporation.*

## ⚠ WARNING

Failure to strictly follow the maintenance procedures set forth herein may cause the boom to fall and impose a safety danger to personnel and property. The overrunning clutch should be replaced every two years or 5,000 hours of machine use. Failure to follow proper lubrication and replacement procedures could affect any rights to warranty claims.

## WARRANTY

The manufacturer of the clutch guarantees that its products will leave the factory in good condition. They warrant their products against defects in workmanship and material for a period of 365 days (1 year) after shipment. Adjustments under this warranty will be made only after completion of inspection of the part or product in manufacturer's factory. The manufacturer's liability under this warranty shall extend only to the replacement or correction of any defective part or product determined by inspection as not conforming to this warranty.

This warranty shall not apply to any product which shall have been repaired or altered without the manufacturer's knowledge and consent or operated or installed contrary to the manufacturer's instruction or subjected to misuse, improper maintenance or is damaged by accident or negligence.

This warranty is made in lieu of all warranties express or implied, including but not limited to warranties of merchantability or fitness for a particular purpose, and there are no other warranties that extend beyond this express warranty.

The manufacturer reserves the right to discontinue models or to change specifications at any time without notice. No discontinuance or change shall create any liability on the part of the manufacturer in respect to its products in the hands of its customers or products on order not incorporating such change even though delivered after any such change.



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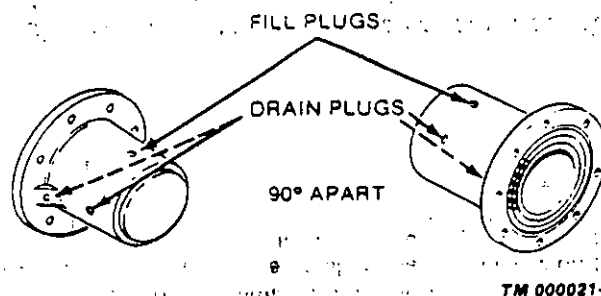
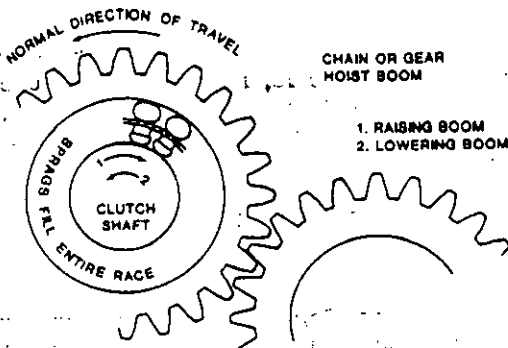
**LUBRICATION**  
American Cranes

## OVERRUNNING (SPRAG) CLUTCH

Refer to your operator's manual for the location of the sprag clutch. This clutch is connected through a chain drive, or through gears, to the boom hoist drum.

### (NOTE:)

The sprag clutch is a precision made product; it is very important to maintain and lubricate it properly. The clutch will then provide safe and excellent performance.



The drain plug may be located on the side of the barrel, or on the face of the housing.

**IMPORTANT: Check the oil level every 30 days**

Oils listed on the front of this page may be obtained in quarts by contacting the American Crane Parts Department and ordering part number 1058094.

**CAUTION:** Improper lubrication maintenance may result in excessive wear. Follow maintenance instructions and check oil level every 30 days. Low oil level may prevent proper operation which could result in injury, death, or property damage.

## LUBRICATION REQUIREMENTS

FOR TEMPERATURES FROM (-) 40F (-40C) TO (+) 120F (+49C)		WARNING
Chevron	Chevron Aviation Hydraulic Fluid Grade "A"	THE USE OF ANY LUBRICANTS IN CLUTCH ASSEMBLIES, OTHER THAN THOSE SHOWN, CAN RESULT IN IMPROPER ENGAGEMENT. IMPROPER SPRAG ENGAGEMENT MAY CAUSE THE BOOM TO FALL RESULTING IN INJURY, DEATH OR PROPERTY DAMAGE.
Shell Oil Co.	Aeroshell Fluid #4	
Mobil Oil Corp.	Aero HFA Oil	THE MANUFACTURER IS NOT RESPONSIBLE FOR ANY CHANGES MADE BY THE MANUFACTURERS IN THEIR LUBRICANTS.
Exxon Oil Co.	Univis J-13	
The above oils are equivalent to military specification MIL-H-5606 and can be obtained by contacting the nearest oil company sales office.		THE USE OF ANY LUBRICANTS, OTHER THAN THOSE LISTED AND/OR CONFORMING WITH MILITARY SPECIFICATIONS MIL-H-5606, WILL AUTOMATICALLY VOID ANY WARRANTY ON THE CLUTCH

**IMPORTANT:** Do not mix one brand of oil with another. They are not compatible. When switching from one brand to another, drain old oil and flush clutch before adding new oil. DO NOT ADD ANY EP OR SLIPPERY ADDITIVES TO ABOVE OILS.



**American Crane Corporation**  
Wilmington, North Carolina



**DUTY CYCLE  
AND TRAVEL  
900 SERIES CRANES**

### DUTY CYCLE AND TRAVEL

Different lubrication intervals are required for duty cycle work and operations in which the machine is continually under travel.

#### DUTY CYCLE - LUBRICATE EVERY FOUR HOURS

Fairlead - - - - -	Page 256
All Swing Rollers - - - - -	Page 237
Center Pin Bushing - - - - -	Page 236
Vertical Swing Shaft Lower Bushing - - - - -	Page 236
Vertical Swing Shaft Upper Bushing - - - - -	Page 238

#### TRAVEL - LUBRICATE EVERY 1/2 HOUR OR 1/2 MILE

Vertical Travel Shaft Bushings - - - - -	Page 236, 244
Horizontal Travel Shaft Bushings - - - - -	Page 244
Track Rollers - - - - -	Page 245-246
Drive Tumblers - - - - -	Page 245-246
Idler Tumblers - - - - -	Page 245-246
Crawler Drive Sprocket Bushings - - - - -	Page 245-246



**American Crane Corporation**  
Wilmington, North Carolina

**AMERICAN**

LUBRICATION  
INTERVAL CHARTS  
900 SERIES CRANES

LUBRICATION INTERVAL CHART (CONTINUED)

<u>INTERVAL</u>	<u>LUBRICANT*</u>	<u>ASSEMBLY LUBRICATED</u>	<u>FITTINGS</u>	<u>PAGE</u>
Daily	#2	Boom, Jib and Bail Sheaves With Bushings		252
Daily	#2	Positive Swing Lock Crawler Cranes	1	241
Weekly	#8	Crawler Drive Chains	Coat	246
Weekly	#8	Boom Clutch Lever Pins	Pins	232
Weekly	#8	Boom Gear Shifter Pins	5 Places	232
Weekly	#2	Boom Hoist Dog	1, 2	233
Weekly	#8	Horizontal & Vertical Reverse Shaft Clutch Lever Pins	Pins	238
Weekly	#2	Shaft Bearing-Hydrostatic Swing	1	240
Weekly	#2	Swing Roller Brackets	4	237
Weekly	#8	Vertical Swing Shaft Splines & Jaw Clutch	Oil Cup	238
Weekly	#8	Swing-Travel Shifter	Shaft	239
Weekly	#2	Drive Shaft Sprocket Bearings	2	220
Weekly	#8	Main Hoist Clutch Lever Pins	Pins	221
Weekly	#8	Third Drum Clutch Lever Pins	Pins	221
Weekly	#8	Auxiliary Shaft Clutch Lever Pins	Pins	222
Weekly	#2	Controlled Load Lowering Sprockets	1 Each	222
Weekly	#8	Steering Shifter Pins and Shafts		244
Weekly	#8	Vertical Travel Shaft Splines and Jaw Clutch	Oil Cup	244
Weekly	#2	Bail, Jib and Boom Point Sheaves With Bearings		252
Weekly	#2	Blocks & Hooks With Bearings		252
Weekly	#8	Shaft Splines On Overrunning Clutch Shaft		229
Weekly	#2	Inner Bail and A-Frame Axle	3	255
Monthly	#2	Thrust Nuts and Bearings on The Swing Brake	3	238
Monthly	#2	Boom Hoist Brake Bearing	1	232
Monthly	#8	Third Drum Brake	Oil Shaft	224
Monthly	#2	Main Hoist Brake Bearings	8	223
Monthly	#2	Main & Auxiliary Hoist Brake Bearings (Truck)	8	224

\*Please see page 260 for product recommendations.





**American Crane Corporation**  
Wilmington, North Carolina



## LUBRICATION

500/700/900/1100/1200 Series Cranes  
DH/DEH Locomotive Cranes

# GENERAL LUBRICATION INFORMATION

In order to properly protect your machine and get the best performance and longest life out of it, schedules of lubrication and preventive maintenance must be adhered to. All lubrication and maintenance schedules are guidelines based upon normal work cycles under average working conditions. At any time that unusually tough working conditions and operation are encountered, maintenance and lubrication intervals must be shortened. Operating at extreme temperatures (hot or cold), under constant heavy load, operating intermittently, or operating in very dirty conditions constitute tougher than average working conditions and operation. Both service recommendations and actual working conditions must be taken into consideration to determine when the machine should be serviced.

## Lubrication

Keeping your machine properly lubricated is the most effective way to prevent part failures and consequent costly repairs. The lubrication chart provided on page 210 shows the crane assemblies to be lubricated by interval. The pages following the chart illustrate the assemblies and their lubrication fittings.

The following information contains additional recommendations.

a. Keep all lubricants and lubricating equipment clean and free of contamination both while in storage and while in use.

b. Clean all grease fittings and surfaces before applying a grease gun. Dirt on fittings will be forced through along with clean grease, and will cause wear and premature material failures.

c. Wipe off excess grease and other lubricants. Oily and greasy surfaces collect dirt which may work its way into moving parts and cause wear and failures.

d. Avoid overgreasing. Excess lubricants will be thrown into clutches and brakes and will cause slipping.

e. Always maintain a film of grease on exposed gears; however, avoid overgreasing (see "d" above and Lubrication Interval Chart).

## IMPORTANT

*Under no circumstances may the recommended lubrication intervals be exceeded. Avoiding service intervals will be construed as negligence and will void the warranty on the machine.*

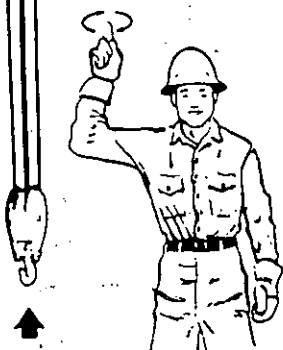
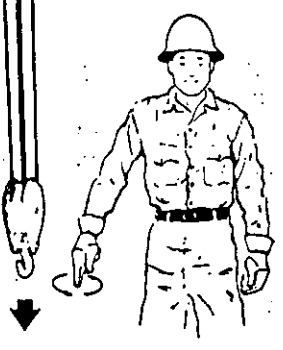
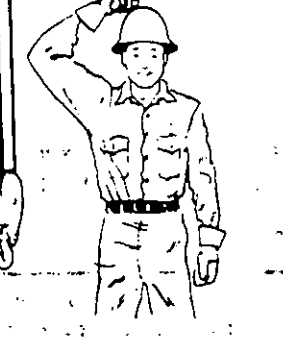

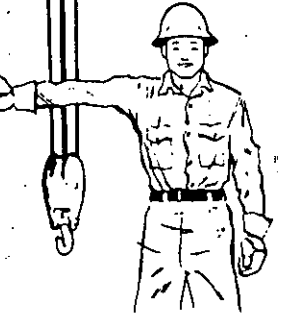
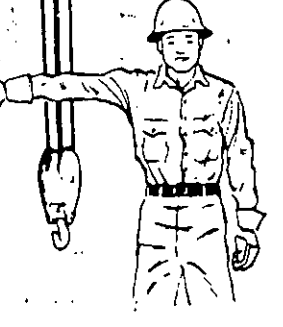
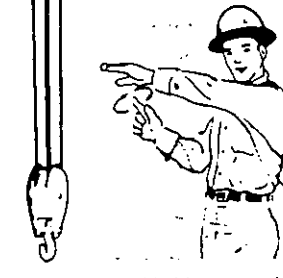
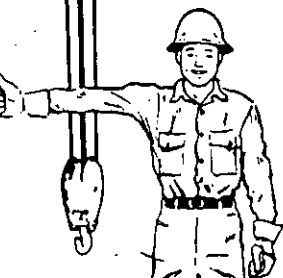
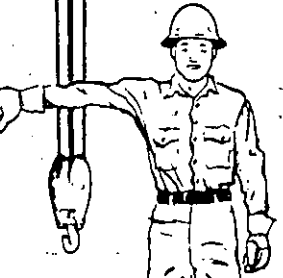


**American Crane Corporation**  
Wilmington, North Carolina



**OPERATION**  
**AMERICAN® Cranes**

## Hand Signals

 <p><b>HOIST.</b> With forearm vertical, forefinger pointing up, move hand in small horizontal circle.</p>	 <p><b>LOWER.</b> With arm extended downward, forefinger pointing down, move hand in small horizontal circles.</p>	 <p><b>USE MAIN HOIST.</b> Tap fist on head; then use regular signals.</p>
 <p><b>USE WHIPLINE (Auxiliary Hoist).</b> Tap elbow with one hand; then use regular signals.</p>	 <p><b>RAISE BOOM.</b> Arm extended, fingers closed, thumb pointing upward.</p>	 <p><b>LOWER BOOM.</b> Arm extended, fingers closed, thumb pointing downward.</p>
 <p><b>MOVE SLOWLY.</b> Use one hand to give any motion signal and place other hand motionless in front of hand giving the motion signal. (Hoist slowly shown as example.)</p>	 <p><b>RAISE THE BOOM AND LOWER THE LOAD.</b> With arm extended, thumb pointing up, flex fingers in and out as long as load movement is desired.</p>	 <p><b>LOWER THE BOOM AND RAISE THE LOAD.</b> With arm extended, thumb pointing down, flex fingers in and out as long as load movement is desired.</p>

Hand Signals

TM 0000153



**American Crane Corporation**  
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**OPERATION**  
All Series Cranes

## **COLD WEATHER OPERATION**

The static load carrying characteristic of the steels used in our crane structures are not affected by cold temperatures. The impact and fatigue characteristics of these materials are affected, however, with the result that cyclic operations such as dragline, clamshell, magnet, backhoe, or concrete placing must be curtailed in extremely cold weather. Since some of our materials are more affected than others, this curtailment will vary depending upon the components used in the machine. For example, the T-1 steel crane booms have excellent cold weather characteristics and require no derating down to  $-30^{\circ}\text{F}$ . Other components may require either reduced loading or insulation and heating provisions for low temperature cyclic operations.

During low temperature operation extreme care must be exercised to prevent shock loading during hoisting and lowering loads. Impacting results from sudden stops or quick engagement of clutches with machinery rotating at high speeds.

On the basis of studies and experience we do not reduce ratings for lift crane service in temperatures down to  $-30^{\circ}\text{F}$ . The wire ropes used in lift crane work are subject to fatigue. Information received from wire rope manufacturers indicate that there should be no embrittlement at  $-30^{\circ}\text{F}$  temperature, but rope lubrication may be a problem. Normal lubricants will become hard and chip off leaving the wires without lubrication. Special low temperature lubricants such as Texaco "#1973 Low-Temp" must be used on the wire rope and appropriate low temperature lubricants must be used throughout the crane.



