Articulating Cranes

32027

Technical Specifications

Material Handling Systems

IMT

32027 Articulating Crane

Performance Characteristics

Rotation	400°	29 seconds
Inner Boom Elevation	-30° to +70°	28 sec (ext), 22 sec (retract)
Outer Boom Articulation	127°	32 sec (ext), 23 sec (retract)
Extension Boom	78″ (2.0 m)	20 sec (ext), 20 sec (retract)
Vertical Outrigger Stroke		
power out outriggers	60″ (1.52 m)	8 seconds
power down outriggers	21″ (0.5 m)	13 seconds

Power Source

Load-sensing piston pump and PTO application. Minimum horsepower required is 68 horsepower.

Cylinder Holding Valves

The holding sides of all standard cylinders are equipped with integral mounted holding or counterbalance valves to prevent sudden cylinder collapse in case of hose or other hydraulic failure. The power-out and power-down outrigger cylinders have positive, pilot-operated holding valves that open only upon command. The counterbalance valve serves several functions. First, it is a holding valve. Second, it is constructed so that it will control the lowering function and allow that motion to be feathered while under load. Finally, if a hose breaks the only oil loss will be that in the hose.

Rotation System

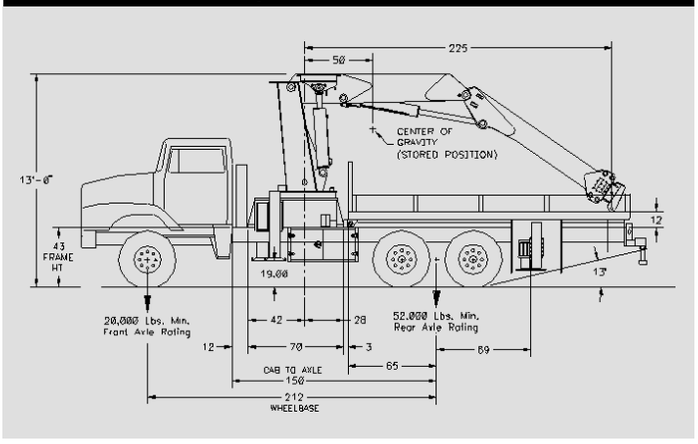
Rotation of the crane is accomplished through a turntable bearing, powered by two high-torque hydraulic disc-valve motors through two planetary gear boxes. A fail-safe, spring-loaded brake is an integral part of each planetary gear box which provides rotational and parking brake action. Total gear reduction is 99:1.

Hydraulic System

The hydraulic system is a closed-center, load-sensing, standby-pressure system providing 35 gpm (132.5 L/min) optimum oil flow at 3,000 psi (207 bar). Stack-type control valve with radio remote plus single operational control handles located on driver's side of the crane for all lift, telescope and swing functions is standard. Single control lever for each outrigger function, located on the same side as the outrigger, is standard. System includes hydraulic oil reservoir, return-line filter, variable displacement radial piston pump and closed-center, load-sensing control valve

Selected Weights of Ancillary Equipment	
Auxiliary Outriggers	1,770 lbs. (803 kgs)
18′ subframe	1,800 lbs. (816 kgs)
pump & PTO	140 lbs. (64 kgs)
mounting hardware	520 lbs. (235 kgs)
oil reservoir	190 lbs. (86 kgs)
oil (60 gallons / 227 L)	420 lbs. (190 kgs)

Minimum Chassis Specifications



Minimum Chassis Specs	*Standard 32027 Crane*
Crane Mount	Behind Cab
Crane Working Area	360° (6.3 rad)
Chassis Style	Conventional
Front Axle Rating (GAWR)	20,000 lbs. (9,072 kg)
Rear Axle Rating (GAWR)	52,000 lbs. (2,3587 kg) Tandem Axle
Wheelbase	212″ (5,385 mm)
Cab-To-Axle	150″ (3,810 mm)
Frame Height From Ground	43″ (1,092 mm) max.
Resistance To Bending Moment	4,740,000 in-lb (54,611 kg-m)
Frame Section Modulus	40.45 in^3 (663 cc)
Frame Yield Strength	110,000 psi (758 N/mm^2)
Min After Frame	140″ (3,556 mm)
Chassis Frame Rail Widths	
Outside Dimension	34″ (864 mm) min. to 40″ (1,016 mm) max.
Inside Dimension	24″ (610 mm) min. to 30″ (762 mm) max.

To maintain vehicle stability, it will be necessary to provide auxiliary outriggers which have at a minimum 14′0″ (4.3 m) span. A subframe/torsion box must be used to tie the auxiliary outriggers to the crane. For each application, contact IMT for a weight distribution and stability analysis.

Notes:

1. GAWR means Gross Axle Weight Rating and is dependent on all components of the vehicle such as axles, tires, wheels, springs, brakes, steering and frame strength meeting the manufacturer's recommendations. Always specify GAWR when purchasing a truck.

2. Minimum axle requirements may increase with use of diesel engines, longer wheelbase or service bodies. Contact the factory for further information.

3. Weight distribution calculations are required to determine final axle loading.

4. All chassis and crane combinations must be stability-tested to ensure stability per ANSI B30.22