

OCEAN BLUE

Photo by Jody Collins



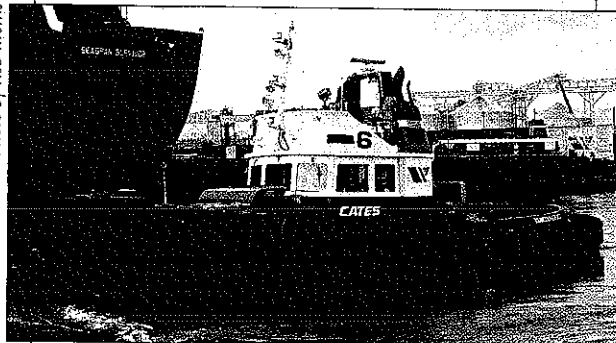
The OCEAN BLUE, a packer/longliner launched as the OONA R. at Oona River, BC by the Hanson brothers in 1955, fished as a seine-privilege troller for Canfisco up into the 1990s. Present owner Geoff Pratt and Gronlund Boatworks on the Fraser River's North Arm completed a conversion to a day-charter configuration with Transport Canada Home Trade III compliance. Beyond routine plank changes, caulking and installation of bat-wing stabilizers etc, the main focus was the conversion of the former fish-hold into a gathering area for charter guests. The hold was gutted and the aft deck rebuilt with new beams and carlins to receive an aft cabin trunk. The deck was then re-planked with Douglas fir.

PROPULSION UPGRADES

In 2006 several BC workboats received main propulsion upgrades incorporating the new four-stroke diesel technology with resulting reductions in fuel consumption, onboard noise levels and exhaust emissions over the two-stroke diesels that were replaced.

CHARLES H. CATES VI

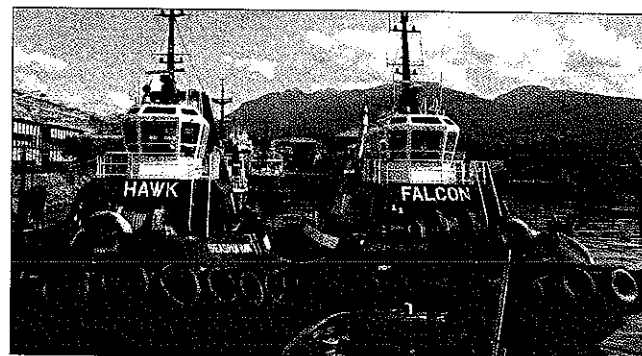
Photo by Rob Morris



The CHARLES H. CATES VI was the second Seaspan International tug (after the CHARLES H. CATES XVIII in 2005) to receive a propulsion upgrade with four-stroke diesels and electronic engine controls. The tug was fitted with a pair of MTU 8V4000 M60R diesels (900 bhp continuous duty @ 1,600 rpm) which replaced its two-stroke Detroit Diesel 16V 149s. The new engines were coupled to the original Twin Disc MG 540 marine gears and Prime Mover Controls' MPC-D electronic controls installed at the tug's four control stations plus at a PMC Local Control station in the engine room. The MTU Series 4000 diesels meet the current EPA Tier 2 emissions standards for marine diesel engines. Added benefits over the two strokes are reduced noise levels and increased fuel efficiency. See *Propulsion Upgrade for the CHARLES H. CATES VI* in *Western Mariner*, March 2006.

SEASPAN FALCON

Photo by K. Francis, Washington Marine Group



The 80' x 30' SEASPAN FALCON was launched with its sister shipberthing tug, the SEASPAN HAWK, in 1993. Designed by Robert Allan Ltd., they were built at Vancouver Shipyards, North Vancouver and fitted with Detroit Diesel 16V 149 diesels with DDEC II electronic control and Niigata ZP-2A azimuthing thrusters. In 2006 the two-stroke Detroit Diesels were replaced with Detroit Diesel-MTU Series 4000 four-stroke engines (EPA Tier 2 emissions compliant) and the DDEC was replaced with MDEC with the tug's engine control heads interfaced with that new electronic control system. The starboard Niigata drive received bearing and seals replacement and both drives had their slipping clutches rebuilt. Externally the SEASPAN FALCON received reconfiguration of the forward fender mounting system and the original exhaust stack casings (visible on the SEASPAN HAWK to left in photo) were reduced in height and replaced with straight exhaust pipes to increase visibility aft and down towards the stern quarters from the main helm. Harco critical-grade mufflers were installed to further reduce engine noise. See *SEASPAN FALCON: New Mains for a Harbour Workhorse* in *Western Mariner*, June 2006.

