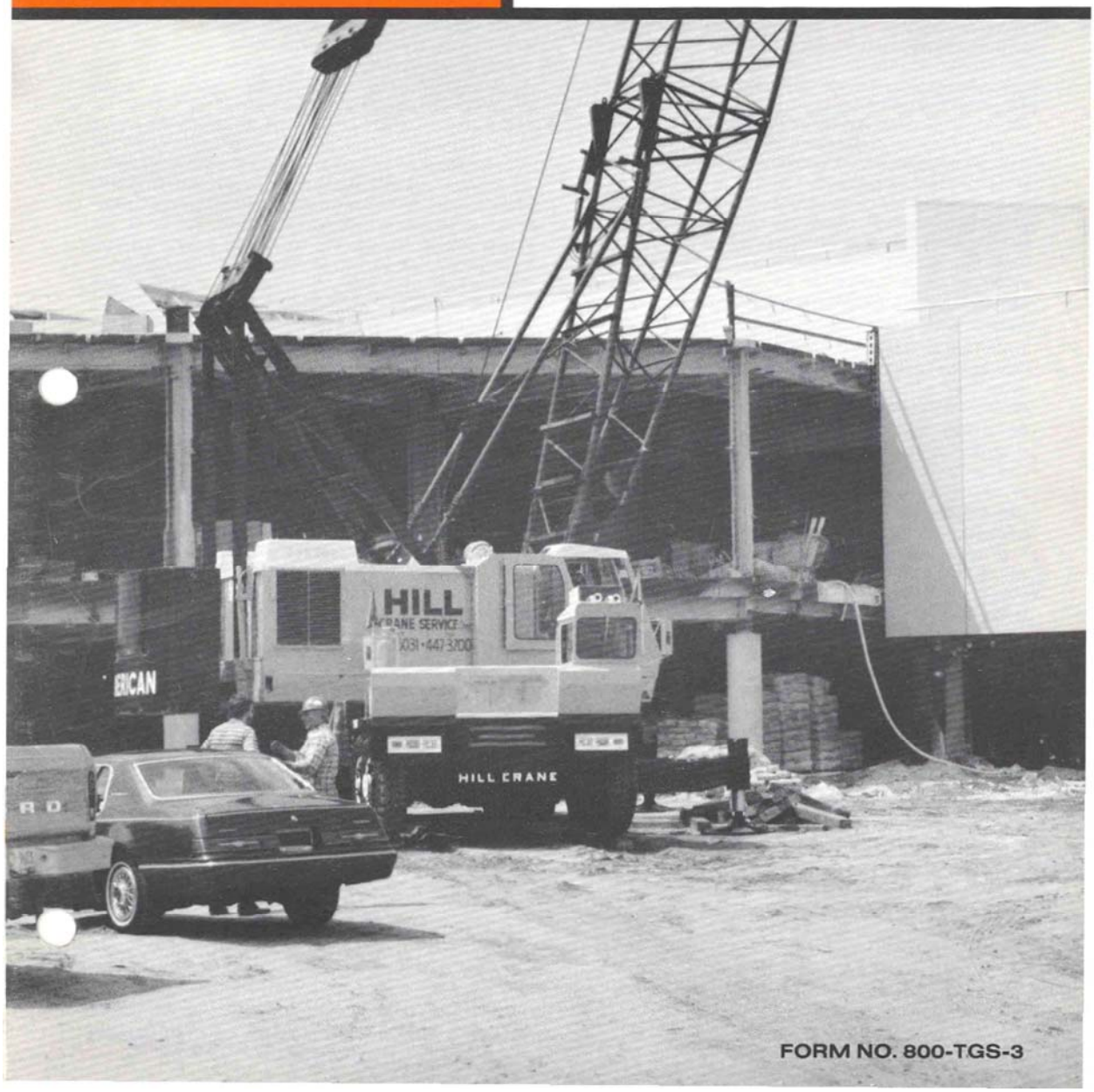
ANSI B30.5

AMERICAN

amhoist

800 SERIES
TRUCK CRANE
GENERAL SPECIFICATION



FORM NO. 800-TGS-3

800 SERIES TRUCK CRANE SPECIFICATIONS

UPPER MACHINERY

POWER: Detroit Diesel (GM) 8V-71N model 7083-7000 diesel engine driving through dry clutch and gear box to hydrostatic pumps, eight cylinder, 4-1/4" (108 mm) bore, 5" (127 mm) stroke 568 cu. in. (9309 cm³) displacement, net rated 268 HP (199.8 kw) (gross 304 HP) (266.7 kw) @ 2100 RPM full load, 24 volt electric starting.

