

1. Title	Repair faults with diesel engines, generators and their control equipment
2. Code	EMSRRM309A
3. Range	Repair faults in low or medium speed diesel engines below 1800 kW (or 2400 BHP), generators and their control equipment on board, at repair workshops or related worksites at dockyard.
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 diesel engines, generators and their control equipment ♦ Understand the structure and working principles of diesel engines, generators and their control equipment</p> <p>6.2 Find and repair faults in diesel engines, generators and their control equipment ♦ Repair faults in a diesel engine</p> <ul style="list-style-type: none"> • Check the diesel engine and its control equipment, including the following equipment and systems, to find out the fault according to symptoms by applying knowledge on the working principles of diesel engine and its control equipment: engine cylinder and its mechanism, fuel supply system, fuel injector and filter, governor, cooling system and equipment, lubricating system and equipment and auxiliary generator and battery unit • Repair the fault after finding out the fault equipment or component <p>♦ Repair faults in a generator</p> <ul style="list-style-type: none"> • Check the following generator components and control equipment to find out the root cause of fault according to the symptoms and based on knowledge on the working principles of generator: such as all magnetic coils in the generator, magnetic circuit and equipment, load regulator, auxiliary generator, battery unit, circuit breaker and relay • Repair the fault after finding out the faulty equipment or component <p>♦ Inspect protective devices of diesel engines and generators</p> <ul style="list-style-type: none"> • Inspect protective devices of diesel engines and generators, including: engine overheat alarm, water thermometer, and generator overload protector • Measure data output of the generator

	<p>6.3 Professionalism in repairing diesel engines, generators and their control equipment</p> <p>◆ Repair diesel engines, generators and their control equipment according to the safety instructions and code of practice</p>
7. Assessment Criteria	<p>The integrated outcome requirements of this unit of competency are:</p> <p>(i) Capable to find out faults in diesel engine control equipment within a reasonable period of time according to the symptoms;</p> <p>(ii) Capable to find out the fault in generator control equipment within a reasonable period of time according to the symptoms.</p>
8. Remarks	<p>This unit of competency is suitable for training electrical and mechanical engineering personnel involving in the work of diesel generators. The credit value of this unit of competency is set on the presumption that the person already possesses basic knowledge of electrical installations (such as: EMCUIN201A” Perform general electrical assembly and fitting”and EMSRRM208A “Repair diesel engines”).</p>