

Provincial Occupational Analysis Chart

MARINE SERVICE TECHNICIAN

Occupation Description

"Marine Service Technician trade" means the occupation of a marine service technician, consisting of servicing and repairing, refitting and upgrading marine vessels;

"marine vessel" includes motor- and sail-driven vessels;

"servicing and repairing" includes

- (i) performing structural, cosmetic, electrical or mechanical service or repair work, and
- (ii) handling, storing or modifying a marine vessel while it is being serviced or repaired.

<b>SAFETY</b> A	Prevent Workplace Injuries A1 1	Handle Hazardous Materials Safely A2 1	Use & Maintain Personal Protection Equipment A3 1	Respond to Workplace Emergencies C 1	Describe the Role of Worksafe BC A4 1	A5 1
<b>YARD MANAGEMENT</b> B	Describe Boatyard Business Practices B1 4	Maintain Professional Approach B2 1	Describe the Principles of Quality Assurance B3 4	Describe Role of Surveyors & Insurance Adjusters B4 4	Use Communications Tools B5 1	Control Projects W 4 B6
<b>YARD PRACTICES</b> C	Describe Environment Protection Practices C1 4	Secure & Block Vessels C 1 C2	Describe Principles of Vessel Salvage C3 4	Operate Power and Sail Vessels W 0 C4	Operate Straddle Lift Equipment W 0 C5	
<b>TECHNOLOGY &amp; DESIGN</b> D	Define Trade Terminology & Concepts D1 1	Describe Design Basics D2 2	Interpret Technical Drawings D3 1	Describe Principles of Powering D4 2	Describe Wood Vessel Construction D5 3	Describe FRP Vessel Construction D6 3
	Describe Metal Vessel Construction D7 3	Perform Lofting Operations W 3 D8				

# Task Profile Chart

<b>TRADE MATHEMATICS</b>  E	Perform Basic Math Calculations E1 1	Perform Density, Area & Volume Calculations E2 1	Perform Measurement Operations C 1	E3 1	Perform Layout and Fitting Operations C 2	E4 1
<b>TOOLS &amp; EQUIPMENT</b>  F	Use Common Hand Tools C 1	F1 1	Use Common Stationary Power Tools C 1	F2 3	Use Portable Power Tools C 2	F3 1
<b>MATERIALS</b>  G	Identify Properties of Common Woods G1 1	Describe & Select Wood Repair Materials G2 2	Describe Thermosetting Resin Types, Additives & Cure Factors G3 1	Identify Reinforcement Types, Styles, Design Considerations G4 1	Identify Thermoplastics & Demonstrate Basic Handling Techniques C 4	G5 1
<b>FABRICATION</b>  H	Describe & Select Single Component Coatings & Preservatives G7 2	Describe & Select Fasteners G8 2	Select & Use Adhesives & Bedding Compounds C 2	G9 1	Select & Use Abrasive Materials C 2	G10 1
<b>FABRICATION</b>  H	Fabricate Plug, Mold, & Composites Part C 3	H1 1	Fabricate Advanced FRP Tooling W 1	H2 0	Sheath Wood Structure with Composite Materials C 4	H3 1
<b>FABRICATION</b>  H	Perform Vacuum Bag Laminating W 3	H4 1	Perform Cold Molding Operations W 4	H5 1	Perform Wood Lamination Operations W 4	H6 1
<b>FABRICATION</b>  H	Perform Joinery Operations W 0	H7 1	Install and Repair Teak Decking W 0	H8 1		