FUEL TANK: 120 gallon (454 L) capacity.

PRIMARY DRIVE: Hydrostatic transmission system for swing, main and auxiliary hoist, and boom hoist.

COUNTERWEIGHT: Consists of a basic lower casting of 30,000 pounds (13608 kg). Three additional castings stack on top of basic slab for a total weight of 68,000 pounds (30845 kg)

Counterweight is hydraulically extended or retracted two feet, providing 14 foot (4267 mm) or 16 foot (4877 mm) tailswing. The normal operating condition is with the counterweight in the extended position. When lifting over the side without outriggers set, the counterweight may be retracted to improve backward stability.

Counterweight is removed by hydraulically extending it onto ramps provided on the carrier — removing connecting bolts — and off loading the four cast counterweight sections utilizing lifting sheaves provided in the boom inner section.

RETRACTABLE A-FRAME: Retractable A-frame is hydraulically raised and lowered.

TURNTABLE BEARING: Single unit bullgear and roller bearing has three roller paths to absorb all axial, uplift and thrust loading. Designed for high capacity, the bearing equally distributes loads.

ROTATING MACHINERY DECK: Is fabricated of high strength steel of deep girder construction. Deck is jig drilled and line bored by modern computer controlled machinery for accuracy and proper fit of replacement parts.

DRIVE SHAFT: Drive shaft is mounted in pressure grease lubricated anti-friction bearings. Splined to shaft is a high torque low speed motor and pinion. This shaft assembly has a single purpose of speed reduction and is not compromised by mounting clutches for other functions.

HYDROSTATIC SWING: Hydrostatic swing provides smoother operation for heavy erection and long boom use. A variable displacement piston pump is directly driven off the rear of the engine. This pump supplies hydraulic fluid to one high torque low speed motor which revolves the upperworks through a one gear reduction. Swing speed is substantially independent of engine speed.

The swing brake is spring set and air released to prevent the upper from revolving in the event of loss of air. The swing brake has dual control. The control on the lever stand permits variable pressure from "release" to "set" and side motion of the swing lever also applies varying air pressure to the swing brake.

MAIN DRUM ASSEMBLY: The hydraulically powered main drum assembly has infinitely variable speed control, controlled load lowering, free fall capabilities and the ability to "float" a load.

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

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

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

CONTROLLED LOAD LOWERING: Hydrostatic controlled load lowering is standard for both drums.

THIRD DRUM: (OPTIONAL) The third drum shaft, which is mounted in anti-friction bearing pillow blocks, is located forward and below the main hoist drums.

The third drum and the air actuated, internal expanding clutch assembly are splined to the steel drum shaft. The driving gear is keyed to the end of the drum shaft and is mounted on anti-friction bearings on the drum shaft. The brake is an external contracting band on the third drum flange.

BOOM HOIST: The two boom hoist drums are driven by a high torque-low speed hydraulic motor on the shaft end.

The boom hoist brake is a spring set, air released, external contracting band located on both drums of the boom hoist drum shaft.

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

CONTROLLED BOOM LOWERING: Hydrostatically controlled boom lowering is standard.

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, automatically sets the boom hoist brake.

77SL TUBULAR CHORD LATTICE BOOM: A lightweight, pin connected, 77 inch (1956 mm) cross section boom with T-1 tubular steel cords and tubular lattice is standard.

Basic hammerhead boom is 50 feet (15.2 m) long and consists of a 30 foot (9.1 m) inner and 20 foot (6.1 m) outer base with a pin connected 6 sheave hammerhead. Center boom sections of 10, 20 and 50 foot (3, 6.1 and 15.2 m) lengths with matching pendants are available to extend the hammerhead boom to a maximum of 240 feet (73.1 m).

Basic tapered tip boom is 80 feet (24.4 m) long and consist of the above 30 foot (9.1 m) inner and 20 foot (6.1 m) outer base along with a tapered 30 foot (9.1 m), two sheave tip. A single or double sheave hanger block is available for reeving up to four or six parts of load line. Maximum tapered tip boom length is 280 feet (85.3 m).

Boom is suspended by a 14 part 3/4 inch (19 mm) boom suspension line and 1-1/4 inch (31.7 mm) pendants from the outer bail to the boom tip.

BOOM STOPS: Telescoping tubular, boom stops restrain the boom from over-topping in the event of load line or hoisting tackle failure.

