

1. Title	Repair high power diesel engines (about 3000 kW (or 4000 BHP) or above)
2. Code	EMSRRM311A
3. Range	Use appropriate or tailor-made repairing tools to repair, adjust and assemble high power diesel engines according to repair instructions and standards at repair workshops or locations with diesel engines.
4. Level	3
5. Credit	9
6. Competency	<p style="text-align: center;"><u>Performance Requirements</u></p> <p>6.1 Structure and working principles of high power diesel engine</p> <ul style="list-style-type: none"> ◆ Working principles of internal combustion engine- suction, compression, power and exhaust ◆ Crank shaft, bearing, cylinder head, piston, cam/shaft, transmission gear/chain and shock absorber ◆ Fuel system such as high pressure oil pump, injector ◆ Air intake and exhaust system including supercharger, air cooling device and exhaust valve unit ◆ Air start system ◆ Governor control system including related pneumatic, electric and hydraulic devices and governor ◆ Cooling system and related devices ◆ Lubrication system and related devices <p>6.2 Procedures of repairing and working on diesel engines</p> <ul style="list-style-type: none"> ◆ Disassemble and assemble the basic mechanical elements and devices of a diesel engine ◆ Disassemble, inspect and repair the mechanical elements and devices or replace tailor-made components effectively according to instructions and standards of repair manual or information ◆ Adjust diesel engine devices for effective operation according to instructions and standards of repair manual or information ◆ Use common or tailor-made tools and inspection instruments effectively to facilitate the work <p>6.3 Professionalism in diesel engine repair</p> <ul style="list-style-type: none"> ◆ Read and understand the instructions and standards of repair manual or information, and perform general repair of diesel engines independently ◆ Understand the legal requirements on work safety and the code of practice for performing diesel engine repairs ◆ Examine the wear and tear condition of the fixed and moving parts of diesel engines, and give advice on repair if necessary ◆ Compile simple repair reports

7. Assessment Criteria	<p>The integrated outcome requirements of this unit of competency are:</p> <ul style="list-style-type: none"> (i) Capable to check and repair the core systems of a diesel engine effectively according to relevant repair standards; and (ii) Capable to adjust and control the normal working parameters of various component systems of a diesel engine effectively for an effective operation of the engine.
8. Remarks	<p>The credit value of this unit of competency is set on the presumption that the person already possesses the competency of EMSRRM208A "Repair diesel engines" and EMSRRM202A "Repair and maintain ship's main engine equipment".</p>