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## AVOIDING ROTATION OF SUSPENDED LOADS

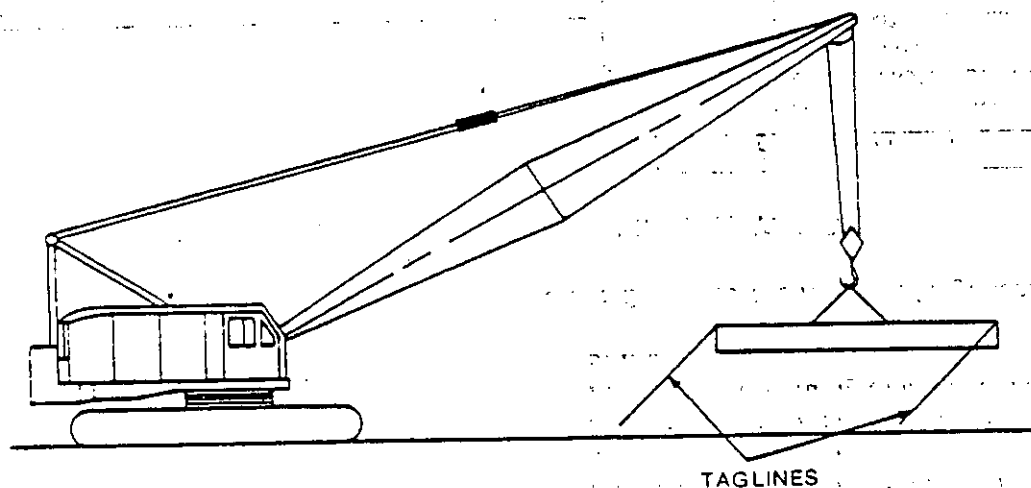
In order to prevent turning of the load lines, particularly when reeved with lesser parts of line, the swivel hook should be locked to the block by means of its locking pin. When the load must be swung, the swivel should not be locked in order that the load can be shifted into its designated drop position.

Load line spinning can be reduced in some cases by removing the load line from the drum and untwisting it until it is as straight as possible (5 to 10 turns) and reinstalling on the drum.

When lifting heavy or bulky loads it is recommended to attach taglines (ropes) to each side of the load to prevent its rotation.

### **WARNING**

*When using hand lines to guide or snub a load, do not wrap the line around any part of your body.*



(CRAWLER CRANE SHOWN FOR REFERENCE ONLY).





**American Crane Corporation**  
Wilmington, North Carolina



**OPERATION**

500, 700, 900 & 1100 Series Cranes

### TAILSHAFT AND ENGINE GOVERNOR OPERATION

Your crane may be equipped with both an engine governor and a tailshaft governor. These two governors are used to limit and control the maximum engine and torque converter output shaft speeds, which in turn controls drum speeds.

For crane or lifting work, set the tailshaft governor control in the wide open position. Set the engine governor control in its zero position. The operator now controls the engine speed up to maximum with the foot throttle. The engine governor control lever may be set at any position to keep the engine running at a desired speed. When it is not set at full speed, the foot throttle will still control the engine speed above the lever setting.

The tailshaft governor control will limit the engine speed as desired, and thus control maximum drum turning speed. With the tailshaft governor lever set below wide open, for example, the engine speed will be governed to less than full speed, even with the foot pedal fully depressed. This allows the operator to select and hold a desired drum speed below the maximum.

For high speed hook work disconnect the tail shaft governor. This will allow the engine to be operated at full governed speed, by the use of the foot throttle. In turn, the increased engine speed will increase the torque converter output. The drum shaft speed increases and the net result will be the ability to raise or lower a load more rapidly.

#### IMPORTANT

While doing high speed hook work, excessive heat build up develops in the torque converter, especially when lifting light loads. (HEAT BUILD UP VERY RAPID)! Check the torque converter temperature gauge located on the engine instrument panel, making sure the needle does not go into the red. If it does, slow the machine down to allow the oil in the torque converter to cool.



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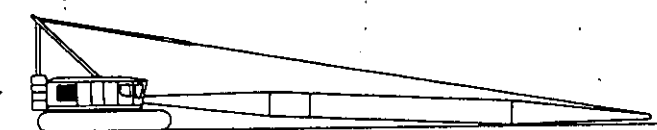
OPERATION  
American Cranes

### RAISING AND LOWERING LONG BOOMS

With the increased length of booms on mobile cranes comes an increased need for proper and safe operating procedures. The information in this writeup is generalized for long boom lengths on mobile cranes. Specific information on long boom lengths for your particular model crane may be found in your Operator's Manual.

The procedure for raising long booms is as follows:

1. The crane must be standing on firm and level ground. Familiarize yourself with the ground bearing pressure of your crane at MAXIMUM LOAD. Know the specified ground level limits of your machine.



TM0000008-1

GROUND MUST BE FIRM & LEVEL

2. Before raising or lowering the boom the outriggers must be set (truck cranes) or side frame tumblers must be blocked (crawler cranes--see "Blocking of Track Side Frames for Long Boom Erection" procedure in the installation Section of your Operator's Manual).

#### NOTE

All maximum boom or boom and jib erection information supplied on AMERICAN rating charts is based on erecting the boom over the blocked end of the crawler side frames (drive chains to the rear) or over the rear of the carrier on truck cranes.

3. After the maximum allowable boom length is installed and while the boom is on the ground, carefully inspect the boom for damage. Pay particular attention to the outer base and taper tip lacings and chords. Bent lacings or damaged chords can drastically reduce the structural strength of the boom. If any damage is discovered the appropriate boom sections must be repaired or replaced before raising the boom (a lacing repair procedure can be found in the maintenance section of your Operator's Manual. A damaged chord member cannot be repaired.).

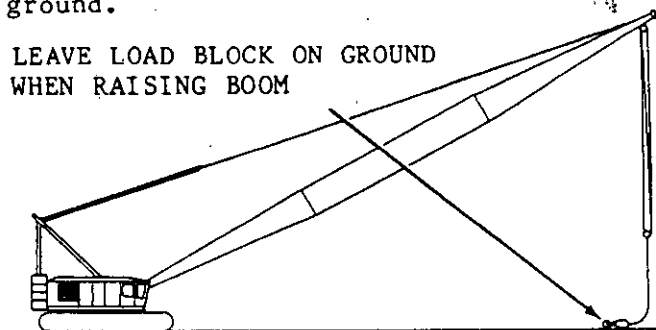
4. Once the boom has been inspected and the crane appropriately stabilized, the raising procedure can be implemented unless the wind speed is greater than 20 mph (32 km/h). The boom should be raised over the end of the machine.

### **CAUTION**

LARGE WIND CATCHING SURFACES CAN RESULT IN LOSS OF CONTROL OF THE CRANE. WIND LOADING IS DEPENDENT ON SUCH FACTORS AS BOOM LENGTH, BOOM ANGLE AND DIRECTION AND SPEED OF THE WIND.

5. When raising the boom the load line should be payed out so that the load block remains on the ground until the boom is approximately 20 to 25 degrees above the ground. Do not stop booming during erection from ground until boom is at least 25 to 30 degrees above ground.

LEAVE LOAD BLOCK ON GROUND  
WHEN RAISING BOOM



TM0000008-2



**American Crane Corporation**  
Wilmington, North Carolina



**DAILY START-UP PROCEDURE**  
500, 700, & 900 SERIES CRANES

### PRE-START INSPECTION

Before starting the engine each day, it is important to inspect the machine to insure proper operating condition.

These levels must be correct:

Engine Oil	Deck Gear Housing
Engine Coolant	Center Bevel Gear Travel Case
Transmission Fluid	Formsprag Clutch
Chain Case	Hydrostatic Swing Oil

Add the correct fluids as necessary to maintain recommended levels. Read the engine manual for suggested periodic maintenance.

The drain valves on the air reservoirs must be closed.  
The engine air filter indicators must not show a need for change.  
All lubrication requirements must be satisfied before operating. The lubrication section explains these requirements in detail.

The machine should carefully be checked for the condition and adjustment of the following items.

All Ropes and Sheaves	All Hoist Clutches and Brakes
A-Frame	Drum Parking Brakes
Engine Air Filter	Swing Brake
All Pulleys and Belts	Open Gears
Radiator and Hoses	Boom Stops
Compressor and Intake	Panel Lights and Instruments
Automatic Boom Hoist Shut Off	Boom Lacing

Disengage the master clutch before starting the engine.

### START-UP

Turn on the fuel solenoid toggle switch (when so equipped) located on the left cab wall. Set the throttle at 1/4 on and turn the starter switch. Do not crank the engine for more than 30 seconds at a time as starter motor damage could result. Should the engine fail to start within 30 seconds, allow the starting motor to rest for 1 or 2 minutes before cranking again.

Run the engine at 800 to 1000 RPM for a few minutes. As it warms up, run it at 75% of the rated speed until fully warmed up. Reduce the engine speed to idle and engage the master clutch. CAUTION: Only engage the master clutch at low engine RPM.

The correct operating air pressure will be 110 to 130 PSI (7.73 to 9.14kg/cm<sup>2</sup>) read on the console air pressure gage. Engine operating temperature for normal operation is between 160°F to 185°F (71°C to 85°C). Never allow the engine to operate at a temperature above 200°F (93°C).



**American Crane Corporation**  
Wilmington, North Carolina



**TRUCK CRANE  
TRAVEL RESTRICTIONS  
AMERICAN® CRANES**

#### TRAVEL RESTRICTIONS AROUND THE JOB SITE:

- A. Maximum job site travel speed is 5 MPH (8.05km/hr).
- B. Travel only with loads given in the ratings under "on rubber".
- C. Only travel on firm, level ground.
- D. The crane may travel with full counterweight. The boom should be over the rear only.

#### TRAVEL RESTRICTIONS OVER THE ROAD:

Depending upon weight restrictions, the crane may be traveled over the road in different configurations. See "Truck Crane Traveling Weights" for more information on specific models.

- A. With the boom inner and outer sections attached, travel with the boom over the carrier's rear. Load devices should be off.
- B. With only the boom inner section attached, suspend the boom a few inches above the carrier saddle and lash it in that position. Do not allow the boom to ride in contact with the saddle.
- C. Remove the counterweight for all over the road travel. Block the machinery deck to prevent the crane upperworks from rocking on its hook and load rollers.
- D. Set the swing brake and engage the spud lock when furnished.
- E. Lower the A-frame to allow bridge and underpass clearance.
- F. All truck crane carriers are governed to travel at only certain maximum speeds. **WARNING:** Attempting to exceed governed speeds may result in serious structural damage to the equipment.

#### TIRE PRESSURES

MODELS	STATIC & UP TO 1 MPH (0-1.61km/hr)	1-5 MPH (1.61- 8.05km/hr)	5-35 MPH (8.05- 56.32km/hr)	5-45 MPH (8.05- 72.41km/hr)	STATIC LIFTING
5460, 5470 5530, 7460	100 PSI (7.03kg/cm <sup>2</sup> )	100 PSI (7.03kg/cm <sup>2</sup> )	—————	90 PSI (6.33kg/cm <sup>2</sup> )	100 PSI (7.03kg/cm <sup>2</sup> )
7530, 8450	150 PSI (10.55kg/cm <sup>2</sup> )	150 PSI (10.55kg/cm <sup>2</sup> )	—————	115 PSI (8.09kg/cm <sup>2</sup> )	150 PSI (10.55kg/cm <sup>2</sup> )
9520, 9530	100 PSI (7.03kg/cm <sup>2</sup> )	95 PSI (6.68kg/cm <sup>2</sup> )	70 PSI (4.92kg/cm <sup>2</sup> )	—————	100 PSI (7.03kg/cm <sup>2</sup> )

\*With Michelin tire G24Y 14:00 x 24, 4 steel ply



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OPERATING INSTRUCTIONS  
900 TRUCK CRANES

OPERATING INSTRUCTIONS (CONTINUED)

12. AIR PRESSURE GAGE
13. CRANE LEVEL
14. WINDSHIELD WIPERS
15. AUXILIARY HOIST FOOT BRAKE
16. MAIN HOIST FOOT BRAKE
17. 0-300 PSI (0-21.09kg/cm<sup>2</sup>) GAGE

CAUTION:  
HYDROSTATIC SWING GAGE  
DO NOT OPERATE BELOW  
30 PSI (2.11kg/cm<sup>2</sup>) IN-  
CREASE ENGINE RPM TO  
RAISE PRESSURE.





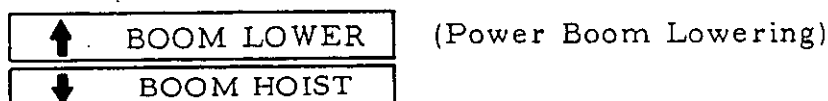
**American Crane Corporation**  
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**OPERATING INSTRUCTIONS**  
**900 TRUCK CRANES**

### OPERATING INSTRUCTIONS

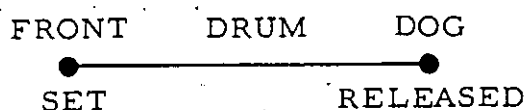
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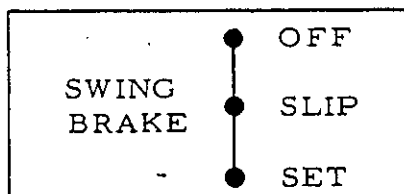
#### 2 & 3. HOIST CLUTCH CONTROL 2=MAIN HOIST 3=AUXILIARY HOIST



#### 4. AUXILIARY HOIST DOG



#### 5. SWING BRAKE



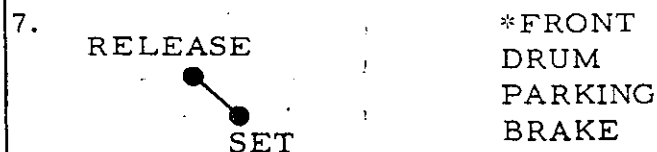
#### 6. MAIN HOIST PARKING BRAKE

#### 7. AUXILIARY HOIST PARKING BRAKE



\*FOOT PEDAL TO BE USED IN CONJUNCTION WITH PARKING BRAKE FOR PARKING WITH FULL LINE PULL.

BRAKE WILL SET AUTOMATICALLY IN CASE OF AIR LOSS.



\*FOOT PEDAL TO BE USED IN CONJUNCTION WITH PARKING BRAKE FOR PARKING WITH FULL LINE PULL.

BRAKE WILL SET AUTOMATICALLY IN CASE OF AIR LOSS.