NO. 9HL JIB: Constructed with T-1 steel tubular chords, basic jib is 40 ft. (12.2 m), two piece with 20 ft. (6.1 m) inner and 20 ft. (6.1 m) outer. Jib point sheave is 24 in. (610 mm)

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diameter for use with 1 in. (25 mm) diameter single part whipline. Jib backstay is attached to ears on boom inner section or at optional ears welded to center boom section. Jib backstay length must equal or exceed the length of the jib. Pin connected 10 ft. (3 m) and 20 ft. (6.1 m) center sections are available to extend total jib length to 80 ft. (24.3 m) maximum length. Cable type jib snubber and rope spreader restrain the jib from overtopping. Operating jib offsets are 5, 15 and 25 degrees.

NO. 16HL JIB: Basic jib is 40 ft. (12.2 m), two piece with T-1 steel tubular chords and tubular lattice. Length may be extended to 100 ft. (30.4 m) maximum with pin connected 10 ft. (3 m) and 20 ft. (6.1 m) center sections with matching pendants. Jib point sheave is 24 in. (610 mm) diameter grooved for 1 in. (25 mm) rope. A dead end is provided for two part whipline. Jib backstay is attached at ears provided on the inner boom section or at optional ears welded to the center boom section. Jib backstay distance must equal or exceed the length of the jib. Maximum jib offset is 25 degrees. Cable type snubbers restrain the jib from overtopping.

CAB: Fully enclosed 9 foot 11 inch (3022.6 mm) wide machinery cab with sliding rear doors and swinging side doors to provide good access to machinery. Automatically controlled radiator shutters; ladder to roof on left front. Removable modular operator's cab is fully enclosed with glazed doors and windows; all shatter proof glass windows mounted in rubber. Front and side windows may be opened.

GENERAL:

CONTROLS: Graduated air controls, pioneered by AMERICAN, puts "Feel" at every operator's finger tips, insure higher production and 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 (which uses SAE J983 as their reference), of standard control arrangement and control functions, which allows operators to easily shift from one machine to another.

All functions — boom hoist, swing, main, auxiliary and third drum — have an infinitely variable speed control from zero to full speed.

The main, auxiliary or third drum is controlled by stroking the corresponding lever in the desired direction (forward — lower; back — hoist) which engages its clutch and then depressing the foot pedal or optional hand hoist pump control to obtain the speed desired from the hydraulic pump.

The boom hoist has a single lever control which simultaneously releases the brake and activates the variable displacement hydraulic pump.

A single swing lever provides the desired swing direction and torque. Swing is normally hydrostatically braked. With the control lever in the neutral position, the upper works is allowed to swing freely and can be "feathered" to a stop by the full wrap house brake.

MATERIALS: Gears and pinions are heat-treated alloy or high carbon steel. Smooth cut teeth on all gears.

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

LUBRICATION: All anti-friction bearings and bronze bushings requiring short period lubrication are provided with pressure grease fittings. Difficult to reach grease fittings are piped out to a common panel.

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

CARRIER: For carrier details and general dimensions see separate specifications.

PERFORMANCE: Swing Speed ..... 3.5 RPM Maximum

BOOMING PERFORMANCE:

Time to raise 50 ft. boom from ground to minimum radius ..... 1.9 minutes

Time to lower 50 foot boom from minimum radius to ground ..... 1.67 minutes

HOISTING PERFORMANCE:

Hoisting Function	Single Line Pull at Single Line Speed	
	SLP (Pounds) at SLS (Feet Per Minute)	SLP (Kilograms) at SLS (Meters Per Minute)
Main Hoist Drum:		
Low speed — bottom layer	45,000 lbs. at 81 FPM	20412 kg. at 24.7 MPM
Low speed — top layer	30,000 lbs. at 118 FPM	13608 kg. at 36 MPM
High speed — bottom layer	22,500 lbs. at 160 FPM	10206 kg. at 48.7 MPM
High speed — top layer	15,000 lbs. at 233 FPM	6804 kg. at 71 MPM
Auxiliary Hoist Drum:		
Low speed — bottom layer	45,000 lbs. at 81 FPM	20412 kg. at 24.7 MPM
Low speed — top layer	30,000 lbs. at 118 FPM	13608 kg. at 36 MPM
High speed — bottom layer	22,500 lbs. at 160 FPM	10206 kg. at 48.7 MPM
High speed — top layer	15,000 lbs. at 233 FPM	6804 kg. at 71 MPM
Auxiliary Third Drum:		
Low speed — bottom layer	37,300 lbs. at 97 FPM	16919 kg. at 29.5 MPM
Low speed — top layer	29,600 lbs. at 119 FPM	13426 kg. at 36.2 MPM
High speed — bottom layer	18,650 lbs. at 195 FPM	8460 kg. at 59.4 MPM
High speed — top layer	14,800 lbs. at 236 FPM	6713 kg. at 71.9 MPM

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.

