

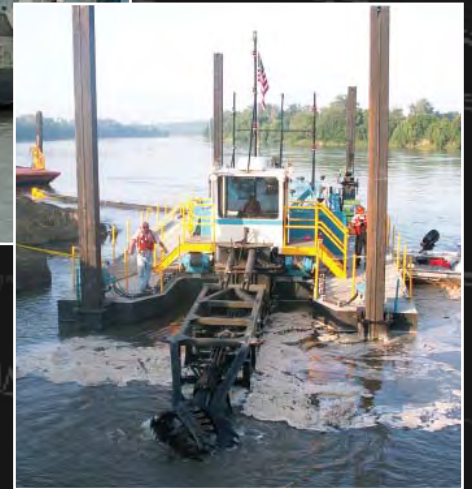
APPENDIX F

MANUFACTURER'S LITERATURE AND PUMP CURVES

"THE WORLD'S LEADER IN PORTABLE DREDGES"

BARRACUDA

Swinging Ladder Dredge



Often called the contractors "dream machine", the Barracuda Class Dredge features a swinging ladder design and is easily transportable. The Barracuda Class dredge is available in both diesel or electric power. Standard Discharge sizes range from 10" (254mm) through 16" (+) (406mm) and the dredge can be customized to your particular needs. The Barracuda dredges have been most commonly used in waterway maintenance and lake revitalization projects.

The Barracuda offers standardized systems throughout the various sizes and configurations. The operating systems are all PLC-based and include a userfriendly control panel. The Barracuda also features power up/down spud systems with API rated winch drums for proper cable storage. A rear-kicking spud for dredge positioning and advancement comes standard in this model. Optional spud traveling carriages or two stern kicker spuds are available upon request.

With the simple option of two front swing winches, the Barracuda can be two dredges in one. This option allows the dredge to be converted from swinging ladder mode to conventional - and still remains portable. This feature alone has caught the eye of dredge contractors and has made the Barracuda one of the most desired dredges available!

General: all dredges feature a PLC based operating system, electro-proportional hydraulic circuits, hi-capacity service water system, in-line direct marine style transmission for dredge pump reduction, engineered for portability, Caterpillar engines and power up/down spud system. Detailed specifications available upon model determination.



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MODEL BA-4550-20D

OVERALL LENGTH	57'-7" (17.55m)
OPERATING WIDTH	18' (5.5m)
APPROXIMATE WEIGHT	78,000 lbs (35.4t)
MAX DREDGING DEPTH	20' (6.1m)
PRIME MOVER	C15 ACERT - 540bhp (403kW)
DREDGE PUMP	12x10-32 (305mm x 254mm - 813mm)
CUTTER POWER	60hp (45kW)
SPUD LIFT TYPE	hyd winch
SPUD TYPE	10" (254mm) square
PROPULSION	articulating stern spud

MODEL BA-5350-20D

OVERALL LENGTH	61'-8" (18.8m)
OPERATING WIDTH	21'-9" (6.63m)
APPROXIMATE WEIGHT	110,000 lbs (49.9t)
MAX DREDGING DEPTH	20' (6.1m)
PRIME MOVER	C18 ACERT - 630bhp (470kW)
DREDGE PUMP	14x12-36 (356mm x 305mm - 914mm)
CUTTER POWER	90hp (67kW)
SPUD LIFT TYPE	hyd winch
SPUD TYPE	12" (305mm) square
PROPULSION	articulating stern spud

MODEL BA-7400-20D

OVERALL LENGTH	67'-5" (20.6m)
OPERATING WIDTH	23'-5" (7.14m)
APPROXIMATE WEIGHT	140,000 lb (63.5t)
MAX DREDGING DEPTH	20' (6.1m)
PRIME MOVER	C27 ACERT - 950bhp (708kW)
DREDGE PUMP	16x14-40 (406mm x 356mm - 1016mm)
CUTTER POWER	130hp (97kW)
SPUD LIFT TYPE	hyd winch
SPUD TYPE	14" (356mm) square
PROPULSION	articulating stern spud

MODEL BA-9825-20D

OVERALL LENGTH	69'-4" (21.1m)
OPERATING WIDTH	26'-9" (8.2m)
APPROXIMATE WEIGHT	160,000 lb (72.6t)
MAX DREDGING DEPTH	20' (6.1m)
PRIME MOVER	C32 ACERT - 1125bhp (839kW)
DREDGE PUMP	18x16-44 (457mm x 406mm - 1118mm)
CUTTER POWER	200hp (149kW)
SPUD LIFT TYPE	hyd winch
SPUD TYPE	16" (406mm) square
PROPULSION	articulating stern spud



Standard
Barracuda Series 5350D
Model No. BA-5350-20D
Preliminary Specifications

General

Overall length (with ladder)	61'-8"	(18.8m)
Operating width	21'-9"	(6.63m)
Hull depth	4'	(1.2m)
Mean draft (with fuel)	30"	(.76m)
Spud length (each)	29'	(8.8m)
Spud weight (each)	1,750 lb	(794 kg)
Approximate dredge weight - dry	96,800 lb	(43.9t)

Operating Conditions

Digging depth		
➤ Minimum	4'	(1.2m)
➤ Maximum	20'	(6.1m)