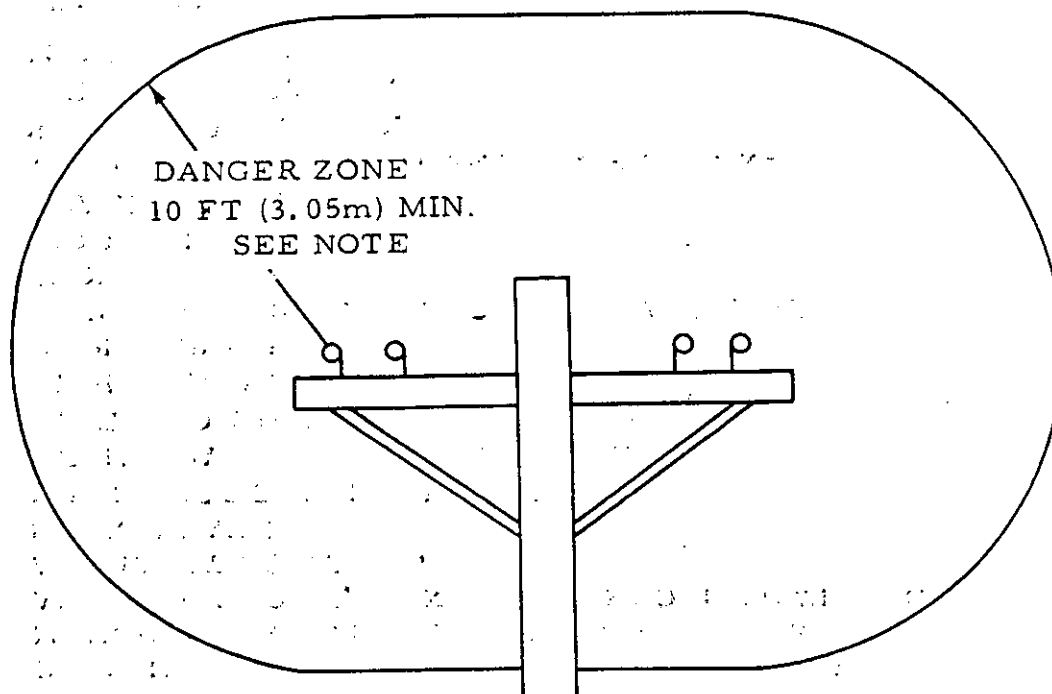


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Wilmington, North Carolina



OPERATION  
American Cranes

### DANGER ZONE NEAR ELECTRICAL TRANSMISSION



### WHEN OPERATING NEAR HIGH VOLTAGE POWER LINES:

#### NORMAL VOLTAGE (PHASE TO PHASE)

#### MINIMUM REQUIRED CLEARANCE

To	50 KV	10 Ft (3.05m)
Over 50 To	200 KV	15 Ft (4.60m)
Over 200 To	350 KV	20 Ft (6.10m)
Over 350 To	500 KV	25 Ft (7.62m)
Over 500 To	750 KV	35 Ft (10.67m)
Over 750 To	1,000 KV	45 Ft (13.72m)

### WHILE IN TRANSIT WITH NO LOAD AND BOOM OR MAST LOWERED:

#### NORMAL VOLTAGE (PHASE TO PHASE)

#### MINIMUM REQUIRED CLEARANCE

To	.75 KV	4 Ft (1.22m)
Over .75 To	50 KV	6 Ft (1.83m)
Over 50 To	345 KV	10 Ft (3.05m)
Over 345 To	750 KV	16 Ft (4.87m)
Over 750 To	1,000 KV	20 Ft (6.10m)



**American Crane Corporation**  
Wilmington, North Carolina



**OPERATION**  
All Series Cranes

## ACCIDENT PREVENTION SIGNS

### GENERAL INFORMATION:

Accident prevention signs are found in several locations on American cranes. They are color and format coded to convey 5 different types of messages. The first two of these five designs will be found on every American product that has been issued with accident prevention signs. The latter 3 types may or may not be found on a given machine, depending upon the safety requirements for that product. If any sign is lost or damaged, a replacement may be ordered from the Parts Book supplied with your machine. The correct mounting location for each sign can be found on a separate drawing in the Parts Book which is included for reference, so that the crane owner may be assured that all required safety information is properly posted at all times.

I. Signs marked "DANGER" are posted to warn anyone in the vicinity of the machine of an immediate hazard or peril capable of causing serious injuries or severe equipment damage. This sign may also be used to prohibit any activity or practice which is hazardous. The right half of each sign carries a graphic symbol inside a red circle identifying the type of hazard or prohibiting a specific activity. The sign shown in Figure 1, for example, warns of the danger present during assembly or disassembly of boom sections. A falling boom can cause serious injury to anyone standing on, in, or under a boom section. Booms can fall when pins are removed, if not properly supported by blocking, or if boom suspension ropes are not relocated as described in the operator's manual.

Accident prevention signs on your machine should be read, understood and complied with.

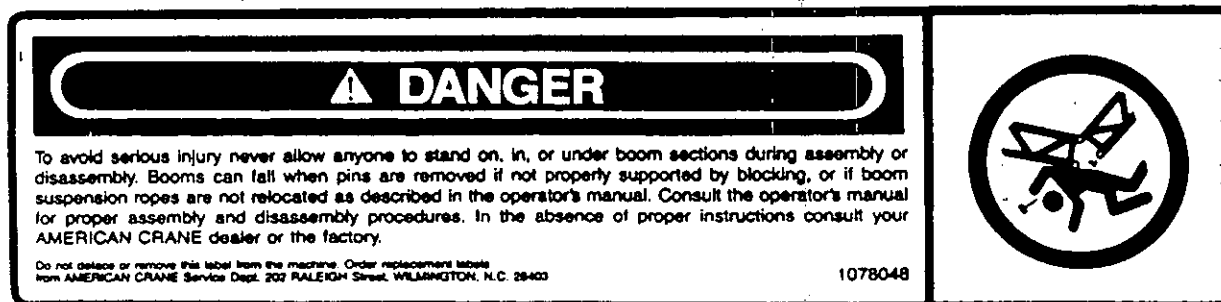


Figure 1



**American Crane Corporation**  
Wilmington, North Carolina



OPERATING TIPS  
500, 700, 900 & 1100 SERIES

OBSERVATION OF THE FOLLOWING NOTES WILL HELP KEEP THE MACHINE OPERATING SAFELY AND EFFICIENTLY.

1. Do not make any lifts without first becoming totally familiar with all the load lifting restrictions and regulations on page 3499 in the Ratings Section of this book.
2. Never exceed the rated capacity of your machine. Rating charts are found on the cab wall of the crane. Radius in feet is the horizontal distance at the crane base level from the center of rotation to a vertical line through the center of gravity of the suspended load.
3. Never make lifts while the machine is on soft ground. Use mats to properly support the machine.
4. Do not start or stop the engine with the master clutch engaged.
5. Do not engage the master clutch unless the engine is at an idle. Be sure everything is in the clear and in neutral.
6. Do not lift loads without first checking the brakes, clutches and rigging. Wire rope should be replaced immediately if worn out or defective.
7. After a machine has been standing in rainy weather, ride the brakes while hoisting before handling a load to evaporate moisture.
8. Do not allow a load to swing back and forth or in and out while traveling. This may side load the boom or cause the crane to tip. Use taglines to steady the load.
9. Never drag a load sideways by swinging.
10. Do not travel over rough ground with the boom high. Do not back up with the boom high without being certain that the ground is firm, level, and free of obstructions.
11. Do not travel long distances with the crawler drive chains ahead.
12. Keep clear of high voltage lines. See Page 106 for detailed restrictions
13. Block the crawlers when operating on steep slopes. Set the travel locks in both directions.
14. Turning sharply on loose ground results in a large accumulation of dirt on the crawler shoes and chains. Keep them free of dirt.



AMERICAN CRANE CORPORATION  
WILMINGTON, NORTH CAROLINA 28412

IMPORTANT LOAD LIFTING  
RESTRICTIONS & REGULATIONS

## IMPORTANT LOAD LIFTING RESTRICTIONS AND REGULATIONS

### Crawlers and Truck Cranes

#### WARNING

**Study the following carefully.  
Failure to observe any of the following  
limitations may result in serious structural  
or mechanical failure or accidents.**

Ratings have been established by American Crane on the basis of sound engineering methods and testing procedures. The machine complies with applicable U. S. Industry standards for stability and material strength factors. These standards require operation within rated capacities and in accordance with good operating practice, including the limitations shown on these pages and Page 100.

**DO NOT EXCEED THE RATING OF THE MACHINE.** Lifting loads greater than those shown on the rating chart or operation at positions not shown **CAN CAUSE STRUCTURAL FAILURE, TIPPING OR COLLAPSE OF THE BOOM OR CRANE.**

1. All ratings apply only to machines as originally manufactured and equipped but include machines on which repairs or replacements have been made in accordance with original specifications. American Crane shall have no responsibility for machines or components on which replacements have been made with parts or spares not manufactured by American Crane, or on which any unauthorized changes have been made, or which are operated after damage which has not been repaired. The safe handling of loads with a crane depends on ground conditions, boom length and radius. These factors as well as many others must be taken into consideration by the operator.

2. Ratings are based on the machine standing level on a firm, uniformly supporting surface. Level should be within 1/2% of true level and the supporting surface must be sufficiently firm to maintain this level under load. If the operating surface is not level, the crane should be

removed and the foundation leveled before making a lift. If the operating surface is not sufficiently firm and stable, crane mats should be used to reduce soil loadings. If operation is necessary under adverse conditions, contact American Crane for further information before attempting operation.

3. For operation of land-based cranes (truck, crawler or wagon mounted) from a barge or other floating platform the above listed level requirements must be maintained throughout the lift cycle. In addition, other factors such as securing the crane to the platform must be considered by the user. Contact American Crane for further information.

4. Under certain conditions cranes can be overturned without load. This can be prevented by observing the rating chart and avoiding boom positions which show no load ratings.

5. The rating charts apply up to maximum wind speeds as indicated in the table below. This table lists the maximum wind velocity for which ratings apply. These wind speeds refer to steady winds or gusts where the maximum wind speeds reached are the magnitudes stated. Velocities must be measured at a point equivalent to the highest boom or job elevation and should be taken at some location in close proximity to the crane. No account is taken of the wind force on the load. This effect, which is substantial for loads with large surface areas, must be considered by the user and ratings reduced accordingly. For more information contact American Crane.





AMERICAN CRANE CORPORATION  
WILMINGTON, NORTH CAROLINA 28412

IMPORTANT LOAD LIFTING  
RESTRICTIONS & REGULATIONS

WIND SPEED LIMITATIONS

BOOM SIZE	Boom or Boom Plus Jib	Operation	No operation. Lower boom to 50-60 degrees. Position rear of crane into wind.	Lower or secure boom
37"	0-140' (0-42.3m)	0-30 mph (0-13.4 mps)	30-50 mph (13.4-22.4 mps)	Over 50 mph (22.4 mps)
37"	Over 140' (42.3m)	0-20 mph (0-8.9 mps)	20-30 mph (8.9-13.4 mps)	Over 30 mph (13.4 mps)
46"-47"	0-170' (0-51.8m)	0-30 mph (0-13.4 mps)	30-50 mph (13.4-22.4 mps)	Over 50 mph (22.4 mps)
46"-47"	Over 170' (51.8m)	0-20 mph (0-8.9 mps)	20-30 mph (8.9-13.4 mps)	Over 30 mph (13.4 mps)
58"-59"	0-220' (0-67.1m)	0-30 mph (0-13.4 mps)	30-50 mph (13.4-22.4 mps)	Over 50 mph (22.4 mps)
58"-59"	Over 220' (67.1m)	0-30 mph (0-8.9 mps)	20-30 mph (8.9-13.4 mps)	Over 30 mph (13.4 mps)
77"	0-290' (0-88.4m)	0-30 mph (0-13.4 mps)	30-50 mph (13.4-22.4 mps)	Over 50 mph (22.4 mps)
77"	Over 290' (88.4m)	0-20 mph (0-8.9 mps)	20-30 mph (8.9-13.4 mps)	Over 30 mph (13.4 mps)
92"-94"-118"	0-360' (0-109.8m)	0-30 mph (0-13.4 mps)	30-50 mph (13.4-22.4 mps)	Over 50 mph (22.4 mps)
92"-94"-118"	Over 360' (109.8m)	0-20 mph (0-8.9 mps)	20-30 mph (8.9-13.4 mps)	Over 30 mph (13.4 mps)
130"	0-400' (0-122m)	0-30 mph (0-13.4 mps)	30-50 mph (13.4-22.4 mps)	Over 50 mph (22.4 mps)
130"	Over 400' (122m)	0-20 mph (0-8.9 mps)	20-30 mph (8.9-13.4 mps)	Over 30 mph (13.4 mps)

6. Crawler sideframes and truck or wagon crane outriggers must be fully extended and set to maximum width to obtain ratings listed for such on the chart. When operating in the "FREE" condition without outriggers on a truck or wagon crane, the boom must never be operated at radii for which no ratings are shown in the "Outriggers Free-Over The Side" area of the chart. Tires must be in good condition and properly inflated for operation. For truck cranes equipped with a front outrigger jack, the ratings designated "Outriggers Set-Over Side" can be used for 360 degree rotation.

7. Do not lift over the front of a truck crane either with or without outriggers. See diagrams on next page for definition of working areas with various types of cranes. If such a lift is unavoidable, consult American Crane for special instructions and suitably reduced ratings.

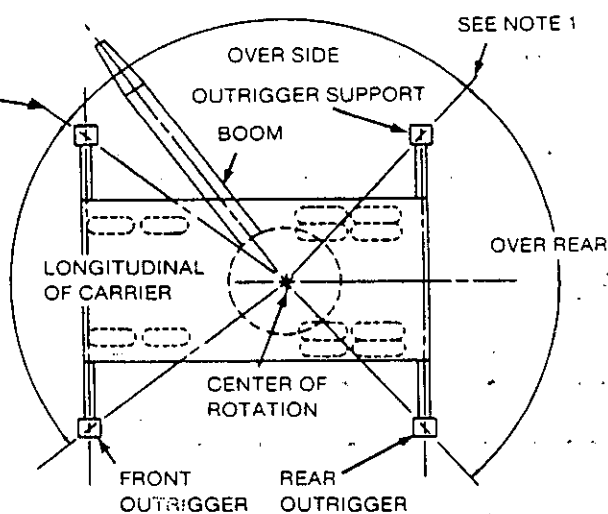
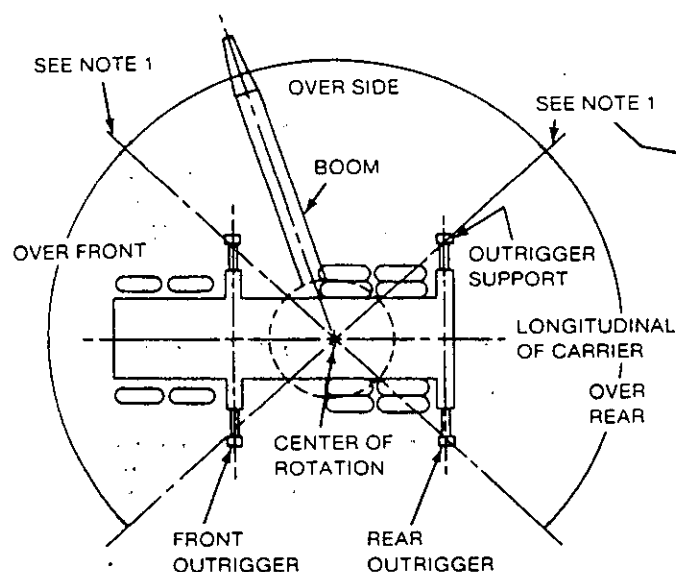
8. NEVER SIDELOAD THE BOOM. Such sideloading can cause structural failure or collapse. Always keep the boom point directly over the load to avoid sideloading. Operating the crane while out of level or in high winds as well as dragging a load sideways by swinging or pulling on a load while it is partially or fully attached to a structure are all causes of sideloading and must be avoided.