Your AMERICAN distributor is with you...all the way.

Service is his middle name. He knows AMERICAN equipment inside and out...what it will do...the options available. This can help you match your equipment to your needs, and that's important.

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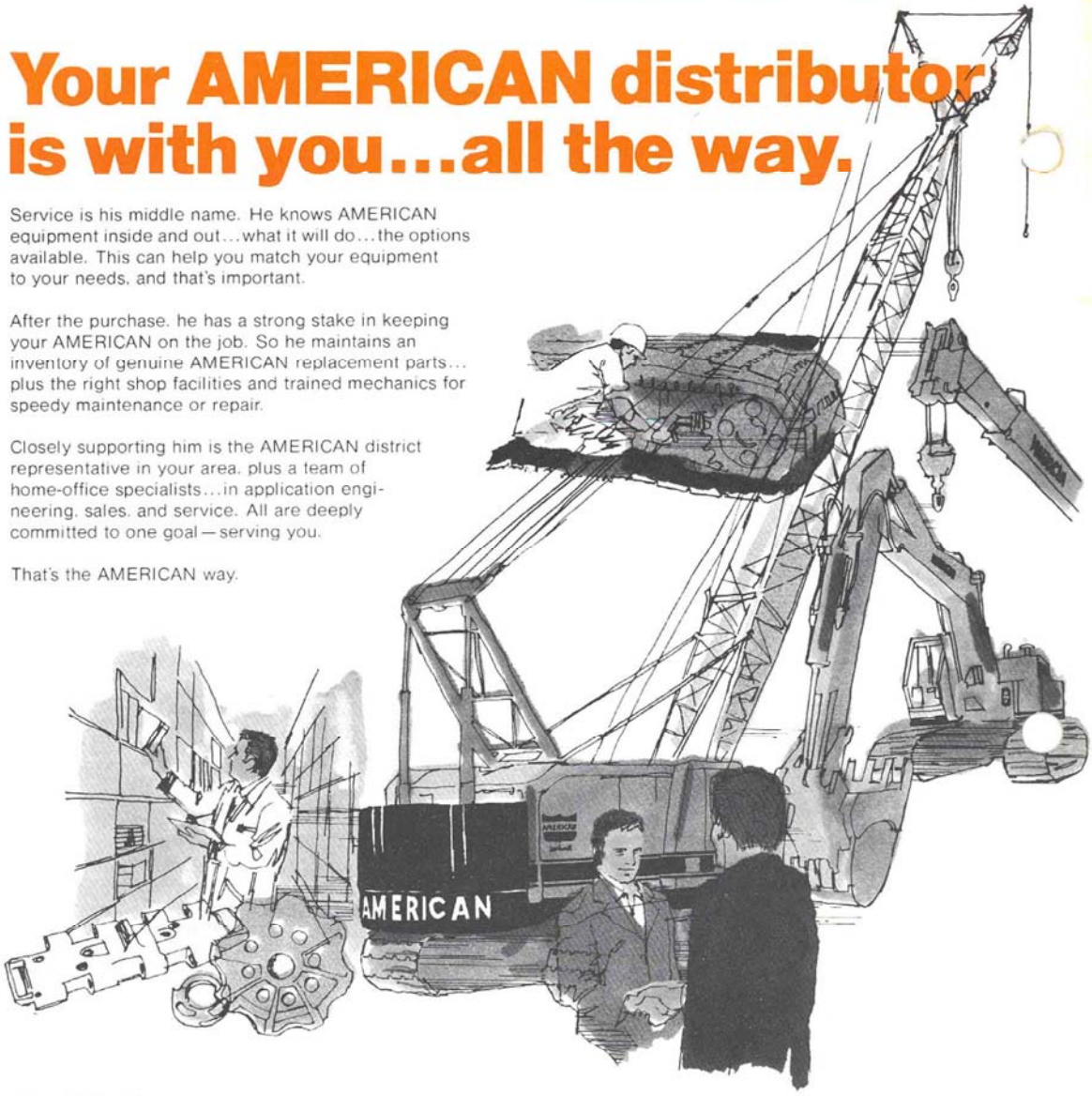

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