The DSM/Mayhew "Little Bobcat" 1000

Specifications and Features

Maximum Capacities

This drill is recommended for operation with a maximum drill string static load (including yoke, swivel, kelly, drill pipe, collars, etc.) of 20,000 lbs. (9,072 kg) on three lines. When operating with static load near maximum, avoid inducing dynamic load that may cause the total load to exceed maximum. Operation exceeding this limit may result in equipment overload and possible collapse or falling components that may be hazardous to personnel.

Maximum Capacities of Primary Load Bearing Components

(Based on equipment that is new or in top condition and under proper operating procedures)

Component	Maximum Capacity	
	Lb.	Kg.
Mast	35,000	15,876
Little Giant Swivel (2")	32,800	14,878
DSM-TB-10 Traveling Block	20,000	9,072
DSM 24M Drawworks		
(Single line pull, Bare Drum)	10,000	4,536
Sandreel (Optional)		
(Single line pull, Bare Drum)	10,000	4,536

Consult the manufacture for capacities of components other than these standard components. If you substitute an alternate component to increase capacity, be sure you do not exceed the capacity of one of the other load-bearing components

Drilling Capacity

1,000 ft (396 m) using 2-7/8" (73 mm) drill pipe.
1,500 ft (610 m) using 2-3/8" (60 mm) drill pipe.
(Recommended drilling depth based on favorable drilling conditions)

Rotary Table

Model - DSM / Mayhew RT 7.5
Standard Opening - 7-1/2" (191 mm)
Frame Opening with Table Retracted - 16" (406 mm)
Type - Enclosed rig gear and pinion
Transmission - 10 speeds forward, 2 reverse
Clutch - Mechanical with two 8" (203 mm) friction plates
Lubrication - Enclosed oil bath
Table Mounting - Manual retracting (hydraulic available)

Drawworks (Drilling and hoisting lines)

Model - DSM / Mayhew 24M
Single Line Pull (bare drum) - 10,000 lb (4,536 kg)
Typical Line Speeds - 310 ft/min (94 m/min)
Spooling Capacity (each drum) - 270 ft. of 5/8" line
Drilling Line - 270 ft. (82 m) 5/8" (16 mm)
Hoisting Line - 270 ft. (82 m) 5/8" (16 mm)
Barrel Size - 8" (203 mm) dia x 9" (229 mm) lg
Drive - Torque tube to drawworks ring gear and pinion
Clutches - Mechanical with three 11" friction plates
Brakes - Single band on drum 6" wide x 16" dia
Net Braking Area (each drum) - 288 in. sq..

Pulldown
Power - Hydraulic through planetary gear box
Feed - 1-1/2" (38 mm) pitch single roller chains
Engagement - Mechanical actuated jaw clutch mechanism
Kelly Guides - Channel type

Sandreel (optional)
Single Line Pull (bare drum) - 10,000 lb. (4,536 kg)
Typical Line Speeds - 183 ft/min (56 m/min)
Spooling Capacity - 1500 ft (457 m) 3/8" (10 mm)
Barrel Size - 6-1/2" (165 mm) dia x 20-7/8" (530 mm) lg
Drive - Chain from drawworks shaft
Clutch - Full air with three 11" (279 mm) friction plates
Brake - Single 6" (152 mm) wide x 16" (406 mm) dia
Net Braking Area - 288 in. sq. (1,858 cm. sq.)

Mast
Maximum Capacity - 35,000 lb (15,876 kg)
Overall Length - 32 ft (9.75 m)
Construction - Tubular, box type, electrically welded
Drawworks Sheaves - Six 10-1/4" (260 mm) dia with bronze bearings
Pulldown Sheaves - Two 10-1/4" (260 mm) dia with bronze bearings

Swivel
Model - DSM 2" Little Giant
Watercourse - 2" (50.8 mm)
Bearing Capacity - 32,000 lb (14,878 kg) at 100 rpm
Service - Air or mud
Main Bearing - Timkin taper roller

Traveling Blocks
Model - DSM/Mayhew TB - 10
Capacity - 20,000 lb (9,072)
Sheaves - One 10" (292 mm) dia

Kelly
3-5/16" dia x 23 ft (7 m) lg with three 3/4" drive pins

Chain Cases

	PTO	Transfer
Model	DSM 2001D	DSM 602R
Type	Split shaft, full torque	Chain case
Chain	Quad	Quad
Bearings	Ball	Ball
Sprockets	Heat treated	Heat treated
Lubrication	Oilbath	Oilbath

Air Compressor (optional)
Standard - LeRoi 100 S1 or S2
Optional - LeRoi 100 SDS, 256 S2 or SDS
Clutch & Drive - DSM D-14 Jackshaft clutch (three 11" friction plates) with V-belt Drive sheave

Hydraulic System
Pump 1 - Positive displacement gear type, 9 to 16 GPM
Pump 2 - (pulldown system only) - Variable volume piston pump, 17/gal/min (64 lit/min) at 2000 psi (140.6 kg/cm sq)
Pump Drive - Direct coupled into transfer
Typical Pump Speed - 1/200 RPM
Mast Raising Cylinders - Twin, double acting, single stage cylinders with flow restrictors.
Leveling Jacks - Two hydraulic jacks (mounted on rear of drill), 6" stabilizer with 5" dia piston, 36" (914 mm) stroke with pilot check valves.
Type Fluid - ATF type F or Rando
Reservoir Capacity - 70 gal max
Filters - Full flow type with built in by-pass 3-micron

Controls
Grouped at drillers position for one man operation. Mechanically operated on drawworks and air compressor. Air actuated clutches on mud pump. Mechanical, lever actuated pulldown jaw clutch engagement. Mechanical actuated clutch on rotary. Hand air throttle. Kill switch and tachometer mounted in control panel. Expanded metal driller and helpers platform.

Mud Pumps (All Gardner-Denver power pumps)

	Standard	Optional
Model	FG-FXG	FD-FXX
Displacement (max RPM)	150 gal/min (568 lit/min)	222 gal/min (840 lit/min)
Max Operating Pressure	310 lb/in. sq. (21.8 kg/cm.sq.)	338 lb/in. sq. (23.84/cm sq)
Liner dia	5" (127 mm)	5-1/2" (140mm)
Stroke	6" (152 mm)	8" (203 mm)
Suction Hose	4" (102 mm)	4" (102 mm)
Typical Operating Speed	75 strokes/min	70 strokes/min
Drive	Chain	Chain

Clutch - Air actuated mechanical with three 8" (203 mm) friction plates
Manifolding - Relief valve, pressure gage, and surge chamber
Hinge hose, Stand Pipe, and swivel hose - 2" (50.8 mm)

Injection Pump (optional)
Variable volume - hydraulically driven, FMC Bean, 9 GPM, 600 PSI with relief valve

DSM / Mayhew "Little Bobcat"
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