**American Crane Corporation**  
Wilmington, North Carolina



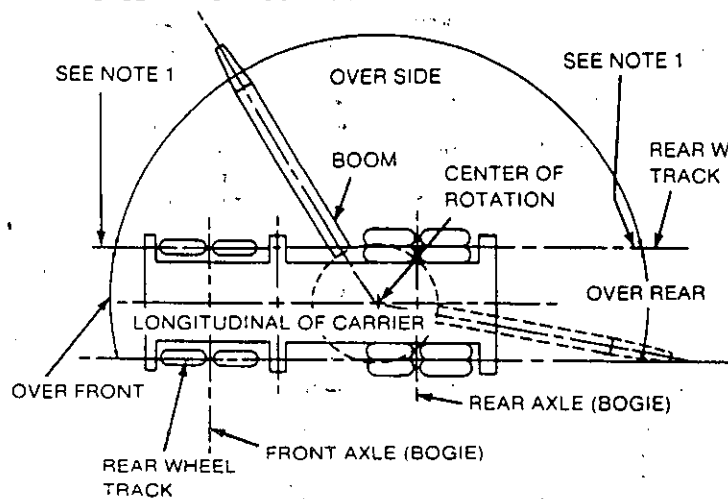
**IMPORTANT LOAD LIFTING  
RESTRICTIONS & REGULATIONS**



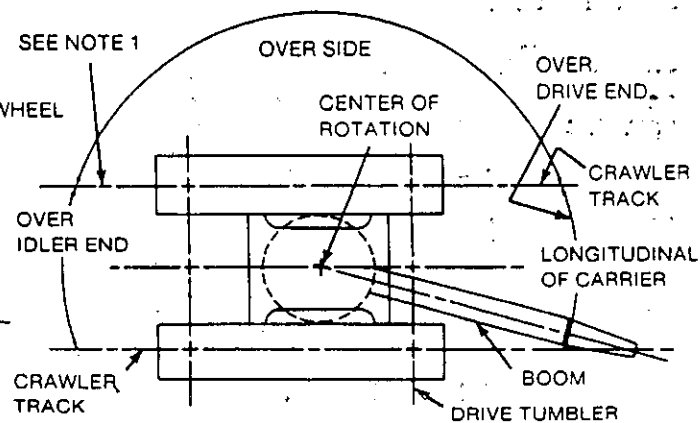
### CARRIERS ON OUTRIGGERS

CASE 1 - FRONT OUTRIGGER BEHIND FRONT WHEELS

CASE 2 - FRONT OUTRIGGER AHEAD OF FRONT WHEELS



CARRIER ON TIRES



CRAWLER TYPE LOWER

### WORKING AREA DEFINITIONS

#### NOTE 1

These lines determine the limiting position of any load for operation within working areas indicated.



American Crane Corporation  
Wilmington, North Carolina 28412

#16HL Jib Ratings In Pounds  
Model 9530 Truck Crane  
77H Hammerhead Tip Boom  
90,000 Pound Counterweight

BOOM & JIB LENGTH	JIB RADIUS (FEET)	5° JIB OFFSET		15° JIB OFFSET		25° JIB OFFSET	
		BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)
60' JIB & 240' BOOM	48	82.8	27,270*				
	50	82.4	27,110*				
	60	80.5	26,680*	82.4	23,860*		
	70	78.6	26,130*	80.5	23,560*	82.3	21,180*
	80	76.6	25,580*	78.5	23,240*	80.3	21,080*
	90	74.7	25,040*	76.6	22,890*	78.3	20,880*
	100	72.7	24,570*	74.6	22,490*	76.3	20,290*
	110	70.7	24,000*	72.5	22,130*	74.3	19,260*
	120	68.7	23,540*	70.5	21,780*	72.2	18,410*
	130	66.6	21,720	68.4	21,460*	70.1	17,600*
	140	64.5	18,840	66.3	18,850	68.0	16,910*
	150	62.3	16,390	64.2	16,400	65.8	16,240*
	160	60.2	14,260	62.0	14,270	63.6	14,280
	170	57.9	12,420	59.7	12,420	61.3	12,440
	180	55.6	10,780	57.4	10,790	58.9	10,800
	190	53.3	9,340	55.0	9,350	56.5	9,360
	200	50.8	8,050	52.6	8,060	54.0	8,070
	210	48.3	6,900	50.0	6,910	51.4	6,920
	220	45.7	5,870	47.4	5,870	48.7	5,890
	230	42.9	4,930	44.6	4,930	45.9	4,950
	240	40.0	4,070	41.6	4,080	42.9	4,100
60' JIB & 250' BOOM	49	82.9	26,690*				
	50	82.7	26,660*				
	60	80.8	26,200*	82.7	23,450*		
	70	79.0	25,720*	80.8	23,220*	82.6	20,720*
	80	77.1	25,140*	78.9	22,860*	80.6	20,580*
	90	75.2	24,680*	77.0	22,480*	78.7	20,300*
	100	73.3	24,070*	75.1	22,150*	76.8	19,390*
	110	71.3	23,580*	73.1	21,760*	74.8	18,410*
	120	69.4	23,010*	71.2	21,110*	72.8	17,390*
	130	67.4	21,220	69.2	19,990*	70.8	16,400*
	140	65.4	18,340	67.1	18,350	68.7	15,480*
	150	63.3	15,890	65.1	15,900	66.6	14,570*
	160	61.2	13,760	63.0	13,770	64.5	13,710*
	170	59.1	11,900	60.8	11,910	62.3	11,920
	180	56.9	10,280	58.6	10,280	60.1	10,300
	190	54.7	8,830	56.4	8,840	57.8	8,850
	200	52.3	7,540	54.0	7,550	55.5	7,560
	210	50.0	6,380	51.6	6,390	53.0	6,400
	220	47.5	5,350	49.1	5,350	50.5	5,370
	230	44.9	4,400	46.5	4,410	47.8	4,430
	240	42.2	3,550	43.8	3,560	45.0	3,580
	250	39.3	2,780	40.9	2,790	42.0	2,800
<del>60' JIB &amp; 260' BOOM</del>	<del>50</del>	<del>82.9</del>	<del>26,050*</del>	<del>82.9</del>	<del>22,940*</del>		
	<del>60</del>	<del>81.1</del>	<del>25,630*</del>	<del>81.1</del>	<del>22,600*</del>	82.8	19,840*
	<del>70</del>	<del>79.3</del>	<del>25,110*</del>	<del>79.3</del>	<del>22,300*</del>	80.9	18,840*
	<del>80</del>	<del>77.5</del>	<del>24,510*</del>	<del>77.4</del>	<del>21,790*</del>	79.1	17,810*



American Crane Corporation  
Wilmington, North Carolina 28412

#16HL Jib Ratings In Pounds  
Model 9530 Truck Crane  
77H Hammerhead Tip Boom  
90,000 Pound Counterweight

BOOM & JIB LENGTH	JIB RADIUS (FEET)	5° JIB OFFSET		15° JIB OFFSET		25° JIB OFFSET	
		BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)
60' JIB & 210' BOOM	120	66.1	23,920*	68.2	22,160*	70.0	17,680*
	130	63.8	23,170	65.8	21,120*	67.7	16,890*
	140	61.4	20,310	63.4	20,030*	65.2	16,190*
	150	59.0	17,850	60.9	17,860	62.7	15,540*
	160	56.4	15,740	58.4	15,740	60.1	14,990*
	170	53.8	13,890	55.8	13,900	57.5	13,910
	180	51.1	12,270	53.1	12,280	54.7	12,290
	190	48.3	10,830	50.2	10,840	51.8	10,860
	200	45.4	9,550	47.3	9,560	48.8	9,570
	210	42.3	8,400	44.1	8,410	45.6	8,420
60' JIB & 220' BOOM	45	82.9	28,120*				
	50	81.9	27,810*				
	60	79.8	27,240*	81.9	24,510*		
	70	77.8	26,630*	79.8	24,080*	81.7	21,880*
	80	75.7	26,120*	77.7	23,730*	79.6	21,670*
	90	73.6	25,440*	75.6	23,330*	77.4	20,890*
	100	71.4	24,960*	73.4	22,880*	75.3	19,790*
	110	69.2	24,370*	71.2	22,530*	73.1	18,850*
	120	67.0	23,920*	69.0	22,180*	70.8	17,920*
	130	64.8	22,710	66.8	21,550*	68.5	17,180*
	140	62.5	19,840	64.5	19,840	66.2	16,410*
	150	60.2	17,390	62.1	17,390	63.8	15,780*
	160	57.8	15,270	59.7	15,280	61.4	15,250*
	170	55.3	13,420	57.2	13,420	58.9	13,440
	180	52.8	11,790	54.7	11,800	56.3	11,810
	190	50.1	10,350	52.0	10,360	53.5	10,380
	200	47.4	9,070	49.2	9,080	50.7	9,090
	210	44.5	7,930	46.3	7,930	47.8	7,950
	220	41.5	6,890	43.3	6,890	44.6	6,910
60' JIB & 230' BOOM	46	83.0	27,760*				
	50	82.2	27,570*				
	60	80.2	26,960*	82.2	24,170*		
	70	78.2	26,430*	80.2	23,920*	82.0	21,570*
	80	76.2	25,920*	78.1	23,530*	80.0	21,410*
	90	74.1	25,300*	76.1	23,100*	77.9	21,110*
	100	72.1	24,750*	74.0	22,740*	75.8	20,060*
	110	70.0	24,290*	71.9	22,410*	73.7	19,030*
	120	67.9	23,780*	69.8	21,990*	71.5	18,180*
	130	65.7	22,210	67.6	21,690*	69.3	17,360*
	140	63.5	19,330	65.4	19,340	67.1	16,690*
	150	61.3	16,880	63.2	16,890	64.8	16,010*
	160	59.0	14,770	60.9	14,770	62.5	14,790
	170	56.7	12,910	58.5	12,920	60.1	12,930
	180	54.3	11,290	56.1	11,290	57.7	11,310
	190	51.8	9,850	53.6	9,850	55.1	9,870
	200	49.2	8,560	51.0	8,560	52.5	8,580
	210	46.5	7,410	48.3	7,420	49.7	7,440
	220	43.7	6,370	45.4	6,380	46.8	6,390
	230	40.7	5,430	42.4	5,440	43.7	5,460

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American Crane Corporation  
Wilmington, North Carolina 28412

#16HL Jib Ratings in Pounds  
Model 9530 Truck Crane  
77H Hammerhead Tip Boom  
90,000 Pound Counterweight

BOOM & JIB LENGTH	JIB RADIUS (FEET)	5° JIB OFFSET		15° JIB OFFSET		25° JIB OFFSET	
		BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)
60' JIB & 180' BOOM	110	65.6	24,170*	67.9	22,310*	70.0	17,760*
	120	62.9	23,580*	65.2	20,970*	67.3	16,880*
	130	60.2	23,040*	62.5	19,790*	64.5	16,130*
	140	57.4	21,810	59.6	18,750*	61.6	15,410*
	150	54.5	19,370	56.7	17,840*	58.6	14,780*
	160	51.5	17,250	53.7	17,050*	55.6	14,280*
	170	48.4	15,420	50.5	15,420	52.3	13,770*
	180	45.0	13,800	47.2	13,810	48.9	13,380*
60' JIB & 190' BOOM	42	82.8	28,950*				
	50	80.9	28,400*				
	60	78.6	27,660*	80.9	24,920*		
	70	76.3	26,910*	78.6	24,420*	80.7	22,400*
	80	73.9	26,210*	76.2	23,990*	78.3	21,480*
	90	71.5	25,530*	73.8	23,500*	75.9	20,200*
	100	69.1	24,940*	71.3	22,970*	73.4	19,080*
	110	66.6	24,360*	68.8	22,530*	70.9	18,100*
	120	64.1	23,720*	66.3	21,390*	68.3	17,150*
	130	61.5	23,250*	63.7	20,220*	65.6	16,400*
	140	58.9	21,310	61.0	19,220*	62.9	15,670*
	150	56.1	18,870	58.3	18,260*	60.1	15,050*
	160	53.3	16,760	55.4	16,760	57.2	14,510*
	170	50.4	14,920	52.5	14,920	54.2	14,040*
	180	47.3	13,290	49.4	13,300	51.1	13,310
	190	44.1	11,860	46.1	11,870	47.7	11,880
60' JIB & 200' BOOM	43	82.8	28,650*				
	50	81.3	28,200*				
	60	79.1	27,590*	81.3	24,860*		
	70	76.8	26,910*	79.0	24,350*	81.1	22,270*
	80	74.5	26,230*	76.7	23,860*	78.8	21,790*
	90	72.3	25,570*	74.4	23,450*	76.4	20,430*
	100	69.9	24,950*	72.1	23,050*	74.1	19,300*
	110	67.6	24,410*	69.7	22,630*	71.7	18,290*
	120	65.2	23,820*	67.3	21,950*	69.2	17,470*
	130	62.7	23,320*	64.8	20,660*	66.7	16,650*
	140	60.2	20,800	62.3	19,640*	64.1	15,950*
	150	57.6	18,350	59.7	18,360	61.5	15,340*
	160	54.9	16,240	57.0	16,250	58.8	14,750*
	170	52.2	14,400	54.2	14,410	55.9	14,250*
	180	49.3	12,780	51.3	12,790	53.0	12,800
	190	46.3	11,350	48.3	11,350	49.9	11,370
	200	43.2	10,060	45.1	10,070	46.6	10,090
60' JIB & 210' BOOM	44	82.9	28,480*				
	50	81.6	28,050*				
	60	79.5	27,400*	81.6	24,630*		
	70	77.3	26,830*	79.4	24,250*	81.4	22,110*
	80	75.1	26,130*	77.2	23,850*	79.2	21,840*
	90	72.9	25,540*	75.0	23,440*	77.0	20,740*
	100	70.7	24,970*	72.8	22,980*	74.7	19,620*
	110	68.4	24,460*	70.5	22,530*	72.4	18,580*





American Crane Corporation  
Wilmington, North Carolina 28412

#16HL Jib Ratings In Pounds  
Model 9530 Truck Crane  
77H Hammerhead Tip Boom  
90,000 Pound Counterweight