Hull

Side sections (2)	45' x 5'-11" x 4'	(13.7m x 1.8m x 1.2m)
Center section (1)	31'-6" x 7'-11" x 4'	(9.6m x 2.4m x 1.2m)
Overall Dimensions	45' x 19'-9" x 4'	(13.7m x 6m x 1.2m)

Prime Mover



Engine model:	Caterpillar C18 ACERT
Rated horsepower:	630 HP (470 kW)

Cutter Module



Cutting force	7,770 lb	(34.6 kN)
Operating torque	155,404 in-lb	(17,552 N-m)
Cutting force per linear inch	353 lb/in	(61.8 N/mm)
Cutter diameter	34" ID	(864mm)
Shaft diameter	3 3/4"	(95.25mm)
Cutter rating	90 HP	(67 kW)
Cutter speed variable	0-36.5 RPM	

Dredge Pump

Suction Pipe	14"	(356mm)
Discharge Pipe	12"	(305mm)
Impeller Diameter	36"	(914mm)
Nominal Head	230 feet H ² O	(70m H ² O)
Nominal Flow	5350 GPM	(338 l/sec)

Dredge Pump Reduction

True inline direct drive, marine gear type, with a 3:1 ratio. Reduction provided with torsional coupling and elastomer coupling.



Spud Winches

Line pull	7,646 lb	(34 kN)
Wire size	1/2"	(13mm)

Spuds

Type	Square	
Size	12" x 12"	(305mm x 305mm)
Wall thickness	5/16"	(8mm)

Ladder Lift Cylinder

Single 6 1/2" (165mm) bore x 3" (76mm) rod x 41" (1m) stroke hydraulic cylinder stroke for cutter crowing force

Other Cylinders

- Ladder Swing
- Kicker spud articulation

Control System



Expandable programmable logic controller (PLC) facilitates dredge operation, alarms, logging and custom settings. Rugged solid-state circuits provide reliable trouble free operation. Onboard dredge diagnostics and setup screens provide fast trouble shooting and custom operating parameters.

Hydraulic System



Independent electro-proportional circuits allow simultaneous cutter, swing and ladder operation. All circuits protected by suction strainer, return filters, and relief valves.

Electrical System

24 VDC for starting, lighting and controls
12 VDC for convenience and user furnished radios
All circuits fused for protection
Two (2) 1,000 cold cranking amp batteries

Capacities

Fuel	1,400 gal	(5,300 l)
Hydraulic	300 gal	(1,136 l)

Coatings

Non-immersion:

1. Blast all steel SSPC-SP6. Blast to achieve 1- to 2- mils profile as determined with a surface profile comparator
2. First coat; 2-4 mils (dry film thickness) Oxide red epoxy
3. Second coat; 4-6 mils (dry film thickness) Pearl Grey epoxy
4. Finish coat; 2 mils (dry film thickness) polyurethane

Engine room and equipment skids:

1. Blast all steel SSPC-SP6. Blast to achieve 1- to 2- mils profile as determined with a surface profile comparator
2. First coat; 1-3 mils (dry film thickness) Oxide red epoxy
3. Second coat; 4-6 mils (dry film thickness) Pearl Gray epoxy
4. Finish coat: 4-6 mils (dry film thickness) Pearl Gray epoxy

Decks:

1. Blast all steel SSPC-SP6. Blast to achieve 1- to 2- mils profile as determined with a surface profile comparator
2. First coat; 1-3 mils (dry film thickness) Oxide red epoxy
3. Second coat; 4-6 mils (dry film thickness) Pearl Gray epoxy
4. Finish coat: 4-6 mils (dry film thickness) Pearl Gray epoxy with non-skid added

Immersion:

1. Blast all steel SSPC-SP10. Blast to achieve 2- to 4- mils profile as determined with a surface profile comparator
2. One coat; 16 mils (dry film thickness) Coal Tar epoxy

Lever Room:

1. Blast all steel SSPC-SP10. Blast to achieve 1- to 2- mils profile as determined with a surface profile comparator
2. First coat; 2-4 mils (dry film thickness) Oxide red epoxy
3. Second coat; 4-6 mils (dry film thickness) Pearl Grey epoxy
4. Finish coat; 2 mils (dry film thickness) polyurethane

Hydraulic Tanks Interior:

1. Blast all steel SSPC-SP10. Blast to achieve 1- to 2- mils profile as determined with a surface profile comparator.
2. Apply an even coat 4-6 mils (dry film thickness) of White epoxy

Building Standards

Dredges manufactured by Dredging Supply Company, Inc. are designed and built using the most current versions of the following regulations as our guidelines:

- Manual of Steel Construction by the American Institute of Steel Construction.
- Joint Industrial Council Hydraulic Standards.
- Structural Welding Code – Steel by the American Welding Society and the American National Standards Institute.
- Mining Safety and Health Act.
- Occupational Safety and Health Act.
- Surface Preparation Specifications Steel Structures Painting Council.
- National Electrical Code Handbook.

It should be noted that dredges would not be classed by ABS or Coast Guard since it is not required; their building standards will, however, be strictly followed.

Note: Specifications may change due to continual product improvement