SEASPAN KING

Vancouver Shipyards and Allied Shipbuilders completed a main engine upgrade on the SEASPAN KING, a Seaspan International 130' x 32' x 18.5' ocean towboat which was originally built to a Robert

F. 'Bob' Allan design and launched in 1968 for Island Tug and Barge, Victoria, as the ISLAND KING by Star Shipyard (Mercer's), New Westminster. Removed was an EMD 20-645 E5 diesel (3,600 bhp @ 900 rpm) with 230,000-plus hours on it, as well as the Falk 3548 MRVF marine gear (both in the tug since its launch). Seaspan had an EMD 20-645 E7 (110,000 hrs) which had been taken out of the self-propelled log ship HAIDA MONARCH and it was shipped to Mid-West Power Products in Winnipeg for rebuilding. There the engine was zero-houred and upgraded to the 20-645 E5 configuration with 'B' pack assemblies of cylinder heads, liners, pistons and connecting rods plus new crankshaft and upgraded after-cooler core. Bearings were replaced and the latest model turbocharger installed. The upgrades have improved exhaust emissions to almost EPA Tier 1 compliance. At the shipyards the Falk gear was rebuilt, fire and acoustical insulation upgrades completed and the original Burrard Iron Works HJS tow-winch was removed and rebuilt by the manufacturer at their Alexander St. facility in Vancouver. See *Vancouver Shipyards & Allied Shipbuilders: Seaspan King Re-power* in *In the Shipyards, Western Mariner*, October 2006.

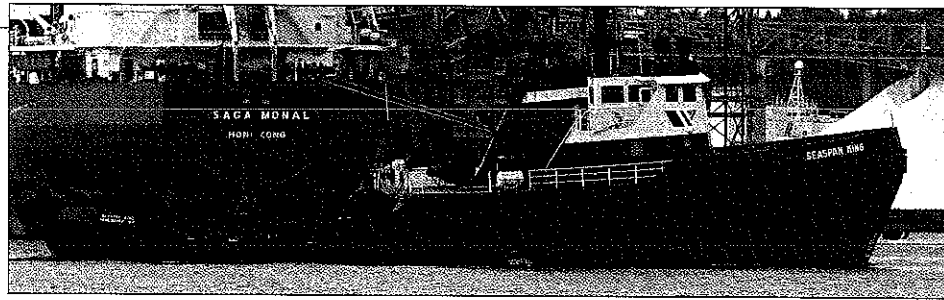


Photo by Nick Johnston, Seaspan International

NAIAD EXPLORER



Photo courtesy Mackay Whale Watching

Mackay Whale Watching's (Port McNeill) innovative, all-aluminum, 'RIB-derivative' was based on a New Zealand RIB design (see OCEAN MAGIC II on page 17) and launched in 1999 by Reyse Marine, Surrey, BC. The 54'10" x 16'8" x 6'0", 48-passenger NAIAD EXPLORER received a repowering in 2006 which replaced the twin 570-hp Caterpillar 3196 diesels with 615-hp Volvo Penta D12 diesels. The original Twin Disc Arneson ASD12 surface-piercing propeller drives were fitted with NiBrAl five-blade propellers with increased pitch and diameter (34" x 44") to match the D12 torque curve. Twin Disc 5114 marine gears were replaced with Twin Disc MGX 5114 electronically-actuated gears and the original Morse manual controls were replaced with Twin Disc EC300 electronic engine controls. This was the first, and a custom, interfacing of the EC300 controls with the Volvo EVC electronic engine control system and established a procedure for future interfacing. The four-stroke D12 engines are US EPA Tier 1 emissions compliant. See *NAIAD EXPLORER: Sleek Workhorse Re-powered* in *Western Mariner*, September 2006.

COASTAL MESSENGER

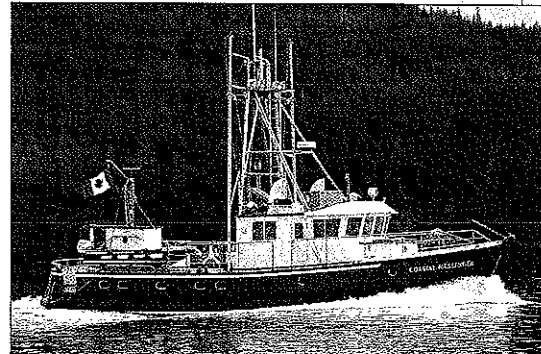
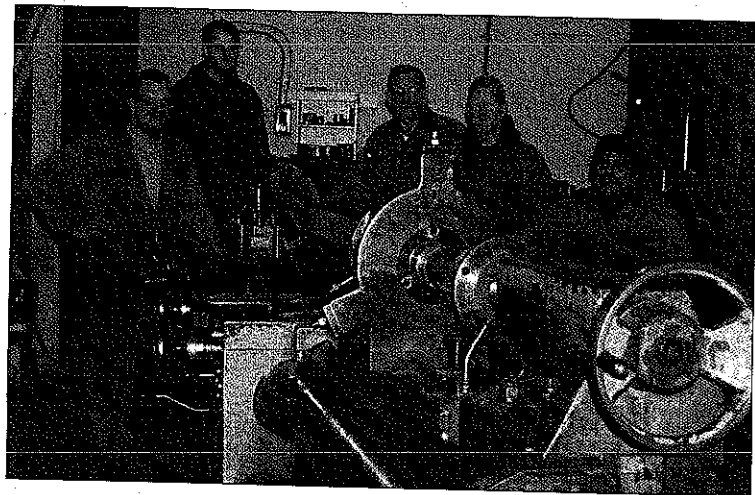