BOOM & JIB LENGTH	JIB RADIUS (FEET)	5° JIB OFFSET		15° JIB OFFSET		25° JIB OFFSET	
		BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)
60' JIB & 150' BOOM	37	82.8	29,810*				
	40	81.9	29,440*				
	50	79.2	28,530*	81.9	25,810*	81.7	23,090*
	60	76.4	27,560*	79.1	25,150*	78.8	22,030*
	70	73.6	26,660*	76.3	24,480*	75.9	20,400*
	80	70.8	25,810*	73.4	23,780*	72.9	19,010*
	90	67.8	25,030*	70.5	23,200*	69.9	17,840*
	100	64.9	24,270*	67.5	22,200*	66.8	16,810*
	110	61.8	23,650*	64.4	20,700*	63.5	15,930*
	120	58.6	22,890*	61.2	19,370*	60.2	15,200*
	130	55.4	21,150*	57.9	18,270*	56.7	14,500*
	140	52.0	19,730*	54.5	17,340*	52.9	13,950*
60' JIB & 160' BOOM	150	48.4	18,510*	50.9	16,450*		
	38	82.8	29,650*				
	40	82.3	29,410*				
	50	79.7	28,530*	82.3	25,730*	82.1	23,090*
	60	77.0	27,660*	79.6	25,090*	79.4	22,290*
	70	74.4	26,730*	76.9	24,460*	76.6	20,680*
	80	71.7	25,960*	74.2	23,860*	73.8	19,350*
	90	68.9	25,220*	71.4	23,310*	70.9	18,190*
	100	66.1	24,520*	68.6	22,770*	68.0	17,140*
	110	63.2	23,810*	65.7	21,280*	64.9	16,290*
	120	60.2	23,210*	62.7	19,910*	61.8	15,530*
	130	57.2	22,030*	59.6	18,760*	58.5	14,820*
60' JIB & 170' BOOM	140	54.0	20,500*	56.4	17,800*	55.1	14,220*
	150	50.7	19,190*	53.1	16,900*	51.5	13,720*
	160	47.2	18,110*	49.5	16,160*		
	39	82.9	29,470*				
	40	82.6	29,360*				
	50	80.1	28,560*	82.6	25,610*	82.5	23,010*
	60	77.6	27,650*	80.1	25,040*	79.9	22,580*
	70	75.1	26,880*	77.5	24,540*	77.2	21,010*
	80	72.5	26,030*	74.9	23,930*	74.5	19,690*
	90	69.9	25,310*	72.3	23,430*	71.8	18,480*
	100	67.2	24,640*	69.6	22,920*	69.0	17,470*
	110	64.4	24,070*	66.8	21,770*	66.2	16,630*
60' JIB & 180' BOOM	120	61.6	23,420*	64.0	20,420*	63.2	15,820*
	130	58.8	22,910*	61.1	19,310*	60.2	15,150*
	140	55.8	21,320*	58.1	18,300*	57.0	14,510*
	150	52.7	19,880	55.0	17,380*	53.6	14,010*
	160	49.5	17,770	51.7	16,620*	50.1	13,560*
	170	46.1	15,940	48.3	15,860*		
	40	82.9	29,210*				
	50	80.6	28,460*	82.9	25,560*	82.8	22,850*
60' JIB & 180' BOOM	60	78.1	27,660*	80.5	25,060*	80.3	22,480*
	70	75.7	26,900*	78.1	24,530*	77.8	21,250*
	80	73.2	26,180*	75.6	23,910*	75.2	19,970*
	90	70.7	25,480*	73.1	23,420*	72.6	18,750*
	100	68.2	24,800*	70.5	22,950*		



American Crane Corporation  
Wilmington, North Carolina 28412

#16HL Jib Ratings In Pounds  
Model 9530 Truck Crane  
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90,000 Pound Counterweight

BOOM & JIB LENGTH	JIB RADIUS (FEET)	5° JIB OFFSET		15° JIB OFFSET		25° JIB OFFSET	
		BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)
50'	200	49.0	7,760	50.5	7,760	51.7	7,780
JIB	210	46.4	6,600	47.8	6,610	49.0	6,620
&	220	43.5	5,560	45.0	5,570	46.1	5,580
240'	230	40.6	4,630	42.0	4,640	43.0	4,650
BOOM	240	37.4	3,780	38.7	3,790	39.7	3,800
50' JIB & 250' BOOM	47	82.9	29,690*				
	50	82.3	29,540*				
	60	80.4	28,940*	82.0	26,200*		
	70	78.4	28,310*	80.0	25,850*	81.5	23,410*
	80	76.5	27,790*	78.1	25,410*	79.5	22,720*
	90	74.5	27,220*	76.1	25,070*	77.5	21,580*
	100	72.5	26,620*	74.1	24,550*	75.5	20,430*
	110	70.5	25,090*	72.1	23,180*	73.5	19,250*
	120	68.5	23,620*	70.0	21,890*	71.4	18,200*
	130	66.4	20,920	68.0	20,630*	69.3	17,140*
	140	64.3	18,040	65.8	18,050	67.2	16,120*
	150	62.2	15,580	63.7	15,590	65.0	15,100*
	160	60.0	13,460	61.5	13,470	62.8	13,480
	170	57.8	11,610	59.3	11,610	60.5	11,620
	180	55.5	9,970	56.9	9,980	58.2	9,990
	190	53.1	8,530	54.6	8,530	55.8	8,550
	200	50.7	7,240	52.1	7,240	53.3	7,260
	210	48.2	6,090	49.6	6,100	50.7	6,110
	220	45.5	5,050	46.9	5,050	48.0	5,070
	230	42.8	4,110	44.1	4,110	45.2	4,130
	240	39.8	3,260	41.2	3,270	42.2	3,280
	250	36.7	2,490	38.0	2,500	39.0	2,510
50' JIB & 260' BOOM	48	82.9	29,010*				
	50	82.5	28,820*				
	60	80.7	28,250*	82.2	25,640*		
	70	78.8	27,640*	80.3	25,260*	81.8	21,170*
	80	76.9	26,560*	78.4	24,230*	79.9	19,890*
	90	75.0	24,720*	76.5	22,720*	78.0	18,750*
	100	73.1	23,080*	74.6	21,300*	76.0	17,570*
	110	71.2	21,610*	72.7	19,990*	74.0	16,480*
	120	69.2	20,130*	70.7	18,700*	72.1	15,430*
	130	67.2	18,850*	68.7	17,540*	70.0	14,330*
	140	65.2	17,550	66.7	16,350*	68.0	13,350*
	150	63.2	15,090	64.6	15,100	65.9	12,420*
	160	61.1	12,960	62.5	12,970	63.8	11,480*
	170	58.9	11,100	60.4	11,110	61.6	10,620*
	180	56.7	9,480	58.2	9,480	59.4	9,490
	190	54.5	8,020	55.9	8,030	57.1	8,040
	200	52.2	6,740	53.6	6,750	54.8	6,760
	210	49.8	5,580	51.2	5,590	52.3	5,600
	220	47.3	4,540	48.7	4,540	49.8	4,550
	230	44.7	3,590	46.1	3,600	47.1	3,610
	240	42.0	2,740	43.3	2,750	44.3	2,760
	250	39.2	1,970	40.5	1,970	41.4	1,990
	260	36.1	1,260	37.4	1,260	38.2	1,280



American Crane Corporation  
Wilmington, North Carolina 28412

#16HL Jib Ratings In Pounds  
Model 9530 Truck Crane  
77H Hammerhead Tip Boom  
90,000 Pound Counterweight

BOOM & JIB LENGTH	JIB RADIUS (FEET)	5° JIB OFFSET		15° JIB OFFSET		25° JIB OFFSET	
		BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)
50' JIB & 220' BOOM	130	63.6	22,400	65.3	22,400	66.8	19,870*
	140	61.2	19,530	62.9	19,530	64.4	19,090*
	150	58.8	17,080	60.4	17,090	61.9	17,100
	160	56.3	14,970	57.9	14,970	59.3	14,980
	170	53.7	13,110	55.3	13,120	56.6	13,130
	180	51.0	11,490	52.6	11,500	53.9	11,510
	190	48.2	10,050	49.7	10,060	51.0	10,070
	200	45.2	8,770	46.8	8,780	48.0	8,790
	210	42.1	7,630	43.6	7,640	44.8	7,650
	220	38.8	6,590	40.3	6,600	41.4	6,620
50' JIB & 230' BOOM	44	83.0	30,700*				
	50	81.7	30,410*				
	60	79.7	29,770*	81.4	27,020*	83.0	24,580*
	70	77.6	29,100*	79.3	26,540*	80.9	24,400*
	80	75.5	28,530*	77.2	26,160*	78.7	24,140*
	90	73.4	27,950*	75.1	25,790*	76.6	23,860*
	100	71.2	27,350*	72.9	25,430*	74.4	23,210*
	110	69.1	26,870*	70.7	25,040*	72.2	22,150*
	120	66.9	25,300	68.5	24,610*	70.0	21,130*
	130	64.6	21,910	66.3	21,910	67.7	20,190*
	140	62.3	19,040	64.0	19,040	65.4	19,050
	150	60.0	16,580	61.6	16,580	63.0	16,590
	160	57.6	14,460	59.2	14,470	60.6	14,480
	170	55.1	12,610	56.7	12,610	58.1	12,620
	180	52.6	10,980	54.2	10,990	55.5	11,000
	190	50.0	9,540	51.5	9,550	52.8	9,560
50' JIB & 240' BOOM	200	47.2	8,260	48.7	8,260	50.0	8,280
	210	44.4	7,110	45.8	7,110	47.0	7,130
	220	41.3	6,080	42.8	6,080	43.9	6,100
	230	38.1	5,140	39.5	5,150	40.5	5,170
	46	82.8	30,140*				
	50	82.0	30,030*				
	60	80.0	29,350*	81.7	26,650*		
	70	78.0	28,770*	79.7	26,250*	81.2	23,950*
	80	76.0	28,280*	77.6	25,860*	79.2	23,750*
	90	74.0	27,630*	75.6	25,530*	77.1	23,440*
	100	71.9	27,170*	73.5	25,150*	75.0	23,260*
	110	69.8	26,630*	71.4	24,730*	72.9	22,410*
	120	67.7	24,820	69.3	24,360*	70.7	21,220*
	130	65.6	21,420	67.1	21,420	68.6	20,150*
	140	63.4	18,540	64.9	18,550	66.3	18,560
	150	61.1	16,080	62.7	16,090	64.1	16,100
	160	58.9	13,970	60.4	13,970	61.7	13,980
	170	56.5	12,110	58.0	12,120	59.3	12,130
	180	54.1	10,490	55.6	10,490	56.9	10,500
	190	51.6	9,040	53.1	9,040	54.4	9,050



American Crane Corporation  
Wilmington, North Carolina 28412

#16HL Jib Ratings In Pounds  
Model 9530 Truck Crane  
77H Hammerhead Tip Boom  
90,000 Pound Counterweight

BOOM & JIB LENGTH	JIB RADIUS (FEET)	5° JIB OFFSET		15° JIB OFFSET		25° JIB OFFSET	
		BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)
50' JIB & 190' BOOM	150	54.3	18,560	56.1	18,560	57.7	17,460*
	160	51.3	16,440	53.1	16,450	54.6	16,460
	170	48.2	14,610	49.9	14,610	51.4	14,630
	180	44.8	12,980	46.6	12,990	48.0	13,000
	190	41.3	11,550	43.0	11,560	44.3	11,570
50' JIB & 200' BOOM	41	82.8	31,710*				
	50	80.7	30,970*	82.6	27,970*		
	60	78.4	30,310*	80.3	27,500*	82.1	25,360*
	70	76.1	29,590*	78.0	27,100*	79.7	25,040*
	80	73.7	28,890*	75.6	26,610*	77.3	24,780*
	90	71.3	28,160*	73.2	26,070*	74.9	23,630*
	100	68.9	27,510*	70.7	25,630*	72.4	22,300*
	110	66.4	26,970*	68.3	25,280*	69.9	21,210*
	120	63.9	26,390*	65.7	24,860*	67.4	20,180*
	130	61.3	23,350	63.1	23,360	64.7	19,270*
	140	58.7	20,490	60.5	20,500	62.0	18,480*
	150	55.9	18,050	57.7	18,050	59.2	17,770*
	160	53.1	15,940	54.9	15,940	56.4	15,950
	170	50.2	14,090	51.9	14,090	53.3	14,100
	180	47.1	12,470	48.8	12,480	50.2	12,490
50' JIB & 210' BOOM	190	43.9	11,040	45.5	11,050	46.9	11,060
	200	40.4	9,760	42.1	9,770	43.3	9,780
	42	82.9	31,360*				
	50	81.1	30,830*	82.9	27,800*		
	60	78.9	30,100*	80.7	27,440*	82.4	25,120*
	70	76.6	29,490*	78.4	26,910*	80.1	24,920*
	80	74.4	28,860*	76.2	26,470*	77.8	24,570*
	90	72.1	28,210*	73.9	26,060*	75.5	23,910*
	100	69.7	27,540*	71.5	25,660*	73.2	22,670*
	110	67.4	27,080*	69.2	25,210*	70.8	21,500*
	120	65.0	26,260	66.7	24,860*	68.3	20,480*
50' JIB & 220' BOOM	130	62.5	22,860	64.3	22,870	65.8	19,590*
	140	60.0	19,990	61.7	20,000	63.3	18,780*
	150	57.4	17,540	59.1	17,550	60.6	17,560
	160	54.8	15,430	56.5	15,440	57.9	15,450
	170	52.0	13,590	53.7	13,590	55.1	13,610
	180	49.1	11,960	50.8	11,970	52.1	11,980
	190	46.1	10,530	47.8	10,530	49.1	10,540
	200	43.0	9,240	44.6	9,250	45.8	9,260
	210	39.6	8,110	41.2	8,110	42.3	8,130
	43	82.9	31,020*				
	50	81.4	30,680*				
50' JIB & 220' BOOM	60	79.3	29,960*	81.0	27,170*	82.7	24,900*
	70	77.1	29,390*	78.9	26,840*	80.5	24,660*
	80	74.9	28,750*	76.7	26,390*	78.3	24,440*
	90	72.7	28,140*	74.5	25,940*	76.1	24,200*
	100	70.5	27,520*	72.2	25,550*	73.8	22,960*
50' JIB & 220' BOOM	110	68.3	27,000*	70.0	25,140*	71.5	21,800*
	120	66.0	25,800	67.7	24,740*	69.2	20,800*





American Crane Corporation  
Wilmington, North Carolina 28412

#16HL Jib Ratings In Pounds  
Model 9530 Truck Crane  
77H Hammerhead Tip Boom  
90,000 Pound Counterweight

