Crowley’s Invader Class tugs are known for their versatility, maneuverability and towing capability. Operating in nearly every ocean of the world, these twin-screw tugs are outfitted with two turbocharged, 20-cylinder diesel engines coupled to heavy-duty 5 blade, 132” diameter stainless steel propellers. Triple rudders provide extraordinary close quarters maneuverability and ample steering power to handle large and heavy tows.

Each Invader Class tug is outfitted with a diesel drive, double-drum towing winch for single or tandem towing. The winches are equipped with 2,800 feet of 2.25” towing wire on each drum. Due to their hull lines, deep draft, low center of gravity and excellent sea keeping ability these tugs can achieve higher towing speeds than other tugs in this size category.

Invader Class tugs are well suited for all types of ocean towing, including emergency response and towing of disabled vessels. Additionally, all company tugs are fully instrumented, with pilothouse-controlled engine rooms, and are equipped with the latest in navigational and communications technology.
### GENERAL SPECIFICATIONS

<table>
<thead>
<tr>
<th>Name</th>
<th>Official No.</th>
<th>Year Built</th>
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<td>Sentry</td>
<td>579188</td>
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</tbody>
</table>

**Flag Registry**
United States (U.S.)

**Overall Dimensions**
- Length: 136.25' • 41.516m
- Breadth: 36.5' • 11.125m
- Depth: 19.2' • 5.842m
- Loaded Draft: 20' • 6.096m
- Light Draft: 17' • 5.181m

**Tonnage**
- 199 gross
- 130 net

**Capacities**
- Fuel: 155,000 gal.
- Potable Water: 15,000 gal.
- Lube Oil: 3,300 gal.

**Engines**
- Main: 2 EMD 20-645-E5
- Aux: 2 Caterpillar D3004

**Propulsion**
- Twin-screw; 5-bladed stainless steel

**Horsepower**
- 7,200 maximum Continuous BHP

**Bollard Pull**
- 75 tons • 68.039 metric tons ahead
- 60 tons • 54.431 metric tons astern
  (varies slightly by vessel)

**Reduction Gear**
- 2 Falk ratio 4.345:1

**Double Drum Tow Winch**
- Markey TDS5W 96C

**Tow Wire**
- Maximum 283,000' of 2 1/4" wire rope

**Emergency Tow Gear**
- 450' x 7.5" Spectra Lins (SK-75)
- Orville Hook and appropriate connecting gear • line throwing gun

**Navigation Equipment**
- Dual Radars, ECS, AIS, SatCom, Email, Gyro, Autopilot, Single Side Band, Depth Sounder, Weather Fax, World Phone, EPIRB, (3) VHF, GPS, GMDDS, NAVTEX

**Builder**
- J.R. McDermott & Co.

**Certification**
- ABS + A1, AMS Machinery Class, Towing Service, All Oceans

*All information contained herein (including but not limited to any specifications, particulars, capacities, or capabilities) is believed to be correct, but is not guaranteed and is subject to change without notice.*