Photo by Ilin Getman

A long-serving Rolls-Royce C6NFLM, naturally-aspirated 155-hp diesel was removed from the COASTAL MESSENGER, the Coastal Mission Society's (Chemainus, Vancouver Island) 51'11" x 14'8" non-denominational coastal outreach ship built in steel to a Roy Getman design by Jenkins Marine, Victoria, in 1998. The Rolls two-stroke main had been in the society's first COASTAL MESSENGER ex D.M. MACKAY since its 1959 launch and was rebuilt and transferred to the new vessel in 1998. Thereafter it logged over 24,000 nautical miles before being replaced with a four-stroke, 330-hp, turbocharged John Deere 6081 AFM diesel with a ZF W325 3.96:1 marine gear by the COASTAL MESSENGER's crew. See *COASTAL MESSENGER: Mission Vessel Repowered for the Long Haul* in *Western Mariner*, May 2006.

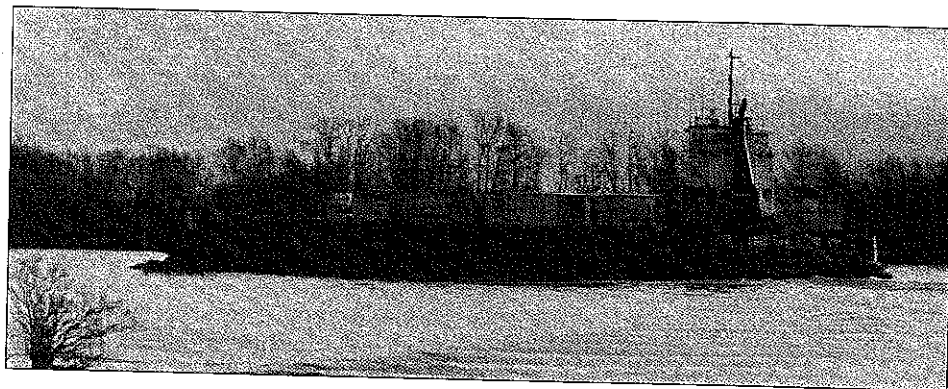
Sea-Tec Fabricators and Marine Lift's machine shop



Frank Lyth (third from left) and his machine shop crew at Sea-Tec Fabricators & Marine Lift Ltd., a Bracewell Marine Group company located at Shelter Island Marina on the South Arm. Left to right: Matt Lyth (started as an apprentice machinist with SeaTec 15 years ago); Tyler Paholkin (one year left on his apprenticeship); Frank Lyth; Ken Dryden (mechanic); Marvin Reyes (welder). Missing from the photo: Rob Deboom (welder; working on the dragger FROSTI at the Paramount docks in Steveston), Danny Althouse (mechanic), Bill Moore (welder). Frank started his apprenticeship with Neilson Machine Works in Richmond in 1964 and joined Sea-Tec Fabricators when the company was founded in 1976 in Steveston. Owner Austin Moore moved the company to Shelter Island Marina in 1994

and installed the 150-tonne TraveLift. Lance Bracewell purchased Sea-Tec Fabricators and Marine Lift in 2003. Shaft work is a mainstay of Sea-Tec's machine shop. The tailshaft from the fishing vessel BERING SEA is in the TOS Celakovice lathe (photo above) which is capable of turning up to a 25-ft shaft.

SEASPAN CHALLENGER & COASTAL SPIRIT: ATB unit



The articulated tug-and-barge (ATB) combination of the 130-ft 3,600-hp SEASPAN CHALLENGER and the 457' x 82' semi-trailer transport barge COASTAL SPIRIT heads up the South Arm on its scheduled run between the Seaspan Coastal Intermodal (SSCI) terminal at Tilbury Island in the South Arm and Nanaimo

Harbour on Vancouver Island (SSCI owns the barge, Seaspan International the tug; both are Washington Marine Group companies). The SEASPAN CHALLENGER, with twin EMD 20-645 diesels on a single steering nozzle, was originally built to a Robert Allan Ltd design and launched in 1970 as the HECATE CROWN by Star Shipyard (Mercer's). In 2000, it was fitted with an elevated wheelhouse and a hydraulic tug-barge clamping system for pushing the railcar/semi-trailer barge COASTAL EXPRESS. That barge grounded in heavy weather off Nanaimo and was written off and the COASTAL SPIRIT was built to a Vancouver Shipyards design at the Jinling Shipyard in Nanjing, China, and launched in 2002, with outfitting completed at Vancouver Shipyards. The tug was retro-fitted with an ACOMARIN Engineering (Finland) JAK-400 air-assisted, hydraulic pin system which secures the tug in the barge's 60-ft notch. The COASTAL SPIRIT is fitted with an Ulstein Aquamaster 1350H Z-drive, installed about 75 feet from the bow log and powered by a 1800-hp Cummins K-series diesel. The thruster increases manoeuvrability during berthing and provides course-holding capability in heavy weather, and also adds a bit of extra speed if required and 'come-home' propulsion. An emergency remote control Z-con system can engage the barge's engine and thruster from the tug in order to control the barge's drift should tug and barge be separated.

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