BOOM & JIB LENGTH	JIB RADIUS (FEET)	5° JIB OFFSET		15° JIB OFFSET		25° JIB OFFSET	
		BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)
50'	120	58.4	25,800*	60.6	22,860*	62.4	18,750*
JIB	130	55.1	25,180*	57.3	21,640*	59.1	17,860*
&	140	51.7	22,470	53.8	20,500*	55.6	17,100*
160'	150	48.1	20,030	50.2	19,490*	51.9	16,500*
BOOM	160	44.3	17,930	46.3	17,930	47.9	15,920*
50' JIB & 170' BOOM	37	82.9	32,000*				
	40	82.1	32,000*				
	50	79.5	31,150*	81.6	28,360*	81.0	25,630*
	60	76.8	30,230*	79.0	27,760*	78.3	25,240*
	70	74.1	29,470*	76.3	27,090*	75.5	24,070*
	80	71.4	28,620*	73.6	26,550*	72.7	22,560*
	90	68.7	27,860*	70.8	26,010*	69.8	21,240*
	100	65.9	27,240*	67.9	25,470*	66.9	20,140*
	110	63.0	26,610*	65.0	25,070*	63.9	19,120*
	120	60.0	26,020*	62.1	23,530*	60.7	18,260*
	130	56.9	24,860	59.0	22,240*	57.5	17,480*
	140	53.8	22,010	55.8	21,070*	54.1	16,790*
	150	50.5	19,570	52.4	19,580	50.5	16,240*
	160	47.0	17,460	48.9	17,470	46.6	15,640
	170	43.3	15,620	45.1	15,630		
50' JIB & 180' BOOM	38	82.9	32,000*				
	40	82.4	32,000*				
	50	79.9	31,190*	82.0	28,270*	81.4	25,550*
	60	77.4	30,330*	79.5	27,640*	78.8	25,210*
	70	74.8	29,560*	76.9	27,180*	76.2	24,440*
	80	72.3	28,720*	74.3	26,570*	73.5	22,930*
	90	69.6	28,060*	71.7	26,060*	70.8	21,650*
	100	67.0	27,350*	69.0	25,610*	68.0	20,530*
	110	64.2	26,790*	66.2	25,160*	65.2	19,470*
	120	61.4	26,180*	63.4	24,120*	62.2	18,600*
	130	58.6	24,360	60.5	22,770*	59.2	17,860*
	140	55.6	21,490	57.5	21,500	56.0	17,160*
	150	52.5	19,060	54.4	19,070	52.7	16,560*
	160	49.3	16,950	51.1	16,960	49.2	15,130
	170	45.9	15,110	47.7	15,110	45.4	13,520
	180	42.2	13,500	44.0	13,500		
50' JIB & 190' BOOM	39	83.0	31,920*				
	40	82.7	31,920*				
	50	80.3	31,030*	82.3	28,110*	81.8	25,510*
	60	77.9	30,340*	79.9	27,670*	79.3	25,110*
	70	75.5	29,520*	77.5	27,090*	76.8	24,820*
	80	73.0	28,810*	75.0	26,590*	74.2	23,310*
	90	70.5	28,110*	72.5	26,100*	71.7	21,990*
	100	68.0	27,440*	69.9	25,630*	69.0	20,880*
	110	65.4	26,950*	67.3	25,230*	66.3	19,850*
	120	62.7	26,310*	64.6	24,770*	63.5	18,990*
	130	60.0	23,860	61.9	23,360*	60.7	18,200*
	140	57.2	21,000	59.1	21,000		

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Wilmington, North Carolina 28412

Model 9530 Truck Crane  
77H Hammerhead Tip Boom  
90,000 Pound Counterweight

BOOM & JIB LENGTH	JIB RADIUS (FEET)	5° JIB OFFSET		15° JIB OFFSET		25° JIB OFFSET	
		BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)
50' JIB & 130' BOOM	32	82.9	32,000*				
	35	81.9	32,000*				
	40	80.3	32,000*	83.0	29,160*		
	50	77.1	30,890*	79.7	28,350*	82.2	26,320*
	60	73.8	29,760*	76.5	27,580*	78.9	25,790*
	70	70.5	28,730*	73.1	26,760*	75.5	24,200*
	80	67.1	27,820*	69.7	26,140*	72.0	22,370*
	90	63.6	27,000*	66.2	25,540*	68.5	20,820*
	100	60.0	26,250*	62.5	23,840*	64.8	19,530*
	110	56.3	25,640*	58.7	22,210*	60.9	18,410*
50' JIB & 140' BOOM	120	52.3	23,810*	54.8	20,890*	56.9	17,500*
	130	48.1	22,110*	50.5	19,660*	52.5	16,640*
	33	82.9	32,000*				
	35	82.3	32,000*				
	40	80.8	32,000*				
	50	77.8	30,950*	80.3	28,430*	82.7	26,300*
	60	74.7	29,930*	77.2	27,670*	79.5	25,800*
	70	71.6	28,970*	74.0	26,920*	76.3	24,630*
	80	68.4	28,110*	70.8	26,300*	73.1	22,870*
	90	65.1	27,350*	67.5	25,660*	69.7	21,320*
50' JIB & 150' BOOM	100	61.7	26,550*	64.1	24,600*	66.3	20,040*
	110	58.2	25,910*	60.6	23,020*	62.7	18,870*
	120	54.6	24,890*	56.9	21,560*	59.0	17,890*
	130	50.8	23,160*	53.1	20,330*	55.1	17,080*
	140	46.8	21,540*	49.0	19,320*	50.9	16,390*
	35	82.7	32,000*				
	40	81.3	32,000*				
	50	78.4	31,130*	80.8	28,430*		
	60	75.5	30,150*	77.8	27,650*	80.1	25,810*
	70	72.5	29,180*	74.9	27,050*	77.1	25,100*
50' JIB & 160' BOOM	80	69.5	28,360*	71.8	26,350*	74.0	23,260*
	90	66.4	27,540*	68.7	25,860*	70.8	21,730*
	100	63.3	26,780*	65.5	25,300*	67.6	20,410*
	110	60.0	26,110*	62.3	23,650*	64.3	19,340*
	120	56.6	25,560*	58.9	22,240*	60.8	18,350*
	130	53.1	24,190*	55.3	20,980*	57.2	17,500*
	140	49.4	22,560*	51.6	19,870*	53.4	16,740*
	150	45.5	20,540	47.6	18,950*	49.3	16,150*
	36	82.8	32,000*				
	40	81.7	32,000*				
50' JIB & 160' BOOM	50	79.0	31,200*	81.2	28,430*		
	60	76.2	30,240*	78.4	27,750*	80.6	25,800*
	70	73.4	29,260*	75.6	27,070*	77.7	25,370*
	80	70.5	28,490*	72.7	26,500*	74.8	23,650*
	90	67.6	27,720*	69.8	25,930*	71.8	22,150*
	100	64.6	27,070*	66.8	25,390*	68.8	20,840*
	110	61.6	26,370*	63.7	24,320*	65.7	19,740*

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American Crane Corporation  
Wilmington, North Carolina 28412

#16HL Jib Ratings In Pounds  
Model 9530 Truck Crane  
77H Hammerhead Tip Boom  
90,000 Pound Counterweight

BOOM & JIB LENGTH	JIB RADIUS (FEET)	5° JIB OFFSET		15° JIB OFFSET		25° JIB OFFSET	
		BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)
40' JIB & 250' BOOM	45	82.8	32,000*				
	50	81.8	32,000*				
	60	79.9	32,000*	81.2	32,000*	82.4	26,790*
	70	77.9	32,000*	79.2	30,450*	80.4	25,360*
	80	75.8	31,110*	77.1	28,720*	78.3	24,050*
	90	73.8	29,240*	75.1	27,010*	76.3	22,650*
	100	71.7	27,380*	73.0	25,460*	74.2	21,360*
	110	69.7	25,790*	70.9	24,060*	72.1	20,100*
	120	67.5	24,000	68.8	22,600*	69.9	18,940*
	130	65.4	20,600	66.6	20,600	67.8	17,770*
	140	63.2	17,720	64.4	17,730	65.5	16,640*
	150	61.0	15,260	62.2	15,270	63.3	15,280
	160	58.7	13,150	59.9	13,150	61.0	13,160
	170	56.3	11,290	57.6	11,300	58.6	11,300
	180	53.9	9,660	55.1	9,660	56.1	9,670
	190	51.5	8,220	52.6	8,220	53.6	8,230
	200	48.9	6,930	50.0	6,930	51.0	6,940
	210	46.2	5,770	47.3	5,780	48.2	5,790
	220	43.4	4,740	44.5	4,750	45.4	4,760
	230	40.4	3,800	41.5	3,810	42.3	3,820
	240	37.2	2,950	38.3	2,960	39.1	2,970
	250	33.8	2,180	34.8	2,190	35.5	2,200
40' JIB & 260' BOOM	46	82.9	32,000*				
	50	82.1	32,000*				
	60	80.2	31,440*	81.5	28,700*	82.7	23,800*
	70	78.3	29,260*	79.5	26,870*	80.7	22,390*
	80	76.3	27,170*	77.6	25,100*	78.7	21,000*
	90	74.3	25,420*	75.6	23,550*	76.8	19,640*
	100	72.4	23,710*	73.6	22,030*	74.7	18,370*
	110	70.4	22,070*	71.6	20,630*	72.7	17,140*
	120	68.3	20,620*	69.5	19,260*	70.7	15,940*
	130	66.3	19,280*	67.5	18,000*	68.6	14,830*
	140	64.2	17,230	65.4	16,790*	66.4	13,720*
	150	62.0	14,770	63.2	14,780	64.3	12,740*
	160	59.8	12,640	61.0	12,650	62.1	11,760*
	170	57.6	10,800	58.8	10,800	59.8	10,810*
	180	55.3	9,160	56.5	9,170	57.5	9,180
	190	53.0	7,720	54.1	7,720	55.1	7,730
	200	50.5	6,430	51.7	6,430	52.6	6,440
	210	48.0	5,270	49.1	5,280	50.0	5,290
	220	45.4	4,230	46.5	4,230	47.3	4,240
	230	42.6	3,290	43.7	3,290	44.5	3,300
	240	39.7	2,440	40.7	2,450	41.5	2,460
	250	36.6	1,660	37.6	1,660	38.3	1,680



American Crane Corporation  
Wilmington, North Carolina 28412

#16HL Jib Ratings In Pounds  
Model 9530 Truck Crane  
77H Hammerhead Tip Boom  
90,000 Pound Counterweight

BOOM & JIB LENGTH	JIB RADIUS (FEET)	5° JIB OFFSET		15° JIB OFFSET		25° JIB OFFSET	
		BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)
40'	180	49.0	11,170	50.3	11,180	51.3	11,190
JIB	190	46.0	9,740	47.2	9,740	48.3	9,750
&	200	42.8	8,450	44.0	8,460	45.0	8,470
220'	210	39.4	7,310	40.6	7,310	41.5	7,330
BOOM	220	35.8	6,290	37.0	6,290	37.8	6,310
40' JIB & 230' BOOM	42	82.9	32,000*				
	50	81.2	32,000*	82.7	32,000*		
	60	79.1	32,000*	80.5	32,000*	81.8	32,000*
	70	76.9	32,000*	78.3	32,000*	79.6	32,000*
	80	74.8	32,000*	76.2	32,000*	77.4	31,180*
	90	72.6	32,000*	73.9	32,000*	75.2	29,470*
	100	70.3	32,000*	71.7	32,000*	73.0	27,930*
	110	68.1	29,070	69.4	29,080	70.7	26,570*
	120	65.8	24,980	67.1	24,980	68.3	24,990
	130	63.4	21,580	64.8	21,580	66.0	21,590
	140	61.0	18,710	62.4	18,710	63.5	18,720
	150	58.6	16,260	59.9	16,270	61.0	16,270
	160	56.1	14,130	57.4	14,140	58.5	14,150
	170	53.5	12,290	54.8	12,300	55.8	12,310
	180	50.8	10,660	52.1	10,670	53.1	10,680
	190	48.0	9,220	49.2	9,230	50.2	9,240
	200	45.0	7,940	46.3	7,950	47.2	7,960
40' JIB & 240' BOOM	210	41.9	6,800	43.1	6,810	44.1	6,820
	220	38.6	5,760	39.8	5,770	40.7	5,780
	230	35.1	4,840	36.2	4,840	37.0	4,860
	43	83.0	32,000*				
	50	81.6	32,000*	82.9	32,000*		
	60	79.5	32,000*	80.9	32,000*	82.1	30,010*
	70	77.4	32,000*	78.8	32,000*	80.0	28,720*
	80	75.3	32,000*	76.7	32,000*	77.9	27,390*
	90	73.2	32,000*	74.5	30,960*	75.8	26,070*
	100	71.1	31,630*	72.4	29,310*	73.6	24,750*
	110	68.9	28,590	70.2	27,840*	71.4	23,450*
	120	66.7	24,500	68.0	24,500	69.2	22,220*
	130	64.5	21,100	65.7	21,100	66.9	21,050*
	140	62.2	18,220	63.5	18,220	64.6	18,230
	150	59.8	15,770	61.1	15,770	62.2	15,780
	160	57.4	13,640	58.7	13,640	59.8	13,650
	170	55.0	11,800	56.2	11,800	57.3	11,810
	180	52.4	10,160	53.7	10,170	54.7	10,180
	190	49.8	8,720	51.0	8,730	52.0	8,740
	200	47.1	7,440	48.3	7,440	49.2	7,450
	210	44.2	6,280	45.4	6,290	46.3	6,300
	220	41.2	5,260	42.3	5,260	43.2	5,270
	230	37.9	4,320	39.0	4,330	39.8	4,340
	240	34.4	3,470	35.5	3,480	36.2	3,500



**American Crane Corporation**  
Wilmington, North Carolina 28412

#16HL Jib Ratings In Pounds  
Model 9530 Truck Crane  
77H Hammerhead Tip Boom  
90,000 Pound Counterweight

BOOM & JIB LENGTH	JIB RADIUS (FEET)	5° JIB OFFSET		15° JIB OFFSET		25° JIB OFFSET	
		BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)
40' JIB & 200' BOOM	80	72.8	32,000*	74.4	32,000*	75.8	29,960*
	90	70.3	32,000*	71.9	32,000*	73.3	28,170*
	100	67.8	32,000*	69.3	32,000*	70.7	26,680*
	110	65.2	30,500	66.7	30,500	68.1	25,380*
	120	62.5	26,410	64.0	26,420	65.4	24,140*
	130	59.8	23,030	61.3	23,030	62.6	23,040
	140	57.0	20,160	58.5	20,160	59.7	20,170
	150	54.1	17,710	55.6	17,720	56.8	17,730
	160	51.1	15,600	52.5	15,610	53.7	15,620
	170	48.0	13,770	49.4	13,770	50.5	13,780
	180	44.6	12,140	46.0	12,150	47.1	12,160
40' JIB & 210' BOOM	190	41.1	10,710	42.5	10,720	43.5	10,730
	200	37.3	9,440	38.6	9,450	39.5	9,460
	40	82.8	32,000*				
	50	80.5	32,000*	82.1	32,000*		
	60	78.2	32,000*	79.7	32,000*	81.2	32,000*
	70	75.9	32,000*	77.4	32,000*	78.8	32,000*
	80	73.5	32,000*	75.0	32,000*	76.4	30,400*
	90	71.1	32,000*	72.6	32,000*	74.0	28,670*
	100	68.7	32,000*	70.2	32,000*	71.5	27,160*
	110	66.2	30,010	67.7	30,020	69.0	25,760*
	120	63.7	25,920	65.2	25,930	66.4	24,530*
40' JIB & 220' BOOM	130	61.1	22,530	62.6	22,540	63.8	22,550
	140	58.5	19,660	59.9	19,670	61.1	19,680
	150	55.8	17,220	57.2	17,220	58.4	17,230
	160	52.9	15,110	54.3	15,110	55.5	15,120
	170	50.0	13,260	51.4	13,260	52.5	13,270
	180	46.9	11,640	48.3	11,650	49.3	11,660
	190	43.7	10,210	45.0	10,210	46.0	10,220
	200	40.2	8,930	41.5	8,940	42.5	8,950
	210	36.5	7,790	37.8	7,800	38.6	7,810
	41	82.9	32,000*				
	50	80.9	32,000*	82.4	32,000*		
40' JIB & 220' BOOM	60	78.7	32,000*	80.1	32,000*	81.5	32,000*
	70	76.4	32,000*	77.9	32,000*	79.2	32,000*
	80	74.2	32,000*	75.6	32,000*	76.9	30,800*
	90	71.9	32,000*	73.3	32,000*	74.6	29,080*
	100	69.6	32,000*	71.0	32,000*	72.3	27,490*
	110	67.2	29,560	68.6	29,570	69.9	26,220*
	120	64.8	25,470	66.2	25,480	67.4	24,950*
	130	62.3	22,070	63.7	22,070	64.9	22,080
	140	59.8	19,210	61.2	19,220	62.4	19,220
	150	57.2	16,750	58.6	16,760	59.8	16,770
	160	54.6	14,640	55.9	14,650	57.1	14,650
	170	51.8	12,800	53.1	12,800	54.2	12,810