## Task Profile Chart

<b>MARINE METALS</b> I	Perform Drilling & Cutting Operations in Metals C I1 2	Weld Marine Metals W I2 0	Fabricate with Marine Metals W I3 0	Prevent Corrosion in Metals W I4 3	Apply Fairing and Finishing Materials to Metals W I5 3	
<b>WOODWORK REPAIRS</b> J	Identify & Describe Rot & Deterioration Damage in Wood J1 1	Perform Structural Repairs in Wood W J2 3	Perform Fairing & Cosmetic Operations in Wood W J3 4			
<b>COMPOSITE REPAIRS</b> K	Repair Damage to FRP Laminates W K1 2	Repair/Rebuild FRP Reinforcing Structures W K2 3	Repair Composite Sailboat Fin Keel & Supporting Structure W K3 2	Repair & Replace FRP Rudders W K4 3	Evaluate & Repair Osmosis Damage W K5 2	Repair High Performance FRP Structures W K6 4
	Clean & Maintain Gel Coat Surfaces C K7 1	Repair Gel Coat Damage W K8 1	Repair Single Skin Structural Damage in Composites C K9 1			
<b>MECHANICAL SYSTEMS</b> L	Identify Engine Components L1 1	Describe Engine Room Layout & Ventilation L2 2	Remove & Install Engines W L3 3	Identify & Describe Drive Train Types & Components L4 1	Perform Engine Pre-Start Inspection C L5 3	Service Inboard Engine Components W L6 3
	Describe Engine Lubrication L7 3	Service Mechanical Engine Controls, Alarms & Gauges W L8 3	Install & Service Steering Gear W L9 3	Service Engine Mounts, Shafting & Alignment W L10 2	Service Propellers C L11 2	Repair & Adjust Propellers W L12 0

# Task Profile Chart

Install & Service Hydraulic Systems				
W			L13	
		3		

Describe Alarms & Detectors				
L14				
		4		

Describe Submerged Engine Salvage				
L15				
		4		

## FINISHING & PAINTING

Apply Coatings by Brush and Roller				
C			M1	
			0	

Select & Apply Anti-fouling Paints				
W			M2	
1				

Mark & Mask Waterlines & Stripes				
W			M3	
		4		

Describe Multi-Component Paint Systems				
M4				
		4		

Prep & Prime for Multi-Component Topcoats				
W			M5	
			0	

Select & Spray Multi-Component Topcoats				
W			M6	
		4		

Repair Multi-Component Topcoats				
W			M7	
		4		

Brush-Apply Gloss Paints & Varnishes				
W			M8	
			0	

## FASTENINGS & INSTALLATIONS

Install Hardware & Fittings				
C			N1	
		3		

Install Thru-Hulls & Underwater Equipment				
C			N2	
		3		

## ELECTRICAL SYSTEMS

Describe Workplace AC Systems & Maintain Equipment				
C			O1	
1				

Identify Relationship of Current, Resistance & Voltage				
O2				
1				

Perform Basic Wiring & Testing Procedures				
C			O3	
		2		

Troubleshoot & Service Starting & Charging Systems				
W			O4	
			0	

Describe Battery Installations				
O5				
		3		

Install & Service DC Power Supply Systems				
W			O6	
			0	

Install & Service DC Distribution Systems				
W			O7	
			0	

Install & Service Inverters & Onboard AC Systems				
W			O8	
			0	

Install Marine Electronics				
W			O9	
		4		

## Task Profile Chart

<b>RIGGING INSTALLATIONS</b>  P	Step, Unstep and Store Masts W P1 2	Install & Service Rigging W P2 2	Install & Service Deck Hardware W P3 0	Splice Lines W P4 0	Tune Rigging W P5 0	Assemble Spars W P6 0
	Service & Repair Carbon Spars W P7 0					
<b>MISCELLANEOUS INSTALLATIONS</b>  Q	Install & Service Fresh Water Systems W Q1 2	Install & Service Waste Plumbing & Pumps W Q2 2	Install & Service Davits & Hoists W Q3 4	Describe Propane Distribution Systems Q4 3	Install & Service Heating Systems W Q5 3	Install & Service Refrigeration & A/C Systems W Q6 3
	Service & Repair Inflatable Vessels W Q7 0					

W = Workplace assessed by employer (elective advanced competency – six to be assessed)

C = Core Practical Assessment through training institution and/or workplace by employer (all apprentices)