American Crane Corporation  
Wilmington, North Carolina 28412

#16HL Jib Ratings In Pounds  
Model 9530 Truck Crane  
77H Hammerhead Tip Boom  
90,000 Pound Counterweight

BOOM & JIB LENGTH	JIB RADIUS (FEET)	5° JIB OFFSET		15° JIB OFFSET		25° JIB OFFSET	
		BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)
40' JIB & 170' BOOM	80	70.3	32,000*	72.1	32,000*	73.7	28,530*
	90	67.4	32,000*	69.1	32,000*	70.7	26,770*
	100	64.4	32,000*	66.1	31,370*	67.7	25,220*
	110	61.3	31,970	63.1	29,460*	64.6	23,960*
	120	58.2	27,900	59.9	27,690*	61.4	22,810*
	130	54.9	24,520	56.6	24,520	58.0	21,810*
	140	51.5	21,670	53.2	21,670	54.5	20,900*
	150	47.9	19,230	49.5	19,230	50.9	19,240
	160	44.1	17,130	45.7	17,130	46.9	17,140
	170	40.0	15,290	41.5	15,290	42.7	15,310
40' JIB & 180' BOOM	36	82.9	32,000*				
	40	81.9	32,000*				
	50	79.2	32,000*	81.0	32,000*	82.6	32,000*
	60	76.6	32,000*	78.3	32,000*	79.9	32,000*
	70	73.9	32,000*	75.6	32,000*	77.2	31,140*
	80	71.2	32,000*	72.9	32,000*	74.5	29,010*
	90	68.4	32,000*	70.1	32,000*	71.6	27,330*
	100	65.6	32,000*	67.3	32,000*	68.8	25,710*
	110	62.7	31,480	64.4	30,250*	65.9	24,460*
	120	59.8	27,400	61.4	27,400	62.8	23,240*
	130	56.7	24,010	58.3	24,020	59.7	22,260*
	140	53.6	21,160	55.1	21,160	56.5	21,170
40' JIB & 190' BOOM	150	50.2	18,720	51.8	18,720	53.1	18,730
	160	46.7	16,610	48.3	16,620	49.5	16,630
	170	43.0	14,780	44.5	14,790	45.7	14,800
	180	39.0	13,170	40.5	13,170	41.6	13,180
	37	83.0	32,000*				
	40	82.2	32,000*				
	50	79.7	32,000*	81.4	32,000*	82.9	32,000*
	60	77.2	32,000*	78.8	32,000*	80.4	32,000*
	70	74.6	32,000*	76.3	32,000*	77.8	31,580*
	80	72.1	32,000*	73.7	32,000*	75.2	29,590*
	90	69.4	32,000*	71.0	32,000*	72.5	27,750*
	100	66.8	32,000*	68.3	32,000*	69.8	26,250*
40' JIB & 200' BOOM	110	64.0	31,000	65.6	30,980*	67.0	24,850*
	120	61.2	26,920	62.8	26,920	64.2	23,720*
	130	58.3	23,530	59.9	23,530	61.2	22,660*
	140	55.4	20,660	56.9	20,670	58.2	20,680
	150	52.3	18,220	53.8	18,230	55.0	18,240
	160	49.1	16,110	50.5	16,120	51.7	16,130
	170	45.7	14,280	47.1	14,280	48.3	14,290
	180	42.0	12,660	43.5	12,660	44.5	12,670
	190	38.1	11,230	39.5	11,240	40.5	11,250
	39	82.8	32,000*				
40' JIB & 200' BOOM	40	82.5	32,000*				
	50	80.1	32,000*	81.7	32,000*		
	60	77.7	32,000*	79.3	32,000*	80.8	32,000*
	70	75.3	32,000*	76.9	32,000*	78.3	32,000*



American Crane Corporation  
Wilmington, North Carolina 28412

#16HL Jib Ratings In Pounds  
Model 9530 Truck Crane  
77H Hammerhead Tip Boom  
90,000 Pound Counterweight

BOOM & JIB LENGTH	JIB RADIUS (FEET)	5° JIB OFFSET		15° JIB OFFSET		25° JIB OFFSET	
		BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)
40' JIB & 140' BOOM	31	82.9	32,000*				
	35	81.7	32,000*				
	40	80.1	32,000*	82.2	32,000*		
	50	76.8	32,000*	78.9	32,000*	80.9	32,000*
	60	73.6	32,000*	75.7	32,000*	77.6	31,640*
	70	70.2	32,000*	72.3	32,000*	74.2	29,030*
	80	66.8	32,000*	68.9	32,000*	70.7	26,940*
	90	63.3	32,000*	65.4	30,930*	67.2	25,170*
	100	59.7	32,000*	61.7	28,730*	63.5	23,650*
	110	56.0	31,440*	57.9	26,890*	59.7	22,310*
	120	52.0	28,960*	54.0	25,290*	55.6	21,220*
40' JIB & 150' BOOM	130	47.9	25,980	49.8	23,960*	51.3	20,290*
	140	43.4	23,140	45.2	22,730*	46.7	19,560*
	32	83.0	32,000*				
	35	82.1	32,000*				
	40	80.6	32,000*	82.6	32,000*		
	50	77.5	32,000*	79.5	32,000*	81.4	32,000*
	60	74.5	32,000*	76.4	32,000*	78.3	32,000*
	70	71.3	32,000*	73.3	32,000*	75.1	29,610*
	80	68.1	32,000*	70.1	32,000*	71.8	27,520*
	90	64.8	32,000*	66.8	31,920*	68.5	25,740*
	100	61.5	32,000*	63.4	29,680*	65.1	24,240*
40' JIB & 160' BOOM	110	58.0	32,000*	59.9	27,800*	61.5	22,920*
	120	54.4	28,850	56.2	26,080*	57.8	21,730*
	130	50.6	25,470	52.4	24,740*	53.9	20,810*
	140	46.5	22,630	48.3	22,630	49.7	19,970*
	150	42.2	20,200	43.9	20,200	45.2	19,280*
	34	82.8	32,000*				
	35	82.5	32,000*				
	40	81.0	32,000*	83.0	32,000*		
	50	78.2	32,000*	80.1	32,000*	81.8	32,000*
	60	75.2	32,000*	77.1	32,000*	78.9	32,000*
	70	72.3	32,000*	74.1	32,000*	75.9	30,170*
40' JIB & 170' BOOM	80	69.3	32,000*	71.1	32,000*	72.8	28,050*
	90	66.2	32,000*	68.0	32,000*	69.7	26,260*
	100	63.0	32,000*	64.8	30,610*	66.4	24,720*
	110	59.8	32,000*	61.6	28,630*	63.1	23,400*
	120	56.4	28,360	58.2	26,880*	59.7	22,290*
	130	52.9	24,970	54.6	24,980	56.1	21,260*
	140	49.2	22,130	50.9	22,130	52.3	20,480*
	150	45.3	19,690	46.9	19,700	48.3	19,710
	160	41.0	17,590	42.7	17,600	43.9	17,610
	35	82.8	32,000*				
	40	81.5	32,000*				
40' JIB & 170' BOOM	50	78.7	32,000*	80.5	32,000*	82.2	32,000*
	60	76.0	32,000*	77.7	32,000*	79.4	32,000*
	70	73.1	32,000*	74.9	32,000*	76.6	30,620*





Wilmington, North Carolina 28412

77H Hammerhead Tip Boom  
90,000 Pound Counterweight

BOOM & JIB LENGTH	JIB RADIUS (FEET)	5° JIB OFFSET		15° JIB OFFSET		25° JIB OFFSET	
		BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)	BOOM ANGLE	RATINGS (LBS)
40' JIB & 100' BOOM	26	83.0	32,000*				
	30	81.3	32,000*				
	35	79.3	32,000*	82.0	32,000*		
	40	77.2	32,000*	79.9	32,000*	82.5	32,000*
	50	73.0	32,000*	75.7	32,000*	78.2	32,000*
	60	68.7	32,000*	71.4	32,000*	73.8	28,910*
	70	64.3	32,000*	66.9	32,000*	69.3	26,260*
	80	59.7	32,000*	62.2	29,210*	64.5	24,210*
	90	54.8	30,740*	57.3	26,800*	59.5	22,410*
	100	49.6	27,820*	52.1	24,760*	54.2	21,020*
40' JIB & 110' BOOM	28	82.7	32,000*				
	30	81.9	32,000*				
	35	80.0	32,000*	82.5	32,000*		
	40	78.1	32,000*	80.6	32,000*	83.0	32,000*
	50	74.2	32,000*	76.7	32,000*	79.0	32,000*
	60	70.2	32,000*	72.7	32,000*	75.0	29,700*
	70	66.1	32,000*	68.5	32,000*	70.8	27,080*
	80	61.9	32,000*	64.3	30,410*	66.5	24,910*
	90	57.5	32,000*	59.8	27,840*	61.9	23,190*
	100	52.8	29,510*	55.1	25,770*	57.1	21,710*
	110	47.8	27,020*	50.1	24,080*	52.0	20,500*
40' JIB & 120' BOOM	29	82.8	32,000*				
	30	82.4	32,000*				
	35	80.6	32,000*	83.0	32,000*		
	40	78.8	32,000*	81.2	32,000*		
	50	75.2	32,000*	77.5	32,000*	79.7	32,000*
	60	71.5	32,000*	73.8	32,000*	76.0	30,350*
	70	67.7	32,000*	70.0	32,000*	72.1	27,810*
	80	63.8	32,000*	66.0	31,510*	68.1	25,680*
	90	59.7	32,000*	62.0	28,940*	63.9	23,850*
	100	55.5	31,110*	57.7	26,830*	59.6	22,380*
	110	51.0	28,460*	53.2	25,090*	55.0	21,180*
	120	46.2	26,300*	48.3	23,520*	50.0	20,120*
40' JIB & 130' BOOM	30	82.8	32,000*				
	35	81.2	32,000*				
	40	79.5	32,000*	81.7	32,000*		
	50	76.1	32,000*	78.3	32,000*	80.4	32,000*
	60	72.6	32,000*	74.8	32,000*	76.8	30,940*
	70	69.0	32,000*	71.2	32,000*	73.2	28,460*
	80	65.4	32,000*	67.6	32,000*	69.5	26,340*
	90	61.7	32,000*	63.8	30,020*	65.7	24,540*
	100	57.8	32,000*	59.9	27,880*	61.7	23,000*
	110	53.7	29,990*	55.7	26,000*	57.5	21,770*
	120	49.4	27,630*	51.4	24,480*	53.1	20,690*
	130	44.7	25,690*	46.7	23,140*	48.3	19,810*

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American Crane Corporation  
Wilmington, North Carolina 28412

Model 9530 Truck Crane - Ratings in Pounds  
77H Tubular Boom with Hammerhead  
90,000 Pounds Counterweight - American Carrier

BOOM LENGTH (FEET)	RADIUS IN FEET	BOOM ANGLE DEGREES	FREE		OUTRIGGERS SET		FEET FROM BOOM POINT TO GROUND
			OVER SIDE	OVER REAR	OVER SIDE	OVER REAR	
250'	160	52.4			12,930	18,340*	206
	170	49.4			11,030	15,930*	198
	180	46.3			9,370	13,740*	189
	190	43.0			7,890	11,780*	179
	200	39.5			6,570	10,040*	167
	210	35.7			5,390	8,490*	154
	220	31.6			4,310	7,090*	139
	230	26.8			3,350	5,820*	121
	240	21.1			2,460	4,650*	98
	250	13.1			1,660	3,580*	64
260'	39	83.0			70,960*	70,960*	267
	40	82.8			70,790*	70,790*	266
	50	80.5			69,340*	69,340*	265
	60	78.3			67,590*	67,590*	263
	70	76.0			57,980	65,500*	261
	80	73.8			46,900	58,940*	258
	90	71.5			38,640	49,070*	255
	100	69.1			32,810	41,900*	251
	110	66.7			27,710	35,870*	247
	120	64.3			23,550	30,740*	243
	130	61.9			20,080	26,590*	238
	140	59.3			17,170	23,790	232
	150	56.7			14,660	20,580*	226
	160	54.0			12,500	17,810*	219
	170	51.3			10,600	15,300*	211
	180	48.4			8,930	13,120*	203
	190	45.3			7,460	11,310*	193
	200	42.1			6,130	9,510*	183
	210	38.7			4,950	7,950*	171
	220	35.0			3,870	6,520*	157
	230	30.9			2,900	5,260*	152
	240	26.3			2,010	4,090*	123
	250	20.7			0	3,050*	100
	260	12.8			0	2,060*	66

(NOTE) WE HAVE ONLY 250' OF BOOM  
JIB CAN BE 40' OR 60' ONLY



**American Crane Corporation**  
Wilmington, North Carolina 28412

Model 9530 Truck Crane - Ratings In Pounds  
77H Tubular Boom with Hammerhead  
90,000 Pounds Counterweight - American Carrier

BOOM LENGTH (FEET)	RADIUS IN FEET	BOOM ANGLE DEGREES	FREE		OUTRIGGERS SET		FEET FROM BOOM POINT TO GROUND
			OVER SIDE	OVER REAR	OVER SIDE	OVER REAR	
230'	70	74.2			59,190	71,640*	230
	80	71.6			48,150	59,290*	227
	90	68.9			39,920	50,940*	223
	100	66.2			34,050	43,630*	219
	110	63.5			28,960	37,500*	214
	120	60.7			24,810	32,580*	209
	130	57.8			21,360	28,270*	203
	140	54.8			18,450	24,720*	196
	150	51.7			15,950	22,070	189
	160	48.4			13,800	19,490	180
	170	45.0			11,910	17,010*	171
	180	41.3			10,240	14,830*	160
	190	37.3			8,760	12,900*	148
	200	33.0			7,450	11,200*	133
	210	28.0			6,270	9,610*	116
	220	22.0			5,200	8,200*	94
	230	13.7			4,230	6,890*	62
240'	37	82.9			86,400*	86,400*	247
	40	82.2			86,240*	86,240*	246
	50	79.7			84,610*	84,610*	245
	60	77.3			73,850	83,300*	243
	70	74.9			58,790	71,170*	240
	80	72.4			47,730	58,750*	237
	90	69.9			39,500	50,400*	234
	100	67.3			33,640	43,140*	230
	110	64.7			28,550	37,030*	225
	120	62.0			24,390	31,980*	220
	130	59.3			20,940	27,750*	215
	140	56.4			18,030	24,120*	208
	150	53.5			15,530	21,650	201
	160	50.5			13,370	18,950	193
	170	47.3			11,480	16,470*	185
	180	44.0			9,820	14,320*	175
	190	40.4			8,340	12,390*	164
	200	36.5			7,020	10,620*	151
	210	32.2			5,830	9,050*	136
	220	27.4			4,760	7,650*	118
	230	21.5			3,790	6,380*	96
	240	13.4			2,920	5,190*	63
250'	38	82.9			79,130*	79,130*	257
	40	82.5			78,760*	78,760*	256
	50	80.2			77,190*	77,190*	255
	60	77.8			73,450	75,830*	253
	70	75.5			58,380	71,940*	251
	80	73.1			47,310	59,290*	248
	90	70.7			39,070	49,590*	244
	100	68.2			33,230	42,630*	241
	110	65.8			28,130	36,360*	236
	120	63.2			23,970	31,360*	232
	130	60.6			20,510	27,170*	226
	140	58.0			17,590	24,200	220
	150	55.2			15,090	21,180*	214



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90,000 Pounds Counterweight - American Carrier

BOOM LENGTH (FEET)	RADIUS IN FEET	BOOM ANGLE DEGREES	FREE		OUTRIGGERS SET		FEET FROM BOOM POINT TO GROUND
			OVER SIDE	OVER REAR	OVER SIDE	OVER REAR	
200'	160	40.2			15,020	20,700	137
	170	35.5			13,140	18,450	124
	180	30.1			11,470	16,430*	108
	190	23.7			10,000	14,460*	88
	200	14.7			8,690	12,650*	59
210'	33	83.0			115,320*	115,320*	217
	35	82.4			115,320*	115,320*	217
	40	81.0			115,320*	115,320*	216
	50	78.3			98,640	111,560*	214
	60	75.5			75,030	87,800*	212
	70	72.6			59,940	72,600*	209
	80	69.8			48,940	60,370*	206
	90	66.8			40,730	51,810	202
	100	63.8			34,820	44,570	197
	110	60.7			29,740	38,460	192
	120	57.6			25,600	33,470	186
	130	54.3			22,160	29,340	179
	140	50.8			19,250	25,770*	171
	150	47.2			16,760	22,870	162
	160	43.3			14,600	20,290	152
	170	39.2			12,720	18,040	141
	180	34.6			11,060	15,910*	127
	190	29.3			9,590	13,950*	111
	200	23.1			8,270	12,200*	90
	210	14.3			7,090	10,590*	60
220'	35	82.8			103,880*	103,880*	227
	40	81.4			103,500*	103,500*	226
	50	78.8			98,300	102,340*	224
	60	76.1			74,660	88,590*	222
	70	73.5			59,580	72,070*	219
	80	70.7			48,560	59,850*	216
	90	67.9			40,350	51,430*	212
	100	65.1			34,450	44,210	208
	110	62.2			29,370	38,090	203
	120	59.2			25,240	33,110	197
	130	56.1			21,780	28,790*	191
	140	52.9			18,880	25,300*	184
	150	49.6			16,390	22,500	176
	160	46.0			14,230	19,910	167
	170	42.3			12,340	17,580*	156
	180	38.2			10,680	15,430*	144
	190	33.7			9,200	13,450*	130
	200	28.6			7,890	11,740*	114
	210	22.5			6,700	10,130*	92
	220	14.0			5,650	8,700*	61
230'	36	82.8			94,600*	94,600*	237
	40	81.8			94,280*	94,280*	236
	50	79.3			92,930*	92,930*	235
	60	76.8			74,250	88,660*	232





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BOOM LENGTH (FEET)	RADIUS IN FEET	BOOM ANGLE DEGREES	FREE		OUTRIGGERS SET		FEET FROM BOOM POINT TO GROUND
			OVER SIDE	OVER REAR	OVER SIDE	OVER REAR	
180'	30	82.7			158,580*	158,580*	187
	35	81.1			158,580*	158,580*	186
	40	79.5			139,340	149,200*	186
	50	76.3			99,740	113,880*	183
	60	73.0			76,220	89,790*	181
	70	69.6			61,120	74,450*	177
	80	66.2			50,160	62,060*	173
	90	62.7			41,980	52,710*	168
	100	59.0			36,010	45,750	163
	110	55.2			30,950	39,650	156
	120	51.2			26,830	34,690	149
	130	47.0			23,390	30,560*	140
	140	42.5			20,480	27,080	130
	150	37.5			18,000	24,100	118
	160	31.8			15,850*	21,530	103
	170	25.0			13,960	19,270	84
	180	15.5			12,310	17,290	56
190'	31	82.8			141,400*	141,400*	197
	35	81.6			141,400*	141,400*	197
	40	80.1			139,020	141,400*	196
	50	77.0			99,380	113,280*	194
	60	73.9			75,820	89,100*	191
	70	70.7			60,740	73,830*	188
	80	67.5			49,760	61,510*	184
	90	64.2			41,570	52,250*	180
	100	60.8			35,620	45,370	174
	110	57.3			30,560	39,260	168
	120	53.6			26,430	34,300	161
	130	49.8			22,990	30,170	153
	140	45.7			20,090	26,680	144
	150	41.3			17,610	23,710	134
	160	36.4			15,450	21,130	121
	170	30.9			13,560	18,870	106
	180	24.3			11,910	16,890	86
	190	15.1			10,430	14,900*	57
200'	32	82.9			127,700*	127,700*	207
	35	82.0			127,700*	127,700*	207
	40	80.6			127,700*	127,700*	206
	50	77.7			99,000	112,460	204
	60	74.7			75,420	88,420*	201
	70	71.7			60,340	73,200*	198
	80	68.7			49,340	60,930*	195
	90	65.6			41,150	52,220	191
	100	62.4			35,210	44,960	186
	110	59.1			30,150	38,860	180
	120	55.7			26,010	33,880	174
	130	52.2			22,570	29,750	166
	140	48.4			19,670	26,210*	158
	150	44.5			17,170	23,280	148





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BOOM LENGTH (FEET)	RADIUS IN FEET	BOOM ANGLE DEGREES	FREE		OUTRIGGERS SET		FEET FROM BOOM POINT TO GROUND
			OVER SIDE	OVER REAR	OVER SIDE	OVER REAR	
150'	26	82.8			227,370*	227,370*	157
	30	81.3			212,120*	212,120*	157
	35	79.4			172,590	174,520*	156
	40	77.4			140,280	149,110*	155
	50	73.5			100,760	114,060*	152
	60	69.5			77,330	91,520*	149
	70	65.3			62,220	76,220*	145
	80	61.0			51,290	63,760*	140
	90	56.6			43,150	54,190*	134
	100	51.8			36,830	46,830*	126
	110	46.8			32,060	40,740*	118
	120	41.2			27,940	35,790*	107
	130	35.0			24,510	31,670*	94
	140	27.5			21,600	28,180*	77
	150	17.1			19,110	25,200*	52
160'	27	82.9			200,040*	200,040*	167
	30	81.8			200,040*	200,040*	167
	35	80.0			172,290	175,750*	166
	40	78.2			139,960	148,820*	165
	50	74.5			100,400	113,730*	163
	60	70.8			76,940	90,760*	160
	70	67.0			61,840	75,640*	156
	80	63.0			50,910	63,360*	151
	90	58.9			42,750	53,710*	145
	100	54.6			36,730	46,460*	139
	110	50.1			31,680	40,380*	131
	120	45.2			27,560	35,410*	122
	130	39.8			24,130	31,290*	111
	140	33.8			21,220	27,810*	97
	150	26.6			18,730	24,830*	80
	160	16.5			16,570	22,240*	53
170'	28	83.0			176,640*	176,640*	177
	30	82.3			176,640*	176,640*	177
	35	80.6			172,000	176,640*	176
	40	78.9			139,670	149,430*	175
	50	75.5			100,090	112,950*	173
	60	72.0			76,610	90,530*	170
	70	68.4			61,510	75,090*	167
	80	64.7			50,560	62,600*	162
	90	60.9			42,400	53,430*	157
	100	57.0			36,410	46,150*	151
	110	52.8			31,350	40,050*	144
	120	48.5			27,230	35,090*	136
	130	43.8			23,790	30,960*	126
	140	38.6			20,900	27,480*	114
	150	32.8			18,410	24,500*	100
	160	25.7			16,260	21,930*	82
	170	16.0			14,370	19,670*	55



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BOOM LENGTH (FEET)	RADIUS IN FEET	BOOM ANGLE DEGREES	FREE		OUTRIGGERS SET		FEET FROM BOOM POINT TO GROUND
			OVER SIDE	OVER REAR	OVER SIDE	OVER REAR	
110'	80	48.6	20,450*	24,850*	52,670	65,410	91
	90	41.2	16,860*	20,730*	44,550	55,560	81
	100	32.3	13,960*	17,470	38,270	47,970	67
	110	20.1	11,630*	14,890	33,330	42,000	46
120'	22	82.9	0*	116,210*	309,880*	309,800*	128
	25	81.5	0*	107,850*	263,390*	263,390*	127
	30	79.1	0*	88,610*	212,700*	212,700*	126
	35	76.7	0*	73,350*	173,430	177,130*	125
	40	74.2	0*	62,240*	141,200	151,460*	124
	50	69.2	38,230*	46,930*	101,770	115,780*	121
	60	64.0	30,240*	36,760*	78,440	93,050*	116
	70	58.5	24,570*	29,850*	63,310	78,010*	111
	80	52.7	20,050*	24,540*	52,420	65,170	104
	90	46.4	16,470*	20,430	44,300	55,320	95
	100	39.3	13,580*	17,160	38,010	47,710	84
	110	30.9	11,320*	14,650	33,140	41,810	70
130'	120	19.2	9,260*	12,400	29,000	36,830	47
	24	82.6	0*	109,550*	278,690*	278,690*	137
	25	82.2	0*	106,810*	264,920*	264,920*	137
	30	79.9	0*	88,080*	211,870*	211,870*	137
	35	77.7	0*	72,840*	173,160	176,380*	136
	40	75.4	0*	61,740*	140,900	150,820*	134
	50	70.8	37,660*	46,440*	101,430	115,400*	131
	60	66.1	29,600*	36,280*	78,070	92,490*	127
	70	61.2	23,970*	29,400*	62,950	77,490*	122
	80	56.0	19,450*	24,080*	52,050	64,750*	116
	90	50.5	15,880*	19,980	43,910	54,940	109
	100	44.5	13,000*	16,720	37,620	47,340	99
140'	110	37.7	10,800*	14,240	32,780	41,460	88
	120	29.6	8,760*	12,010	28,660	36,500	72
	130	18.4	7,000*	10,100	25,210	32,360	49
	25	82.7	0*	105,850*	259,280*	259,600*	147
	30	80.7	0*	87,580*	211,720*	211,720*	147
	35	78.6	0*	72,350*	172,880	175,820*	146
	40	76.5	0*	61,270*	140,590	150,290*	145
	50	72.3	37,050*	46,000*	101,110	114,450*	142
	60	67.9	29,000*	35,830*	77,710	91,820*	138
	70	63.4	23,400*	28,970*	62,610	76,750*	134
	80	58.7	18,890*	23,650	51,680	64,370*	128
	90	53.8	15,330*	19,550	43,540	54,580	121
150'	100	48.5	12,450*	16,290	37,240	46,960	113
	110	42.8	10,300*	13,860	32,450	41,130	103
	120	36.2	8,280*	11,630	28,330	36,170	91
	130	28.5	6,540*	9,740	24,880	32,040	75
	140	17.7	5,030*	8,120	21,970	28,550	50



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BOOM LENGTH (FEET)	RADIUS IN FEET	BOOM ANGLE DEGREES	FREE		OUTRIGGERS SET		FEET FROM BOOM POINT TO GROUND
			OVER SIDE	OVER REAR	OVER SIDE	OVER REAR	
70'	16	82.8	0°	142,320*	440,000*	440,000*	78
	20	79.5	0°	127,420*	349,600*	349,600*	77
	25	75.4	0°	112,440*	265,050*	265,050*	76
	30	71.1	0°	90,820*	213,710*	213,710*	75
	35	66.7	0°	75,470*	174,400	178,330*	73
	40	62.2	0°	64,250*	142,270	153,700*	70
	50	52.4	0°	48,830*	102,980	118,370*	64
	60	41.0	0°	38,660*	79,790	95,230*	54
	70	25.6	26,890*	31,560*	64,560	79,580*	38
80'	17	83.0	0°	137,070*	433,460*	433,460*	88
	20	80.8	0°	126,340*	349,360*	349,360*	88
	25	77.2	0°	111,470*	264,510*	264,510*	87
	30	73.5	0°	90,390*	213,340*	213,340*	85
	35	69.8	0°	75,060*	174,260	179,180*	84
	40	65.9	0°	63,870*	142,120	153,320*	82
	50	57.8	0°	48,460*	102,790	117,580*	76
	60	48.8	32,320*	38,300*	79,560	94,930*	68
	70	38.2	26,470*	31,260*	64,380	79,440	58
90'	80	23.8	21,870*	25,910*	53,500	66,210	40
	19	82.5	0°	128,650*	373,410*	373,410*	98
	20	81.9	0°	125,350*	348,810*	348,810*	98
	25	78.7	0°	110,570*	264,950*	264,950*	97
	30	75.4	0°	89,970*	213,210*	213,210*	96
	35	72.1	0°	74,660*	174,100	178,840*	94
	40	68.7	0°	63,480*	141,920	152,970*	92
	50	61.7	0°	48,110*	102,580	117,600*	88
	60	54.2	31,840*	37,950*	79,320	94,800*	81
100'	70	45.8	26,040*	30,950*	64,160	79,130*	73
	80	35.9	21,480*	25,620*	53,290	66,020	61
	90	22.4	17,850*	21,490*	45,170	56,170	42
	20	82.7	0°	124,250*	348,120*	348,120*	108
	25	79.8	0°	109,550*	265,520*	265,520*	107
	30	76.9	0°	89,470*	213,930*	213,930*	106
	35	73.9	0°	74,180*	173,870	177,980*	105
	40	70.9	0°	63,020*	141,670	151,860*	103
	50	64.8	0°	47,680*	102,290	117,040*	99
110'	60	58.2	31,250*	37,520*	79,010	93,970*	93
	70	51.2	25,500*	30,550*	63,860	78,610*	86
	80	43.3	20,950*	25,220*	52,980	65,710	77
	90	34.0	17,350*	21,110*	44,860	55,870	64
	100	21.2	14,430*	17,840	38,580	48,280	44
	21	82.8	0°	120,170*	328,320*	328,320*	118
	25	80.7	0°	108,610*	263,830*	263,830*	117
	30	78.1	0°	88,990*	212,620*	212,620*	116
	35	75.4	0°	73,730*	173,640	177,040*	115
110'	40	72.7	0°	62,600*	141,420	152,050*	114
	50	67.2	38,770*	47,260*	102,000	116,510*	110
	60	61.4	30,690*	37,110*	78,700	93,710*	105
	70	55.3	24,980*	30,160*	63,560	78,430*	99